

summarized as follows. Firstly, capital market imperfections are present in the sense that the firms in our sample pay a premium on external finance which significantly depends on the debt to sales ratio. Secondly, according to our estimates constrained firms find it optimal to cut their price compared to unconstrained firms. This evidence corroborates the empirical findings of other papers which typically refer to the U.S. experience (Chevalier and Scharfstein, 1995, 1996; Chevalier, 1995; Phillips, 1995). Thirdly, as firms are more likely to be financially constrained in recessions, our results imply that financial market imperfections tend to make markups procyclical. Interestingly, this result runs contrary to the predictions of customer markets/switching costs models and is instead in agreement with the predictions of the theoretical model by Hendel (1996). Finally, Section 6 concludes the paper.

2. The Model

We model the optimal price decision of a firm producing a differentiated good based upon the assumption of profit maximizing behavior. The firm operates in an imperfectly competitive market for her product and the price is used as a strategic variable. Moreover, the firm faces imperfect capital markets for the funds needed to finance her operations.

The existence of differentiated products leads to equilibrium prices which are higher than the corresponding marginal costs, thus generating positive price-cost margins. We assume that changing production levels is a costly activity for two reasons. Firstly, given capacity, using more variable inputs entails additional expenses: this fact is captured by the usual cost function that depends upon variable factor prices as well as the amount of output. Secondly, enlarging the productive capacity entails costs associated with changing the amounts of quasi-fixed inputs such as capital. These adjustment costs are usually taken to be increasing at the margin. Since the focus of this paper is on prices and markups, we take the decisions concerning quasi-fixed factors as predetermined. We then introduce an adjustment cost function which depends upon the rate of change of production as a shortcut for input adjustment costs. We borrow this approach from the literature on finished goods inventories and the production