Two-tier stochastic frontier analysis for the social sciences.

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README for Application ch. 12.3-Efficiency before and after the Greek Depression

Files and their contents

A. Related to the book

|  |  |
| --- | --- |
| App\_12.3\_Mng\_Eff\_results\_2008\_and\_2019.gretl | Gretl session with the average management, external, and overall inefficiency estimated results from the 40 sectors of the Greek economy, year 2008 and year 2019 (see Table 12.1).It also includes the related three scatter plots (Fig. 12.1) |
| App\_12.3\_Mng\_Efficiency\_40\_Sectors.csv | The above series in .csv format. |

| **Label in software** | **Variable description** | **Name in book**  **(2TSF metric)** | **Comments** |
| --- | --- | --- | --- |
| Sector | Name of sector |  |  |
| secID | NACE rev2 3-digit code of sector |  |  |
| mng2008 | Estimated management efficiency year 2008 | M\_5 + 1 | Sample averages |
| mng2019 | Estimated management efficiency year 2019 | M\_5 + 1 | Sample averages |
| inef2008 | Estimated externa inefficiency year 2008 | M\_6 | Sample averages |
| inef2019 | Estimated external inefficiency year 2019 | M\_6 | Sample averages |
| eff2008 | Estimated overall efficiency year 2008 | M7 + 1 | Sample averages |
| eff2019 | Estimated overall efficiency year 2019 |  | Sample averages |

B. Related to the original study (does not appear in the book)

The original study estimated two samples (one from 2008 and one from 2019) for 40 3-digit sectors of the Greek Economy. We include indicatively the data and the code for sector "551-Hotels and similar accommodation" for year 2019, alongside the gretl code for estimating the 2TSF Exponential Tug-of-War model (with a Copula for endogeneity). The code also includes script to obtain descriptive stuff and other info from the estimated coefficients.

|  |  |
| --- | --- |
| 2TSF\_ToW\_model\_gretl\_script\_year\_2019.inp | Gretl code to run estimation |
| 2TSF\_ToW\_model\_gretl\_script\_year\_2019.txt | The same, in .txt format |
| Greece\_Sec\_551\_2019.gretl | Gretl session with the 551-sector 2019 data. |
| Greece\_Sec\_551\_data\_as\_used\_2019.csv | The data sample with no missing values (n=998) in .csv format |
| Greece\_Sec\_551\_data\_full\_2019.csv | The full data sample (n=3916) in .csv format |

DATA SAMPLE

The data sample has n=3916, but only 998 observations had no missing values for the specification used.

| **Label** | **Description** | **Comments** |
| --- | --- | --- |
| firmid | Tax ID code |  |
| year | Year of data |  |
| r | Revenues | Alternative Dep Var for sanity checks |
| ec | Expenses cost | Sanity check for labor Cost |
| cc | Capital cost (EBITDA) | component of Value-Added |
| h | Personnel Headcount | production input |
| h\_interp | Personnel Head count with some interpolated values | 63 out of 998 in the 551\_2019 sample |
| c1 | Firm Age (years) | to be used in levels (semi-log interpretation) |
| c2 | Location | Attiki or Thessaloniki = 1, else= 0 |
| c3 | Export activity | Yes= 1, No = 0 |
| c4 | Import Activity | Yes= 1, No = 0 |
| c5 | Publicly traded | Yes= 1, No = 0 |
| k1 | Fixed Assets | production input. Also its lag ("lagk1") |
| k2 | Inventory Assets | production input. Also its lag ("lagk1") |
| k3 | Current Assets | production input. Also its lag ("lagk1") |
| f1 | Equity | Funding component. Also its lag. |
| f2 | Long term Financing | Funding component. Also its lag. |
| f3 | Other Long term | Funding component. Also its lag. |
| f4 | Short term Financing | Funding component. Also its lag. |
| f5 | Balance Sheet | Total Balance Sheet |
| lc | Labor cost | component of Value-Added |
| va | Value added | va = cc + lc. Dependent Variable |
| lc\_was\_fixed | Indicator for Sanity check and correction for labor cost. | TRUE = lc was fixed |

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