"Costs, Demand, and Producer Price Changes"
Claire Loupias and Patrick Sevestre

****
Original Data
****

The original data are taken from three sources:

- the business survey implemented by the Banque de France. We use waves from January 1996 to December 2005. Each original data file dated *t* contains data corresponding to that date *t*.

- the ACEMO survey, implemented by the French ministry of Labour. We use waves from the first quarter 1999 to the first quarter of 2006. Each original data file dated *t* contains data corresponding to the previous quarter.

- the producer price indices, downloaded from the INSEE website.

Access to these databases:

The first two databases (the Banque de France business surveys and the ACEMO survey) are not freely accessible. It is however possible to get access to these data following the procedure described in the attached document.

The producer price indices are freely accessible from the INSEE website (www.insee.fr). The compiled set of indices used in this paper is available in the SAS data file (IPP2) provided here

Short description of the contents of these databases

1) The business survey database that we use contains the following information

- SIRET: an establishment identifier that can be split into a firm identifier (SIREN) and a plant identifier (ETABL)
- APE: a product/industry identifier, used to define the specific product under consideration
- MOIS, ANNEE: month and year identifiers
- EVPRPF: qualitative assessment of the price variation of the product, with respect to the previous month.
- EVPRMP qualitative assessment of the price variation of the intermediate inputs, with respect to the previous month.
- EVPRO: qualitative assessment of the production variation, with respect to the previous month
- PREVPRO: qualitative assessment of the expected production variation, over the next few months
- EVCOM: qualitative assessment of the variation in orders received, with respect to the previous month
- EVLIV: qualitative assessment of the variation in deliveries, with respect to the previous month
- EVSTPF: qualitative assessment of the variation in inventories of the final product, with respect to the previous month
- PREVSTPF: qualitative assessment of the expected variation in inventories of the final product, over the next few months

NB In the initial database, all of the qualitative variables defined above can take seven possible values: large decrease, medium decrease, smalkl decrease, no change, small increase, medium increase, large increase.

2) the ACEMO survey database contains

- SIRET: an establishment identifier that can be split into a firm identifier (SIREN) and a plant identifier (ETABL)
- APE: a product/industry identifier, used to define the specific product under consideration
- DATE : a date identifier, composed of a year and a quarter identifiers
- SALM(j) j= 1 to 12: : monthly wage of a worker with an occupation in category j
- HORM(j) j= 1 to 12: : monthly hours of work of a worker with an occupation in category j

NB The worker for whom the wage and hours worked are inquired must be the same from one quarter to the other, unless he/she have quitted this specific job.

3) the IPP2 database contains the producer price indices at the 2-digit level. These data were collected from the INSEE website. The compiled set of indices is available in the SAS data file IPP2 provided here.

****
Softwares:
****

We used two different sotwares:
- The database treatment was done using SAS V9.2
- The econometric estimation was implemented using STATA V10.

****
Data treatment and econometric estimation
****

Four SAS program files contain the database treatment and the computation of descriptive statistics:

0_ACEMO.SAS: This file contains in particular the computation of average quarterly wage variation at the firm level as well as some necessary adjustments of the information regarding the consistency of products and establishment classification across the three databases.

N.B. This file was aimed at creating a set of variables used in the current paper as well in other papers about wage dynamics in particular. Inputs from Laurent Baudry, Thomas Heckel, Jeremy Montornes and Sylvie Tarrieu are gratefully aknowledged.

1_FUSION_ACEMO_EC.SAS: this file essentially contains instructions allowing to merge the three original databases. This program has also benefited of inputs by Laurent Baudry, Thomas Heckel and Sylvie Tarrieu.

2_ FICHIER_FINAL.SAS : this file contains the normalization of variations of prices, intermediate input prices, wages, production, etc. into 3 possible outcomes (decrease, no change, increase). It also contains the identification of price trajectories, that of price spells, as well as the creation of a number of variables used in the susequent econometric analysis (cumulative sum of variations over price spells, identification of permanent or transitory increases and decreases, etc.). This program has also benefited of inputs by Laurent Baudry, Thomas Heckel and Sylvie Tarrieu.

3_STATS_DES.SAS : This program computes the descriptive statistics provided in the paper (Tables 1, 2 and 3;) as indicated in the program itself.

Five STATA program files contain the econometric estimation of the models and of marginal effects provided in the paper and in the supplementary material appendix:

4_ORDERED_PROBIT_QUALIT3_PROD.DO: allows the estimation of the "standard" state-dependent model (Table 4 in the paper and Table S2 in the online supplementary material appendix)
as well as the "unconstrained" dynamic state-dependent model (Table 5 in the paper and Table S3 in the online supplementary material appendix)

5_ORDERED_PROBIT_QUALIT3_SHOCKS.DO allows the estimation of the "unconstrained" dynamic state-dependent model where permanent and transitory increases and decreases are allowed to have a different impact on prices
(Table 5 in the paper and Table S4 in the online supplementary material appendix)

6_ORDERED_PROBIT_NO_YEAR_DUMMIES allows the estimation of the "standard" state-dependent model without year dummies as a robustness check (Table S5 in the online supplementary material appendix)

7_ORDERED_PROBIT_NO_PPI_NO YEAR_DUMMIES allows the estimation of the "standard" state-dependent model without producer price index changes nor year dummies as a robustness check (Table S5 in the online supplementary material appendix)

8_ORDERED_PROBIT_ORDERS_INVENTORIES allows the estimation of the "standard" state-dependent model with production replaced by orders and inventories as a robustness check (Table S6 in the online supplementary material appendix)

The output of the programs #3 to #8 is provided together with the program files.

****
Description of the main variables used in the estimated models
****

The dependent variable:
- EVPRPF: Price change. It can take 3 values (decrease, no change, increase).

The main explanatory variables:
- EVPRMP: Intermediate input price changes It can take 3 values (decrease, no change, increase). It is denoted as ii_price in the text.
- ISALMTOT2: Wage changes. It can take 3 values (decrease, no change, increase). It is denoted as wage in the text.
- EVPRO: Production changes It can take 3 values (decrease, no change, increase). It is denoted as prod in the text.
- TXIPP2: Producer price index changes. It can take 3 values (decrease, no change, increase). It is denoted as sect_price in the text.
- EVCOM: Orders changes It can take 3 values (decrease, no change, increase). It is denoted as orders in the text.
- EVSTPF: Inventories changes It can take 3 values (decrease, no change, increase). It is denoted as inventories in the text.

- VAT_2000 : Dummy for the VAT change that occurred in April 2000; = 1 in April 2000, 0 otherwise.
- VAT_2000_2 : Dummy for the VAT change that occurred in April 2000; = 1 from January 2000 to April 2000, 0 otherwise
- EURO_2002 : Dummy for the Euro cash changeover that occurred in January 2002; = 1 in January 2002, 0 otherwise
- EURO_2002_2 : Dummy for the Euro cash changeover that occurred in January 2002; = 1 from July 2001 to June 2002, 0 otherwise

The cumulative sum of any variable X is denoted as:
- CUM_X if the sum is computed over the total duration of the spell (standard state-dependent model)
- CUM_X_L123 if the sum is only computed from the 5th period of the spell until its end (unconstrained state-dependent model)

The lag of order j of any variable X is denoted as
- X_Lj when it corresponds to the jth lag of X, where j <= duration of the spell (explanatory variable of price changes)
- Lj_X when it corresponds to the jth lag of X, independently from the duration of the spell (instrumental variable).

The residuals obtained from the first stage regressions of X on the set of instruments are denoted as RES_X