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Worker information and firm disclosure
Analysis on French linked employer-employee data

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Abstract: *Information disclosure requirements significantly increased in French listed companies in the early 2000s, converging toward the U.S./U.K. stock market standards. Following the burgeoning literature on relations between corporate governance and labor, we investigate the consequences of this process regarding worker information: does more information for shareholders mean more information for workers? We take advantage of a French (representative) establishment survey that generates linked 'employer–employee' data at two points in time, 1998 and 2004. Our results strongly suggest that worker information has improved in listed companies but not in private ones, as an externality of the financialization process. We find however that this extra information is only partially correlated with greater employee satisfaction, as measured through the perception of fair recognition by supervisors.*

Key words: information sharing, firm disclosure, corporate governance, job satisfaction, linked employer employee data

JEL codes : J53, G39, J28, C21

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Introduction

Does more information for shareholders mean more information for workers? And does more information for workers increase job satisfaction? This article addresses these issues by using a nationally representative French linked employer-employee data.

Over the last two decades, stock market activity has sharply grown in the U.S. as well as in Europe. At the same time, there has been a continuous increase in equity holdings by financial investors managing diversified portfolios, to the detriment of households, cross-holdings by non-financial companies and the State. This evolution has caused deep transformations at the corporate level with stock price becoming a crucial metric for the management of listed companies. In terms of corporate governance, there is evidence of significant evolution underway since the beginning of the 1990s that has been driven by (minority) shareholder activism and regulatory changes. Regarding board composition, inside directors have steadily declined to the benefit of outsiders.[1] Regarding executive remuneration, stock-based compensation has gained in importance in the U.S., U.K. and France. Altogether, these evolutions have increased the sensitivity of corporate executives to the interests of minority shareholders, thereby promoting a shareholder-value-oriented approach to managing a business (Useem, 1996; O'Sullivan, 2000; Hansmann and Kraakman, 2001; Dore, 2008; Lazonick, 2008).

Growing attention is now paid to the implications of this financialization process for employment and industrial relations (Froud, Haslam, Johal and Williams, 2000; Gospel and Pendleton, 2004; Jacoby, 2005). In particular, some studies have explored the influence of corporate governance and ownership structure on human resource management practices (Jackson, Höpner and Kurdelbusch, 2004; Jacoby, Nason and Saguchi, 2005; Black, Gospel and Pendleton, 2007; Conway, Deakin, Konzelmann, Petit, Rebérioux and Wilkinson, 2008; Perraudin, Petit and Rebérioux, 2008).[2] There is, however, one aspect of this process likely to

influence labor relations that has received little consideration until now: the increase in information disclosure and transparency requirements faced by corporate executives. Information on the company's prior performance and future prospects is a critical resource for financial investors and demand for greater and better reporting is a key component of the financialization process: listed companies are under strong pressure by shareholders and regulators to regularly disclose financial and non-financial information, contrary to private, non-listed companies. In this article, we investigate whether this process has contributed to increase information sharing with workers, and whether it has been associated with greater job satisfaction.

Considering information, it is then possible that shareholders and workers align their interests *vis-à-vis* management, sharing a common interest in greater disclosure (Kostant, 1999; Jackson *et al.*, 2004). If true, we bring to light a potential tradeoff that may be summarized as follows. On the one hand, the financialization process tends to 'prioritize' the interests of shareholders, with allegedly adverse consequences regarding worker commitment to the firm (see e.g. Armour, Deakin and Konzelmann, 2003; Gelter, 2009). On the other hand, by making the firm more transparent to workers, this process might also have favorable outcomes in terms of commitment.

France constitutes a noticeable opportunity to highlight institutional transformations in the corporate sector and the way these transformations have impacted labor and industrial relations inside firms. Indeed, evolution of the French model of corporate governance has been particularly dramatic over the 1995-2005 period, with the growing presence of investment funds (Anglo-Saxon and French) in the equity capital of listed companies and far-reaching transformations in securities and corporate law. In particular, between 2001 and 2003, a new regulation on information disclosure was developed for listed companies, largely along the lines of the financial disclosure requirements of the U.S. Securities and Exchange

Commission (S.E.C.) model. In this study, we take advantage of a large data set, the REPONSE survey, conducted by the Research and Statistics Department of the French Ministry of Labor (DARES). It aims to provide an account of the state of employment relations inside French workplaces.[3] Conducted both in 1998 and 2004, the surveyed sample is representative of establishments with 20 workers or more in the French productive sector. In each establishment, one senior manager *and* several employees are questioned on a large range of topics, including industrial relations, labor organization, firm ownership and the competitive environment. As such, this survey generates a linked employer-employee dataset that allows to study in detail the relations between stock market listing, information sharing and job satisfaction.

Our findings might be summarized as follows:

- In the mid-2000s, the intensity of information sharing with workers is higher in listed firms as compared to non listed firms, controlling for a large set of observable characteristics at the firm, workplace and workforce levels. An instrumental variable approach supports an interpretation in terms of causality. We find no such evidence in 1998, before a series of regulatory changes increased the disclosure requirements for listed firms. We interpret this change in the propensity of listed firms to share information with workers as a side effect resulting from the increase in transparency requirements towards shareholders faced by managers in these firms.

- We find that employee job satisfaction is linked to information sharing. Yet, the relation only concerns one type of 'disclosure-induced' information, namely information on the social and environmental consequences of the firm's activity. In contrast, we do not observe any significant correlation between information sharing on general strategy or economic situation of the firm and worker job satisfaction.

The remainder of the article is ordered as follows. The following section discusses the conceptual framework. The next section presents the empirical analysis, concerning the relations between stock market listing and information sharing on one side, and between information sharing and job satisfaction on the other side. The last section concludes.

Conceptual framework

Shareholders, workers and information

In the U.S., and from a legal point of view, the difference between listed and non-listed companies in terms of disclosure is clear-cut. Listed companies are subject to the federal securities regulation of the S.E.C., which has had the primary objective, since its creation by the Securities Exchange Act in 1934, to ensure that investors and shareholders have the information necessary to make accurate decisions (Brown, 2007). Toward this end, the S.E.C. provides listed companies with high standards of information reporting and disclosure, perceived as the core of an effective control of corporate executives in a situation of separation of ownership and control (Berle and Means, 1932; Black, 2000). These standards reinforce specific rules imposed by stock exchanges. In contrast, corporate governance in private companies is only regulated by state law, which does not provide a coherent, strong disclosure regime. This dichotomy has become stronger since the early 2000s, with the surfacing of multiple high profile corporate scandals and bankruptcies. Although institutional investors were putting pressure on corporate executives for greater transparency, regulators strengthened disclosure requirements as a perceived solution to managerial abuses.[4] In addition, listed companies are more and more inclined to 'voluntarily' disclose information, so as to please investors and secure the value of their shares.

In France, and generally in continental Europe, the situation was, until the beginning of the 2000s, rather different. Stock markets were usually less active, with a lower degree of separation between ownership and control (Faccio and Lang, 2002). Hence, corporate governance regulation was not as inclined to protect minority shareholders from managerial abuses.[5] Informational needs by minority shareholders and investors were not considered as important as they are in the U.S., and disclosure regimes, as structured by corporate and securities laws, were far less comprehensive. In relation, and considering the French case, the regulator was traditionally reluctant to make a distinction between listed and non-listed firms, rather discriminating between companies on the basis of their legal statute (*Société anonyme*, *Société en nom collectif*, etc.).[6] Accordingly, there was, until early 2000s, no specific regulation for listed companies in terms of reporting and disclosure – except listing standards as defined by the Bourse de Paris before the creation of Euronext in July 2000. A listed *Société anonyme* did not face really different, higher, disclosure requirements in comparison to a private one whose shares are freely transferable, yet not traded on a regulated market.

A second difference regarding corporate governance was, and still is, worker involvement, with a range of mechanisms designed to sustain the collective voice of workers in continental Europe, contrary to the U.S. In particular, the workforce has information and consultation rights provided by labor laws, through unions (in Italy and Sweden) or, more often, through a representative body, usually the works council. France is a good example of those information rights, with a comprehensive regime of disclosure to the benefit of the works council (*comité d'entreprise*).[7] For example, article L2323-6 of the Labor code states the following: « *the works council shall be informed and consulted on issues that concern labor organization, management and general business conduct and, in particular, on the decisions that might affect the volume and the structure of the workforce, employment and working conditions and training* » (translated).

In sum, the two models are opposites, with strong disclosure requirements for minority shareholders in one case, and for workers in the other. However, this distinction between the Anglo-American and European continental models of corporate governance is progressively being overturned. The shift of the continental European model of shareholding towards the Anglo-Saxon model is now widely discussed in the comparative literature (see, for example, Hansmann and Kraakman, 2001).

Concerning France, a dramatic growth in stock market capitalization took place over the last 15 years, mostly because of the increasing presence of financial investors, both resident and non-resident. Tirole (2006) estimated that one-third of the capital of French listed companies was held by non-residents in 2002. In 2005, for the largest companies (included in the CAC40), 46.4% of the equity capital was held by non-residents, with more than 20% by British and U.S. funds looking for international diversification of their portfolios (Poulain, 2006). This increase in the power of minority shareholders in the equity capital of French companies has been accompanied by a decline in blockholdings, a sharp increase in the equity-based part of executive remuneration and a rise in the proportion of independent directors at the board level. The entry of new investors has also put pressure on listed companies to adopt a more open form of communication. In parallel, important changes in securities law and, to a lesser extent, in corporate law, have strongly enhanced minority shareholder protection (Lele and Siems, 2006). Arguably, information disclosure is the area that has experienced the deepest transformation. By doing so, a specific regulation for listed companies has developed, largely along the lines of the financial disclosure requirements of the U.S. S.E.C. model.

The distinction between listed and non-listed firms has been clearly adopted by the French regulator since the beginning of the 2000s, at odds with the traditional approach. The first step was the “New Economic Regulation” (N.E.R.) Act of May 2001, which forced listed

companies, and only them, to disclose a *Rapport de gestion* (business report) yearly, including a document on the general situation of the company and its expected evolution, as well as a document detailing how social and environmental consequences of corporate activity are dealt with. Concerning executive remuneration, the N.E.R. Act increased transparency for all of the *Sociétés anonymes*, whether or not the shares are traded on a regulated market. However, the Financial Security Law (August 2001) soon restricted this obligation to listed *Sociétés anonymes* only. Note that these provisions, forcing managers to disclose information on the social and environmental consequences of the activity and on executive remunerations, were not covered by stock exchange standards. Moreover, they were not part of workers' information rights as defined by labor law. They have therefore the potential to benefit both shareholders *and* workers.

In summary, managers in French listed companies have experienced, over the last 15 years, a strong pressure by minority shareholders and regulators for greater and better reporting as a direct consequence of the financialization process. We may conjecture that this evolution has improved worker (and not just shareholder) information for at least two reasons. First, and from a legal perspective, works councils have the right to receive all of the (periodic and ongoing) information communicated to shareholders: article L2323-8 of the Labor Code requires corporate officers to transmit to the work council the whole set of documents that have been disclosed to shareholders. Considering "law in the books", the French model of corporate governance and industrial relations therefore favors a transmission of information from shareholders to workers. Second, and from an economic point of view, the fact that corporate executives have to disclose (and therefore process and 'build') information for shareholders allegedly decreases the cost of communicating this information to workers. If true one may anticipate that this extra information is slightly different from what is usually addressed by labor law and communicated by managers to workers. This 'disclosure-induced'

information should concern strategic dimensions of the firm's future global position, rather than 'shop floor-related' issues such as organizational and technical changes, employment prospects or wage evolution. In sum, although there were no reasons to posit any differences in terms of information access between workers in listed and private companies in the 1980s or 1990s, it is likely that workers employed in listed firms now have richer and better information on a range of topics related to the firm's strategy.

Information sharing inside the workplace

Theoretical and empirical literature has put forward various arguments for the importance of information sharing inside the workplace, defined as the provision of information to workers by corporate managers. We briefly survey these arguments.

First, information provision to workers helps them to adequately adjust their level of investment in firm-specific human capital by increasing the accuracy of their expectations regarding the firm's future prospects. A number of studies have acknowledged the growing significance of firm-specific human capital on firm performance and economic growth (e.g., Blair and Wallman, 2001; Corrado, Hulten and Sichel, 2006). Importantly, it is now widely recognized that workers investing in firm-specific human capital have a residual claim on the (uncertain) firm's future value, like stockholders investing at risk in the company's shares (Blair, 2000; Zingales, 2000): as such, more information means better investment.

Second, the limitations of information asymmetry should help to enhance managerial accountability by improving the ability of workers to monitor (together with shareholders) corporate executives (Gelter, 2009; Moore and Rebérioux, 2011). It is especially valuable in countries where worker involvement is legally supported, as in continental Europe, with codetermination in the form of board-level participation (as in Germany) or with strong rights for work councils (as in France). It should therefore come as no surprise that German trade

unionists tend to consider transparency as a tool for codetermination, thereby supporting financial investors in their demand for reliable information (Jackson *et al.*, 2004).

Third, information disclosure to workers provides their representatives with information that might be valuable in collective bargaining. Although the net effect on wage is open to debate,[8] both theory and evidence suggest that information sharing tends to shorten and ease the negotiation process and decrease the probability of a strike (Morishima, 1991).

Last but not least, several recent papers have directly focused on information sharing with workers as a human resource management (HRM) practice that might be implemented by corporate officers to foster worker engagement. Researches on HRM practices have traditionally investigated the relations between bundles of practices (training, performance-related pay, problem-solving team, etc.) and employee outcomes. The breakdown of these bundles into single practices allows a more precise, albeit often more complex, analysis. Interestingly, a couple of papers points out that information sharing is significantly associated with different employee outcomes, often more than other practices. Kalmi and Kauhanen (2008) is a striking example, based on Finnish data. They adopt a broad perspective, distinguishing six different outcomes (job intensity, job influence, job security, wage, stress and job satisfaction) and four HRM practices (or workplace innovations): self-managed teams, incentive pay, training, and information sharing. The latter is defined with a dummy variable, based on employee interviews, that takes value 1 if workers are informed about changes at work at the planning stage, rather than at the implementation stage. Information sharing is the only practice that exhibits a conditional, significant (at 1%) correlation with all six outcomes: controlling for various individual and establishment variables, information sharing decreases job intensity and stress, and increases job influence, security, satisfaction and wage. Two other studies investigate the relations between information sharing and voluntary employee turnover: if valued by workers, greater information sharing should

increase commitment and decrease quit rate. Haines, Jalette and Larose (2010) examine the Canadian non governmental sector. They distinguish various HRM practices, among which mechanisms designed to stimulate workers' participation. These mechanisms include employee suggestion program, problem-solving teams, self-directed work groups, flexible job design and information sharing. Information sharing at the workplace level is measured with a dummy variable based on managerial answer. They perform tobit regression, to capture the correlation between these various HRM practices and the voluntary turnover rate in 2000. Estimation results show that the sole participation mechanism correlated with quit rate is information sharing (negative point estimate, significant at the 10% level). Cottini, Kato and Westergaard Nielsen (2009) also investigate the relations between HRM practices and quit, on Danish data. They are interested in the moderating effect of various HRM practices on the impact of adverse workplace conditions on labor turnover. Information sharing is captured with a dummy that takes value 1 if the worker considers he/she is always or often informed of the decisions affecting his/her establishment, 0 otherwise. They observe that the interaction term between information sharing and physical hazards exposition for workers is negatively correlated with labor turnover, therefore suggesting that being informed significantly mitigates the (adverse) impact of adverse working condition on quit. The two other HRM practices, voice and training, do not appear to have the same mitigating role.

Taken together, these results point to the importance of information sharing, associated with various positive worker outcomes (job satisfaction, stress, etc.) and lower employee (voluntary) turnover rates. They are coherent in suggesting that information sharing increases worker’s subjective well-being. At least, this evidence calls for further researches on this topic. Our paper contributes to this vein.

Empirical analysis

Listing and information sharing

Both in 1998 and 2004, the REPONSE survey is representative of establishments with 20 workers or more in the French productive sector, excluding the agricultural and the public sectors. The survey comes in waves of cross-sectional data, where the same firms are not necessarily sampled wave after wave. In each establishment, one executive officer (manager) is questioned in a face-to-face interview on a large range of topics regarding industrial relations and labor organization, as well as competitive environment. The survey also includes a self-completion questionnaire distributed to a sample of workers, designed so as to be representative of the French workforce in private establishments with at least 20 employees.

In 2004, the data was initially collected from 2930 managers. We drop workplaces belonging to (non-profit) associations because they present highly specific patterns of employment and industrial relations. We end up with a dataset of 2503 establishments. We also use the 1998 survey that provides similar linked employer-employee data. For 1998, we have information for 2380 establishments once associations are dropped. Information on industry and the socio-demographic characteristics of the workforce is drawn from the DADS (*Déclarations Annuelles de Données Sociales*), a matched employer-employee administrative dataset constructed from social security records.

To evaluate the intensity of information sharing (the dependent variable), we use the 2004 manager survey, where the employer is asked whether or not the information transmitted to workers is frequent. The question is repeated so as to cover a range of seven different topics: (i) the strategic orientation of the firm, (ii) the economic situation of the firm, (iii) the social and environmental consequences of the firm's activities, (iv) the employment prospects at the establishment or firm level, (v) wage prospects, (vi) training opportunities and (vii)

organizational or technological change. In 1998, similar questions are raised, albeit with one difference: the item 'social and environmental consequences' does not exist.[9] Summary statistics (using REPONSE sampling weight) for these variables are presented in Tables A1 and A2 for 2004 and 1998, respectively (see Appendix). Both for 1998 and 2004, we observe that information is more frequent in listed companies than in non listed firms. Note, however, that a multiplicity of compounding factors may be at stake here, so a multivariate analysis is required before reaching conclusion on the relations between listing and information sharing.

Empirical strategy

Logit models are used to estimate the (logarithm of the) odds-ratio of the information as frequent in the establishment according to the manager:

$$\ln (P_{jk} / 1 - P_{jk}) = \alpha + X_j \beta + \phi \, listed_j + \varepsilon_j$$

where P_{jk} is the probability for the manager in establishment j to estimate that information on topic $k = \{1,\ldots,7\}$ is frequent ($I_{jk} = 1$). X_j is a vector of control variables including respondent's individual characteristics, workplace characteristics, and firm characteristics (see *infra*). *listed* is a dummy variable that takes the value of 1 if the establishment j belongs to a listed firm (or is directly listed), 0 otherwise. ε_j is the independent and identically distributed random noise. The models are unweighted: as such, they provide within-sample estimates rather than population estimates.[10]

The previous analysis makes no attempt to account for the potential endogeneity of a stock market listing with respect to worker information. Although there is *a priori* no reason to suspect a reverse causality, it is clear that listing is not random. Accordingly, one might suppose that some unobserved omitted characteristics of the firm would imply both a greater propensity to communicate information to workers and a higher probability to get listed on a regulated market.

A common procedure to alleviate endogeneity concerns is to have an instrumental variable estimation approach. We use the extent of the market as an instrument: firms that compete on the global, international market, rather than at the national or local level, are more likely to be listed because stock market listing enables them to raise a large amount of equity capital. At the same time, there is no reason to suppose that the extent of the market *per se* has any direct effect on worker information. Our instrumental variable model is based on a recursive bivariate probit estimation (see e.g. Greene, 2003) as both our regressor (listing) and outcome variables (information quality) are binary. In the first stage, we estimate the odd-ratio of being listed on a set of regressors including our instrument (*market size*). The second stage estimates the odd-ratio of delivering frequent information incorporating the predicted probability of listing among regressors. Estimations are simultaneous to account for the possible correlation between residuals.

Control variables

At the firm-level, we control for the size (number of employees). At the establishment-level, we control for the size (number of employees), age and state of the market over the three years preceding the survey (growth, stable or decline). Concerning the industry, we first use an indicator that distinguishes between 16 different positions (Naf 16). However, because industries might be an important determinant of industrial relations while being correlated with stock market listing, we also control, in alternative models, for an 85 positions indicator (Naf 85) and for a 3-digit indicator when possible (185 positions). By doing so, we intend to hone in closely enough to industry characteristics: firms within narrowly defined industries should *a priori* choose similar production and organization methods and have similar workforce compositions, thereby permitting better observation of the conditional effects of stock market listing.

The characteristics of the workforce are taken into account through the structure of occupational groups (proportion of managers, supervisors and technicians), the proportion of employees aged under 40 and the proportion of women. Concerning industrial relations at the establishment level, the French legal system allows distinguishing two types of worker representatives.[11] First, those directly elected by their colleagues (who are potentially, but not necessarily, union members). As such, they participate in various consultative bodies: workplace delegate (*délégué du personnel*), works councils (*comité d'entreprise*) or equivalent and health, safety and improvement of working conditions committee (c*omité d'hygiène, de sécurité et des conditions de travail*). Second, union delegates are those directly nominated by unions. They are the only ones entitled to participate in negotiations with employer representatives. We therefore introduce two dummy variables: one indicating the presence of an elected worker representative body, the other indicating the presence of union delegates, both at the establishment level. We also introduce individual-level information into the regressions to characterize the interviewed manager (function and tenure).

For 1998, the same variables are used, with two exceptions (no information available): the age structure of the workforce at the establishment level and the 3-digit industry indicator. Summary statistics for the firm and workplace characteristics are presented in Appendix Table A3 for 2004 and 1998. The proportion of establishments belonging to a listed firm is very stable between the two dates, with 26.3% in 2004 and 25.4% in 1998.

Estimation results

Table 1 shows that there is a positive, significant conditional correlation between being listed and the frequency of information in 2004. Looking at model 1 (logit estimation, 16 positions industry dummy), we observe that, except for wage prospects, all of the point estimates are significant at the 1, 5 or 10% levels. This global correlation between listing and

information frequency is robust to a narrower definition of industries (85 positions instead of 16, in model 2). As an ultimate check regarding sector, we also control in an alternative specification with a 3-digit indicator: the point estimates are very similar to model 2, and for all items, the level of statistical significance is unchanged. [12] Accordingly, industry differences between listed and non-listed firms do not drive our results.

Overall, this correlation is more pronounced for four items: the strategy, the economic situation of the firm, the environmental and social consequences of the firm's activities and training opportunities. Interestingly, these items are those of greatest interest for financial investors, with the noticeable exception of training. As such, they are directly covered by information disclosure requirements in corporate law. In contrast, information sharing is less intense regarding shop-floor related issues (employment and wage prospects, organizational and technological changes).

INSERT TABLE 1 ABOUT HERE

Model 3 in Table 1 presents estimates of the listing effect on worker information derived from the instrumental variable approach. In all of the regressions, the instrument performs well, with a first stage conditional correlation (between market size and listing) significant at the 1% level. The results confirm the view that listed companies better inform their workers. Compared with models 1 and 2, the significance level (and point estimates) of the instrumental variable estimations are increased. Once again, information of direct interest to financial investors (firm's strategy, economic situation and environmental and social consequences of its activity) stands out as being particularly related to stock market listing. Wage prospects is the only item for which listing has no impact on information regardless of the estimation method. In Table A4, we present the full bivariate probit estimation for information sharing on strategy. We observe that the size of the establishment and/or of the firm has no significant impact on the intensity of information sharing.[13] In contrast, the sector

is an important factor: construction, business and personal services sectors are characterized by a low intensity of information sharing. Without surprise, the structure of the workforce displays a strong relationship with information sharing. Information increases with the proportion of high-skilled and young workers (less than 40 years old). Finally, the presence of a works council (or equivalent) has no significant impact on the frequency of information sharing. This result may be explained by the small share of establishments without works council in our sample (10.6%, unweighted statistics). This share is due to the fact that our sample excludes very small establishments (not required by labor law to have such a structure).

In the previous section, we identified two distinct mechanisms that contribute to transmit information from shareholders to workers: a legal one whereby corporate executives are mandated by (labor) law to transmit shareholder information to the work council and an economic one, related to the low cost of information transmission once produced. Our data do not allow us to disentangle these two mechanisms: a possibility would have been to interact stock market listing with the presence of works council. However, more than 95% of our listed workplace have such a council (unweighted statistics), leaving us with too few variation to make proper identification.

Estimations run on the 2004 cross-section survey are replicated with the 1998 survey. Once again information sharing is estimated through the manager questionnaire, where questions strictly similar to 2004 were posed. Table 2 gives the estimation results. The difference with 2004 is salient: the conditional correlation between information frequency and listing is not significant for five items out of six. A positive relation only holds for information on the firm's strategy. Using a 16 or 85 positions dummy for sector (models 1 and 2, respectively) does not make any difference.[14] Implementing instrumental variable estimations confirms the

conclusion: we do not find any statistical relations between listing and information quality, regardless of the item (model 3 in Table 2).

INSERT TABLE 2 ABOUT HERE

Summary

Our empirical analysis on cross-sections yields the following conclusion: the link between information sharing and being listed is estimated to be (much) lower in 1998 than in 2004, conditional on a large set of observable covariates. We therefore document a modification of the conditional correlation between listing and worker information over time, from a non-existent relation to a positive one. The empirical analysis is not performed on a panel, but the two cross-sections are designed so as to be representative of the productive sector at each point in time. Cross-sectional analyses, together with the instrumental variables approach, therefore supports the hypothesis that there has been a change in the way listing impacts information sharing. These results support the idea that stock market pressure and regulatory changes have improved worker information in listed companies between 1998 and 2004, but not in private ones.

Information sharing and job satisfaction

The crucial question is then the following: do workers really care about the information they receive? Put differently, does more information have any favorable consequences for workers? As discussed in the first section, a couple of recent studies have explored this issue. Kalmi and Kauhanen (2008) find a positive correlation between the intensity of information sharing, as defined by workers, and several outcomes, among which job satisfaction. In addition, Haines and *al.* (2010) find evidence of a negative relation between information sharing, as defined through managerial answer, and employee voluntary turnover. However, these studies do not make any distinction between different types of

information. Our analysis so far shows that not all types of information are equally determined. Combs, Liu, Hall and Ketchen (2006) also suggest that not all types of information are equally important for workers. Accordingly, just like the recent literature on HRM practices has progressed by 'debundling' practices (see section 1), we improve on previous researches by distinguishing different types of information: we study distinctly their relations with job satisfaction.

Different dimensions might be used to measure job satisfaction (Clark, 1996; Warr, 2007). Contrary to WERS, the REPONSE survey does not contain any direct question on this point. However, the 2004 employee survey includes a question that informs on employees' perception of recognition of their effort by supervisors. Arguably, the recognition of one's work, *i.e.* the perception of fair treatment given his/her effort, is a crucial component of job satisfaction and organizational commitment (Warr, 2007: 128-137). We therefore explore whether information sharing with workers has any significant relation with the perception that have employees to be fairly recognized by their hierarchy. The question we use is stated as follows: "*Given your overall effort, does your firm recognize your work fairly?"* We define *work recognition* as a dummy that takes value 1 if the answer is yes, 0 otherwise. For 42.51% of workers the answer is positive.

Before proceeding with the regressions, it is important to note that our dependant variable (work recognition) and our variables of interest (information sharing on different topics) do not come from the same questionnaire. Like Kalmi and Kauhanen (2008) with job satisfaction, we use the worker questionnaire to assess recognition of effort. However, our measure of information sharing is based on the manager survey: it reflects employers' perception. We think that such a design reduces the probability for our results to be driven by unobserved heterogeneity at the individual (worker) level: for example, a worker with a

'positive' attitude (or optimistic nature) may find both that information is substantial and recognition of effort important enough.

We merge our sample of workplaces with the employee survey. We end up with 5781 workers belonging to 2211 different establishments. We estimate the following equations for 2004[15]:

$$\ln (P^{rec}_{ij} / 1 - P^{rec}_{ij}) = \alpha + X_i \beta_1 + X_j \beta_2 + \phi I_{jk} + \varepsilon_{ij}$$

where P^{rec}_{ij} is the probability for worker i in establishment j to consider that he/she is fairly recognized by supervisors, X_i is a vector of individual controls, X_j is a vector of workplace and firm characteristics, and $I_{jk,}$ a dummy variable that takes value one if information sharing on topic $k = \{1,\ldots,7\}$ in establishment j is frequent, zero otherwise. We estimate seven different regressions for the seven topics on information sharing. ε_{ij} is the independent and identically random noise. As we have several workers per establishment, we account for within-cluster correlation by computing robust standard errors, clustered on establishments.

In our baseline model (1), individual controls (X_i) include gender, tenure (in three classes), occupation (in four classes), working part time, and union membership (present or past). Table A5 present summary statistics for these variables, using REPONSE sampling weight. As a robustness check (model 2), we also introduce the (individual) net hourly wage[16]: we expect perception of recognition to be strongly related with the wage level. At the workplace or firm level, we control for industry (16 positions), establishment size and age, firm size, proportions of women, white collar and employees aged under 40, presence of union representative and presence of elected worker representatives. Crucially, we also control for stock market listing. Ignoring this information may bias estimated coefficients on information sharing, as we have shown that, at least in 2004, both variables are strongly correlated. Our test is therefore the following: once netted out the effect of stock market listing and other

covariates, does information sharing significantly correlate with employees' perception of fair recognition? Table 3 presents the results of regressions.

In model (1), three topics out of seven display a significant positive conditional correlation with recognition of work, at the 5% level: information on the environmental and social consequences of the activity, information on wage prospects and information on training. These results are robust when controlling for wage (model 2), even if it slightly reduces point estimates (information on social and environmental consequences becomes significant at the 10% level)[17]. Our results are in line with previous studies as they show evidence of a positive relation between information sharing and job satisfaction (as estimated by fair recognition of effort). They also point out, as expected, that not all information are equally important for workers. Interestingly, neither the information on strategy nor on the economic situation, that are strongly disclosure-induced, is correlated with recognition. Put differently, workers are not so sensitive to general, strategic information regarding their firm or workplace. Shop-floor-related information, on the evolution of wage and training opportunities, appears to be more important in terms of subjective well-being. Information on wage in particular appears as an important driver of job satisfaction while it is the only item for which we did not find any relation with stock market listing (see Table 1).

Together these results suggest that there is a gap between disclosure-induced information and satisfaction-enhancing information. There is however one important exception, with the information on social and environmental consequences of the activity. As discussed in the first section, reporting on this topic was introduced in corporate law by the New Economic Regulation Act of May 2001, as a way to strengthen the disclosure regime of French listed firms and to take into account the potentially significant externalities of (large) corporations. We have evidence here that this topic is highly valued by workers: frequent information significantly increases the perception to be fairly recognized given his/her effort.

Conclusion

Demand for greater and better information disclosure in listed companies is a key component of the financialization process in the U.S. and in Europe. In this article, we address the potential consequences of this process for workers: (i) does worker information increase? (ii) if so, does it improve worker job satisfaction ? We use a matched employer employee linked dataset representative of the French productive sector to provide answers.

Concerning the first question, our answer is positive. We find that worker information has improved in listed companies between 1998 and 2004, but not in private ones. Although we observe no positive conditional correlation between stock market listing and the intensity of information sharing with workers in 1998, we document a positive correlation in 2004. Further, our empirical strategy supports an interpretation in terms of causality, with stock market listing leading to higher information sharing. We interpret the difference between 1998 and 2004 as a side effect of the dramatic changes in the French corporate governance model over the period, notably the increased presence of financial investors in the equity capital of listed companies and new information disclosure requirements.

Concerning the second question, the answer is more ambiguous. We find that information sharing is associated with a more frequent feeling by employees of fair recognition of effort. However, we show that workers do not consider all types of information as equally important. In particular, we do not observe a clear correspondence between disclosure-related topics, highly valued by shareholders and financial investors, and recognition-enhancing topics, more directly connected with the shop-floor (wage prospects and training opportunities). Information on the environmental and social consequences of the activity is singular, as it seems to have a positive impact on workers well-being while being initially driven by corporate law and shareholder information concerns. It is important to bear in mind that we

use one proxy for job satisfaction, as measured through the perceived recognition of effort by supervisors. Further explorations might be conceived, focusing on other possible proxies or other outcomes, such as voluntary turnover or employee engagement.

Finally, our research contributes to the literature on the financialization of the business firm. This process has caused major changes at the corporate level, with management now being primary focused on share price. It has often been argued that this transformation in corporate governance has had, and still has, rather negative impact on workers' commitment. According to this 'constraint hypothesis' (Conway *et al.*, 2008), the quest for (short term) stock price increase may have triggered a cost-cutting approach to human resource management practices (Hutton 1995; Porter 1997). As such, a shareholder value-oriented approach to managing a business constrains the capacity of management to enter into cooperative arrangements with workers. At the same time, the instability brought by the growing intensity of the market for corporate control (in the 1980s in the US, in the 2000s in continental Europe) may have impeded corporate executives to engage in long term relationships with their employees. Altogether, these changes could have a detrimental effect on worker commitment, revealing a "*dark side of shareholder value*" (Gelter, 2009). Empirical work, both quantitative studies (Black *et al.*, 2007; Conway *et al.*, 2008) and qualitative case studies (Jackson *et al.*, 2005, Deakin, Hobbs, Konzelmann and Wilkinson, 2006) have produced so far mixed evidence on this 'constraint hypothesis'. In this article, we somehow highlight a 'bright side' of shareholder value: workers have also benefited from stock market pressures for greater disclosure. They are now better informed on a range of topics regarding their firm and its environment, and for at least one of these topics (the social and environmental consequences of the activity), this process appears to have increased workers' job satisfaction and commitment. In ending, our research underlines the ambiguous impact of the financialization process for workers: although it potentially decreases the ability of managers to enter into

partnership-style arrangements with workers, it actually makes the firm more transparent for its stakeholders.

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TABLES

Table 1 – Estimation results for information sharing, 2004
Point estimates for 'Listed'

	Model (1)	Model (2)	Model (3)
Strategy	0.275***	0.215**	1.109***
	(0.096)	(0.101)	(0.217)
Economic situation	0.343***	0.354***	0.979***
	(0.102)	(0.108)	(0.366)
Envir. & social consequences	0.271***	0.251**	1.062***
	(0.098)	(0.104)	(0.240)
Employment prospects	0.173*	0.150	1.030***
	(0.094)	(0.099)	(0.328)
Wage prospects	0.066	0.110	0.138
	(0.093)	(0.098)	(0.403)
Training opportunities	0.250**	0.250**	0.921***
	(0.101)	(0.106)	(0.338)
Org. & techn. changes	0.201**	0.188*	0.586*
	(0.094)	(0.099)	(0.351)
Estimation method	*logit*	*logit*	*biprobit (IV)*
Sector dummy	*Naf 16*	*Naf 85*	*Naf 16*

Source: Establishments of 20 employees or more in the private sector (excluding agricultural sector). 2,503 observations. 2004 REPONSE survey, manager representative questionnaire, Dares.

Significance level: ***p<0.01, **p<0.05, *p<0.1

Reading: first line, model (1): logit estimation of the probability that information is given on strategy, with a naf 16 sector dummy, yields a point estimate of 0.275 for 'Listed', significant at the 1% level.

Notes: (a) Each line corresponds to a given item as a dependent variable. (b) Each column presents the results of a different regression model. (c) Point estimates are the log of the odds-ratios. (d) Standard errors in parentheses. (e) Controls include industry, establishment size and age, firm size, activity (growth, stable, decline), % women, % white collar, % of employees aged under 40, presence of union representative, presence of elected worker representatives, function of the interviewed manager, tenure of the interviewed manager

Table 2 - Estimation results for information sharing, 1998

Point estimates for 'Listed'

	Model (1)	Model (2)	Model (3)
Strategy	0.232**	0.280***	-0.313
	(0.101)	(0.107)	(0.770)
Economic situation	0.114	0.092	-0.879
	(0.103)	(0.109)	(0.594)
Employment prospects	0.034	0.079	-0.020
	(0.100)	(0.105)	(0.619)
Wage prospects	0.079	0.027	-0.512
	(0.100)	(0.106)	(0.822)
Training opportunities	-0.008	-0.101	-0.598
	(0.109)	(0.114)	(0.664)
Org. & techn. changes	0.088	0.061	-0.212
	(0.100)	(0.104)	(0.585)
Estimation method	*logit*	*logit*	*biprobit (IV)*
Sector dummy	*Naf 16*	*Naf 85*	*Naf 16*

Source: Establishments of 20 employees or more in the private sector (excluding agricultural sector). 2,380 observations. 1998 REPONSE survey, manager representative questionnaire, Dares.

Significance level: ***p<0.01, **p<0.05, *p<0.1

Reading: first line, model (1): logit estimation of the probability that information is given on strategy, with a naf 16 sector dummy, yields a point estimate of 0.232 for 'Listed', significant at the 5% level.

Notes: (a) Each line corresponds to a given item as a dependent variable. (b) Each column presents the results of a different regression model. (c) Point estimates are the log of the odds-ratios. (d) Standard errors in parentheses. (e) Controls include industry, establishment size and age, firm size, activity (growth, stable, decline), % women, % white collar, presence of union representative, presence of elected worker representatives, function of the interviewed manager, tenure of the interviewed manager.

Table 3 - Estimation results for recognition of effort, 2004
Point estimates for each information topic

	Model (1)	Model (2)
Strategy	-0.011	-0.008
	(0.062)	(0.062)
Economic situation	0.171	0.021
	(0.067)	(0.067)
Envir. & social csqces	0.123**	0.112*
	(0.063)	(0.063)
Employment prospects	0.059	0.071
	(0.061)	(0.061)
Wage propsects	0.141**	0.133**
	(0.060)	(0.060)
Training opportunities	0.139**	0.134**
	(0.064)	(0.065)
Org. & techn. changes	-0.028	-0.020
	(0.061)	(0.061)
Log (wage)	*No*	*Yes*
Estimation method	*Logit*	*Logit*

Source: Workers in establishments of 20 employees or more in the private sector (excluding agricultural sector). 5,780 observations. 2004 REPONSE survey, manager representative and employee questionnaires, Dares.

Significance level: ***p<0.01, **p<0.05, *p<0.1

Notes: (a) The dependant variable is, in both column 1 and 2, work recognition (b) Each line presents the results of a different regression, with a specific topic for information introduced as independent variable. (c) Point estimates are the log of the odds-ratios. (d) Robust standard errors, clustered on establishments, in parentheses. (e) Controls include industry, establishment size and age, firm size, % women, % white collar, % of employees aged under 40, presence of union representative, presence of elected worker representatives, skill, tenure and sex of the interviewed employee and whether he(she) is a union member. (f) log wage is the logarithm of the net hourly wage in December 2003.

APPENDIX

Table A1 - Information sharing inside workplace, 2004

Means (%) of variables

% of establishments where information is frequent according to the manager	Total 2,503 obs	Listed 1,061 obs	Non-listed 1,442 obs
Strategy	45.91	55.41	42.52
Economic situation	55.52	66.26	51.69
Envir. & social consequences	27.39	33.78	25.11
Employment prospects	43.01	51.47	39.99
Wage prospects	42.84	47.98	41.01
Training opportunities	59.76	71.42	55.61
Org. & techn. changes	41.74	46.47	40.06

Source: Establishments of 20 employees or more in the private sector (excluding agricultural sector). 2004 REPONSE survey, manager representative questionnaires, Dares.

Note: all variables are weighted by REPONSE sampling weights.

Table A2 - Information sharing inside workplace, 1998

Means (%) of variables

% of establishments where information is frequent according to the manager	Total 2,380 obs	Listed 932 obs	Non-listed 1,448 obs
Strategy	44.23	54.81	40.64
Economic situation	52.55	62.79	49.07
Employment prospects	42.16	48.24	40.09
Wage prospects	38.57	45.92	36.08
Training opportunities	65.60	72.93	63.12
Org. & techn. changes	50.67	56.33	48.75

Source: Establishments of 20 employees or more in the private sector (excluding agricultural sector). 1998 REPONSE survey, manager representative questionnaires, Dares.

Note: all variables are weighted by REPONSE sampling weights.

Table A3 – Firm, establishment and respondent characteristics
Means (%) of variables in 2004 and 1998

	2004	**1998**
	2,503 obs.	2,380 obs.
Firm and establishment characteristics		
Listed	26.27	25.36
Establishment size		
from 20 to 50	63.75	64.66
from 50 to 100	19.72	18.66
from 100 to 200	9.60	10.10
from 200 to 500	5.43	5.01
more than 500	1.50	1.57
Firm size		
Only one estab.	48.56	47.01
less than 200	23.41	17.06
from 200 to 500	6.46	8.26
from 500 to 1000	4.37	4.80
more than 1000	17.20	22.86
Establishment age		
less than 10 years	14.16	30.89
10 to 50 years	67.91	58.28
more than 50 years	17.93	10.83
State of the market		
Growth	57.58	54.19
Stable	27.15	30.36
Decline	15.28	15.45
Union delegate in the estab.	36.36	34.30
Elected worker representative in the estab.	75.04	73.36
Proportion of women		
less than 15%	27.40	35.32
15 to 60%	51.48	39.07
more than 60%	21.12	19.35
miss	-	6.26
Proportion of managers, supervisors and technicians		
less than 15%	29.91	23.79
15 to 30%	26.34	28.84
30 to 50%	18.09	14.04
more than 50%	25.65	12.76
miss	-	20.57
Proportion of employees aged under 40		
less than 40%	18.08	-
40 to 70%	52.40	-
more than 70%	29.52	-
Manager characteristics		
Function (working in HR department)	22.51	19.81

Tenure		
less than 4 years	33.79	20.07
2 to 9 years	19.93	10.98
10 years and more	46.29	21.43
miss	-	47.52

Source: Establishments of 20 employees or more in the private sector (excluding agricultural sector). 1998 and 2004 REPONSE surveys, manager representative questionnaire, Dares. Workforce characteristics are drawn from the DADS, INSEE.

Note: all variables are weighted by REPONSE sampling weights.

Table A4 – Complete estimation results for information sharing on strategy , 2004

Instrumental variable bi-probit estimation

	Step (1) Listed	Step (2) Information sharing on strategy
	Point estimate	Point estimate
Fitted value for listed	-	1.109***
Sector dummy		
Agri-food industry	ref	ref
Consumer goods industry	-0.115	-0.118
Automotive industry	0.281	0.031
Capital goods industry	0.176	-0.024
Intermediate goods industry	0.085	-0.146
Energy	-0.682***	0.581***
Construction	0.259	-0.467***
Commerce	-0.010	-0.013
Transports	0.242	-0.279*
Financial activities	0.202	0.226
Real-estate activities	-0.987*	0.439
Business services	0.151	-0.291**
Personal and domestic services	0.138	-0.362**
Education, health, social services	-0.232	-0.123
Establishment size		
from 20 to 50	ref	ref
from 50 to 100	0.169*	0.036
from 100 to 200	0.221**	-0.028
from 200 to 500	0.348***	-0.070
more than 500	0.305***	0.013
Firm size		
Only one estab.	ref	ref
less than 200	0.049	0.070

from 200 to 500	0.340***	0.056
from 500 to 1000	0.560***	-0.111
more than 1000	0.811***	-0.017
Establishment age		
less than 10 years	ref	ref
10 to 50 years	-0.172*	0.157*
more than 50 years	-0.207*	0.114
State of the market		
Growth	ref	ref
Stable	-0.054	-0.015
Decline	0.063	-0.123*
Union delegate in the estab.	0.380***	-0.099
Elected worker representative in the estab.	0.134	0.098
Proportion of women		
less than 15%	ref	ref
15 to 60%	0.047	0.011
more than 60%	-0.083	0.077
Proportion of managers, supervisors and technicians		
less than 15%	ref	ref
15 to 30%	0.168*	0.245***
30 to 50%	0.308***	0.229**
more than 50%	0.455***	0.224**
Proportion of employees aged under 40		
less than 40%	ref	ref
40 to 70%	-0.116	0.129*
more than 70%	0.024	0.397***
Function (working in HR department)	-	0.025
Tenure		
less than 4 years	-	ref
2 to 9 years	-	0.139**
10 years and more	-	0.032
Market openess (instrumental variable)	0.386***	-
Intercept	-1.422***	-0.805***
Estimated Rho	-0.674***	

Source: Establishments of 20 employees or more in the private sector (excluding agricultural sector). 2,503 observations. 2004 REPONSE survey, manager representative questionnaire, Dares.

Significance level: ***p<0.01, **p<0.05, *p<0.1

Reading: step (1) estimates the probability to be listed and step (2) estimates the probability that information is shared with workers on strategy.

Note: Point estimates are the log of the odds-ratios.

Table A5 - Individual characteristics for employees, 2004 Means (%) of variables	
Women	35.63
Part-time	9.45
Occupation	
Manager	18.89
Technicians and associate professionals	24.55
Clerical and sales worker	20.35
Production worker	36.21
Tenure	
less than 9 years	48.76
10 to 20 years	26.96
20 years and more	24.29
Union member	
Yes	7.35
No, but was before	12.79
No, never	79.87

Field: Employees of establishments of 20 employees or more in the private sector (excluding agricultural sector). 5,781 observations.

Source: 2004 REPONSE surveys, employee questionnaire, Dares

Note: all variables are weighted by REPONSE sampling weights

Notes

[1] These 'independent' directors are considered to be less captured by the internal (managerial) perspective and in a better position to favor stock market evaluation with respect to corporate conduct (Gordon, 2007).

[2] The intensive use of performance-related pay in listed companies pursuing shareholder-value-based management strategies is a common finding of these studies: individual and collective bonus schemes tend to align workers' incentives with those of the firm, and also increase the flexibility of business cost structures over time, something valuable in terms of financial management.

[3] REPONSE has, to a large degree, been modeled on WERS, the Workplace Employment Relations Survey, carried out in the U.K..

[4] A conspicuous example is the Sarbanes-Oxley Act of 2002, with the principal objective of protecting and enhancing the financial disclosure integrity of listed companies.

[5] The main issue was the protection of minority shareholders from abuses by large blockholders (see Enriques and Volpin, 2007).

[6] The French corporate law offers a menu of companies or statutes that differ in terms of director duties, creditor rights, shareholder protection, transferability of shares, etc. Some of these forms are authorized to list their shares on a regulated market, whereas others are not. The main (but not unique) vehicle for quotation is the *Société anonyme*, even though a majority of them are not listed.

[7] A *comité d'entreprise* is required in all firms with 50 or more employees.

[8] By increasing the identification of workers with firm goals, information sharing may lead employees to accept more moderate wage increases. It is, however, possible that such disclosure improves labor's bargaining power, thereby increasing the union's ability to deliver a high wage settlement for its membership.

[9] The item was introduced in the 2004 survey precisely to gauge the effect on workers of the new 2001 regulation on reporting (see *supra*), forcing listed companies to report on the environmental and social impact of their activity.

[10] Following Reiter, Zanutto and Hunter (2005), we introduce the variables that have been used to build the weights as regressors, namely establishment size and sector.

[11] See Goetschy and Jobert (2004) for a comprehensive presentation of the French employment relations system.

[12] Results are not reported here but are available upon request.

[13] Note that in logisitc models (1 and 2), we have evidence that very large firms (more than 1000 employees) significantly provide more information on strategy (p-value<0,001).

[14] As noted earlier, these estimations are similar to those run in 2004, with one exception: we do not have, in 1998, the proportion of the workforce aged under 40. To check whether this difference may account for the difference in results between the two periods, we have re-run our 2004 estimations excluding the age structure of the workforce: the results still indicate a very significant correlation between listing and information frequency. Results are available upon request.

[15] Let us underline that we perform this regression in 2004 only, as we do not have any prediction in terms of evolution (contrary to our previous empirical tests): we are interested in knowing whether information sharing is valued by workers, whatever the period of investigation. In particular, we do not pretend that information would be more or less important in 1998 as compared to 2004 in terms of worker well-being.

[16] This variable is drawn from the *Déclarations Annuelles de Données Sociales*.

[17] Note that individual wages are always positively and significantly correlated with our measure of work recognition.