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THE DEEP POCKET EFFECT OF INTERNAL CAPITAL MARKETS

Xavier Boutin, Giacinta Cestone,
Chiara Fumagalli, Giovanni Pica and
Nicolas Serrano-Velarde

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Xavier Boutin, CREST (LEI) and European Commission
Giacinta Cestone, Queen Mary University, CSEF, ECGI and CEPR
Chiara Fumagalli, Università Bocconi, CSEF and CEPR
Giovanni Pica, Università degli Studi di Salerno and CSEF
Nicolas Serrano-Velarde, European University Institute, Florence

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Centre for Economic Policy Research
53–56 Gt Sutton St, London EC1V 0DG, UK
Tel: (44 20) 7183 8801, Fax: (44 20) 7183 8820
Email: cepr@cepr.org, Website: www.cepr.org

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ABSTRACT

The Deep Pocket Effect of Internal Capital Markets

This paper provides evidence that incumbents' access to group deep pockets has a negative impact on entry in product markets. Relying on a unique French data set on business groups, the paper presents three major findings. First, consistent with theoretical predictions, the amount of financial resources owned by incumbent-affiliated groups has a negative impact on entry in a market. This suggests that internal capital markets operate within corporate groups and that they have a potential anti-competitive effect. Second, the impact on entry of group financial strength is more important in markets where access to external funding is likely to be more difficult. Third, the more active are internal capital markets, the more pronounced the effect on entry of group deep pockets.

JEL Classification: G30, L13 and L40

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Xavier Boutin
European Commission
Directorate General for Competition
1049 Bruxelles
BELGIQUE

Giacinta Cestone
Department of Economics
Queen Mary, University of London
Mile End Road
E1 4NS London

Email: xavier.boutin@ec.europa.eu

Email: g.cestone@qmul.ac.uk

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Chiara Fumagalli
Department of Economics
Università Bocconi
Via Rontgen, 1
I-20136 Milano
ITALY

Email: chiara.fumagalli@unibocconi.it

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Giovanni Pica
Department of Economics
University of Salerno
Via Ponte Don Melillo 5
I-84084 Fisciano (SA)
ITALY

Email: gpica@unisa.it

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Nicolas Serrano-Velarde
Economics Department
European University Institute
Via Della Piazzuola 43
50133 Florence
ITALY

Email:
nicolas.serrano-velarde@eui.eu

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www.cepr.org/pubs/new-dps/dplist.asp?authorid=169554

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1 Introduction

A large body of literature has emphasized the role of firms' financial strength in affecting industry entry and exit patterns. However, it is only recently that economists have started investigating whether access to corporate groups' deep pockets, as opposed to own financial assets, represents a source of market power for incumbent firms.

This paper provides evidence that incumbents' access to group deep pockets has a negative impact on entry in product markets. Relying on a unique French data set on business groups, the paper presents three major findings. First, consistent with our theoretical framework, the amount of financial resources owned by incumbent-affiliated groups has a negative impact on entry in a market. This suggests that internal capital markets operate within corporate groups and that they have a potential anti-competitive effect. Second, the impact on entry of group financial strength is more important in markets where access to external funding is more difficult. Third, the more active are internal capital markets, the more pronounced the effect on entry of group deep pockets is.

The idea that group affiliation may be a source of market power has long been circulating among both anti-trust practitioners and economists, the received wisdom being that business groups have the ability to leverage upon their dominant position in one market to achieve market power in other sectors. Probably the most appealing argument to back this claim is that anti-competitive spillovers may originate from financial phenomena: indeed, groups can channel resources from cash-rich subsidiaries enjoying a dominant position in one market towards units facing more intense competition, thereby supporting the latter's aggressive product market strategies. Our empirical findings suggest that these concerns are well-grounded.

Recent empirical work has highlighted that diversified business groups are pervasive in modern economies. La Porta et al. (1990), Claessens et al. (2000) and Khanna and Yafeh (2007) provide evidence on the ubiquity of business groups in various countries across the world. Data from INSEE (Institut National de la Statistique et des Etudes Economiques - Paris) confirm that groups are a widespread organizational structure in France: 28% of French firms are affiliated with a group and generate 62% of the sales in an extensive sample of manufacturing firms.¹ Group-affiliated firms also seem particularly likely to enjoy dominant positions in their markets: 89% of the largest incumbents in French manufacturing industries belong to corporate groups.

The growing importance of groups in many countries has drawn attention to the antitrust problems posed by their presence. In Europe, the debate about group market power has been revived by the European Commission's recent stance towards conglomerate mergers, namely that mergers involving firms active in unrelated markets may create scope for anti-competitive spillovers.² In the 2008 Guidelines on the enforcement of Article 82, the EC has expressed con-

¹See Skalitz (2002).

²A prominent example is the EC's ban on the proposal to merge General Electric and Honeywell (Case No. COMP/M.2220): in motivating its decision, the Commission largely relied on long-purse arguments, maintaining that a merger with GE would allow Honeywell to access GE's deep pockets and thus to adopt predatory practices in its own markets.

cerns about dominant firms subsidizing their non-dominant affiliates' exclusionary practices.³ A major critique to the Commission's approach is that its statements about financially driven multi-market spillovers have not been supported by a sound theoretical and empirical underpinning. This paper makes a first step in this direction, assessing whether the internal capital markets operating within business groups entail significant anti-competitive effects.

To the best of our knowledge, this is the first paper to assess the impact of group financial strength – as opposed to individual firm financial strength – on product market competition. Our analysis relies on detailed information on both individual firms' balance sheets and the ownership structure of business groups provided by our unique French data set. This information is reliable insofar as constructed from tax files collected by fiscal authorities. Our empirical predictions are theoretically founded, drawing on results from recent models exploring the relationship between internal capital markets and product market competition. More specifically, we refer to the result in Cestone and Fumagalli (2005) and Faure-Grimaud and Inderst (2005) that while incumbents' affiliation with business groups does not per se deter entry, affiliation with a financially strong group does. This is confirmed by our finding that entry rates are inversely related to the amount of group liquidity an incumbent can potentially draw upon, but unaffected by the mere presence of group-backed incumbents. Consistent with the underlying theoretical framework, we also find that the intensity of entry deterrence exerted by group liquidity largely depends on how active a group's internal capital market is expected to be.

The paper contributes to the deep pocket literature dating back to Telser (1966), arguing that when firms have limited access to external funds, financial muscle is a source of competitive advantage.⁴ An extensive body of evidence has confirmed that industry outcomes are affected by the financial status of market participants (see e.g., Chevalier 1995, Zingales 1998, Kovenock and Phillips 1995 and 1997, Maksimovic and Phillips 2002, Mac Kay and Phillips 2005, Bertrand et al. 2007 and Frésard 2008). More recently, a few theoretical papers have investigated whether internal capital markets established within business groups and multidivisional firms, by providing a source of financial slack to member units, may turn them into stronger competitors.⁵ However, surprisingly little work has investigated empirically whether and how access to internal capital markets affects a firm's product market behavior. Lawrence (1991) shows that imports and entry tend to be lower in Japanese markets where keiretsu-affiliated firms have larger market shares. Weinstein and Yafeh (1995) find that, upon entry in a market, group-affiliated firms compete more aggressively than stand-alone entities. Khanna

³The EC states that “it may pursue predatory practices by dominant undertakings on secondary markets on which they are not yet dominant, since the dominant firm may use profits gained in the monopoly market to cross-subsidize its activities in another market and thereby threaten to eliminate effective competition in that other market.” (“Guidance on the Commission's Enforcement Priorities in Applying Article 82 EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings”, December 2008, Section C.62, page 20).

⁴The basic deep pocket argument is that financially fit incumbents are in a position to engage in predatory practices in order to financially exhaust the entrants and drive them out of their markets. Of course, deep-pockets represent an entry deterrence tool only if capital market imperfections preclude entrants to raise external funds so as to withstand predation (see Bolton and Scharfstein 1990).

⁵Matsusaka and Nanda (2002), Cestone and Fumagalli (2005), Faure-Grimaud and Inderst (2005) and Mathews and Robinson (2006). The major insights from these models are discussed in the next section.

and Tice (2000, 2001) find that multimarket incumbents responded very differently from stand-alone incumbents to Wal Mart’s entry in the discount department store business between 1975 and 1996. They also find that more leveraged incumbents (whether diversified or focused) responded less aggressively to entry.⁶ However, none of the above papers has tried to disentangle the impact of group financial strength from that of own financial strength on incumbents’ reactions to entry or on entry patterns in a market.

The paper is also related to the literature on internal capital markets. While most theoretical models display *either* winner-picking *or* cross-subsidization taking place within internal capital markets,⁷ Cestone and Fumagalli (2005) and Faure-Grimaud and Inderst (2005) have proven that both phenomena may be observed at different levels of internal liquidity. Our empirical findings provide indirect evidence that groups do establish internal capital markets, and suggest that cash-rich groups can be expected to channel resources towards subsidiaries hit by adverse shocks. This adds to previous empirical evidence on the topic, and in particular to work relying on accounting data from group-affiliated firms.⁸

The rest of the paper is organized as follows. Section 2 presents the underlying theoretical framework to be tested. Section 3 presents a detailed discussion of the constructed data set and the variables. Section 4 presents the econometric approach and empirical results. Section 5 concludes.

2 Theoretical framework

We draw our empirical predictions from recent theoretical papers that have investigated the competitive behavior of multimarket firms and groups. These papers have highlighted that, in the presence of financial market frictions, the resource flexibility enjoyed by groups and multi-segment firms entails both strategic benefits and costs. Indeed, entry in a market may well not be deterred – but rather encouraged – if a group is expected to drain financial resources from that market once entry has occurred. In this respect, diversified business groups might lack – when compared to focused firms – the commitment to “stay and fight”, which would undermine their ability to deter entry (Matsusaka and Nanda, 2002). Cestone and Fumagalli (2005) have shown that this strategic problem only affects *cash-poor* groups, whereas cash-rich groups find it ex-post optimal to cross-subsidize units facing intense competition; moreover, the latter receive more liquidity injection when linked to richer firms. Anticipating this, potential

⁶See Khanna and Yafeh (2007) for an extensive survey on business groups, also accounting for this strand of the literature.

⁷See e.g. Stein (1997), Fluck and Lynch (1999),

⁸Houston et al.(1997) and Houston and James (1998) find that in bank holding companies subsidiaries’ lending activity is more closely tied to the cash flows and capital position of the holding company than it is to the bank’s *own* cash flow and capital position, suggesting that bank holding companies establish internal capital markets. Perotti and Gelfer (2001) provide evidence of financial reallocation in Russian groups while Samphantharak (2006) finds that internal assets are extensively reallocated within Thai business groups. See instead Lamont (1997), Shin and Stulz (1998), Rajan Servaes and Zingales (2000), and Scharfstein and Stein (2000) for evidence on the functioning of internal capital markets in multisegment firms.

rivals may give up entering a market whose incumbent is “backed” by cash-rich affiliates.⁹ In other words, affiliation with a group (i.e., access to its internal capital market) does not *per se* represent a source of entry deterrence power: affiliation with a *cash-rich* group does.

These theoretical results lead to the following empirical predictions. First, group affiliation *per se* has an ambiguous effect on entry, depending on whether the *commitment cost* or the *deep-pocket benefit* of internal capital markets prevail. However, the deep-pocket benefit of group affiliation should show up for groups endowed with large financial resources, to the extent that the latter are more prone to subsidize units facing adverse shocks such as new entry. This leads to our second prediction: the amount of financial resources owned by incumbent-affiliated groups should have a negative effect on entry in a market. In particular, controlling for the incumbent’s own financial wealth, the larger the rest-of group liquidity, the more entry should be discouraged in a market. The third prediction we are testing is that group deep pockets have a stronger entry deterrence effect when internal capital markets are more efficient: if ICMs were completely frictionless, pooled group liquidity, rather than the individual incumbent’s cash holdings, would affect incumbents’ product market behavior and thus potential rivals’ entry decisions. Finally, we test the natural prediction that group (as well as individual incumbent’s) financial strength should matter more for entry when access to external funds is more difficult (due for instance to more severe agency problems vis à vis outside investors). As we will argue later in section 4, the third and fourth prediction allow us to partially address the endogeneity issues that arise when looking at the relationship between (group) financial resources and entry.

3 Data

3.1 Data Sets and Definition of Variables

Empirical investigation on the relationship between ICM activity in business groups and entry requires reliable and extensive information not only on product markets and on financial wealth of individual firms, but also *on firm ownership status*. The latter allows to recover the structure and characteristics of business groups controlling individual firms. We obtain this information from the following data-sets.

As in Bertrand et al (2007), we use the firm- and industry-level data sets based on accounting data extracted from tax files that the French Fiscal Administration (Direction Générale des Impôts) collects. The accounting information available covers all French firms, regardless of ownership, whose annual sales exceed 100,000 Euros in the service sector and 200,000 Euros in other sectors. Above these thresholds firms are required to fill in a detailed balance sheet and profit statement. Instead, smaller firms are subject to a simplified tax regime. The tax files

⁹Within a different model of product market competition and financing Faure-Grimaud and Inderst (2005) find as well that internal capital markets, by providing cash-infusions in case of negative shocks, can make a division stronger than a stand-alone counterpart; however, when resources are scarce, winner-picking takes place which makes a weak division less committed to its market. Mathews and Robinson (2006) build on this trade off between flexibility and commitment to model competition between a multi-divisional corporation and a stand-alone firm.

also include four-digit industry classification codes similar to the US SIC coding system and unique firm identifiers allowing to track firms over time. Firm-level employment figures are also provided and are especially reliable since cross-checked with information from employer labor tax reports. Since each firm can be active in several markets, we cross the fiscal data set with an extensive yearly survey by the Ministry of Industry (Enquête Annuelle des Entreprises). The survey is filled by French firms with more than 20 workers and distinguishes between the different markets in which a firm operates. The data include the vast majority of French firms and span over the period 1995-2004.

The identification of ownership structures is based on a yearly survey by INSEE called "Enquête Liasons Financieres" (LIFI). It covers all economic activities but restricts its attention to firms which either employ more than 500 employees, or generate more than 60 Million Euros of revenues,¹⁰ or hold more than 1.2 Million Euros of traded shares. Since 1998 the survey is crossed with information from Bureau Van Dijk and virtually covers the whole economy. The LIFI survey contains information which makes it a unique data set to study the effects of business group activity. First, besides providing information on direct financial links between firms it also computes ultimate ownership. This is important as it allows to precisely reconstruct the group structure even in the presence of pyramids. Secondly, but equally importantly, the LIFI survey allows to correctly account for the creation, merger and disappearance of business groups and avoids misclassifying as a new business group a pre-existing one whose head of the group has changed. This is done by looking at whether most of the activities of the pre-existing group (according to employment) keep existing under the new head of group. This feature ensures that entry by group-affiliated firms is correctly computed. In particular, it allows *not* considering as entry the appearance of a firm in a market where another firm of the same group was already operating.

Our purpose is to study the effect on entry in a given market of a number of incumbents' characteristics, in particular the incumbent's financial strength, its affiliation with a business group, and where relevant the controlling group's financial strength.

Our product market definition coincides with the industry as defined by the four-digit classification code. This is the highest level of disaggregation allowed by the French Activity Classification (*1993 Nomenclatures d'Activité Française*) based on the NACE industry classification. Our geographical market definition is France. For each year and each market we identify entrants and incumbents. We focus on entry in the manufacturing industries, thereby excluding retailing and service industries, because firms active in these sectors typically compete on geographical markets which are narrower than the national one. Also, we exclude the financial sector from the sample (banking and insurance industries), as well as regulated sectors. Finally, we delete as outliers firm-year observations whose financial ratios (Debt/Assets, ROA, Net Liquid Assets/Assets, Cash Flow/Assets) fall outside a multiple of five of the interquartile range. These restrictions leave us with a sample of approximately 70,000 firms per year.

For each four digit industry/year cell, we compute market averages based on the entire

¹⁰The official threshold is 30 Million Euros but, given the high number of firms to survey, the actual threshold used is 60 Million Euros.

corporate tax files data set. We also measure individual characteristics of the incumbents in each market and we identify the business group each incumbent belongs to (if any). In our data a firm is assumed to be affiliated with a group if the overall stake held by the head of group is at least 50%. We use this threshold for data availability reasons: our data source (LIFI) focuses only on the *core* of the group defined as those firms held at least with a 50% stake. Even though this threshold may appear too high given that in France the threshold for public offers is 33%, we do not expect this to be a major source of bias because most French firms are private and 96% are either stand-alone or belong to entirely private groups. While the cost of using this threshold is arguably small, this dataset has the big advantage of correctly tracking the head of the group over time, which is important to properly define entry, as explained.¹¹

Note that even though we consider only incumbents active in manufacturing industries, we reconstruct groups considering affiliated firms operating in *any* sector. Based on this, we measure business group characteristics (among which group cash holdings).

We end up with a panel of markets (311) for the period 1995 to 2004.

Market Characteristics

We define as entrants in market i at time t all firms that appear at time t and were not active at time $t - 1$, with the additional condition for group-affiliated firms that no other firm of the same group was active in that market at time $t - 1$.¹² We measure entry in market i in year t ($Entry_{i,t}$) by computing the aggregate employment of entrants over total employment in year t . Differently stated, in order to account for size effects, we weight entry rates (defined as number of entrants over total number of firms) by employment (see Aghion et al. 2007). As a robustness check we build an alternative measure of entry, computing the aggregate turnover of entrants over total turnover and we report results for both measures.

We measure the size of the market ($Size$) as the (log of) total sales, and the growth rate of the market ($\Delta Size$) as the change in market size from $t - 1$ to t . Concentration in a market is proxied by the Herfindahl index (HHI) where firms' market shares are computed in terms of sales. Profitability of a market is measured as the average return on assets (ROA).¹³ We proxy technological characteristics of a market by average capital intensity of firms in that market, where capital intensity is computed as the ratio of fixed assets over output. Finally, we proxy access to credit in a given sector using the proportion of tangible over total assets ($Tangibles$).

Incumbents Characteristics

¹¹As a robustness check we also use an alternative dataset that contains information on firms held with lower equity stakes, at the cost – though – of not being able to correctly account for the creation, merger and disappearance of business. Our main results (available upon request from the authors) carry over to this extension.

¹²In the LIFI dataset, there are as much as 25,000 changes of the head of the group between 1995 and 2004. Had we been unable to account for this, we would have considered as entrants all firms in each market the groups operate. Notice that this also allows to handle potential misclassification of entrant firms due to re-labeling and not to true entry, at least for firms that are affiliated with a group. Even though we are not able to handle misclassification of stand-alone entrant firms, we are confident that we have removed most of the noise as group sales account on average for as much as 72% of the market, as reported in Table 1.

¹³Return on assets is given by the ratio of operating profits to total assets in a given market, where operating profits are computed as sales minus intermediate consumption minus wages minus employer taxes.

We compute the market share (in terms of sales) of each incumbent. We focus on the three largest incumbents, which are the most likely to matter for entry.¹⁴ To address the concern that a business group may operate in one market through multiple subsidiaries, we identify the three largest incumbents in two alternative ways: if a group operates in a given market through, say, three subsidiaries, we aggregate them and treat them as a single unit (“group ranking”), and as a robustness check we treat them as separate entities (“firm ranking”). Liquidity measures and other incumbent characteristics are computed accordingly. We estimate all our regressions by using both definitions of incumbent firms.

We measure incumbents’ financial strength (*Incumbent Total Cash*) as the sum of net liquid assets (defined as current assets minus current liabilities minus inventories) and operational cash flow corrected by changes in working capital. The first is a stock measure of all the assets that can be liquidated reasonably quickly,¹⁵ but it ignores all recent cash flow that is immediately invested and never shows up in the end-of-period stock variable. The addition of cash flow allows to account for changes in internal funds (see also Clearly et al., 1999). Note that we use operational cash flow rather than free cash flow (the difference between the two being investment in fixed assets) to have a measure of internal resources a firm can rely upon *before* investment decisions are made.¹⁶

Incumbents’ Business Group Characteristics

A third set of variables relates to ownership status of the three largest incumbents and to the characteristics of the business groups they are possibly affiliated with. To start with, we define a dummy variable indicating whether an incumbent is affiliated with a business group. In the regression analysis this variable accounts for the (average) effect of business group affiliation on entry. In order to identify the specific effect of ICM, distinguishing it from other channels through which group affiliation may affect entry, we compute the total amount of internal resources that a business group can rely upon as the (unweighed) sum of the total cash holdings of its controlled units. However, in the regression analysis we include the financial strength of the incumbent and the financial strength of the rest of the group *separately*. This allows us to identify the effect of being affiliated with a cash-rich group controlling for the incumbent’s financial strength. Excluding the incumbent’s financial strength from the group financial wealth mitigates the endogeneity of the group’s financial wealth, as idiosyncratic shocks to entry patterns in a given market are unlikely to affect the wealth of subsidiaries operating in other markets.

Finally, we build two measures that proxy for the ICM activity. The first is based on the idea that publicly traded firms are subject to more stringent corporate governance regulations which reduce the functioning of ICM. An important example is the discipline concerning related-party transactions which establishes the requirements concerning disclosure of information and

¹⁴Only for incumbents with large market shares the long term benefits of predatory practices outweigh their short term costs. Indeed antitrust authorities are concerned with predatory pricing only in cases where firms enjoy dominant positions in their market.

¹⁵Also inventories could arguably be transferred, collateralized or sold relatively quickly. Our results are robust with respect to their inclusion in our measure of financial strength.

¹⁶This measure is net of investment in working capital as such an investment is mostly predetermined.

shareholder approvals of specific intra-group transactions.¹⁷ Consequently, we would expect more resource reallocation to take place across non-listed firms, and in groups headed by non-listed firms.¹⁸ We therefore construct a variable measuring the percentage of publicly traded firms within a group (*Public Share*).

The second is a measure of how diversified is the activity of the group across different markets. Theoretical models of internal capital markets imply that in groups operating in different, unrelated markets there is more room for internal resource reallocation. For instance, Cestone and Fumagalli (2005) show that resource reallocation takes place whenever two subsidiaries have a different shadow value of internal funds: this is more likely to be the case in diversified groups. Existing empirical work has confirmed that corporate groups operating in a larger number of industries have more active internal capital markets (see Samphantharak, 2006). We measure (the inverse of) diversification (*Focus*) by first computing the shares of each unit's sales within the group and then summing their squared values. This index is an HHI calculated within a group, and takes value of 1 when all the activity of the group is concentrated in a single market.

3.2 Descriptive Statistics

Tables 1, 2 and 3 provide descriptive statistics.

Market Characteristics

Table 1 presents mean and percentiles of the distribution of some market characteristics.

Since we are dealing with manufacturing industries it is not surprising that tangible assets represent a relatively high share of total assets. To assess the importance of business groups in terms of sales in the market, we measure the percentage of sales of group-affiliated firms over total sales in the market (*Group Sales*) and report its distribution. Note that group sales represent a very large share of total sales, ranging from 59% at the bottom quartile up to 90% at the highest quartile, the median being almost 80%. We then look at the market shares of the three largest incumbents (*C3 Sales*) – according to *group-level* ranking – in order to have an idea of their market power. On average, they represent about 43% of the total sale values.

Table 2 presents descriptive statistics of markets in terms of entrants and incumbents. The first rows present entry in terms of absolute number of firms. In our sample up to 50 firms can enter a market in a given year. However, entry represents, most of the time, only a small fraction of market sales. Indeed entrants with more than 1% of market shares are much harder to find (on average only 2) and entrants that capture more than 5% of the market in the first year of existence are even more infrequent (on average only 0.48).¹⁹

¹⁷Regulations concerning related-party transactions are meant to protect minority shareholders of listed firms from expropriation by controlling shareholders. The extent of such protection varies across countries: according to legal rules prevailing in 2003, Djankov et al. (2008) find that France has an "anti self-dealing index" equal to 0.38, compared to a 0.65 for the US and a 0.09 for Venezuela.

¹⁸Samphantharak (2006) provides evidence that groups with a higher percentage of listed firms have less active internal capital markets.

¹⁹This makes us confident about our ability to distinguish true entrants from potential industry switchers.

The number of incumbents in a given market exhibits a similar pattern: high absolute number of firms, but only a small fraction of them with significant market shares. The last two rows report entry rates into manufacturing activities weighted by sales (using employment weights does not alter the picture). We find that despite the high heterogeneity in the size of entrants, entry rates are relatively less dispersed around a median of 10%, the 25th percentile being 4% and the 75th 18%. The magnitude of entry rates in the manufacturing sector is thus similar to the figures reported by Aghion et al. (2007) for a sample of 16 industrialized and emerging economies. The very last row reports the entry rate of firms affiliated with a business group, and shows that entry by group-affiliated firms represent a high 2/3 of total entry.

Characteristics of the Three Largest Incumbents

Table 3 presents firm-level descriptive statistics of the three largest incumbent firms. We first distinguish between business group affiliated incumbents and stand-alone incumbents. Interestingly, the vast majority of incumbents are affiliated with a group: for example only as much as 6.2% of the first largest incumbents are stand-alone firms.

Stand-alone incumbents have significantly lower liquidity at their disposal and lower market shares than business group incumbents. Within group-affiliated incumbents we distinguish between those affiliated with groups where at least one unit is publicly traded as opposed to those affiliated to entirely private business groups. The latter have on average lower liquidity and lower market shares compared to incumbents affiliated to “public” groups. Interestingly, “public” groups are more diversified than entirely private business groups.

4 Econometric Model and Identification

Entry Equations

Our empirical exercise aims at isolating the effect of financial strength of stand-alone and group-affiliated firms on market entry. In order to do so, we regress entry rates in market i and year t on the average financial strength of the three largest incumbents and of the group they are affiliated with. We control for observable characteristics of the market and of the (three largest) incumbents that may affect entry rates and act as confounding factors. The availability of within-sector variability allows us to include sector fixed effects thereby accounting for time-invariant unobserved heterogeneity at the sector level. Year dummies take care of aggregate shocks that affect all sectors equally. Formally,

$$Entry_{i,t} = \gamma_1 FS_{C3,i,t-1}^{INC} + \gamma_2 FS_{C3,i,t-1}^{BG} + Z_{i,t-1}^{INC} \lambda + X_{i,t-1} \beta + \alpha_i + \theta_t + \epsilon_{i,t} \quad (1)$$

where $Entry_{i,t}$ is the entry rate in market i at time t ; the variables $FS_{C3,i,t-1}^{INC}$ measures the (log of the) average financial strength of the three largest incumbents in market i at time $t - 1$; similarly $FS_{C3,i,t-1}^{BG}$ measures the (log of the) average financial strength of the *rest* of group the three largest incumbents are possibly affiliated with. The matrix $Z_{i,t-1}^{INC}$ controls for incumbents’ characteristics (averaged over the three largest incumbents) that may affect entry such as efficiency proxied by market shares ($C3_Sales_{i,t-1}$) and group affiliation ($C3_Business_Groups_{i,t-1}$). The matrix $X_{i,t-1}$ includes time-varying sectoral controls such as capital intensity, market size (both

in levels and growth rates), ROA, Herfindal Index. All variables are 1-year lagged to account for the information set of potential entrants when the entry decision is made. Sector and time effects are denoted by α_i and θ_t .

The estimation of equation (1) may raise some concerns about the possibility of uncovering a causal relationship between the incumbents' financial strength and entry. To start with, one may argue that the correlation between the incumbents' financial strength and intensity of entry is spurious simply because both incumbents' total cash and entry rates are jointly affected by unobserved firm and market characteristics. For instance, low entry rates and large total cash in market i may be co-determined either by the presence of very efficient incumbents or by the existence of high exogenous entry barriers in that market.

Equation (1) partly addresses these issues. First it includes control variables such as the average market share of the (three largest) incumbents ($C3_Sales_{i,t-1}$) which is a proxy for incumbents' efficiency, and capital intensity ($K_int_{i,t-1}$) which is a time-varying proxy of (technological) barriers to entry. Second, sector fixed effects account for any time-invariant sectoral variable we have possibly omitted. Third, we use lagged variables that are pre-determined at the time entry occurs. Finally, our estimated entry equations make a distinction between an incumbent's cash holdings and the cash held by the *rest of the group* (the incumbent is affiliated with). We believe it is less likely that the cash holdings of units operating in other markets are correlated with unobserved characteristics of market i . However, one might still object that group structure is endogenous. For instance cash-rich groups may be the ones that acquire units operating in low entry (and thus more profitable) sectors. Alternatively, efficient (and thus entry scaring) incumbents may belong to efficient and thus cash rich groups.²⁰ We address these concerns in two ways.

First, we split our sectors into two sub-samples according to the ease of access to the external capital market, that we proxy through the share of tangibles over total assets (*Tangibles*). We then estimate the baseline specification (1) separately in the two sub-samples. Formally,

$$Entry_{i,t} = \gamma_1 FS_{C3,i,t-1}^{INC} + \gamma_2 FS_{C3,i,t-1}^{BG} + Z_{i,t-1}^{INC} \lambda + X_{i,t-1} \beta + \alpha_i + \theta_t + \epsilon_{i,t} \quad (2)$$

with $i \in A, B$. Sub-sample A (B) groups sectors whose share of tangibles is above (below) the median value. Our identification strategy relies on the following argument. Our theory predicts that incumbents' access to internal capital markets should matter less for entry when access to external funds is less difficult. Conversely, competing explanations for the correlation between low entry and group liquidity provide no compelling prediction on how such correlation should relate to external financing capacity. For instance, it is not obvious why cash-rich groups should be more prone to acquire units operating in low-entry sectors when access to external funds is easier. Similarly, there is no obvious reason why incumbent/rest of the group efficiency should matter more for entry in sectors with easier access to the external capital market.

Secondly, we extend our baseline specification introducing a measure of (average) ICM activity in the business groups the three largest incumbents are possibly affiliated with ($ICM_{C3,i,t-1}$), and interacting it with the rest-of-group financial strength ($FS_{C3,i,t-1}^{BG} * ICM_{C3,i,t-1}$):

²⁰Although there are numerous examples of business groups in which "cash-cows" coexist with laggards.

$$\begin{aligned}
Entry_{i,t} = & \gamma_1 FS_{C3,i,t-1}^{INC} + \gamma_2 FS_{C3,i,t-1}^{BG} + \gamma_3 FS_{C3,i,t-1}^{BG} \times ICM_{C3,i,t-1} + Z_{i,t-1}^{INC} \lambda_1 \\
& + \lambda_2 ICM_{C3,i,t-1} + X_{i,t-1} \beta + \alpha_i + \theta_t + \epsilon_{i,t}
\end{aligned} \tag{3}$$

To further support our ICM-based explanation of the observed correlation between entry rates and group liquidity, we test the prediction that rest-of-group financial resources matter more for entry when the group’s internal capital market is more active.

5 Results

5.1 Deep Pockets, Business Group Affiliation and Entry

Does Membership in a Business Group Deter Entry?

We first investigate whether affiliation with a business group per se affects entry in a market. Theoretical models by Cestone and Fumagalli (2005) and Faure-Grimaud and Inderst (2005) generate ambiguous predictions in this respect. Specifically, it is expected that while affiliation with cash-rich groups helps deter entry, affiliation with a cash-poor group invites entry in an incumbent’s market. We run a base regression where we relate entry with market characteristics and the proportion of incumbents affiliated with business groups (*C3 Business Groups*), but not controlling yet for financial strength.

Table 4, columns 1 to 3, present results for entry rates measured in terms of employment. Columns 4 to 6 provide robustness checks by measuring entry rates in terms of market sales. Column 2 and 5 show that incumbents’ affiliation with business groups does not per se deter entry, as estimates are not statistically significant. This very likely due to the fact that our sample includes both cash-rich and cash-poor groups. The result is also in line with evidence by Khanna and Tice (2001) that diversified firms sometimes compete more aggressively and sometimes less aggressively than their stand-alone peers. Even when separately accounting for average focus of the affiliated group, estimates remain not statistically different from 0. Finally, although market characteristics are not the object of primary interest it is noteworthy that estimates are robust across specifications and the use of alternative measures of entry.

Does Incumbent Financial Strength Deter Entry?

Before turning attention to the role of group deep pockets, we first look for evidence on the standard deep pocket theory. Hence we include in our base regression the incumbents’ financial strength (*Incumbent Total Cash*). We estimate all our regressions by using both definitions of incumbent firms introduced in section 3.1, i.e. group ranking and firm ranking.

Table 5 reports results. Column 1 reports again the base regression. Column 2 suggests that incumbents’ financial strength negatively affects entry of potential competitors. The effect is strong and statistically significant. Indeed conditional on observable market characteristics a 1 percent increase in (log) incumbents’ cash holdings lowers entry rates in the market by 1 percent, suggesting that entry is more limited in markets dominated by deep-pocketed incumbents. Column 4 estimates the same relation but uses group rankings. Once we classify and compute

information about incumbents according to the group ranking criterion the effect of incumbent liquidity is significantly increased. A 1 percent increase in (log) financial strength of incumbents now reduces entry rates by 2 percent.

The results in Table 5 are consistent with those provided by Frésard (2008), who also uncovers a strong entry-deterrence effect of incumbents' cash holdings.²¹ Inevitably, our basic deep-pocket regressions raise concerns about the endogeneity of cash holdings and the potential spurious correlation between cash holdings and product market outcomes that we address in several ways (see our earlier discussion in section 4).

Do Group Deep Pockets Help Deter Entry?

Our second prediction states that if internal capital markets operate within business groups, the amount of financial resources owned by incumbent-affiliated groups should have a negative effect on entry in the incumbent's market. In particular, controlling for the incumbent's liquidity, a market should display lower entry rates when the rest-of-group cash holdings are larger. As discussed above, group liquidity is built by adding up liquidity measures for all group firms except the considered incumbent. Although we report results for both firm ranking and group ranking, we believe that group ranking is a more meaningful criterion when it comes to identifying the effect of rest-of-group liquidity on entry in a market. Indeed, by aggregating multiple group subsidiaries operating in the same market (say, market i) into a single unit, the group ranking criterion ensures that rest-of-group liquidity is less likely to be correlated with unobserved characteristics of market i .

Results are presented in columns 3 and 5 of Table 5. Business group financial strength has in all specifications a negative statistically significant impact on entry rates. A 1% increase in group (log) financial strength is associated with a 0.4 percent reduction in entry rates. This effect is larger when considering firm rankings. Our findings thus provide indirect evidence that internal capital markets do operate quite actively within French corporate groups, and that access to cash-rich internal capital markets entails a competitive advantage for member firms. We also find that once we control for group financial strength the real effect of individual firm liquidity is lower (and in some cases not statistically significant, see column 3). This suggests that access to internal capital markets substantially mitigates the credit rationing problems that make firm liquidity central to product market behavior, and is consistent with findings by Hoshi et al. (1991), where membership in a conglomerate group is found to reduce the sensitivity of firm investment to liquidity.

Deep pockets and Access to External Finance

Although our entry model controls for a certain number of observable and unobservable market characteristics one might still argue that the negative association between (individual and group) liquidity and entry rates reflects mechanisms other than deep pocket effects. A specific implication of the theory we are testing is that group (as well as individual incumbent)

²¹Both papers depart from much of the empirical literature on firm finance and product market competition, in that they focus on the role of firms' cash holdings rather than (negative) leverage as a source of competitive strength.

liquidity should matter more for entry when access to external capital markets is more problematic. A natural proxy for ease of access to external capital markets is given by the proportion of tangible assets with respect to total assets in the industry. Indeed, the higher the proportion of tangibles, the easier it is for firms to collateralize loans and thus raise external funds. We therefore expect the entry deterrence effect of (individual and group) cash holdings to be more important in markets with a low proportion of tangibles. In order to investigate this issue we split markets according to their proportion of tangibles.

Results are reported in Table 6. Columns 1 and 4 report the base regression. Columns 2-3 and 5-6 provide split regressions for markets above and below the median distribution of tangibles. Results seem to confirm our predictions. Let us focus on column 5 and 6. In both regressions incumbent liquidity negatively affects entry rates, though, its impact is more precisely estimated in markets with a large proportion of tangibles. Group liquidity only matters for entry in markets with a small proportion of tangibles, suggesting that group deep pockets have real entry-deterrence effects only when market participants are vulnerable to credit rationing problems.

5.2 Deep Pockets and the Functioning of ICM

The third prediction we are testing is that group deep pockets have a stronger entry deterrence effect when internal capital markets are more active. We thus expect that any element facilitating the functioning of internal capital markets within French business groups should enhance the effect of group liquidity on entry. To this purpose, we build different proxies of internal capital market activity and investigate their role in our model.

Publicly traded firms

Based on the idea that publicly traded firms are subject to more stringent regulations concerning related-party transactions we interact (*Public Share*) with individual and group financial strength and include them in our base regression.

Table 7, columns 2 and 4 present the results. The coefficient on *Group Cash*Public Share* is positive and statistically significant. This supports the prediction that group deep pockets have a smaller entry deterrence effect when a larger proportion of affiliated firms is public, and thus subject to stringent regulation on related-party transactions. Also consistent with predictions, the coefficient on the interaction between individual incumbent's liquidity and our index has a negative sign when using group rankings, yet it is not significant.²² This would suggest that for incumbents affiliated with publicly traded firms own deep pockets matter more (and group deep pockets matter less) for entry deterrence, to the extent that group resources are less likely to be reshuffled internally.

Diversification and Focus

Theoretical models of internal capital markets imply that in groups operating in different, unrelated markets there is more room for internal resource reallocation. Cestone and Fumagalli

²²The interaction term enters significantly when using entry rates in terms of sales.

(2005) find that resource reallocation takes place whenever two subsidiaries have a different shadow value of internal funds: this is more likely to be the case in diversified groups. Existing empirical work has confirmed that corporate groups operating in a larger number of industries have more active internal capital markets (see Samphantharak, 2006). We measure (the inverse of) diversification (*Focus*) by first computing the shares of each unit’s sales within the group and then summing their squared values. This index is an HHI calculated within a group and takes value of 1 when all the activity of the group is concentrated in a single market.²³ We then include our measure of focus in the regression and interact it with group financial strength.

Results are reported in Table 7, columns 1 and 3. Results based on firm ranking confirm that the adverse impact of group liquidity on market entry is less pronounced when incumbents belong to more focused groups, i.e., groups which are likely to have less active ICMs. This is in line with the theoretical predictions discussed in section 2. However, results are less clear cut when using group rankings. The coefficient on the interaction between focus and group liquidity is still positive but not statistically significant.

6 Conclusion and Future Extensions

We test the joint hypothesis that: (i) product market entry is adversely affected when incumbent firms have ample access to liquidity; (ii) internal capital markets operate within business groups. To this end, we investigate empirically whether entry in a firm’s market is affected by the pooled cash holdings of its affiliated subsidiaries. We rely on a unique dataset providing extensive information on the balance sheets as well as the ownership status of individual French firms.

Our main finding is that entry rates are inversely related to the amount of liquidity owned by incumbent-affiliated groups. This is in line with the theoretical models of Cestone and Fumagalli (2005) and Faure-Grimaud and Inderst (2005), which have shown that cash-rich groups can be expected to shift their resources towards units faced with new competition, and suggests that access to a group’s deep pockets enhances the incumbents’ entry deterrence capacity. Our theoretical background also suggests that the effect on entry of group financial strength should be more acute for groups with more active internal capital markets. We find evidence that this is the case by using sensible proxies for internal capital market activity. Finally, we ask whether the impact of incumbent liquidity and group liquidity on entry is more pronounced in markets where access to credit is more difficult (and thus internal finance more central to a firm’s actual and perceived strength). Our data support this prediction.

Our findings provide support to the view that financial phenomena within business groups may give rise to anti-competitive effects. Such concern has been often expressed in the antitrust arena but, so far, had not received empirical validation. Of course, an accurate assessment of the effect of group affiliation on competition requires to trade off the detrimental effect identified in this paper with the efficiency gains related to the financial slack provided to group members.

In this setting, a natural concern is endogeneity. First, markets are likely to be characterized

²³Lang and Stulz (1994) measure diversification as the number business segments reported by a firm.

by unobserved heterogeneity correlated with our explanatory variables. We partly address this concern by exploiting the panel structure of our data and thus by relating observed entry variation within a market to changes in market characteristics. Secondly, competing theories might rationalize the negative relationship between group finance and entry rates. In particular one might be concerned about reverse causality in that less competitive markets may make incumbents cash richer. We argue that this does not affect our conclusions on the role of *group* financial strength, to the extent that we separately take into account incumbent and rest-of group liquidity, and thus examine whether entry in a firm’s market is affected by the cash holdings of its subsidiaries operating in *unrelated* sectors. Finally, we further support our results by exploiting a testable implication of the theory, namely that deep pockets matter more in markets where access to external finance is likely to be more difficult and where ICMs are likely to be more active.

The next step in our investigation will consist in addressing concerns about the endogeneity of group structure. In fact, it might be the case that cash rich groups are more prone to acquire incumbent firms in protected markets: this might provide yet another explanation for why entry and group cash are negatively correlated. To this end, we plan to examine how exogenous shocks to groups’ cash holdings affect entry in unrelated sectors.²⁴ Preliminary results seem to support the findings put forward in this paper. There are some additional questions that we plan to address in the future. First, is firm expansion and exit from a market affected by the presence of group-backed competitors? Is this relationship, if any, driven by the extent of group liquidity? Secondly, we would like to turn our attention to the issue of “group-backed” entry. We aim at investigating whether group entry in product markets has a different scale and impact with respect to stand-alone entry, and assessing whether the ability to access a large pool of liquidity lies at the heart of such difference.

²⁴A similar identification strategy has been used to explore the relationship between investment and cash flows in multi-segment corporations. According to Lamont (1997), the capital expenditures of non oil subsidiaries of companies operating in the oil extraction business were slashed after the 1986 oil shock hit the latter’s cash flows. This finding supported the hypothesis that internal capital markets operate within multi-segment firms. See also Bertrand and Mullainathan (2001) that uses (observable) shocks to firms’ performance to estimate whether CEOs pay responds to luck.

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Table 1: Descriptive Statistics of Market Characteristics

	Mean	Percentiles			Observations
		p25	p50	p75	
Capital Intensity	.69	.42	.56	.79	3085
ROA	.21	.11	.19	.28	3085
Tangibles	.75	.68	.79	.85	3085
Size	15.61	14.63	15.66	16.55	3085
Δ Size	.04	-.07	.04	.2	3085
HHI	.17	.03	.10	.23	3085
Group Sales	.72	.59	.79	.90	3085
C3 Sales	.43	.22	.39	.62	3085

Notes: Sectoral-level data between 1995 and 2004. *Capital intensity* is the ratio of fixed assets over output; *ROA* is the ratio of operating profits to total assets in a given market; *Tangibles* is the proportion of tangible over total assets; *Size* is the (log of) total sales; Δ *Size* is the change in market size from $t - 1$ to t ; *HHI* is the Herfindahl index (firms' market shares computed in terms of sales); *Group Sales* is the percentage of sales of group-affiliated firms over total sales in the market; *C3 Sales* is the average market share of the three largest incumbents (group ranking).

Table 2: Descriptive Statistics of Market Entries

	Mean	Percentiles			Observations
		p25	p50	p75	
# entrants	42.82	5	16	50	3110
# entrants with > 5% Sales	.48	0	0	1	3110
# entrants with > 1% Sales	2.09	1	2	3	3110
# incumbents	246.38	34	97	298	3110
# incumbents with > 1% Sales	15.43	10	16	21	3110
Entry Rates (all firms)	.15	.04	.10	.18	3110
Entry Rates (group-affiliated firms)	.10	.01	.04	.11	3110

Notes: Sectoral-level data between 1995 and 2004. Entry in sector i year t is the ratio of sales of entrant firms over total sales in sector i year t . Alternative measures of entry using employment or assets deliver similar entry rates.

Table 3: Descriptive Statistics of the three Largest Incumbents

		Financial Strength		Market Share	Observations
		Total Cash	Net Liquid Assets		
1 st Incumbent	All	2513700	1631113	0.26	3085
	Stand Alone	119544	26583	0.17	144
	BG Affiliated	2630925	1709675	0.27	2941
	Private	1091902	749628	0.25	1904
	Public	5456673	3472386	0.30	1037
2 nd Incumbent	All	923220	581683	0.11	3079
	Stand Alone	64992	30474	0.08	364
	BG Affiliated	1038283	655584	0.12	2715
	Private	764148	488967	0.11	2038
	Public	1863522	1157158	0.13	677
3 rd Incumbent	All	1020845	519875	0.07	3043
	Stand Alone	53910	37257	0.05	531
	BG Affiliated	1225241	621893	0.07	2512
	Private	544473	313055	0.07	2039
	Public	4159888	1953227	0.08	473

Notes: Sectoral-level data between 1995 and 2004. *Total Cash* is the sum of Net Liquid Assets and Cash Flow. *Cash-flow* is operational cash flow corrected by changes in working capital. *Net Liquid Assets* is defined as current assets minus current liabilities minus inventories. A group is defined as *public* if at least one firm within the group is publicly traded. Incumbents are ranked according to the *group-ranking* criterion. All figures in Francs.

Table 4: Business Group Affiliation And Entry Deterrence

	(1) Entry Rate (Employment)	(2) Entry Rate (Employment)	(3) Entry Rate (Employment)	(4) Entry Rate (Sales)	(5) Entry Rate (Sales)	(6) Entry Rate (Sales)
Size	-.189*** (.014)	-.177*** (.016)	-.175*** (.016)	-.22*** (.015)	-.212*** (.018)	-.21*** (.017)
Δ Size	-.027** (.011)	-.054*** (.013)	-.054*** (.013)	-.033*** (.01)	-.063*** (.013)	-.063*** (.012)
ROA	.082** (.034)	.067** (.032)	.067** (.032)	.091*** (.033)	.074** (.031)	.074** (.031)
Capital Intensity	-.011** (.005)	-.009** (.004)	-.009** (.004)	-.007** (.003)	-.005* (.002)	-.005* (.002)
HHI	.128** (.059)	.132** (.064)	.13** (.063)	.033 (.058)	.068 (.065)	.066 (.064)
C3 Sales		-.077** (.033)	-.073** (.033)		-.096*** (.033)	-.092*** (.033)
C3 Business Groups		-.014 (.02)	.002 (.021)		.001 (.018)	.015 (.02)
Focus		.049** (.024)	.049** (.024)			.041* (.021)
Market FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
R^2	.437	.437	.438	.527	.533	.532
Observations	2774	2738	2738	2774	2738	2738

Notes: Sectoral-level data between 1995 and 2004. Entry in sector i year t is the ratio of employment (cols 1-3) or sales (cols 4-6) of entrant firms over total employment/sales in sector i year t . $Size$ is the (log of) total sales; $\Delta Size$ is the change in market size from $t - 1$ to t ; ROA is the ratio of operating profits to total assets in a given market; $Capital Intensity$ is the ratio of fixed assets over output; HHI is the Herfindahl index (firms' market shares computed in terms of sales); $C3 Sales$ is the average market share of the three largest incumbents (Firm Ranking); $C3 Business Groups$ is (the average of) the business group affiliation dummy of the three largest incumbents (Firm Ranking); $Focus$ is the sum of the squared values of the shares of each unit's sales within the group. Robust standard errors in parentheses.

Table 5: Business Group Affiliation, Financial Strength And Entry Deterrence

	Firm Ranking			Group Ranking	
	(1) Entry Rate (Employment)	(2) Entry Rate (Employment)	(3) Entry Rate (Employment)	(4) Entry Rate (Employment)	(5) Entry Rate (Employment)
Size	-.177*** (.016)	-.17*** (.019)	-.175*** (.02)	-.154*** (.019)	-.167*** (.02)
Δ Size	-.054*** (.013)	-.057*** (.014)	-.053*** (.014)	-.059*** (.014)	-.048*** (.015)
ROA	.067** (.032)	.074** (.032)	.092** (.038)	.071** (.032)	.099*** (.036)
Capital Intensity	-.009** (.004)	-.008** (.004)	-.007** (.003)	-.007* (.004)	-.006* (.003)
HHI	.132** (.064)	.143** (.067)	.151** (.07)	.096 (.066)	.111 (.068)
C3 Sales	-.077** (.033)	-.053 (.035)	-.051 (.036)	-.013 (.033)	-.008 (.04)
C3 Business Groups	-.014 (.02)	-.005 (.021)	.016 (.022)	-.008 (.02)	.011 (.022)
Incumbent Total Cash		-.01** (.004)	-.004 (.005)	-.021*** (.005)	-.017*** (.005)
Group Total Cash			-.006** (.002)		-.004* (.002)
Market FE	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES
R^2	.437	.455	.469	.451	.467
Observations	2738	2551	2355	2648	2418

Notes: Sectoral-level data between 1995 and 2004. Entry in sector i year t is the ratio of employment of entrant firms over total employment in sector i year t . $Size$ is the (log of) total sales; $\Delta Size$ is the change in market size from $t - 1$ to t ; ROA is the ratio of operating profits to total assets in a given market; $Capital\ intensity$ is the ratio of fixed assets over output; HHI is the Herfindahl index (firms' market shares computed in terms of sales); $C3\ Sales$ is the average market share of the three largest incumbents (Firm Ranking); $C3\ Business\ Groups$ is (the average of) the business group affiliation dummy of the three largest incumbents (Firm Ranking); $Incumbent\ Total\ Cash$ and $Group\ Total\ Cash$ are (the averages across the three largest incumbents of) the sum of Net Liquid Assets and Cash Flow within (respectively) the incumbent firm and the group the incumbent firm is affiliated with. Robust standard errors in parentheses.

Table 6: Financial Strength And Access To External Finance: Sample Split by Tangibles

	Firm Ranking			Group Ranking		
	(1) Entry Rate (Employment)	(2) > <i>M</i> Entry Rate (Employment)	(3) < <i>M</i> Entry Rate (Employment)	(4) Entry Rate (Employment)	(5) > <i>M</i> Entry Rate (Employment)	(6) < <i>M</i> Entry Rate (Employment)
Size	-.177*** (.02)	-.193*** (.03)	-.164*** (.027)	-.168*** (.021)	-.193*** (.029)	-.151*** (.029)
Δ Size	-.054*** (.014)	-.052** (.024)	-.049*** (.019)	-.049*** (.015)	-.042* (.023)	-.047** (.02)
ROA	.099*** (.038)	.049 (.045)	.123*** (.057)	.102*** (.036)	.06 (.043)	.127** (.053)
Capital Intensity	-.008** (.003)	-.005** (.002)	-.077*** (.026)	-.006* (.003)	-.003 (.002)	-.052*** (.019)
HHI	.136* (.07)	.181 (.121)	.088 (.085)	.104 (.07)	.009 (.057)	.075 (.086)
C3 Sales	-.053 (.036)	-.044 (.056)	-.04 (.047)	-.009 (.04)	.009 (.057)	.0001 (.055)
C3 Business Groups	.017 (.022)	-.019 (.029)	.067 (.034)	.011 (.022)	-.011 (.028)	.06* (.034)
Tangibles	-.086 (.061)	-.255** (.112)	-.126 (.077)	-.046 (.065)	-.295*** (.11)	-.032 (.085)
Incumbent Total Cash	-.005 (.005)	-.0002 (.006)	-.009 (.008)	-.017*** (.005)	-.015* (.008)	-.016** (.007)
Group Total Cash	-.006*** (.002)	-.005 (.003)	-.008** (.004)	-.004* (.002)	-.001 (.003)	-.01*** (.003)
Market FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
<i>R</i> ²	.47	.411	.532	.467	.414	.528
Observations	2355	1187	1168	2418	1217	1201

Notes: Columns (1) and (4) present estimates on the full sample. Columns 2-3 and 5-6 show results from split regressions for markets above and below the median distribution of tangibles. *Tangibles* is the proportion of tangible assets with respect to total assets in the industry. See Table 5 for the definition of the remaining variables. Robust standard errors in parentheses.

Table 7: Proxying for ICM Activity

	Firm Ranking		Group Ranking	
	(1) Focus Entry Rate (Employment)	(2) Public BG Entry Rate (Employment)	(3) Focus Entry Rate (Employment)	(4) Public BG Entry Rate (Employment)
Size	-.173*** (.02)	-.163*** (.02)	-.166*** (.02)	-.167*** (.02)
Δ Size	-.053*** (.014)	-.05*** (.014)	-.048*** (.015)	-.047*** (.016)
ROA	.091** (.038)	.087** (.037)	.097*** (.035)	.104*** (.036)
Capital Intensity	-.007** (.003)	-.007* (.003)	-.006** (.003)	-.006* (.003)
HHI	.148** (.07)	.126* (.065)	.103 (.068)	.106 (.066)
C3 Sales	-.045 (.036)	-.01 (.041)	-.004 (.04)	.007 (.043)
C3 Business Groups	.023 (.024)	.003 (.023)	.016 (.023)	.013 (.022)
Incumbent Total Cash	.006 (.009)	-.012* (.006)	-.014 (.011)	-.018*** (.006)
Group Total Cash	-.019*** (.007)	-.01*** (.003)	-.011* (.006)	-.007*** (.003)
Focus	-.001 (.158)		-.11 (.185)	
Incumbent Cash*Focus	-.021 (.015)		-.002 (.018)	
Group Cash*Focus	.021** (.01)		.012 (.01)	
Public Share		-1.544 (.965)		-1.753** (.77)
Incum. Cash*Pub. Sh.		.016 (.055)		.003 (.007)
Group Cash*Pub. Sh.		.093** (.047)		.124** (.058)
Market FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
R^2	.47	.465	.468	.472
Observations	2355	2471	2418	2418

Notes: *Focus* is the sum of the squared values of the shares of each unit's sales within the group; *Public Share* is (the average across the three first incumbent of) the share of public firms within the group. See Table 5 for the definition of the remaining variables. Robust standard errors in parentheses.