Using administrative data for the Italian Cleaning SPPI

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Introduction

Two of the main problems for NSIs: response burden in short term business surveys and direct data collection costs were totally avoided by integrating data from two administrative sources and an archive derived from a statistical process to obtain the variables used to identify output prices for cleaning services in Italy.

The Industry and the Market

Italian Statistical Business Register (ASIA) Year 2013

NACE REV. 2 - 81.2	Number of enterprises	% Turnover	Number of employees
81.21 General cleaning services of buildings	24.619	71,7	319.240
81.22 Other building and industrial cleaning services	678	17,9	45.160
81.29 Other cleaning services	3.494	10,4	36.111
81.2 Cleaning services	**28.791**	**100,0**	**400.512**

Market conditions in 2013 (latest data available)

- ✓ most of the enterprises are small in terms of turnover and employees;
- ✓ 89% of enterprises have < 15 employees, 0,3% have > 500 employees;
- ✓ market leader holds 6,7% of total turnover;
- ✓ only 5 enterprises hold at least 1% of total turnover;
- ✓ 193 enterprises (0,7%) have 50% of total turnover;
- ✓ In 2007-2013 total turnover remains between 11 and 12 millions €.

Characteristics of the service

From interviews to large enterprises:

- ✓ outsourcing is commonplace;
- ✓ workers are directly employed by cleaning enterprises;
- ✓ long/medium-term contracts with price updating ;
- ✓ **the largest price determining factor is labour cost (85%);**
- ✓ **other price determining factors (15%)** are: frequency and type of cleaning, cleaning size in sq.m., materials, work clothes, equipment, type of client, profit margin.

Administrative sources used

	ADMINISTRATIVE SOURCES		
FEATURES	**SECTOR STUDIES (SdS)**	**SOCIAL SECURITY WORKING POSITIONS (INPS)**	**OROS**
DATA HOLDER	*Italian Revenue Agency*	*INPS (National Social Security Agency)*	*ISTAT (National Institute of Statistics)*
TARGET POPULATION	*Small and medium size firms from different business sectors*	*Firms with different economic activities and at least one employee*	*All the firms and private institutions from sections B to F and G to N of Nace Rev. 2 that pay taxable pay for contributions*
SCOPE	*It estimates revenue levels for small and medium size firms using data given by taxpayers on the structural and economic characteristics of their activities. It provides a benchmark for programming tax audits, with the aim of reducing tax evasion. (n. 205 SdS in tax year 2013 gave information on 4 million enterprises)*	*It registers all ID-number that INPS assigns to each firm to track payments of social security contributions that guarantee security protections to employees (for example in case of sickness, maternity, unemployment)*	*It combines all the social contribution declarations from employers to INPS, for small and medium size firms, with data from ISTAT monthly Large Firms Survey. The aim is measuring trend and levels of gross wages, other labour costs and employment for firms with at least one employee*
MAIN DATA CONTENT	*Fiscal code (1); Volume and type of business; Personnel costs; Equipment + cleaning material costs; Admin. costs*	*Fiscal code (1); INPS code (2); Name; Legal form Economic activity description*	*Fiscal code (1); INPS code (2); Hourly full time equivalent labour costs; Average gross wage; Total paid hours*
FREQUENCY	*Annual*	*Annual*	*Quarterly*

(1) Business ID used by different administrative registers to identify the enterprise as legal unit. - (2) ID used by INPS to identify the enterprise according to its geographic location and economic activity.

Administrative sources linking and integration

SdS

1 - Receiving the entire register

2 - Extracting cleaning firms

Automatic extraction by SdS questionnaire code

3 - Selecting BtoB cleaning firms

Selection by business volume and type of service

Output for each BtoB cleaning Firm

Fiscal Code; Total Turnover; % Turnover by service; Annual firm costs (except personnel)

INPS

1 - Identifying all working positions for each firm

Micro-linking by Fiscal code 1-N relationships

2 - Selecting only positions referring to cleaning service

Data mining analysis on textual activity description

OROS

1 - Extracting hourly labour costs

Micro-linking by INPS code

Data check and validation

Imputation of missing values + Treatment of 13th and 14th wages + Outlier editing

Output for each single position

Fiscal code; Quarterly hourly labour costs

SPPI Index Calculation Procedure

Pricing method

COMPONENT PRICING METHOD

Quarterly Hourly Price is composed by Quarterly Hourly Labour cost (85%) plus other Different Costs and Profit Margin (15%)

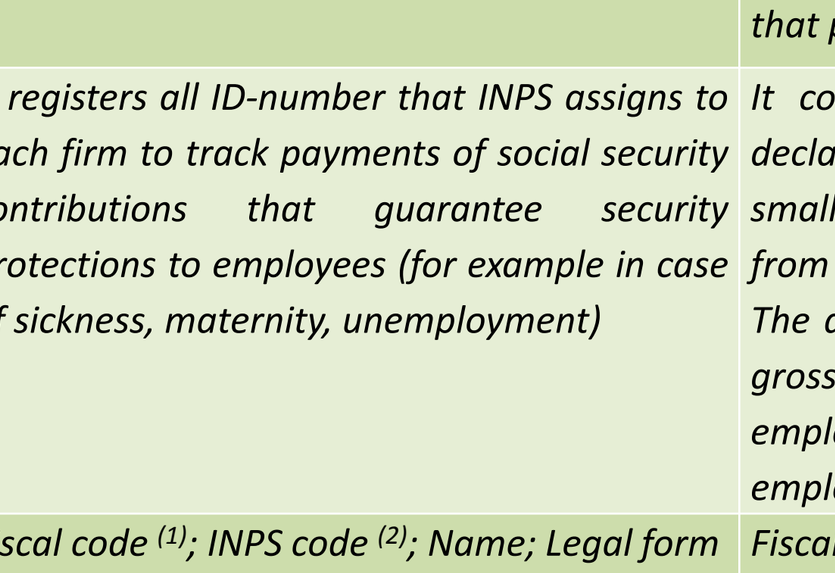
A solution:

= Quarterly Hourly Labour Cost (OROS)

B solution:

= Quarterly Hourly Labour cost (OROS) + Annual firm costs (SdS)/4 updated with CPI

Results and Conclusions



- ✓ ***A solution*** was adopted
- ✓ 8.000 social security working positions from **7.000 firms**
- ✓ 13th and 14th wages gave a seasonal time series (rough data) processed with ***data check and validation method*** (disseminated data)
- ✓ final result reflected **expected trend** (known from interviews to large firms)

… IN FUTURE

- ➢ *B solution* will be tested
- ➢ for longer series: seasonal time adjustment (rough data)?

NOTE: The authors thanks their colleague Fabio Spagnuolo for IT development of the calculation procedure of the Cleaning SPPI