COMO PENSAR NA GLOBALIZAÇÃO? CONTRIBUTO SOCIOLOGICO PARA UM MODELO DE ANÁLISE INTERDISCIPLINAR

THE ROLE OF FINANCIAL CONSTRAINTS IN THE SERVICES SECTOR: HOW DIFFERENT IS IT FROM MANUFACTURING?
The Role of Financial Constraints in the Services Sector: How Different is it from Manufacturing?

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abstract

Although the services sector has emerged as a major contributor to gross domestic product and employment in developed economies, very little attention has been paid to financial constraints faced by services firms. This paper represents a first attempt to model financial constraints in the services sector. In particular, we question the commonly accepted inverse relationship between firm size/age and financial constraints. To conduct our empirical tests, we estimate the Cash-Cash Flow Sensitivity using a large unbalanced panel of Portuguese firms. We also combine the recently developed Hovakimian-Hovakimian index of firm’s financial constraints with the sensitivity of cash stocks to cash-flow approach. Our results suggest that there are clear differences in financial constraints across the two sectors. First, firms operating in the services sector suffer from more severe financial constraints than those in manufacturing. Second, the relationship between size and financial constraints appears to be inverse in the case of the manufacturing sector, but not in services, for which we have U-shaped evidence. Finally, for the services sector we find some evidence suggesting an inverse relationship between age and financial constraints, while in manufacturing this relationship seems to be U-shaped.

Keywords: Services sector, financial constraints, cash-cash flow sensitivity, firm-level studies

JEL Classification: L8; D92; G32; L00; L2
A new wave of empirical research aimed at the study of the services sector has emerged in the last decades, motivated by the growing size and importance of this sector in modern economies, on the one hand, and the new high-quality data that has become available to researchers, on the other. The increasing relevance of the services sector is the result of a long-term production reorganization due to both the increasing households’ demand for services and the technological and organizational change within firms.

Despite the growing body of empirical literature that compares services and manufacturing, comparatively little is actually known about financial constraints faced by services firms. But understanding financial constraints in the services sector is certainly an important issue. Indeed, if financial constraints are more severe in the services sector, particularly in industries that are technology-intensive (Kukuk and Stadler, 2001), not only firm growth but also innovation and technological diffusion will be strongly affected and, consequently, economic growth.

It is not clear whether we should expect significant differences in financial constraints across sectors. On the one hand, services firms will require, on average, a lower initial physical capital investment than manufacturing firms, so that we would expect lower constraints for the former. On the other, for most services, the main input is human capital while the output is of an intangible nature, which are both harder to use as collateral when resorting to external finance.

The main purpose of this paper is to shed further light on financial constraints faced by services firms. Particularly, we test whether there are significant differences in financial constraints between manufacturing and services sectors. It is also in the scope of the paper to substantiate if previously devised relationships between financial constraints and firm size and age hold for economic sector disaggregation. Additionally, we combine the recently developed Hovakimian-Hovakimian index of constraints with the sensitivity of cash stocks to cash-flow framework, which is also novel in the literature.

The remainder of this paper proceeds as follows. Section 2 illustrates the underlying theoretical investment model and formulates the main hypotheses to be tested. Section 3 discusses the dataset and the main variables. It also outlines our empirical methodology. Section 4 presents the main results, while Section 5 pulls the pieces together and concludes the paper.

The simple model of firm-level investment behaviour provides a useful framework to understand whether significant differences in the severity of financial constraints should be expected across sectors (Carpenter and Petersen, 2002a, 2002b). Following the ‘percentage of sales approach’, we assume for simplicity that the ratio of capital required in production to sales is constant, that is, $\theta = Y_{it} / K_{it}$, where $Y_{it}$ and $K_{it}$ are the sales and the capital stock of firm $i$ in period $t$, respectively (Higgins, 1977; Demirgüç-Kunt and Maksimovic, 1998). Thus, the required capital investment is proportional to the firm’s increase in sales:

$$I_{it} = \theta^{-1} \Delta Y_{it}$$  \hspace{1cm} (1)

The essential features of the model are illustrated in Figure 1. The horizontal axis measures either the investment expenditure or the increase in sales as well as the flow of finance, whereas the vertical axes measures both the marginal rate of return on expansion and the marginal cost of capital. The downward-sloping schedule represents the firm’s demand for capital (i.e. the demand for investment funds), which is derived from the marginal returns to expanding its capital stock ($MRI$), once all inputs have been optimally selected. The upward-sloping marginal cost of capital

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1 The $MRI$ schedule can be expressed as $MRI = MRP \cdot MPK$, where $MRP$ is the marginal revenue of the firm’s demand schedule for its output and $MPK$ is the marginal physical product schedule of capital stock.