Does it Pay to be Flexible?

Empirical Evidence on the Relationship between Labour Demand Flexibility and Profit Margins

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Abstract. This paper addresses the determinants of price-cost margins in U.S. 4-digit industries. Margins are larger in capital intensive and concentrated industries with high growth rates and R&D and advertising to sales ratios. They also fluctuate significantly over the business cycle. We go beyond the existing literature by considering an issue which is a dominant topic in the business literature, the flexibility of firms to adjust to exogenous shocks. In particular, we find a significant positive relationship between the flexibility of labour demand and price cost margins suggesting that it pays to be flexible.

Key words: Price-cost margins, manufacturing industries, flexibility.

I. Introduction

Industry profit margins are typically analysed in a static framework. A given number of firms in an industry is assumed to maximise profits by choosing output (or prices) implying a positive relationship between industry profit margins and market concentration. Dynamic aspects and/or the specific character of production factors, such as the fact that some factors can be adjusted more quickly than others, are not considered explicitly. In this respect, this approach does not pay attention to an issue which, over the last years, has been one of the dominant themes of business pages in newspapers and magazines, the need for firms to be flexible. “Judging from the business literature, flexibility would seem to be as important a determinant of international competitiveness as costs” (Carlsson, 1989, p. 180).

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There is considerable empirical evidence that the speed of adjustment of labour to exogenous shocks differs significantly between industries. The existing economic literature on this issue primarily focuses on the macroeconomic or labour market consequences of a different degree of labour market flexibility. In the present paper, we look at the issue of flexibility from a different perspective by investigating the consequences of differences in the speed of labour demand adjustment for profitability. We thus address one of the most venerable topics in empirical Industrial Organisation, the determinants of industry profit margins.

The paper is organised as follows: Section II reviews the basic literature on the determinants of profitability and outlines why labour market flexibility might be important. The data are described in Section III and the results are reported in Section IV. Section V presents the conclusions.

II. Determinants of Firm (Industry) Profits

1. The Concentration Profitability Trade Off

Game theory in principle confirms that profits and concentration rates should be positively related. In the static homogenous Cournot model the price cost margin on the industry level is (for a given demand elasticity) proportional to the Herfindahl index of product market concentration. In the homogenous static Bertrand model, monopoly profit and zero profits are the corner stones of markets with one firm and two or more firms, with product differentiation or a two stage setting the relationship becomes more continuous. In supgames the number of firms is inversely related with the sustainability of collusion and therefore with profits in the Cournot as well as in the Bertrand world.

The empirical literature on the concentration – profitability link is too voluminous to be reviewed here, recent surveys are available in Geroski (1988), Schmalensee (1989), Hay and Morris (1991), Martin (1993) and Aiginger (1994a).

2. The Cyclical Component

The early 1980s have seen a considerable amount of work on the cyclical component of profit margins. The discussion started with Porter’s (1983) seminal article showing that collusion will break down in recessions and Rotemberg and Saloner’s (1986) opposing view suggesting that fully collusive prices may not be sustainable in the cyclical peak. In a recent important theoretical and empirical analysis Haskel and Martin (1994) asserts that firms may follow Bertrand strategies in the trough and Cournot strategies in the peak. The model implies that an interaction

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1 We follow much of the economic literature on this issue by focusing on the flexibility (defined here as the ability to adjust quickly to exogenous shocks) of firms with respect to the adjustment of labour input. Carlsson (1989) discusses the issue of flexibility in a more general context.

2 How stable are jobs? Has stability changed over time? Which groups of the labour force have been affected most? (see Abraham and Houseman, 1993, and the literature mentioned there).