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Changes in aggregate supply conditions in Italy: A small econometric model and its policy implications

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Abstract

This paper examines aggregate supply conditions in Italy and how they changed from the 1970s to the late 1990s. Based on a VAR model for wages, prices, productivity, unemployment and exchange rate the cointegration properties of the data in nominal and real terms are analysed. Analysis is based on a model directly derived from the work of [Modigliani, F., & Padoa Schioppa, T. (1977). La politica economica in un'economia con salari indicizzati al 100 o più. *Moneta e Credito, 117*, 3–53]. Our results – giving empirical evidence for the existence of a link between labour market reform, employment and wage flexibilization – provide a major incentive for labour market reforms in Italy. The pressure for reintroducing mechanisms for partial wage purchasing power defence are resolutely discouraged. Normative aspects of 'concertation' should be positively reappraised as compared to wage aspects. Other notable policy implications are highlighted in the paper.

JEL classification: C32; C51; E31

Keywords: Wages; Prices; Phillips curve; Cointegration; Dynamic econometric models

1. Introduction

This paper provides an empirical specification of a wage-price model of the Italian economy. Its objective is to estimate a cointegrated VAR model to identify the main changes occurring

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in the aggregate supply conditions from the early 1970s to the late 1990s. We will investigate whether, during this time span, there were any changes in the characteristics of the static equations of the real demand and supply wage, and we will examine the set of possible dynamic responses indicated by the model. Two periods will be compared, prior and subsequent to the early 1980s, with very different supply systems[1] due to: (a) changes in industrial relations and their effects on contract systems (gradual wage de-indexation), social legislation and industrial productivity; (b) progressive European integration and liberalization of the financial markets and the labour market, as well as changes in the exchange rate regime; finally, (c) oil countershocks.

It is widely claimed in the literature that these changes exerted a positive effect on supply conditions, leading towards a reduction in equilibrium unemployment.[2] Such an assessment is based on empirical studies which mainly analyse the characteristics of the static equilibrium equations;[3] however, we will focus on the identification and theoretically consistent interpretation of dynamic mechanisms: the endogenous response of price and wage inflation, but also of unemployment, productivity and the real import price will be evaluated – within the framework of a 'competing claims' model – in the light of the theoretical model. Our findings, which highlight some elements of discontinuity between the two subperiods considered, show that the divergence is more pronounced than would appear from the static equations.

Our analysis of the macroeconomic events of the period differs in some respects from that prevailing in the literature. For the 1970s the usual interpretation underlines the role of trade union-derived shocks on the supply wage, and that of oil shocks on the demand wage. We were unable to detect any role played by trade union variables, while the importance of real import prices emerged very clearly. However, this variable mainly exerted its effects on the supply wage (and therefore through *wage resistance*) rather than the demand wage. This appears to be more consistent with the behaviour of real wages and the wage share during the period examined. For the 1980s, the pattern of static equations is once again in line with the conventional picture, while dynamic analysis shows the emergence of endogenous responses to disequilibrium (productivity and unemployment), which were not present during the previous period.

The empirical model presented in this paper also allows for an assessment of how the characteristics of the Phillips curve evolved during the three decades considered. It is thus possible to underscore the process whereby real wages were made increasingly flexible during the 1980s and 1990s.

Our analysis assesses the macroeconomic results of the process of flexibilization first initiated in Italy in the 1980s and implemented through policies to deregulate labour relations. Evidence suggests that there is a link between labour market reform, employment and wage flexibilization policies and so encourages the implementation of the labour market reforms in Italy.

In Section 2, we will introduce the theoretical model used as reference for our empirical analysis. This model is based on a well-known work by Modigliani and Padoa Schioppa (1977), which we adapted to the requirements of empirical testing. In Section 3, after a brief comment on the time series, we will introduce a *VAR* representation of the labour market model and we will

[1] See Juselius (2001, 2002), Marcellino and Mizon (2000, 2001) and, for a historical-economic approach, Rossi (1998), Signorini and Visco (2002).

[2] The fact that unemployment in major continental European countries did not respond positively to the change in supply conditions led several authors to reject the assumption that European unemployment presents equilibrium characteristics and to assume, instead, that demand factors are to be identified as its main causes. See Modigliani (1995), Modigliani and Ceprini (2000), Lombard (2000) and the literature quoted therein.

[3] See Juselius (2001, 2002), Marcellino and Mizon (2000, 2001), and Chiarini and Piselli (1997).