The allocation of national public resources in the Italian local public bus transport sector

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1. Research question

In recent years, many EU-member States (e.g., Sweden, Finland, Germany, France and United Kingdom) have introduced new industry reforms and competitive tendering procedures in the local public transport (LPT) industry, in order to enhance productivity and reduce huge deficits. In this process, regulated by the European Directive 1370/07/EU, the Italian Parliament devised a number of interventions aimed at improving competition among operators and introducing more efficiency in the sector. The industry reform goes as follows. Each of the Italian Regions constitutes autonomously a Regional fund for the financing of LPT services offered in its territories. Public resources that feed each Regional fund are provided in part by the State and in part by the Region itself. The State defines on a yearly basis the total amount of national public resources destined to LPT services and the share of these resources to be allotted to each Region. Then, each Region can freely integrate such amount with own resources in order to improve the quantity and/or quality of LPT services produced in its territories. In order to pursue the goal of a fairer distribution and a more efficient use of national (scarce) public financial resources, the Italian Parliament decided to apply the instrument of the standard cost in the allocation of such resources. Standard costs should reflect the cost of a LPT service with a
specified service quality and provided by an efficient operator, where the “efficiency levels” are defined on the basis of the activities and costs of several operators and/or of knowledge of the industrial process for the provision of LPT services. In such a scenario, this work contributes to the literature and to the Italian policy debate by developing a methodology based on standard costs for the allotment of national public resources earmarked to local public bus transport services (from hereon LPBT services) among the 15 Italian Regions with ordinary statute.

2. Methodology

The methodology proposed in this paper applies the results provided in Avenali et al. (2016) – where a top-down model is estimated to determine unit standard costs for the Italian LPBT services – to a dataset representative of 1.46 billion of bus revenue kilometres provided in Italy in 2014. The dataset gathered by the national Observatory on Local Public Transport Policies of the Italian Ministry of Transports and Infrastructures contains information about type (urban or intercity), size (bus revenue kilometres) and average commercial speed for each LPBT service contract. The proposed reallocation shares the national public fund by taking into account an estimate of the financial needs for the Region in the case that the LPBT services are provided by efficient operators.

The standard cost model estimates a unit cost (per bus revenue kilometre) that takes into account quantitative and qualitative characteristics that are partially under the control of the provider (e.g., the quality of the fleet) and endogenous variables that the provider is mostly subject to (e.g., the commercial speed). In particular, the variability of the unit transport cost for bus services relies on the following variables:

- $VC (km/h)$: commercial speed.
- $KM (mln of km)$: million of bus revenue kilometres (excluding bus revenue kilometres driven out of the service).
- \( Akm (\text{€}/\text{km}) \): degree of renewal of the fleet. This variable is defined as the ratio between a monetary value of the rolling stock and the number of bus revenue kilometres.

3. Results

The proposed methodology allows us to determine a realistic set of reallocation ratios of national public resources allotted in 2014 for LPBT services among the 15 Regions with ordinary statute. The immediate result would be a shifting of national public resources from Regions where LPBT services should be produced at a lower cost in favor of Regions where productivity efficiency is achieved. Our simulations show that this would happen in 8 out of 15 cases. We also measure how the share of the national fund allocated to Italian Regions based on the standard costs is able to compensate the standard national financial needs for LPBT services (if Regions would allocate the factual amount of resources earmarked in 2014). The resulting surplus is positive in each Region, implying that extra-resources may be applied to increase the quality of the services (e.g., a Region wanting to provide LPT services using expensive high-tech vehicles, such as hybrid or electric-wheel vehicles, should support the excess-costs by own financial resources).

4. References
