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by Leandro D'Aurizio and Livio Romano

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FAMILY FIRMS AND THE GREAT RECESSION: OUT OF SIGHT, OUT OF MIND?

by Leandro D'Aurizio[†] and Livio Romano[‡]

Abstract

This paper studies how family firms reacted to the 2008 economic crisis by adjusting employment. In particular, we look at how the geographical distribution of the workforce may have led to divergencies between family and non-family firms. Using a difference-in-difference approach, we provide empirical evidence that paths of adjustment did diverge, with family firms systematically preferring to safeguard workplaces close to headquarters. We offer a new theoretical framework, the social recognition motive, that is consistent with this finding; it is based on contributions in the literature on corporate governance that stress the importance of the non-pecuniary benefits of the owner's control of the family firm. The social recognition motive originates from the psychological relation linking the family-firm owner with his or her community. The theory also offers a clear set of predictions that are all confirmed by the data. Alternative explanations, although theoretically plausible, seem to be ruled out in our setting.

JEL Classification: C81, D22, J60, M14.

Keywords: family firms, Great Recession, employment, social pressure.

Contents

1. Introduction.....	5
2. Theoretical framework: the social recognition motive	7
2.1 Work preservation as a social objective in times of crisis	7
2.2 Social pressure and firm objective function: family vs non-family firms.....	7
2.3 Social pressure and behavior of multiplant firms	8
2.4 Testable implications	9
3. Data sources and descriptive statistics	9
4. Econometric analysis	11
4.1 Identification	11
4.2 Baseline results	13
4.3 Robustness checks	15
4.4 Preferential treatment at the headquarters and social pressure	15
5. Alternative explanations	17
5.1 Nature of plant agreements between firms and workers.....	17
5.2 Political connections	18
5.3 Differences in plant labor productivity	18
6. Conclusions.....	19
References.....	20
7. Technical appendix: construction of the sample distribution for measuring social cohesion	22
8. Tables and figures	23

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1 Introduction¹

Given the remarkable importance that family businesses still have around the world (as recently underlined by Ellul *et al.* 2010), it seems natural to investigate the determinants of family-firm employment policies, and in particular how such firms react to economic fluctuations by adjusting their workforce. Despite the growing focus of economic research on family firms (see Bertrand and Schoar 2006, for a review), the topic has received scant attention to date, except for the contributions of Sraer and Thesmar (2007) and Bassanini *et al.* (2010). Interestingly, both find lower responses of employment levels for family firms hit by a negative shock, and both interpret these results as consistent with the “credible commitment hypothesis”. The idea is that family firms can credibly offer implicit contracts to their workforce with ex-post insurance protection against negative shocks in exchange for ex-ante lower salaries because of the owner’s commitment to the firm (due to the long-term investment horizon). The family-firm owner’s greater reliability tends to discourage industrial unrest (Muller and Philippon 2006), although it may also reduce the range of strategies available to the firm (Bach and Serrano-Velarde 2009).

The observational unit in these studies is the firm as a whole and it is therefore impossible to establish whether the family-firm effect applies uniformly to all workers or whether, instead, a difference exists based on the geographical distribution of the workforce. Such information may be crucial, especially when looking at the consequences of the Great Recession. By forcing firms to adjust their strategies to the new macroeconomic environment, the huge economic downturn has in all likelihood accelerated the process of production delocalization observed in most developed countries in the last decade. Consequently, it is important to study whether family and non-family firms behave differently when choosing the optimal plant (re)location and subsequent investment strategies, as it allows us to understand which local communities suffer the consequences of the crisis most.

The paper aims to fill this gap by adding plant location as a different potential source of variability in the employment adjustments of family and non-family firms. We compare the workforce variation close to headquarters and the workforce variation in plants far from headquarters generated by the 2008/2009 economic crisis.

We use data collected by the Bank of Italy on a representative sample of Italian firms that allow us to define the family status of the firm as well as the geographical distribution of the workforce before and after 2008.

By exploiting the exogenous nature of the shock to the Italian economy represented by

¹We thank Jerome Adda, Andrea Bassanini, Eve Caroli, Luigi Cannari, Luigi Guiso, Andrea Ichino, Giuseppe Ilardi, Alfonso Rosolia, Nicholas Serrano-Velarde and all seminar participants at the European University Institute, the Bank of Italy and the X^{th} Brucchi-Luchino Conference held in Rome in December 2012. We also thank Gabriele Carracoy for his useful suggestions regarding data on news coverage.

the Great Recession, we conduct a difference-in-difference estimation that combines the time variation in workforce levels with the geographical location of employees for both family and non-family firms.

Although the *ex-ante* characteristics of the two groups of firms are similar, their reaction to the shock was remarkably different. Family firms tend to attribute more importance to levels of “close to home” employment than do non-family firms: the gap between workforce levels close to headquarters and levels elsewhere widened, between 2007 and 2009, by around 55 personnel units more in the case of family firms than in that of non-family firms. This finding is statistically significant and economically relevant, as the gap accounted in 2007 for about 8% of the average total workforce of family firms and for 20% of the standard deviation of the geographical adjustment of the workforce. It is also robust to different specifications of the econometric model.

Differences in the reactions of family and non-family firms in within-firm employment adjustments may also provide insight into how firms’ objectives depend on their ownership structure, offering an alternative interpretation to the credible commitment hypothesis mentioned above.

We offer a new theoretical framework within which to analyse the results, called the social recognition motive. It is built on a well-established literature that stresses the importance of the amenity value that the family entrepreneur attaches to control of the firm, in line with contributions from sociology and behavioural economics. The idea is based on the assumption that family firms internalize, more than non-family firms, the social pressure exerted by the community of stakeholders surrounding their headquarters not to reduce (or even increase) workforce levels when there is a generalized deterioration in the national economy. The reason lies in the psychological relation linking the entrepreneur with the area where the firm is located.²

The theory of social recognition provides a set of predictions, all confirmed by the data. Specifically, the family-firm effect at headquarters holds both for firms forced to downsize and for those expanding their payroll despite the general downturn. The effect also depends on the different characteristics of the community surrounding the headquarters: it increases with the degree of social cohesion and the entrepreneur’s visibility at the local level. We also discuss the plausibility of alternative interpretations, most of which seem inconsistent with our results.

The remainder of the paper is organized as follows: Section 2 presents the theory of social recognition and illustrates its main testable predictions. Section 3 presents the data used for the analysis. Section 4 describes the econometric strategy and the results. Section 5 discusses

²The following quote from the former family owner of the Fiat group, Gianni Agnelli, suggests something similar, “Roots in a community, in its culture, and in its values, are an integral part of the firm’s identity. They lead the entrepreneur to imbue the actions and decisions taken with a care and a sense of responsibility towards the community ... (The) constant search for a balance between greater competitiveness and deeper integration with the local and national territory is one of the essential characteristics of the family firm.” (translation from the Italian; the original text can be found in Corbetta 2010, page 27).

alternative interpretations of the results. Finally, Section 6 summarizes and concludes.

2 Theoretical framework: the social recognition motive

In this section we characterize in detail what we call the “social recognition motive”, in order to have a conceptual framework to look at the data. In particular, our purpose is to answer the following question: if we take two *ex-ante* comparable firms, one family-owned and the other not family-owned, both with plants at and far from the headquarters, what happens when the two have to decide to increase/decrease their workforce levels as a consequence of a shock induced by the market?

We weave together two existing strands of economic literature: one deals with the behaviors of local communities in shaping group members decisions, while the other looks at the peculiarity of the family-firm objective function. Our theory is based on two crucial assumptions. The first is that work preservation/creation is valuable for local communities. The second is that social pressure is more effective towards family firms than to non-family ones. We will discuss these two assumptions in the remainder of the Section.

2.1 Work preservation as a social objective in times of crisis

We assume that that work preservation/creation is a social objective, especially in times of economic difficulties. If we refer to Coleman (1990), this appears to be not only reasonable but also in line with other sociological studies, because of a set of externalities linked to the employment decisions of firms.

These externalities include the psychological consequences for those who actually lose their job and for their families, as well as the stress generated by those who keep their jobs but feel the risk of being fired themselves, as pointed out by Clark *et al.* (2008). Moreover, firm employment and investment decisions have an impact on the local economy. Many ancillary businesses are typically created near the plants, for instance in the provision of product components or for distribution services. Closing or reducing the activity of a plant may in turn harm these related economic businesses, with significant effects on the local community, for instance through a deterioration of the social peace.

Furthermore, we can expect that the social value attached to work preservation/creation increases as the likelihood for the fired worker to easily find another occupation decreases. This is important in countries with significant entry barriers to the labor market.

2.2 Social pressure and firm objective function: family *vs* non-family firms

Local communities try to induce firms to preserve/accrue their employment levels, in order to internalize the externalities mentioned before (at least partially). This passes through the use

of incentives as “*reputation, personal pride, respect, vengeance,... among others*” (Bowles and Gintis 2002, pag. 424), that is tantamount to exerting social pressure towards the entrepreneur³. However, the theory predicts that social pressure effectively constrains family firms’ strategies, while it is less influential for those of non-family firms.

The reason is that the family-firm owner and his/her heirs are identified as responsible for the actions undertaken by the company⁴ and thus are potentially exposed to social recognition or disapproval, while non-family firms are detached from specific persons and consequently the social pressure exerted towards them is less influential for their strategies. This assumption is consistent with the idea, first proposed by Demsetz and Lehn (1985) and recently formalized by Bandiera *et al.* (2010), that the objective function V of family firms contains a non-monetary component Γ (referred to as the amenity value) that co-exists with the monetary return of the investments Π , such that:

$$V = \Pi + s\Gamma \tag{1}$$

(s is a suitable scaling factor). The amenity value relates to the personal/family prestige gained at the community level. Therefore, the family-firm entrepreneur may optimally decide to cut the employment levels less (or increase more) than what would be required to maximize the monetary return of the investments, in order to accrue his/her social status.⁵

2.3 Social pressure and behavior of multiplant firms

The theory we have exposed offers a clear prediction of the direction family-firm workforce adjustments will take, as a result of the crisis. In particular, we expect family firms to value employment levels close to the headquarters more than those of the rest of the workforce, because the entrepreneur is part of the community where the headquarters are settled and thus more exposed to social pressure.

Undeniably, social concerns are expressed also by the communities surrounding the other plants, but the lack of a direct identification between them and the family makes social pressure ineffective (or at least less effective) in determining firm employment policies.

Similarly, we would expect that social concerns are less likely to shape the optimal strategies of non-family firms ($V = \Pi$ in equation 2). They too might prefer keeping employment levels relatively higher at the headquarters with respect to other plants, but this occurrence should be *ceteris paribus* significantly lower compared with family firms, because the effect induced by social pressure at the headquarters is either missing or attenuated.

³See also Fehr and Fischbacher (2002) for a detailed analysis of the relation between individual behavior and the enforcement of social rules.

⁴We follow the insights of Coleman (1990).

⁵If we denote by L the employment levels, we can rewrite equation 1 as $V(L) = \Pi(L) + s\Gamma(L)$.

2.4 Testable implications

The theory of social recognition yields a set of statistically testable comparisons. First of all, we can expect a family-firm positive effect at the headquarters to be observed not only for firms forced to downsize their overall employment levels but also for those expanding them. This differs substantially from the predictions of the credible commitment hypothesis that only focuses on the insurance mechanism offered to workers hit by a negative shock.

Furthermore, our theory implicitly posits that social recognition needs an underlying social network connecting members of the community to make social pressure possible. Thus, we expect the strength of the positive family-firm effect at the headquarters to grow with the degree of cohesiveness of local communities.

Finally, the effects of social pressure on the social status of family firm owners should be stronger the larger is the number of individuals potentially affected by the decisions of the firm. Thus, we expect the strength of the positive family firm effect at the headquarters to grow with the economic relevance of the firm at the local level.

3 Data sources and descriptive statistics

We use firm micro-data from the Survey of Industrial and Service Firms (*Invid* hereafter), conducted yearly by the Bank of Italy on a representative sample of Italian firms and we build a balanced sample of firms for the period 2007-2009. The dataset contains quantitative data on the most relevant variables concerning the firm activity such as investments, employment levels, wages and revenues, together with many categorical variables indicating, for instance, the headquarters location, the economic sector, and, most importantly for us, the nature of the firm. More specifically, the following question was asked for three consecutive survey waves in the first months of 2007, 2008 and 2009:

“Is the firm owned or controlled (directly or indirectly) by a physical person or a family?”

Answering this question is essential to define our variable of interest, that is the family-firm status. Because this variable was observed only from 2007, we focus on the 2007-2009 period, going back to 2005 only for those firms present for the whole 2005-2009 period. Limiting the analysis to this short time span is not a big concern for the purpose of this research, because we are still able to capture the structural change in firm behavior induced by the current economic recession, which is the scope of this study.

The ability to classify firms as family ones through an explicit question has an advantage compared to the standard use of proxies, based on the percentage of shares detained by the

majority shareholder. The reason is that the thresholds (in terms of voting rights) commonly used in the literature to define control are arbitrary and very difficult to trace with multiple classes of shares, pyramidal structures, holdings through multiple control chains, and cross-holdings⁶. Therefore, a self-reported answer in this setting provides a more robust basis for comparison between family and non-family firms⁷.

Inwind breaks down workforce levels into geographical areas by dividing the Italian territory into 4 macroareas (North-East, North-West, Center and South, including Sardinia), with a separate indication for the region of the firm headquarters. We will exploit this information to perform the econometric analysis, because it adds a source of variation in the data not commonly available in empirical literature about family firms. From now on the region where the headquarters are located will be simply indicated as headquarters. Since the analysis is restricted to multiplant firms (i.e. firms with plants located in more than one region of Italy), the 2007-2009 panel is reduced from 3340 to 712. Finally, we excluded the firms with less than five employees either at the headquarters or far from them in 2007: we assumed these cases were administrative or commercial offices of the firm, rather than production sites. The survey information about the family-firm nature was integrated and sometimes revised by using information from financial databases.⁸

By these multiple checks of the *Inwind* questionnaires we adjusted the classification for a few anomalies. This happened when *Inwind* classifies a firm, known to be clearly in the hands of a family, as non-family, or when a company under public control was labeled as privately-owned. The data cleaning left 529 truly multi-plant firms: 246 are classified as family, 215 as private and non-family, 33 as state-controlled and 35 as cooperatives. The last two groups were not considered in the analysis. For each firm we considered the number of employees respectively inside and outside the headquarters. The geographical distribution of the headquarters is shown in Figure 1.

It is immediate to notice that our sample covers the entire Italian territory and only a small fraction of the headquarters are located in Southern Italy, consistently with northern regions being the heart of the national industrial sector.

Table 1 provides a summary description of the main variables relative to the sub-sample of the multi-plant firms used.

From the table we see that family firms are smaller than non-family ones, with a higher proportion of workers employed in the headquarters region, with respect to other locations. The family

⁶The existence of such control mechanisms in Italy has been documented by Faccio and Lang (2002).

⁷This variable has been previously used, for similar reasons, by Bianco *et al.* (2009).

⁸We used *Amadeus* (<https://amadeus.bvdinfo.com>), a pan-European financial database providing detailed accounting information, together with a full structure of the governance and ownership of the firms, when available. The web sites of the companies sometimes also provided useful information.

firms' smaller size is also reflected in the volumes of revenues generated⁹. There is no significant difference in terms of hours of *Cig* (acronym for Cassa Integrazione Guadagni, which is a wage supplementation fund) over annual working hours, both before and after the crisis.¹⁰

The comparison of figures relative to 2007 and 2009 reveals that on average the employment levels remain stable, both for family and non-family firms, while the average profitability declined remarkably (further inspection of the time differences between the two groups of firms will be conducted in the next section). However, it is important to notice that a significant heterogeneity in firms' behaviors is behind the relative stability of workforce levels, with some firms reducing the number of workers and others increasing or keeping it stable. Table 3 reports the difference between family and non-family firms in the overall workforce adjustments. Interestingly, family firms, as opposed to non-family ones, tend to adjust significantly less the workforce when it comes to reducing the size of the firm, while no significant differences emerge if the workforce remains the same or increases.

Table 2 shows the share of workers outside the headquarters region, according to the macroarea of the headquarters. It emerges that, before and after the crisis, both family and non-family multiplant firms employ a sizeable part of their workforce outside their headquarters region. Moreover, the fraction tend to decrease on average for family firms, while it increases for non-family firms.

4 Econometric analysis

4.1 Identification

We must exploit together the time dimension and the geographical within-firm variation in the workforce distribution (close or far from the headquarters), so as to test for the existence of a headquarters family effect induced by the crisis. The time difference before and after 2008 controls for time-invariant fixed effects, whereas the within-firm employment breakdown gets rid of fixed effects that are time-varying but firm-invariant. Clearly, this implies that we can estimate only the differential effect for family and non-family firms in the relative workforce adjustment at the headquarters.

We can identify the causal effect of the 2008 economic shock on firm employment decisions by relying on two assumptions for the quasi-experimental of our empirical strategy. The first

⁹However, the median values of both variables for family and non-family firms (not reported in the table) are much closer to each other compared to the averages. This implies that deviations in mean are mostly due to relatively few very large non-family firms. We will control for the initial size in the regression analysis exactly for this purpose.

¹⁰The *Cig* represents a wage subsidy (a fraction of the standard salary) paid by the social security system, to sustain workers employed in sectors affected by negative economic shocks, either temporary (ordinary *Cig*) or structural (extraordinary *Cig*). Workers thereby receive, for a limited period of time, a monetary compensation for the amount of working hours lost because of the crisis.

assumption is that the family firm status is independent of the shock and accordingly there are no anticipated changes for it prior to the 2008 recession. If, on the contrary, the expectation of the crisis had determined a relevant transition in the corporate ownership from family firms to non-family firms, a problem of self-selection would have arisen. In fact, we could not assume the economic shock being exogenous with respect to the family firm status. However, since the recession that hit the Italy was imported from the US, the exogeneity assumption is satisfied.

The second assumption required for the identification of the causal effect is the pre-crisis common trend, expressed at the level of within-firm differences. Such an assumption is necessary when a time-break in the observations is exploited, in order to attribute the *ex-post* effect to the shock and not to other pre-existing factors. We will prove the validity of this assumption by looking at the within-firm trends for the period 2005-2007, later in this section.

We start by estimating the following regression:

$$\Delta_t Empl_{ih} = \alpha_0 + \alpha_1 Head_{ih} + \alpha_2 (Head_{ih} \cdot Family_i) + f_i + X_{ih}\beta + \Delta_t \epsilon_{ih}, \quad (2)$$

where $\Delta_t Empl_{ih}$ is the time difference in the workforce levels for firm i , either family or not, observed at the headquarters or in other plants (denoted by the subscript h); $Head_{ih}$ is a geographical dummy equal to one if the firm is observed at the headquarters and zero otherwise, $Family_i$ is a dummy equal to one if the firm is a family firm and zero otherwise; f_i is the firm fixed-effect, capturing any unobserved time-varying but plant-invariant characteristic; X_{ih} includes dummies for macro-areas of the headquarters interacted with the headquarters dummy, and dummies for size in 2007 interacted with the headquarters dummy.

We look at changes in the workforce levels instead of *log* changes, because this does not bound to zero the range of negative variations in the dependent variable. Indeed, plant closures affect around 6% of our sample and they are the likely consequence of the severity of the shock that hit the firms. Moreover, the use of *log* would imply either the loss of a significant amount of relevant information (if observations are dropped) or the choice of arbitrary re-coding values¹¹. On the contrary, the changes in the number of workers do not impose any restriction to the data and has a clear economic interpretation, after conditioning for the initial size to control for scale effects.

The controls for macro-areas capture possible geographical-specific shocks to the Italian economy, that may alter the within-firm employment adjustment. The size control captures possible non-linear scale effects correlated with the family status. In fact, as shown previously in Table

¹¹The alternative strategy adopted by Landier *et al.* (2009) of estimating a probability model for layoffs poses serious concerns too. In fact, without imposing restrictions on the magnitude of layoffs, changes by 1 unit or by 1,000 units would count the same, even if they hugely differ in economic terms. The use of a minimum threshold for defining relevant layoffs phenomena and circumvent the previous problem has the strong weakness of being arbitrary and conditional on the dependent variable.

1, family firms are smaller on average and also with a fraction of employees in the headquarters higher than that of non-family firms. If the *ex ante* difference in the geographical distribution of the workforce was driven by relevant unobserved factors, then it would be very difficult to interpret univocally the *ex post* difference in the adjustments between family and non-family firms. Reassuringly, the within-firm workforce distribution (measured by the share of workers in the region of the headquarters) does not differ significantly for family and non-family firms (controlling for the overall size of the company) and its utilization as an additional regressor leaves our results virtually unchanged.

As a robustness check, we also control for the percentage change in firm revenues interacted with the dummy of headquarters in one of the specifications: it controls for the possibility that within-firm differences in the employment adjustments between family and non-family companies are simply driven by differences in the reaction to the economic shock.

The coefficient of interest in the analysis is that of the interaction term ($Head_{ih} \cdot Family_i$) in equation 2, capturing any differential effect on the relative employment adjustment at the headquarters between family and non-family firms. Our difference-in-difference approach cannot reject or confirm the credible commitment hypothesis, because we focus on the within-firm difference between headquarters and other plants. Therefore, values of α_2 not statistically different from zero would support the idea that discrepancies between family and non-family firms are at the firm level (maybe because of different wage/job-security schemes), whereas estimates of α_2 different from zero would imply additional headquarter-specific sources of variations between family and non-family firms. In such a case, the possible explanations for our results would not be related to the credible commitment hypothesis.

4.2 Baseline results

Figure 2 allows an initial assessment of the adjustment paths of the workforce levels for family and non-family firms, in terms of the difference between employment in the headquarters region and employment in other plants of the company. Both panels A and B plot the average difference in employment levels between headquarters and other plants, but they consider two different samples: panel A focuses only on firms observed in 2007 and 2009, panel B refers to the balanced panel for the years 2005-2009.

Table 4 reports the estimates of the coefficients, together with the statistical significance of the differences observed in figure 2.

It emerges that family and non-family firms had divergent trends of relative employment adjustments after the 2008 economic shock. In particular, the distance between workforce levels close to the headquarters and the workforce elsewhere increased for family firms, while it shrunk for non-family ones. This may be due either to smaller decreases or faster increases in the workforce

close to the headquarters relative to the workforce of other plants, but both cases suggest that family firms safeguard the employment levels “close to home” more than non-family firms do.

If we consider only the balanced sample of firms observed in the period 2005-2009 (71% of those observed only in 2007 and 2009), no different trends emerge for the two years preceding the shock, while the two samples show similar trends for the 2007-2009 period. Hence, it is reasonable to think that the difference in trend is the result of the 2008 economic shock and did not exist before also for the firms observed only in 2007-2009 (29% of the sample).¹²

Table 5 presents the results of the estimation of equation 2. Columns (1) to (3) refer to the entire sample of firms observed in the period 2007-2009; column (1) estimates equation 2 without firm fixed-effects, while column (2) controls for firm-fixed effects and the set of controls previously specified; column (3) differs from column (2) only in respect to the additional inclusion of the percentage change in revenues interacted with the headquarters dummy. Column (4) refers only to the sub-sample of manufacturing firms, observed in 2007-2009. Columns (5) to (7) refer only to the sample of firms appearing in the entire period 2005-2009 (balanced panel); column (5) estimates equation 2 without firm fixed-effects, while column (6) controls for firm-fixed effects and the set of controls previously specified; column (7) refers to the estimation for the period 2005-2007.

The results of the difference-in-difference approach are in line with the previous graphical representation. In particular, considering the entire sample for the period 2007-2009, the coefficient α_2 is always positive and statistically significant at the conventional levels. The result implies that the employment adjustments in response to the economic recession determined a statistically significant increase of more than 50 workers at the headquarters for family firms, with respect to employment levels in other locations. The results are also economically relevant, because the magnitude of the coefficient α_2 represents around 8% of the total workforce in 2007 for family firms.

Similar results are found for the firms present in the survey in all the years 2005-2009, even if the reduced sample size lowers the estimate accuracy. The common trend assumption necessary to interpret the results as the effect of the 2008 negative economic shock is justified by the evidence that nothing shows up for the pre-crisis period (2005-2007), when family and non-family firms appear to have statistically identical within-firm workforce adjustments.

Crucially, the preference for the headquarters workforce, typical of family firms as opposed to non-family ones, does not depend from the size and the sign of company-level employment adjustments. In fact, Table 6 shows that the positive coefficient α_2 is statistically significant and of similar size both for firms reducing the overall workforce and for those increasing or keeping

¹²The analysis on the entire 2005-2007 panel (not shown for brevity) also reveals that the coefficient of interest α_2 is never significant.

it stable, in line with our theory of social recognition, but at odds with the credible commitment hypothesis.

These figures confirm that the 2008 economic shock exogenously hit the Italian firms and caused divergent employment policies for family and non-family firms: relative to non-family firms, family firms focused more on workforce level preservation or creation close to the headquarters, both when they were forced to downsize and when they could expand their total size.

4.3 Robustness checks

The previous results have been interpreted under the implicit assumption that no systematic differences in the nature of plants related to the company ownership structure emerge, after controlling for the relevant variables included in our regression. In particular, our estimation strategy controls for a different composition of the workforce between headquarters and other firm's plants, provided that this heterogeneity is the same for family and non-family firms.

This reasonable assumption might be falsified by comparing purely domestic firms to companies under foreign control with a different workforce composition. For example the Italian headquarters of foreign multinationals might be mere subsidiaries of the true headquarters established abroad and so not systematically different from the other Italian plants. A robustness check was therefore run by re-estimating equation 2, after excluding the sub-sample of foreign firms. As the first column of Table 7 shows, the previous findings still hold.

Another concern about the validity of our estimates is that the registered office of some firms may not coincide with the true headquarters and therefore does not represent the core of the business organization. Therefore a further robustness check of equation 2 was necessary, which we re-estimated only with the firms with 2007 employment level at the headquarters greater than the level in other locations. The second column of table 7 shows that the previous findings are, also in this case, confirmed.

4.4 Preferential treatment at the headquarters and social pressure

We now investigate how results change, once the intensity of social pressure exerted at headquarters is taken explicitly into account. Indeed, our theory posits that the higher the social pressure exerted the bigger the difference for family entrepreneurs in the perceived value between additional jobs created (or saved) close to the headquarters and additional jobs created (or saved) at its distant plants. Said differently, the positive coefficient α_2 of equation 2 should be statistically significant and economically relevant especially for firms located in communities both able and willing to exert a significant pressure. On the contrary, the coefficient should be negligible for communities where social pressure is weak.

We cannot directly measure social pressure to test this hypothesis; however, we can construct

headquarter-specific variables relevant in determining favorable/unfavorable conditions for social pressure to be effectively exerted. These variables should capture both density and cohesion of social networks, as suggested by Granovetter (2005).

The first variable measures social cohesion, by using the 1995 level of blood donation for the Italian provinces¹³ where the headquarters are located.¹⁴ The intuition is that without the strong social links proxied by this variable, communities cannot effectively exert social pressure. Therefore, we can reasonably expect that the firms with headquarters in areas with relatively low/high levels of social cohesion are also exposed to relatively low/high levels of social pressure during an economic downturn.¹⁵

The second variable we use are the job opportunities offered by the firm to the community. In particular, we construct the ratio between 2006 workforce level $Employment_{i,HQ2006}$ at the headquarters and the size of local community for the same year:

$$Social\ Visibility_{i,1} = \frac{Employment_{i,HQ2006}}{Population_i} \quad (3)$$

where $Population_i$ either refers to the population of the province or to that of the municipality where firm i 's headquarters were established.¹⁶ The idea is that if the ratio of equation 3 increases, the entrepreneur's social visibility at the local level rises and social recognition becomes relevant for the firm.

Using these two measures and assuming their positive correlation with social pressure, we can construct a sample distribution for social pressure and split the observations into two groups, corresponding to firms with headquarters in areas with social pressure levels below or above the median of the distribution. Equation 2 can be re-estimated within each group of observations, to check whether results change in accordance to our theoretical prediction. Table 8 shows the results.

As predicted by the social recognition theory, the positive family-headquarter effect, captured by α_2 in equation 2, is statistically significant with high social pressure levels, while it becomes negligible in the opposite case. The results are robust to the different specifications of social pressure, as previously defined. As usual, we also checked the common trend assumption within each group of observations, referred to the period 2005-2007 and found no statistically significant differences between family and non-family firms.

A possible criticism to the above analysis is that the split around the median is not capturing only differences in social pressure between communities. In other words, despite the exogeneity of

¹³The provinces are administrative divisions of the regions.

¹⁴This variable is well known in the literature on social capital and was introduced by Guiso *et al.* (2004).

¹⁵See technical appendix for details on how we obtained low/high levels of social pressure.

¹⁶The use of two different scaling factors is justified by the fact that the exact distribution of workers within the region of the headquarters is unknown. Therefore, we want to control for possible cases of firms with many plants within the region of the headquarters, located in different areas.

the instruments used with respect to the change in employment levels, other channels apart from social pressure may be responsible for the observed differences.¹⁷ We dealt with these concerns by checking whether the sample splits of table 8 widened the differences between family and non-family firms, along two dimensions. In particular, we looked at the change in profitability, as measured by the Roe, induced by the crisis, and at the firm's unionization rate in 2008. Results are shown in table 9:

The fourth column in Table 9 suggests that, regardless of the measure of social pressure used, the difference between family and non-family firms is statistically invariant within the sample splits, both in terms of change in profitability and unionization rate.¹⁸

Hence, tables 8 and 9 indicate that within-firm differences between family and non-family firms in the employment adjustments exist and also that they result from different levels of social pressure exerted towards firms in the communities surrounding the headquarters.

5 Alternative explanations

The previous results are consistent with the idea that social pressure induces family-firm owners to safeguard the headquarter workforce in times of economic crisis. However other potential reasons, unrelated to the social recognition motive, may drive asymmetric workforce adjustments between headquarters and other plant locations. Some of these reasons are inconsistent with our findings, but others cannot be totally ruled out, due to the limited amount of available plant-level information.

5.1 Nature of plant agreements between firms and workers

An alternative explanation for the observed differences in workforce adjustments between family and non-family firms is the hypothesis that labor contracts vary from plant to plant within the same firm. For example, family-firm workers in headquarters might ratify contracts offering flexible wages against higher job security, contrary to workers in other plants that would be subject to more rigid contractual schemes. However, this explanation does not apply to our case, for several reasons.

First, the Italian labor legislation concerning layoffs forbids discrimination on the basis of the sector or the nature of the corporate ownership; distinctions are allowed only according to the number of employees (firing rules become more stringent for firms with more than 15 units). Second, wages are negotiated at the national level¹⁹ between unions and firm associations for

¹⁷However, these alternative channels must also be able to explain a different reaction of family and non-family firms within each subgroup.

¹⁸However, it is interesting to note that family firms seem to be less unionized on average, a result which is well-known in the literature. See, for instance, Muller and Philippon (2006).

¹⁹They are the so-called *CCNLs*, acronym of collective national labor contracts.

the different sectors, while supplementary company-level labor contracts typically concern work shifts, workplace safety measures and, only marginally, additional bonuses on top of the national baselines. Crucially, these agreements are ratified every three years and this timing prevents firms from adjusting to face sudden negative changes in the macroeconomic environment.

5.2 Political connections

Bertrand and Schoar (2006) argued that family firms can create stable political connections and receive favorable laws or preferential accesses to public resources against favors offered to the politicians, because they have a long-term horizon. Therefore, family firms would be willing to maintain higher workforce levels than non-family firms, in exchange of a return from the public sector. Indeed, this hypothesis cannot be rejected *a priori*, also in light of the evidence shown by Cingano and Pinotti (forthcoming). In particular, the authors find that Italian politically-connected firms tend to have higher-than-average profits and that corruption, especially relevant in southern Italy, explains their results.

The political connections would be relevant in our setting only if they were headquarter-specific. Therefore, the public resources diverted to family firms would mainly come from local governments and political favors would be more effective when exerted close to the headquarters. However, two reasons suggest that this explanation does not drive the observed positive family-firm effect at the headquarters. First, most headquarters (see figure 1) are in Northern and Central Italy, where corruption has never been documented on a large scale. Second, one should expect corruption to be more significant the lower the level of social cooperation and active citizenship within the community (proxied by our measure of blood donation). The results in table 8 indicate the opposite.

5.3 Differences in plant labor productivity

The different employment adjustments for headquarters and other plants might result from systematic differences in plant productivity between family and non-family firms. In particular, if headquarters are more productive than secondary plants for family firms but not for non-family firms, the former might have systematically preferred to safeguard the headquarters workforce during the crisis. Unfortunately, available data do not allow plant-level productivity measurement, so this hypothesis cannot be ruled out.

However, different amenity values attached to the various production sites could also induce different productivity levels across different plants. In other words, during the process of company growth and subsequent delocalization, family firm entrepreneurs might tend to preserve the core productions close to the headquarters, exactly because they attach higher values to job creation/preservation within their community of reference.

If this were the case, then the social recognition motive would be relevant not only during crises periods but along the entire life of a family firm.

6 Conclusions

The economic recession hit the Italian economy in 2008, determining a sharp increase of the unemployment rate at the national level and growing uncertainty about the future, especially for workers not protected by public insurance schemes. The crisis affected both family and non-family firms but generated divergent paths of adjustment of the employment levels within firms, depending on the geographical location of the plants. While in the pre-crisis period 2005-2007 family and non-family firms showed equivalent trends in the distribution of the workforce, either close or far from the headquarters, a significant difference emerges between the two types of firms after 2008: relative to non-family firms, family firms valued systematically more workforce levels close to the headquarters with respect to the rest of the workforce. This effect is true both for firms forced to downsize and for those that could afford not to do so. Moreover, the effects is heterogenous with respect to the characteristics of the community surrounding the headquarters, in terms of social cohesion and local-level visibility of the firm.

These findings are all consistent with the idea that the psychological link between the family firm owner and his/her native territory (where the headquarters are established) induces him/her to pursue employment policies that benefit the local community, against the non-pecuniary reward of an accrued social status. This empathy is less keen for plants distant from the headquarters, since physical and psychological distance prevents social norms from being effectively enforced through social pressure. Finally, the preference for headquarters is negligible for non-family firms, because decisions and responsibilities are diluted among unrelated shareholders and professional managers.

In spite of the limited amount of observations available for the analysis and the lack of plant-level information, we believe that our paper is grounded on a robust econometric strategy. Moreover, the results shed some light not only on the consequences of the Great Recession on the geography of job adjustments, but imply more generally that firm anonymization through ownership dilution reduces the ability of local communities to steer shareholder choices. Finally, the results suggest that strong social ties among community members not only favor business creation by local entrepreneurs (as suggested by Michelacci and Silva 2007) but also affect the extent to which the entrepreneurial activity is retained at the local level when firms grow.

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7 Technical appendix: construction of the sample distribution for measuring social cohesion

We did not use directly the level of blood donations available at the province level and measured in 1995 to construct the sample distribution of the level of social cohesion. Two types of concerns justified our strategy. First of all, there could be a problem of sample bias with respect to the geographical distribution of the observations, given that firms are unevenly distributed on the Italian territory. In other words, it may be that the median level of social cohesion as measured in our sample is skewed towards right. Additionally, we wanted to avoid that the split around the median merely reflected the historical gap between northern and southern Italy.

The problems outlined above were tackled by preliminarily regressing the level of blood donation, $Blood\ Donation_k$, for all the k Italian provinces on a geographical dummy $North_k$, equal to 1 if the province is located in northern Italy and zero otherwise.

$$Blood\ Donation_k = \alpha + \beta North_k + \epsilon_k \quad (4)$$

We then calculated the median of the distribution of the residuals obtained from this equation and divided the Italian provinces according to whether they were located below or above this value. This procedure produced a split of the sample of firms, according to the blood donation levels of the provinces where their headquarters are located, net of the north/south gap effect. We finally re-estimated equation 2 for each group of observations.

8 Tables and Figures

Table 1: Multiplant firms in the *Invind* survey, 2007 and 2009

	Family firms (1)	Non-Family firms (2)	Difference (3)	Total (4)
2007				
Return on equity	7.5	7.3	0.2	7.4
Revenues (,000 euros)	314.2	551.4	-237.2*	424.8
Investments over revenues (%)	5.2	5.2	0.0	5.2
Per capita investments (,000 euros)	1,713.6	1,626.3	87.2	1,672.8
Gross earnings per person (,000 euros)	28.1	31.0	-2.9***	29.4
Total employees	735.0	1,138.0	-402.0**	923.0
Employees in the headquarters region	463.0	612.0	-148.0	533.0
Employees elsewhere	272.0	526.0	-254.0**	390.0
Cig ^(a) (%)	1.0	0.7	0.3	0.8
2009				
Return on equity	5.0	3.8	1.2	4.5
Revenues(,000 euros)	246.5	461.2	-214.7**	346.6
Investments over revenues(%)	4.0	4.6	-0.6	4.3
Per capita investments (,000 euros)	1,396.5	1,275.7	120.8	1,340.2
Gross earnings per person (,000 euros)	32.4	31.3	1.1	31.9
Total employees	751.0	1,120.0	-369.0**	922.7
Employees in the headquarters region	481.0	581.0	-100.0	528.0
Employees elsewhere	270.0	539.0	-269.0**	395.0
Cig ^(a) (%)	10.1	10.8	0.7	10.5
Year of foundation	1969	1973	-4.0*	1971
Number of firms	246	215		461

* : p - value < 0.10, ** : p - value < 0.05, *** : p - value < 0.01.

(a): working hours paid by the social security system over total working hours.

Sources: Italian Chambers of Commerce's archives (*Cerved*) for Roe, *Invind* survey for the other indicators.

Table 2: Average distribution of the employees outside the headquarters region (%)

Macroarea of the Headquarters	Family 2007	Non-Family 2007	Family 2009	Non-Family 2009
North-western regions	41.1	49.7	40.1	52.8
North-eastern regions	32.7	43.8	33.1	44.4
Central regions	40.7	33.4	41.4	33.4
Southern regions	25.7	39.3	19.7	36.8
Total	37.0	46.2	36.0	48.1

Source: authors' calculations from *Invind* survey.

Table 3: Overall employment adjustments

Dependent variable: % Total employment variation (2007-2009)		
	(1)	(2)
Family	0.07*** (0.02)	-0.01 (0.02)
Intercept	-0.17*** (0.02)	0.14*** (0.02)
N	243	218

Robust standard errors in parentheses.

* : p -value < 0.10, ** : p -value < 0.05, *** : p -value < 0.01.

Column (1) refers to firms where $\% \Delta_t Empl_{i, fh} < 0$.

Column (2) refers to firms where $\% \Delta_t Empl_{i, fh} \geq 0$.

Table 4: Within firm employment adjustments

Variable: employment in the h.q. - employment outside the h.q.				
	All (1)	Family (2)	Non-Family (3)	Difference (4)
Panel A:				
2007-2009	-9.50	19.98	-43.24	63.22***
Panel B:				
2005-2007	-1.90	0.37	-4.37	4.74
2007-2009	-16.91	11.86	-48.08	59.94**

* : p -value < 0.10, ** : p -value < 0.05, *** : p -value < 0.01.

Table 5: Estimation results: employment adjustments and corporate structure

		Dependent variable: $\Delta_t Empl_{i,t,h}$, eq. 2						
		2007-2009	2007-2009	2007-2009	2007-2009	2007-2009	2007-2009	2005-2007
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Firm fixed-effects:		No	Yes	Yes	Yes	No	Yes	Yes
Family		-14.95 (16.44)				-8.05 (20.13)		
Head		-43.24** (19.14)	-9.53 (21.70)	-11.07* (21.39)	-25.56 (31.86)	-48.08* (24.44)	-6.53 (27.08)	2.82 (23.66)
Family x Head		63.22*** (24.22)	55.97** (24.73)	57.17** (24.58)	71.49** (34.62)	59.94** (29.49)	51.15* (28.75)	-2.93 (31.78)
Intercept		12.67 (12.88)	4.69 (5.94)	4.69 (5.93)	-10.25 (8.14)	7.57 (15.50)	3.38 (7.22)	14.92 (8.04)
Control variables		No	Yes	Yes	Yes	No	Yes	Yes
Controlling for change in revenues		No	No	Yes	No	No	No	No
Manufacturing sector only:					X			
N		922	922	922	602	654	654	654

Robust standard errors in parentheses, clustered at the firm level. * : $p - value < 0.10$, ** : $p - value < 0.05$, *** : $p - value < 0.01$. Controls in the baseline regressions include 3 size dummies interacted with headquarters (to control for non-linear scale effects), and 3 geographical dummies interacted with headquarters. Columns (1) to (3) refer to the entire sample of firms observed in the period 2007-2009; column (1) does not include controls, while column (2) controls for unobserved firm fixed-effects and for the set of baseline controls specified above; column (3) adds to the previous column the % change in revenues interacted with headquarters. Column (4) refers to the sub-sample of manufacturing firms only, observed in 2007-2009. Columns (5) to (7) refer only to the sample of firms appearing in the entire period 2005-2007 (balanced panel); column (5) does not include controls, while column (6) controls for unobserved firm fixed-effects and for the set of baseline controls specified above; column (7) estimate eq. 2 for the period 2005-2007

Table 6: Estimation results: within firm and overall workforce adjustments

Dependent variable: $\Delta_t Empl_{i fh}$ (2007-2009, eq. 2)		
	(1)	(2)
	$\Delta_t Workforce < 0$	$\Delta_t Workforce \geq 0$
Head	2.63 (23.42)	-20.41 (35.94)
Family x Head	42.32* (26.24)	68.10* (39.26)
Intercept	-27.94*** (7.69)	41.07*** (9.22)
Control variables	Yes	Yes
N	486	436

Robust standard errors in parentheses, clustered at the firm level. * : $p - value < 0.10$, ** : $p - value < 0.05$, *** : $p - value < 0.01$. Estimates are computed controlling for firm fixed-effects, 3 size dummies interacted with headquarters (to control for non-linear scale effects), and 3 geographical dummies interacted with headquarters. Column (1) refers to firms where $\Delta_t Workforce < 0$. Column (2) refers to firms where $\Delta_t Workforce \geq 0$

Table 7: Robustness checks

Dependent variable: $\Delta_t Empl_{i fh}$ (2007-2009, eq. 2)		
	(1)	(2)
Head	-6.50 (23.94)	-40.96* (21.47)
Family x Head	44.73* (25.35)	66.07** (26.99)
Intercept	4.20 (5.92)	3.12 (6.47)
Control variables	Yes	Yes
Foreign firms	No	Yes
If $Occ_{i,2007fHQ} < Occ_{i,2007fOUTHQ}$	Yes	No
N	784	712

Robust standard errors in parentheses, clustered at the firm level. * : $p - value < 0.10$, ** : $p - value < 0.05$, *** : $p - value < 0.01$. Estimates are computed controlling for firm fixed-effects, 3 size dummies interacted with headquarters (to control for non-linear scale effects), and 3 geographical dummies interacted with headquarters Column (1) does not consider firms under foreign control. Column (2) refers to firms with number of headquarters employees bigger than that at all other locations only.

Table 8: Estimation results: measuring the impact of social pressure

Proxy for Social Pressure:	Dependent variable: $\Delta_t Empl_{i,th}$ (2007-2009, eq. 2)					
	Blood Donation (1)		Provincial Ratio (2)		Municipal Ratio (3)	
	Below the median	Above the median	Below the median	Above the median	Below the median	Above the median
Head	45.83* (24.80)	-49.03 (31.31)	41.47* (21.80)	15.86 (43.00)	28.99 (19.92)	-51.14 (44.43)
Family x Head	3.55 (23.36)	94.55** (40.92)	-14.45 (19.37)	127.22*** (46.73)	-0.07 (21.45)	120.78*** (45.64)
Intercept	2.57 (5.39)	6.33 (9.60)	6.67* (3.93)	2.71 (10.97)	-2.72 (5.01)	12.14 (10.65)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes
N	402	520	462	460	462	460

T-test for the significance of the difference between the coefficients of the Family x Head terms, above and below the median:

H0: Family x Head x (Median Split) = 0

p-value: 0.051 p-value: 0.008 p-value: 0.016

Robust standard errors in parentheses, clustered at the firm level. * : $p - value < 0.10$, ** : $p - value < 0.05$, *** : $p - value < 0.01$. Estimates are computed controlling for firm fixed-effects, 3 size dummies interacted with headquarters (to control for non-linear scale effects), and 3 geographical dummies interacted with headquarters. Columns (1) refer to the median of the distribution for blood donation, computed with respect to the population of Italian provinces. Columns (2)-(3) refer to the size of firm's headquarters relative to the provincial and municipal size of the population respectively. Levels of blood donation collected by *Associazione Italiana Volontari Sangue (AVIS)* and elaborated in Guiso *et al.* (2004). Population at the provincial and municipal level collected by the National Bureau of Statistics (ISTAT).

Table 9: Firm-level indicators of profitability and unionization within the sub-samples used to measure social pressure

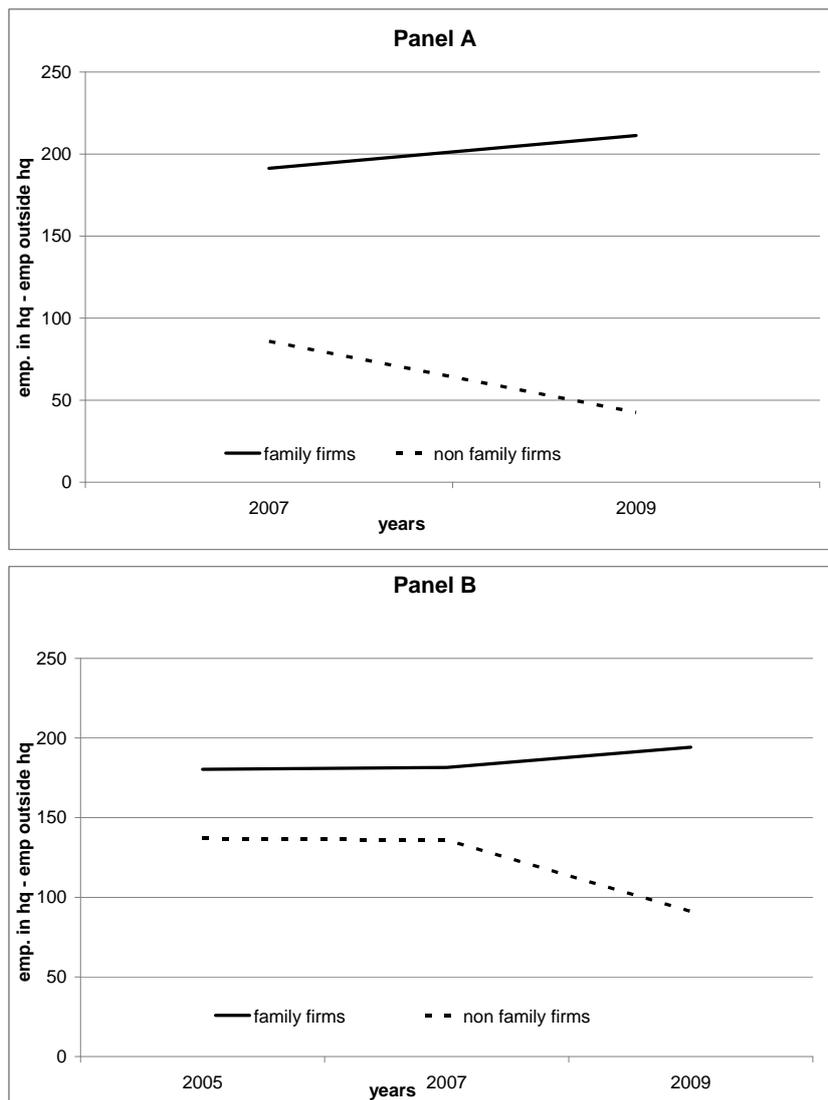
	Intercept	Family	Subsample	Subsample x Family
			Blood Donation	
2009-2007 change in Roe (%)	-56.57***	18.11	2.34	-18.62
2008 unionization rate (%)	33.37***	-8.58**	-4.09	4.00
			Provincial ratio	
2009-2007 change in Roe (%)	-49.77	6.40	-11.39	4.48
2008 unionization rate (%)	27.70***	-5.48	6.66*	-1.69
			Municipal ratio	
2009-2007 change in Roe (%)	-48.63	11.44	-15.07	-2.76
2008 unionization rate (%)	30.88***	-7.29**	0.07	2.00

* : $p - value < 0.10$, ** : $p - value < 0.05$, *** : $p - value < 0.01$.

Figure 1: Location of the firms' headquarters



Figure 2: Employment Adjustments: Family vs Non-Family Firms (*personnel units*)



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