

Fallacies in estimating tourism induced impacts based on TSA data

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Abstract

The economic contribution of tourism is of great interest to policy makers. For this reason, tourism satellite accounts (TSA) have been established in many countries. These accounts extract the tourism relevant part of all industries to measure tourism induced direct valued added and employment. Even though indirect effects through linkages to upstream industries are not part of TSA's based on the World Tourism Organization (UNWTO) recommendations, many researchers apply those data to model such effects, using input-output tables.

Such tables, usually published by national statistical offices, are based on the system of national accounts (e.g. ESA, the European system of national accounts) which deviate from the TSA conventions with respect to tourism in several ways:

- Business travel expenditures by domestic firms are included in the domestic use matrix (as part of the whole make-use system) while they are part of the total tourism expenditures of the TSA.
- A similar issue arises with respect to expenditures for the purchase of package tours offered by travel agencies: The different components of those packages are part of the input vector of travel agencies while they are also included in the TSA expenditures.
- Other differences between the TSA concept of tourism and that of the national accounts are not related to the use matrix but rather to the final demand side of the make-use system: Incoming business travel (i.e. foreigner traveling into a country for business reasons) is included in exports in the national accounts; seasonal workers, commuters and cross-border commuters as well as educational travel beyond a certain length of stay, on the other hand, is not part of TSA-like tourism and thus needs to be excluded.

If TSA expenditures including domestic business travel and package tour sales are used as input to estimate direct and indirect or even induced effects via an input-output model, an estimation bias arises: tourism induced value added and employment will be overestimated.

In this paper, the tourism related differences between the European system of national accounts and the TSA are described in detail. The estimation bias resulting from combining TSA expenditure data and input-output tables is then measured based on

Austrian data (tourism satellite account data and make-use tables). Furthermore, suggestions on how to avoid this bias are made. For this purpose, the make-use tables need to be adapted for which several options are available. Any kind of adaptation must ensure consistency with both TSA expenditures and national accounting balances.