Data Availability Statement

The data are confidential micro data from Statistics Finland. The data are compiled of the following two data sets:

1. Industrial Output for the years 2004 – 2011, cited as:
   Statistics Finland, 2012. "Industrial Output".
   https://stat.fi/en/statistics/documentation/tti
2. Longitudinal Database on Plants in Finnish Manufacturing (LDPM) for the years 2004 – 2011, cited as:
   Statistics Finland, 2012. "Longitudinal Database on Plants in Finnish Manufacturing (LDPM)".

These data sets are provided by the Research Services department of Statistics Finland. Statistical legislation and data protection and confidentiality practices specified in legislation are applied in releasing the data. Release of data is subject to a user licence. Instructions for applying for a user licence are provided here: https://www.tilastokeskus.fi/tup/mikroaineistot/hakumenettely_en.html

The data can be used via a remote access system or at the Research Laboratory of Statistics Finland based in Helsinki, Finland. Practical matters concerning use at the Research Laboratory are described here: https://www.tilastokeskus.fi/tup/mikroaineistot/aineistot_en.html

In order to use data via the remote access system, the researcher's organisation must conclude a remote access agreement with Statistics Finland, and the researcher must submit a user and workspace-specific remote access commitment. Instructions on making remote access agreement and commitment, together with a description on how to log in to the remote access system, are provided here: https://www.tilastokeskus.fi/tup/mikroaineistot/etakaytto_en.html

Licence to use ready-made data modules (like the two data sets used in this study), using a Research Laboratory workstation, and remote access use are all subject to charge. The prices are listed here: https://www.tilastokeskus.fi/tup/mikroaineistot/aineistojen-ja-palveluiden-hinnat_en.html

Dataset description

The compiled data set consists of product-plant-year -level variables from the Industrial Output data and plant-year -level variables from the Longitudinal Database on Plants in Finnish Manufacturing. The product-plant-year -level variables are output quantity and output price, which are identified by plant id, year and PRODCOM code. The plant-year -level variables are capital stock, expenditures on labour, materials price index, and expenditures on materials, which are identified by plant id and year.

The compiled data set meets the following conditions:

A plant manufactures at least one product with three-digit PRODCOM code 161 or 162 and it does not manufacture products in other industries.

Each product is observed in at least four pairs of observations, with each observation pair being from two consecutive years in a given plant.

The ratio of the plant-level sum of product-specific sales revenue to gross output value (a variable provided in the Longitudinal Database on Plants in Finnish Manufacturing) is at least 0.6 but not more than 1.4.

Products are identified by their PRODCOM codes (2010 classification). Instead of importing the PRODCOM codes to Matlab, the data is imported to Matlab as plant-year -level observations, where the order of the output quantity and price data (in columns) identifies the products.

Software

Stata is used to compute descriptive statistics. Stata is available at the Research Services department of Statistics Finland.

Matlab (version **2008**) and **GMM library** by **Mike Cliff** are used for estimating the empirical model. The GMM library is available here: https://sites.google.com/site/mcliffweb/computer-programs-and-data. The Research Services department of Statistics Finland does not provide Matlab but one can purchase a licence at one's own expense. Alternatively, one may use Octave, which requires some modification of the Matlab codes included in this replication package.

Programs

multiproduct.m is executed to prepare the data for estimation and give the estimation command. multiproduct.m calls a function for moments defined in **multiproduct_moments.m**.

Tables and directions for replication

Table 1. This table comprises PRODCOM titles in English. Statistics Finland uses Finnish PRODCOM titles, which are provided here: https://www.stat.fi/meta/luokitukset/prodcom/001-2010/index.html. The Finnish titles have been translated into English using the PRODCOM lists provided by Eurostat, at present provided here: https://op.europa.eu/en/web/eu-vocabularies/eurostat

Table 2. This table comprises summary statistics for variables of the compiled data set and products' relative prices, which are defined as the ratio of the product-plant-year -specific price to the product-year-specific mean. The Stata command to obtain these summary statistics is "summarize, detail".

Table 3. This table comprises summary statistics on differences between relative prices within plants that produce two, three, four, five, and at least six products. For each plant-year -level observation, products' relative prices are ordered in descending order, and differences between the relative prices are computed. Summary statistics on these differences, conditional on plant producing two, three, four, five, and at least six products, are obtained with Stata command "summarize".

Table 4. The content of this table is estimation results. They are obtained by executing "multiproduct.m" in Matlab, which calls a function for moments defined in multiproduct_moments.m.

References

Statistics Finland, 2012. “Industrial Output”. https://stat.fi/en/statistics/documentation/tti

Statistics Finland, 2012. “Longitudinal Database on Plants in Finnish Manufacturing (LDPM)”.