

Do Employment Subsidies Work?

Evidence from Regionally Targeted Subsidies in Turkey

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Persistently high unemployment rates have led many countries in Europe and elsewhere to implement job subsidies and cuts in employer's social security contributions with the objective of encouraging employment creation. On average, such programs amount to about one-quarter of total expenditures on active labor market policies in OECD member countries OECD (2003). While policymakers tend to equate the number of workers receiving a subsidy to the net employment effect of such programs, estimating the actual effect is not so straightforward. Many beneficiaries may have found jobs independently of the existence of the program, i.e., what in the economics literature is commonly referred as the deadweight loss. In addition, some existing employees who do not qualify for the subsidies may have lost their jobs because subsidies lowered the costs for other workers who were then hired because they were relatively less expensive (substitution effects). Finally, some workers may have lost their jobs because subsidies, by affecting product prices, reduced the market share of some firms relative to others (displacement effects). For all these reasons, then, the employment impact of the subsidies may be far from the administrative number of beneficiaries. In this regard, estimating the true impact of such initiatives requires building counterfactuals of what would have been the labor market performance in the absence of the subsidies. Despite the potential interest in such measures, there are very few studies that

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attempt to rigorously measure the impact of such programs on net employment creation and other economic outcomes.

This paper studies the employment impacts of regional incentives offered by the Government of Turkey to encourage investment and employment in low-income provinces. The research examines three different incentive regimes legislated through Law 4325 (1998), which covered 22 provinces, Law 5084 (2004), which expanded coverage to an additional 15 provinces, and Law 5350 (2005), which added 13 more provinces. However, given that our data do not cover the period before Law 4325 was enacted, the econometric analysis of the net employment impacts focuses on the subsidies offered under the two later laws. It should be noted, however, that our analysis of Law 5350 is limited by the fact that we are only able to observe the first 8 months of that scheme in operation. We are able to examine the effects of Law 5084 with more evidence. These laws have differed somewhat in terms of qualification requirements and the actual subsidies, but they all have included subsidies on employer social security contributions, employee personal income taxes, energy consumption, and land. Employers in eligible provinces have qualified on the basis of meeting new job creation thresholds, either by opening new establishments or by expanding employment in existing ones.

Since these subsidies reduce the cost of labor in some provinces but not in others, the regional incentive programs can be examined to estimate how much new employment is likely to be created in Turkey when taxes or social security contributions are reduced. The employment impacts of the regional incentives are analyzed using “difference-in-difference” models that estimate registered employment, registered number of establishments, and taxable earnings (levels and growth) in a province in a given month as a function of whether the regional incentives program is in force, the time period, and provincial variables that cover province-specific effects. Various alternative specifications incorporating these determinants in different ways are estimated.¹

The Turkish economy comprises an appropriate setting to study this question because of its high level of taxation on labor.² In Turkey, combined employer-employee contributions to finance pensions and disability insurance, health insurance, unemployment benefits, and

¹For an example of the general methodological approach, see Autor et al. (2006).

²Throughout the paper, “labor taxes” is used as a term to include both social security contributions (levied on employers and employees) as well as personal income taxes levied on employees.

workers' compensation constitute 36.5-42% of gross wages.³ Income tax ranges from 15-35% of the gross wage.⁴ Comparisons of the tax wedge on labor income in Turkey with the EU-15 countries (pre-2005 members) and a selection of (new accession) EU-10 countries for workers at different earnings levels and with different family characteristics indicates that for families and singles with children, Turkey's taxes on labor are among the highest in the OECD.⁵ This is especially the case for low-wage workers with children where Turkey has the highest tax wedge of all of the OECD countries (World Bank, 2006).

The data used in this study come from three sources. The main source, provided by the Social Security Administration of Turkey (henceforth SSK), is a monthly panel of province-level data.⁶ It includes information on the number of registered workplaces, registered employees, total taxable earnings that are subject to contributions, and SSK premiums. We compute average taxable earnings, dividing the total taxable earnings by the number of registered employees. SSK data also includes information for all provinces that were covered by the different subsidy schemes on the total number of employees, the number of establishments, and the base earnings subsidized according to the coverage rate (80 or 100 percent), as well as the newly registered workplaces and employment, number of work days, base earnings, and the amount of social security subsidies they received. While the data are available for the period January 1998 to December 2005, we restrict our analysis to 3,555 monthly observations on 79 provinces covering the period April 2002 to December 2005. This choice was motivated by a number of data problems and inconsistencies in the earlier part of the sample.⁷

Data on the cost of energy subsidies was provided by the Turkish Treasury and it gives information on the number of subsidized workplaces, subsidized employment, and the cost of the energy incentives per month and province.

³The range is due to contribution rates for work injury which vary by industry.

⁴Between 2000 and 2004, income tax rates ranged from 15-40%. In 2005, the top rate was cut to 35% and the number of brackets was reduced from six to five.

⁵The "tax wedge" is defined as income taxes and combined (employer-employee) social security contributions, minus cash benefits, as a percentage of total labor compensation. The calculations of the tax wedge are based on OECD estimates with additional calculations made by the World Bank to take into account Turkey's consumption tax credits which were not included by the OECD. Note that payroll taxes account for about 70% of Turkey's overall labor taxes.

⁶The SSK data are actually provided on a sub-provincial basis (i.e., SSK reporting unit). The sub-provincial data were aggregated up to a provincial basis for each month.

⁷Two provinces were excluded because of unreliable data due to inconsistent administrative reporting.

Finally, since data on provincial GDP is not available for the period of study, we use information on electricity consumption per province and year in order to approximate the real level of economic activity in a province at a given point in time. This is done to assess whether employment increases in subsidized provinces are likely to be new jobs or the conversion of unregistered employment to registered jobs. This annual data set, available for 1995 to 2004, is provided by the Turkish Statistical Institute and includes information on the total electricity consumption of each province, disaggregated by type of consumer.

Our findings suggest that both subsidy programs did lead to significant net increases in registered jobs in eligible provinces. Depending on the model specification, estimated registered employment gains range from 4%-13% for the subsidy scheme under Law 5084 and from 9%-15% for Law 5350. However, the cost of the actual job creation was high, because of substantial deadweight losses. This was particularly true for the first program where we estimate that between 50% and 80% of the subsidized jobs would have been created without the program. Because of better design features, the program under Law 5350 had lower, though still significant, deadweight losses (25-50%) and, as a result, this appears to have been more cost-effective even though the subsidies themselves were richer than under Law 5084. Although data limitations constrain our capacity to test whether the dominant effect of the subsidies was to increase social security registration of firms and workers or to boost total employment and economic activity, the evidence we have suggests the former was more important. This supports the hypothesis that in countries with weak enforcement institutions, high labor taxes on low-wage workers may lead to substantial incentives for firms and workers to operate informally.

References

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