

# **Public providers, or private providers, of public goods?**

## **A dynamic general equilibrium study**

### **Non-technical summary**

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This paper studies the difference between public production and public finance of public goods in a dynamic general equilibrium model. We find that a switch from public production to public finance can have substantial aggregate and distributional implications while public providers cannot beat private providers in terms of efficiency. The main message is that the following mix of reforms can be Pareto improving: (i) a transition to cost-minimizing private providers that allows the government to achieve efficiency savings (ii) a reduction in distorting income taxes made affordable by efficiency savings (iii) a mechanism (redistributive government transfers and, in particular, a reallocation of employees to the production of private goods) to compensate the ex public employees.

Concerning the provision of public goods and services, an important distinction is between public production and public finance. In the former case, the goods are produced by the government itself. In the latter case, public goods and services are produced by private firms, the so-called private providers, with the government financing the cost of production of an agreed-upon quantity.

The issue of public goods provision has attracted increasing interest in both academic and policy circles. In academia, production and finance are two distinct ways of public goods provision. In policy, there is a big debate nowadays on the role of the state and, in particular, the idea of opening up public services to new providers.

What are the implications of switching from public production to public finance? Can public providers beat private providers? Is this switch good for the general interest and bad for public employees? If yes, is there a mix of reforms that can be good for both private and public employees?

The present paper tries to answer the above questions and quantify the differences between public production and public finance in a dynamic general equilibrium setup. We study issues of both efficiency and redistribution, where efficiency has to do with per capita output and welfare, while redistribution refers to differences in income and welfare between private and public employees.

We first model the case of public production. There are two distinct groups of households: those that work in the private sector and those that are employed in the public sector. The latter (called public employees), together with goods purchased from the private sector, are used as inputs in the government production function. Solving the model numerically when the values of fiscal policy

instruments are in line with the UK averages over 1990-2008, we specify, among other variables, the time-path of public goods as induced by the existing fiscal policy mix.

In turn, using this “status quo” solution as a point of departure, we study what would change if, other things equal, the same time-path of public goods were produced by private firms, the so-called private providers. These firms produce the amount of public goods ordered by the government by solving a cost-minimization problem with the government financing their total cost. We also study what would change if, again other things equal, the same amount of public goods continues to be produced by the public sector but now public enterprises minimize their costs like their private counterparts do in the case of public finance. These three model economies (namely, the status quo one, the one with cost-minimizing private providers and the one with cost-minimizing public providers) are directly comparable.

There are four main results. First, a switch from the status quo economy to an economy with cost-minimizing private providers increases the welfare of private employees, but makes public employees worse off. The latter happens because the wages (of those involved in the production of public goods) fall when they turn from public employees into employees at cost-minimizing private providers. Since private providers find it optimal to pay lower wages and hence produce the public good at a lower cost, the switch allows the government to make efficiency savings.

Second, the effect of this switch on per capita output and welfare (i.e. on aggregate efficiency) depends crucially on the way the government uses its efficiency savings. When the efficiency savings achieved by the government - through the use of private providers - are used to cut distorting income taxes, then per capita output and welfare also rise.

Third, for a large range of parameter values, when it is public providers/enterprises that choose inputs in a cost-minimizing way, the numerical solution is very similar to that under the status quo case where the associated variables are exogenously set at their data averages. Thus, one could argue that in the UK, over 1990-2008, the public sector has exhausted its role, at least in terms of aggregate efficiency, as a provider of public goods and services.

Fourth, since the above policy (of switching to private providers and cutting income taxes) allows aggregate efficiency gains, but only at the cost of making those that used to be public employees worse off, there is need to search for Pareto-improving changes. In such a search, we show that everybody can become better off relative to the status quo if this policy is supplemented by redistributive government transfers that compensate the ex public employees, and/or a voluntary reallocation of employees across sectors.

Therefore, although we are aware that one should treat quantitative results with caution, our policy message is as follows: If the government wishes to increase the aggregate pie and also make everybody better off, it should adopt a mix of reforms that: (i) assigns the production of public goods to cost-minimizing private providers (ii) uses its efficiency savings, achieved through the use of private providers, to cut distorting income taxes (iii) adds a mechanism (redistributive government transfers and, in particular, a reallocation of employees) to reduce the rise in inequality caused by switching to private providers. [full pdf](#)