JOBS MULTIPLIERS: EVIDENCE FROM A LARGE FISCAL STIMULUS IN SPAIN

MARIO ALLOZA AND CARLOS SANZ

We estimate the employment effect of a large fiscal stimulus in Spain (Plan E), in which the national government transferred funds to municipalities to carry out local investment projects. Using a difference-in-difference approach by exploiting variation in the timing of the execution of projects across municipalities, we find that 100,000 euros of stimulus reduced unemployment by 0.62 jobs-years. We also present evidence on the transmission mechanism, finding that the effect was: i) initially concentrated in the construction and industrial sectors, but later spilled over to the broader economy, ii) larger for males than females, and iii) larger when the shock represented a higher share of the budget. Our estimate of the multiplier falls in the lower range of previous work.

In the last decade, there has been renewed attention to fiscal policy. Given a macroeconomic environment characterized by a constrained monetary policy, understanding how effective government initiatives are in stimulating the economy has become an important topic of discussion among academics and policy makers. This is particularly relevant when analyzing the expansionary fiscal plans that were enacted in recent years to stimulate employment growth during recessions. However, it is challenging to identify the causal effects of such plans.

In this paper, we estimate the employment effects of a large, unanticipated fiscal stimulus in Spain (Plan Español para el Estímulo de la Economía y el Empleo, the Spanish Plan for the Stimulus of the Economy and Employment, commonly known as Plan E). This stimulus, approved in 2008, channeled almost 13 billion euros (around 1.2% of Spanish GDP) to municipal governments to execute public investment plans.

In our empirical analysis, we use municipality and monthly-level data on unemployment and the stimulus. While all municipalities received the same amount of resources (in per capita terms), there was variation in the timing of the execution of the projects. We exploit this variation in our estimation, performing a difference-in-difference analysis to establish a causal relationship. The key assumption is that "early" and "late" starters were on parallel trends around the time of the stimulus. While we cannot directly test this, we check whether "early" and "late" starters were on parallel trends in the months before the stimulus (placebo tests).

Reassuringly, the results indicate that this was indeed the case.

The main results are presented in Figure 1, where the vertical line (h=0) represents the month of the stimulus. We find no "effect" on unemployment for h < 0, validating the parallel-trend assumption. We do observe significant effects for h > 0. In particular, the starting of a public investment project reduces unemployment on impact. This effect builds up over the first year and moderates towards the end of the second year. Our estimate of the jobs multiplier (the number of jobs created per million euros of public spending) is 5.7 jobs at the peak. Regarding the cumulative multiplier (the sum of the point multipliers over the considered horizon), we find that 100,000 euros reduced unemployment by 0.62 job-years.

EFFECT OF THE STIMULUS ON UNEMPLOYMENT   FIGURE 1
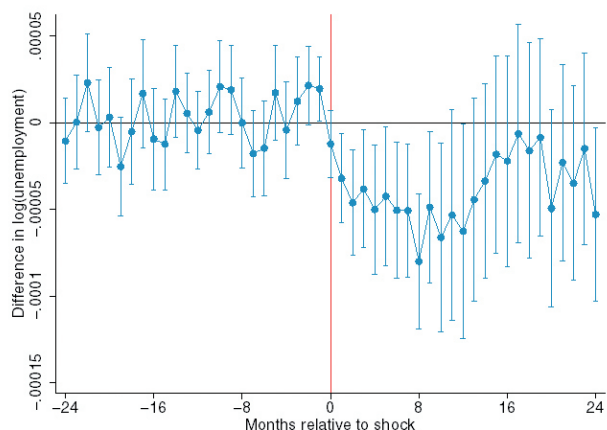
While jobs multipliers are an object of interest in their own right [see, e.g., Wilson (2012)], they offer an incomplete view of the overall effects of the stimulus. To (partially) address this issue, we follow Chodorow-Reich (2019) and translate the employment multiplier to an output multiplier. Our estimates are consistent with an output multiplier of 0.3-0.5. This figure represents a strict lower bound, since our approximation ignores that new public capital could enhance economic activity in the medium and long run. Our jobs multiplier (and implied output multiplier) are compatible in size with aggregate estimations of nation-wide effects. This evidence suggests that there might be instances where the local multipliers are not always larger than nation-wide multipliers.

Finally, we provide evidence on the transmission channel of the stimulus. We find that: i) most of the effect was initially in the construction and industrial sectors, but later spilled over to the broader economy, ii) the stimulus reduced male more than female unemployment, and iii) while all municipalities received the same (per capita) amount of resources, the stimulus was more effective when the received amount represented a higher percentage of the budget.

Our work opens up avenues for future research. While we have focused on the effect of the fiscal stimulus on unemployment, there are other relevant dimensions that should be taken into consideration when evaluating the overall impact of the program. For example, it would be interesting to see how the stimulus affected welfare in the medium and long run. We leave this question for future work.

REFERENCES

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