Raising Markups to Survive: Small Spanish Firms during the Great Recession

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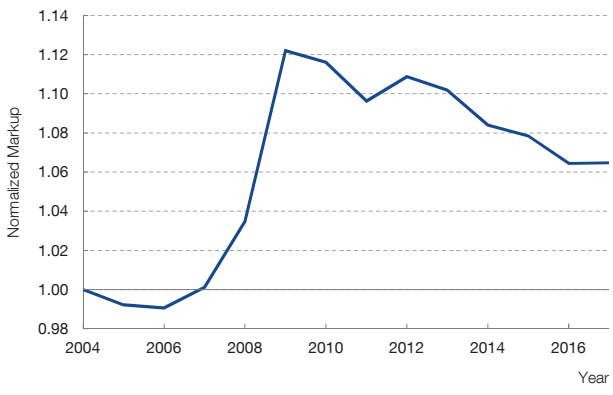
Over the past few decades, profit rates and various other measures of market concentration have been on the rise in the United States (De Loecker et al, 2020). These patterns of the data have attracted much attention recently in both academic as well as policy circles for their impact on productivity dynamics, the composition of industries and ultimately consumer welfare. The evidence points to rapidly growing and highly productive firms as the drivers of this phenomenon, with these firms leading the increase in markups and the decline in the labor share (Autor et al. 2017 and 2020). However, these trends seem to be less pronounced in Europe, and be driven by factors seemingly unrelated to the dynamics of superstar companies.

In this article, we exploit rich balance-sheet data from the Banco de España to document the behavior of markups at the aggregate level in Spain, and perform various decompositions to help us identify the main drivers behind their evolution over the period 2004-2017. Our main finding is that, contrary to the United States, markup dynamics were primarily led by small and unproductive firms. Particularly in response to the Great Recession of 2008, these firms were unable to increase their productive efficiency when their average costs rose due to a sharp increase in the fixed part of their production costs, and this translated into higher price markups. This behavioral response, related to the composition of the structure of costs, seems to indicate that these firms, when faced with economic hardship, may have preferred to increase their markups in an attempt to survive in their sector even if this may have come at the expense of losing some market share in the process.

Measuring price markups (defined as the ratio of a firm's final output price to the marginal cost of producing it) is challenging because of at least two reasons. First, marginal costs are a theoretical construct, so one needs a proxy for them. Second, output price data at the firm level is scarce, if not inexistent. For this reason, we rely on recent methodological advances in production function estimation (e.g. De Loecker and Warzynski, 2012), measuring firm-level markups as the ratio of a variable input's elasticity to output on that input's share of total sales. The Banco de España data proves to be an excellent resource because not only is it highly representative of the Spanish economy (containing a large amount of firms and a very high percentage of aggregate value added), but it also contains very disaggregated information on the structure of costs, allowing us to disentangle variable inputs (e.g. materials and labor expenses from workers with fixed-term contracts) from fixed inputs (e.g. other operating expenses and labor expenses from open-ended contracts with large firing costs). It is this latter aspect which allows us to make the main point of the paper: the evolution of firm-level markups in Spain can be explained by firms' efforts to rebalance their cost structure between variable and fixed inputs, a behavioral response to the cycle, rather than by reasons of a more structural nature. Therefore, in the case of Spain, the evolution of markups may not reflect aggregate changes in the competitive structure of markets, but rather an idiosyncratic response of firms to economic conditions.

The figure above shows the evolution of the sales-weighted average markup (measured relative to materials) over the period 2004-2017. The average markup has been

Figure 1
SALES-WEIGHTED AVERAGE MARKUP (2004 = 1)



normalized to one in 2004. We observe that markups are countercyclical, rising by about 13ppt between 2004 and 2009, and declining slightly thereafter. The behavior in the first part of the sample is roughly common across most sectors of activity, albeit markups continued to rise in some specific sectors after 2009, most notably in Construction, Supplies and Real Estate.

Most importantly, we find that the behavior of average markups is driven by small and unproductive firms. First,

Figure 2

SALES-WEIGHTED AND UNWEIGHTED AVERAGE INPUT COSTS SHARES, RELATIVE TO FIRM SALES, BY TYPE OF INPUT

most of the increase during the Great Recession is due to the firms at the very top of the markup distribution, who happen to be firms with relatively low levels of productivity and low market shares. Second, the firms that increase their markup the most (in relative terms) during this period were precisely this group of small and unproductive companies.

To understand what is behind this phenomenon, we next turn to the behavior of different variable and fixed costs over this period. In the figure, the black line is the sales-weighted share of each input relative to firm turnover (sales), while the red line is an unweighted average. By construction, when the sales-weighted average is above the unweighted average, smaller firms (in terms of sales) have a lower input share of sales. As seen in the figure, there exist sizable differences in the terms of the cost structure of firms by firm size, especially regarding the contribution of materials and labor expenses. First, larger firms devote a larger share of their sales to paying for material inputs (the variable input relative to which our markup estimates are computed). In response to the Great Recession, all firms decreased the share of their sales that pays for material expenses, but this ratio decreased disproportionally more for smaller firms, explaining the stronger response in markups for these firms. This phenomenon is reversed for inputs with higher adjustment costs, such as general costs and labor expenses related to permanent workers on open-ended contracts with high firing costs. In both cases, the share of sales paying for these fixed inputs increased, indicating that in response to the adverse economic shock, continuing firms shifted their resources away from variable costs into fixed ones, perhaps in an attempt to soften the adverse effects of the shock on their economic profits and their chances at survival.

To complement this analysis, we conclude on the evolution of firm demographics and measures of market concentration during this period. We show that, in spite of the aforementioned behavioral responses at the firm level, we do observe a decline in firm entry (from about 11% to about 7% only in the period 2007-2009) and a rise in firm exit (from about 4% to 8% in the same period), as well as a mild increase in the share of industry sales captured by the ten largest firms (on average, from 47% in 2008 to 56% in 2017).

However, we find that most of the evolution of the sales-weighted markup is explained by changes in the composition of industries among surviving firms, as well as by changes in the markups of these firms themselves, rather than by the extensive margin of entry and exit of firms.

All in all, our study demonstrates that understanding the structure of firm's balance sheets is key to understand the behavior of markups in Spain. Rather than reflecting change in market power per se, the rise in markups during the Great Recession seems to have been driven by a reshuffling of cost expenditures away from variable and into fixed inputs. This was particularly the case among small and unproductive firms, who may have behaved in this manner in order to soften the blow of the shock onto their profits, and thereby increase their chances of survival.

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