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Impact of Changes in Consumer Preferences on Sectoral Labour Reallocation: Evidence from the Italian Economy

William Addessi, Manuela Pulina, Federico Sallusti

Synopsis

Over the last decades, many countries have experienced changes in sectoral composition of the economic system which affect consumption, value added and employment. Within a disaggregated economic sectoral classification, we explore the impact of changes in consumer preferences on the reallocation of labour units directly involved in the production of consumption goods. Sectoral time series are built starting from the Italian national accounts and causality relationships are investigated through econometric techniques. Results show that changes to consumer preferences explain a significant part of the observed labour dynamics, encouraging further analyses about how to represent consumer preferences at aggregate level.

Introduction and Background

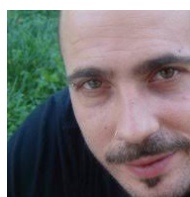
The literature analyses sectoral shifts from different perspectives and with different theoretical approaches (Herrendorf et al., 2014). One thread of the literature highlights that remarkable sectoral differences can occur in the production process. Particular relevance has been given to differences in productivity dynamics with straightforward consequences on sectoral cost and price dynamics. Given certain conditions (generally confirmed by empirical analysis) concerning the elasticity

of substitution between consumption goods, this mechanism leads to the so called 'Baumol's cost disease': sectors characterised by low productivity dynamics are going to experience increases in relative prices, expenditure shares and employment shares (Ngai and Pissarides, 2007 & 2008). Yet, another stream of the literature indicates that technological factors are not the sole and most relevant engine of sectoral reallocation. Such conclusions are supported by firm-level studies which reveal that demand factors play a fundamental role in explaining firm performance as well as firm employment dynamics (Foster et al., 2013) and this relationship is likely to emerge also at a macro level. The macroeconomic literature taking into account this type of mechanism has considered changes to consumer preferences through the introduction of income effects (Kongsamut et al., 2001). Even if it represents an important source of variation in consumer preferences, the income effect may underestimate the overall variations. For this reason, we adopted stochastic rather than deterministic preferences.

Issues and Questions Considered

In many countries, macroeconomic data shows that employment shifts from one sector to another are substantial. For example, focusing on the Italian economy, which represents our case study, the

AUTHORS



Dr. Federico Sallusti
Directorate of National
Accounts, Italian National
Institute of Statistics (ISTAT).
fsallusti@istat.it



Dr. Manuela Pulina
DISEA & Centro di
Ricerche Economiche
Nord Sud (CRENoS),
University of Sassari.
mpulina@uniss.it



Dr. William Addessi
Department of
Economics, Kemmy
Business School,
University of Limerick
William.Addessi@ul.ie

comparison between the sectoral composition of employment in 2009 and in 1970 shows that the share of agriculture, forestry and fishing dropped by more than 16%, the share of manufacturing decreased by 8%, while the share of professional, scientific, technical, administrative and support service activities increased by 8.6% (EU KLEMS database, O'Mahony and Timmer, 2009).

The purpose of the present research is to assess the impact of consumer preference variations on labour reallocation. Yet, one of the main issues concerns the reclassification of national account data, with the purpose of relating the sectoral representation of consumer preferences to the sectoral structure of labour units, since they are issued according to different sectoral classifications. This aspect is particularly relevant because rather than considering the standard three-sector classification (agriculture, manufacturing and services), we build our dataset starting from the 12 categories which define the different types of final consumption expenditure (then, reduced to ten). Through a careful elaboration of the aggregate sectoral data and the conversion of the information provided by the Classification of Individual Consumption according to Purpose (COICOP), the Classification of Product by Activity (CPA) and the Classification of Economic Activities (NACE), it is possible to calculate how labour units distribute among the different COICOP sectors and which amount is engaged in the production of different consumption goods.

A further preliminary issue is represented by the identification of consumer preferences for the different sectoral goods. To this purpose, through a sound theoretical structural model, the role of the demand/preference side and the role of the supply/technological side in the consumption-composition choice are disentangled. In fact, we obtain a system of equations to be estimated that allows us to elicit consumer preferences and to observe their evolution.

Once labour unit data and preferences are organised according to the same sectoral classification, it is possible to calculate descriptive statistics and estimate both long-run and short-run relationships between sectoral labour shares, relative prices and preferences.

Methodology

Data refer to the Italian economy over the time period 1992-2010. Long run and short run relationships are estimated through a panel analysis, i.e. Vector Error Cointegration Mechanism (VECM),

dynamic Generalized Method of Moments (GMM) and Tobit estimations, respectively. To check the robustness of the results, the analysis is extended in three main directions: consumer preferences are elicited focusing on the choice between domestic goods; alternative preferences are calculated referring to the entire consumption bundle including imported goods; finally, the relationship between consumer preferences and sectoral labour units not involved in the production of consumption goods is tested (to be non-significant) to verify that the estimation results are not driven by the sectoral reclassification procedure.

Outcomes and Findings

The descriptive statistics obtained after the reclassification of labour sectoral data and the process to elicit consumer preferences do not signal univocally a clear relationship between sectoral labour shares and preferences. Indeed, the sign of the variation in the labour shares does not always coincide with that of the variation in preference weights. This divergence occurs in four out of the ten sectors under study. For example, co-movement emerges clearly in the food sector, which experienced the deepest fall in both labour share and preference weight. On the contrary, the miscellaneous sector is characterised by the highest increase in terms of labour share but no significant change in terms of preference weight. Differently from the descriptive statistics, the econometric analysis provides clear indications. All the quantitative findings detect a positive and statistically significant impact of preference changes on labour reallocation. All the robustness checks confirmed the results highlighting a significant sensitiveness of labour units to preference changes.

These findings are in line with the thread of the literature that emphasises the importance, at both micro and macro level, of including preference dynamics to achieve a better understanding of job flows. The recognition of such relevance breaks the link between sectoral reallocation and aggregate inefficiency since the gap in productivity dynamics is not the main driver of labour reallocation and workers are not only directed towards the less productive sectors. The results obtained from the present investigation encourage further analysis on the structure and the dynamics of consumer preferences. In this direction, ongoing extensions to the present research are relating consumer preferences to socio-demographic characteristics, on the one hand, and to firms' engagement in innovation and advertising, on the other.

The underlying study was published in Wiley Online Library:

<https://onlinelibrary.wiley.com/doi/full/10.1111/obes.12179>

Authors:

William Addressi, Manuela Pulina, Federico Sallusti

For further information and comments, please contact:

Prof Sheila Killian

Assistant Dean, Research

Kemmy Business School

University of Limerick, Ireland

T: +353 61 202237

E: sheila.killian@ul.ie

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