Corporate finance... what else? The case of the productive chain networks in north-east Italy and the scaffolding finance adopted by their leader.

Mattia Mestroni, Elisabetta Basilico and Guido Max Mantovani

Abstract The Italian North-East district is a clear evidence of the presence of productive chain networks, in which firms tend to specialize in specific risk management. This generates new approaches in the theory of the firm. We investigate which are the implications for the financial activities of the clusters. The paper presents a methodology to identify firms according to their network role: LF, SF and standing alone firms (SA). Accordingly, empirical evidence about the capital raising activity of LF, SF and SA is reported, deploying the necessity of a new approach in finance, where corporationis no more the focus.

Keywords: Networks, Firm Boundaries, Corporate Finance, Working Capital

1 Introduction

Can we still adopt the expression corporate finance, in an economic environment where the detection of the boundaries of corporations is becoming more and more difficult? Maybe the answer is no more! The necessity to satisfy the increasingly evolving and unique needs, together with the necessity to specialize in the use of productive factors, requires a continuous evolution of the firm concept. [1] collected a wide range of papers, explaining why some transactions can be better managed by approaches that stand-in-the-middle between pure markets and firm organiza-

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tions. Within this framework, and as [2] predicted, large corporations are generated only when the firm organization can be more efficient than markets. In other cases, markets can be more efficient, but in some others, hybrids models are required: transactions are still managed by markets and they are assisted by a clan (i.e. semi-organizational) agreement [1]. Small and Medium Enterprise (SME) businesses give strong empirical insights about this evidence of the evolution toward a twin-necessities-satisfaction. Very challenging SMEs are now competing more and more, by acting together into clusters that coordinate their actions [6]. Sometimes, this cluster competition is mainly driven by the nature of the sold products (e.g. in the case of chains of firms); in other cases, technology is the main driver of the competitive advantage of the cluster (e.g. in the case of districts). In both cases the cluster acts similarly to a unique firm, but its organization nexus is based on market transactions, assisted by clans rules. This approach allows any single member of the cluster, to specialize in the areas where its own skills are efficient at most. Two possible approaches can be configured: (i) a network/partnership agreement, which is the institution where the money is flowed to; (ii) a leader (in finance), which is identified inside the cluster and appointed as financial manager for the entire group. Clusters already self-appoint leaders to manage their transaction (i.e. main contractors for selling activities, productive leader to spread skills, etc.). The mission-critical role of such leaders candidates them to manage the financial profile of the cluster as a whole. According to this, corporate finance is to become something else, managing both the external financial needs of the cluster, along with the internal allocation of the financial resources. Indeed, the corporation is no more the institution to refer to, in order to understand the economics of transactions, while a scaffolding approach, as suggested by Gurisatti [3],is preferable. Talking about corporate-else finance is then to be preferred to the classic corporate finance. This requires identifying the subject of the managerial finance activity. In this paper, we investigate the effective capability of the firm scaffolding, to appoint leaders in finance and to delegate them to the management of transactions, which are required to fund the entire cluster. To do this, we present a methodology to discriminate between the leader of a productive chain and the rest of the companies in this network (the suppliers). The idea is based on the discovery by [4], who show that in the Italian North East District of Treviso there appears to be a clear Production Chain Network where the leading firm (LF) finances eight supplier firms (SF). The inner aim of the paper is to discover if capitals prefer to flow to companies as legal entities (i.e. corporate finance),or to clusters as real entities (corporate-else finance). We think it is important to delve into this puzzle because, if it exists, banks are better off determining the merit of credit based on the overall network and not based on single entities in the network.

2 Theoretical Model and Robustness Checks

Specifically, in order to identify the leading firm (LF) and the supplier firms (SF) in the network, we hypothesize that the LF finances the rest of the network (its

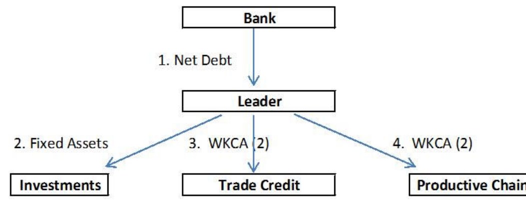

Fig. 1 Leading firm (LF) in a productive chain.

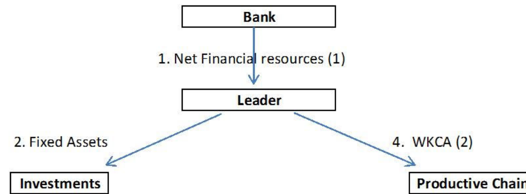

Fig. 2 Standing Alone firm (SA).

suppliers). To the contrary, we hypothesize that the SA does not finance the rest of the network. Figure 1A and 1B show the differences in the capital structure of both LF and SA. LF presents additional working capital compared to SA because part of the capital raised from banks (net financial resources) is transferred to its suppliers, which are part of the productive chain network.

$$NetFinancialResources = Equity + NetDebt \tag{1}$$

$$WKCA = WorkingCapital = Debtors + Inventory - Creditors \tag{2}$$

Based on a number of theoretical simulations on the firms balance sheet, we are able to develop the following hypothesis:1. LF firms show a positive correlation between absolute working capital intensity and absolute weight of financial resources (ρ_1); 2. LF firms show a positive correlation between relative working capital intensity and absolute weight of financial resources (ρ_2); 3. SA working capital is greater than that of LF; 4. SA Net financial resources are greater than those of SF; 5. There is a decreasing working capital intensity of SA. We test the above hypothesis on a sample of 13,391 firms incorporated in three regions of North East Italy (Veneto, Friuli Venezia Giulia and Trentino Alto-Adige) and with balance sheet data for every year from 2006 to 2012.We are able to identify 553 LF, 1.115 SA and 3.334SF. In order to check the validity of the theoretical model, we perform panel regressions which analyze the relation between the return of investment and a series of variables which try to capture the risk level of firms in the analysis [4] over the period from 2007 to 2012. The panel regression analysis is performed on four different samples: the total population, the manufacturing sector, the standing alone-SA cluster and the supplier firms-SF cluster and the leader firms-LF cluster. The results show that both the sub-samples identified by the SA and LF clusters present a higher Adjusted R-squared estimation, moving from 0.15 (manufacturing firms sub sample) to 0.73

in the SA cluster and 0.65 in the LF cluster when including the autoregressive component (ROI_{t-1}).Similarly, the estimation parameter moves from 0.06 to 0.64 in SA and 0.55 in LF when the autoregressive component (ROI_{t-1}) is excluded. Additionally, as expected, the Hannan-Quinn criterion for the above two clusters (SA and LF) decreases in value. Thus, we conclude that results of the panel regressions analysis seem to confirm the soundness of the Productive Chain Networks identification method.

3 Conclusions

Even if clusters can be evidenced only by concrete case studies, this paper tries to investigate whether the hypothesis of corporate-else finance can be supported by empirical evidence. Leaders are identified recurring to a methodology based on the hypothesis of polarized farming of productive farming inside the clusters. This generates specific capital intensity levels both for working capital and for fixed capital; the relationship existing between their relative intensity and the capital flows can be proof of a leadership even in financial functions. Testing the methodology in the very dense area, in terms of number of firms of the North-East Italy, seems to detect correctly the leaders (LF). Financial reports depict their specificities, if compared with the other cluster firms and the stand alone ones. Evidences demonstrate that LF receive more debt resources than any others, and that they pay less for these resources. This results in a substitution of the banks role in the selection of investments. Hence, banks that are able to explore firms boundaries among networks, can surely improve their ability to estimate the merit of credit of such firms in two ways: 1) by improving the efficiency of rating models and 2) by considering both possible network re-allocation of financial resources and economic interdependences.

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Certification

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