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Does Workers' Information Benefit from Stock Market

Disclosure Requirements?

An Empirical Analysis on French Linked Employer-Employee Data.

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Does workers' information benefit from stock market disclosure requirements?
An empirical analysis on French linked employer-employee data

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Abstract

This paper is part of a growing literature that explores the relationships between corporate governance on one side and industrial relations and human resource management on the other side. More precisely, we investigate whether workers have benefited, in terms of information, of increased stock market disclosure requirements in the 1990s and 2000s. While shareholders and workers interests might be opposed considering the distribution of economic value-added, it is not the case in terms of information. It is likely that both parts align their interests *vis-à-vis* management, sharing a common interest for greater disclosure: increased transparency should allows both parts to better monitor firm executives, enhancing managerial accountability and supporting sustainable levels of risk in corporate conduct. Considering that information is a non rival good, freely accessible once produced, we may conjecture that workers in listed companies have (indirectly) benefited from stock market pressure for increased corporate transparency.

Our empirical analysis uses French micro data. The French case is interesting for at least two reasons:

- First, we take advantage of a linked employer-employee dataset that allows to consider the quality of information communicated to workers in details. The REPONSE survey, conducted in 1998 and 2004, aims to provide an account of the state of employment relations and working life inside French workplaces. The sample is representative of establishments with 20 workers or more in the French productive sector, excluding the agricultural and the public sectors. In each establishment, one senior manager and one employee representative have been questioned on a large range of topics, regarding industrial relations (including worker information), labour organization, firm ownership and the competitive environment. A questionnaire has also been addressed to a random selection of workers, so that this survey generates an 'employer-employee-employee representative' linked dataset. In sum, the

REPONSE survey provides a unique opportunity to test the relationships between corporate governance and worker information at two different points in time. This dataset is supplemented with information on industry and the socio-demographic characteristics of the workforce, drawn from the DADS, an administrative source based on firm tax-reports.

- The second advantage of the French case relates to institutional considerations: between 2001 and 2003, a new regulation on disclosure has developed for listed companies and only for them, largely along the lines of the financial disclosure requirements of the U.S. SEC model. This regulatory change allows us to capture demands for greater transparency directly through stock market listing.

Our findings might be subsumed as follows. Workers in listed companies benefit, in the mid 2000s, from extra information, as compared to workers employed in private firms. This (cross sectional) evidence is robust to a battery of tests, while instrumental variables approach supports an interpretation in terms of causality. We find no such evidence in 1998, before a series of regulatory changes have increased disclosure requirements for listed firms. In addition, we observe that this extra information mostly concerns strategic aspects of the business conduct, rather than topics more directly connected to the shop floor (employment prospects for example). Last but not least, this information runs directly from managers to workers, rather than through the mediation of worker representatives.

1. Introduction

Over the last two decades, stock market activity has grown sharply, in the US as well as in Europe, while there has been a continuous increase of equity holdings by financial investors managing diversified portfolio, to the detriment of households, cross-holdings by non-financial companies or the State[1]. These evolutions have caused deep transformations at the corporate level: in particular, stock price has become a crucial metric for corporate management in listed companies, whose shares are traded on regulated markets. In terms of corporate governance, there is evidence of significant evolutions underway since the beginning of the 1990s, driven by (minority) shareholder activism and regulatory changes. Regarding board composition, inside directors have steadily declined, to the benefit of outsiders. These 'independent' directors are considered to be less captured by the internal (managerial) perspective, and in a better position to favour stock market evaluation in corporate conduct (Gordon, 2007). Regarding executive remuneration, stock-based compensation has gain in importance, with stock options and restricted stock now being a key component of managerial compensation in the U.S., the U.K. or France[2]. Altogether, these evolutions have increased the sensitivity of corporate executives to the interests of minority shareholders, promoting shareholder-value oriented approach to managing a business (Useem, 1996; O'Sullivan, 2000; Hansmann and Krakman, 2001; Fis and Zajac, 2004; Lazonick, 2008; Dore, 2008).

A growing attention is now paid to the implications of this process for employment and industrial relations (Froud, Haslam, Johal and Williams, 2000; Jacoby, 2004 and 2009; Gospel and Pendleton, 2004; Jackson, 2005). For example, one might suspect that the prioritization of shareholder interests has altered the distribution of value-added between shareholders and workers, to the detriment of the latter. Also, and more recently, some studies have explored the influence of corporate governance and ownership structure on human resource management ('HRM') practices (Jackson, Höpner and Kurdelbusch, 2004 ; Black, Gospel and Pendleton, 2007; Conway, Deakin, Konzelmann, Petit, Rebérioux and Wilkinson, 2008 ; Perraudin, Petit and Rebérioux, 2008). The intensive use of performance related pay in listed companies is a common finding of these studies.

There is, however, one aspect of this 'financialization' process likely to influence labour relations that has deserved few consideration until now: the increase in information disclosure

[1] For the U.S., see *The 2008 Institutional Investment Report: Trends in Institutional Investor Assets and Equity Ownership of U.S. Corporations,* Report No. 1433-08-RR. For the U.K. see Short and Keasey (2005); for France, see O'Sullivan (2005).

[2] For the U.S. case, see e.g. Murphy and Jensen (2004). According to a study by the firm Towers Perrin, published in May 2007, the proportion of stock options and free shares in executive pay was, in the mid-2000s, 65 % in the U.S., 30% in the U.K. and 50% in France.

and transparency requirements. Minority shareholders (whether financial investors or households) are at a distance from the firm management (Berle and Means, 1932). As such, they need reliable information on company past performance and future prospects, so as to make accurate sell and buy decisions on stock market. Demand for greater and better reporting is thus 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. Such disclosure is *a priori* the most direct way to lower the cost of capital arising from information asymmetries, to control corporate executives and, more generally, to promote managerial accountability – something valuable for all firm stakeholders. Accordingly, while shareholders and workers interests might be opposed considering the distribution of economic value-added, it is not the case in terms of information. It is likely that both parts align their interests *vis-à-vis* management, sharing a common interest for greater disclosure (Kostant, 1999; Jackson *et al.*, 2004): increased transparency should allows both parts to better monitor firm executives. Considering that information is a non rival good, freely accessible once produced, it might then be conjectured that workers have (indirectly) benefited from increased disclosure requirements, as a positive externality of the financialization process. This article empirically examines this question.

We use a French linked employer-employee database to examine this issue, the REPONSE survey. This representative, large-scale survey of workplace practices, carried out by the Research and Statistics Department of the French Ministry of Labour in 1998 and 2004, offers rich information on HRM practices, work organisation and industrial relations at the establishment level. In addition, firm-level information is provided, such as stock market listing and the distribution of the company's equity capital. Also, we take advantage of a particular feature of this survey: in each establishment, one executive officer and one worker representative are interviewed, as well as a subset of sampled workers, representative of the universe of French employees. Such design enables to collect a variety of points of view on common topics, but also generates linked 'employer-employee-employee representative' information. We are therefore able to study the determinants of information provided to workers, taking into account firm and worker heterogeneity on observable characteristics. This dataset is supplemented with information on industry and the socio-demographic characteristics of the workforce, drawn from the DADS, an administrative source based on firm tax-reports.

Our findings might be subsumed as follows. Workers in listed companies benefit, in the mid 2000s, from extra information, as compared to workers employed in private firms. This (cross sectional) evidence is robust to a battery of tests, while instrumental variables approach supports an interpretation in terms of causality. We find no such evidence in 1998, before a series of regulatory changes have increased disclosure requirements for listed firms. In addition, we observe that this extra information mostly concerns strategic aspects of the business conduct, rather than topics more directly connected to the shop floor (employment prospects for example). Last but not least, this information runs directly from managers to workers, rather than through the mediation of worker representatives.

The article is ordered as follows. Part 2 sets out in greater detail the relationships between disclosure requirements and worker access to information in listed companies. Part 3 describes the dataset and the empirical strategy. Part 4 discusses the main findings. Part 5 concludes.

2. Information disclosure and workers: theoretical considerations

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 Security and Exchange Commission (SEC), whose primary objective, since its creation by the Securities Exchange Act in 1934, is to ensure that investors and shareholders have the information necessary to make accurate decisions (Brown, 2007). To this aim, the SEC 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. In contrast, corporate governance in private companies is only regulated by state law, that does not provide a coherent, strong disclosure regime. This neat dichotomy has gone stronger since the early 2000s, with the multiplication of high profile corporate scandals and bankruptcies. While institutional investors were putting pressure on corporate executives for greater transparency, regulators have strengthened disclosure requirements, as a perceived solution to managerial abuses. A conspicuous example is the Sarbanes-Oxley Act of 2002, whose principal objective was the protection and enhancement of the integrity of financial disclosure for listed companies. In addition, listed companies are more and more inclined to “voluntarily” disclosed information, so as to please investors and to secure the value of their shares.

In France, and in continental Europe more generally, the situation was, until recently, quite different. Stock markets are usually less active, with a lower degree of separation between ownership and control (or a higher concentration of equity holdings). Hence, corporate governance regulations are not so inclined to protect minority shareholders from managerial abuses[3]: informational needs by minority shareholders and investors do not assume the strategic dimension they have in the U.S., and corporate disclosure regimes are far less

[3] The main issue is rather the protection of minority shareholders from abuses by large blockholders (see Enriques and Volpin, 2007)

comprehensive. Related to that, and considering the French case, the regulator is traditionally reluctant to make a distinction between listed and non listed firms, rather discriminating companies on the basis of the legal statute (*Société anonyme, Société anonyme à responsabilité limitée, Société en nom collectif*, etc.[4]). Accordingly, there is, once again traditionally, no specific regulation for listed companies in terms of reporting and disclosure: a listed *Société anonyme* does not face different, higher disclosure requirements, as compared to a private one, whose shares are freely transferable yet not traded on a regulated market.

A second important difference regarding corporate governance is worker involvement, with a range of mechanisms designed in order to sustain the collective voice of workers in continental Europe (Rebérioux, 2002). In particular, workforce have information (and consultation) rights provided for by labour laws, through unions (in Italy and Sweden) or, more often, through a representative body, the works council. Just like the disclosure of information to distant shareholders is easily justified on economic grounds (efficiency of stock pricing, decrease in the cost of capital), it might be argued that the provision of information to the workforce improves resource allocation, by reducing information asymmetry between workers and the firm. First, it provides worker representatives with information that might be valuable in collective bargaining. Second, it helps workers to adequately adjust their level of investment in firm specific human capital, by increasing the accuracy of their expectations regarding the firm's future prospect. This point is likely to be important, given the growing significance of firm specific human capital for firm performance (see e.g. Blair, 2000). Third, 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).

France is a good example of those information rights, with a comprehensive regime of disclosure to the benefice of works council (*comité d'entreprise*)[5]. For example, article L2323-6 of the Labour code (that codifies labour law) states the following : « *the works council is informed and consulted on issues that concern labour 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* » (we translate[6]). Also, article L2323-8 requires corporate officers to transmit to the works council

[4] 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, some do not (for details, see e.g. Hansmann and Krakman, 2004). The main (but not unique) vehicle for quotation is the *Société anonyme*, even though a majority of them are not listed.

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

[6] *« Le comité d'entreprise est informé et consulté sur les questions intéressant l'organisation, la gestion et la marche générale de l'entreprise et, notamment, sur les mesures de nature à affecter le volume et la structure des effectifs, la durée du travail, les conditions d'emploi, de travail et de formation professionnelle* ».

the whole set of documents that have been disclosed to shareholders, in and out general meetings.

However, this distinction between the Anglo-American and the European continental models of corporate governance (strong disclosure requirements for minority shareholders in one case, for workers in the other case) 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 capitalisation took place over the last 15 years, mostly due to the increasing presence of financial investors, resident but also non-resident. Tirole (2006) estimates 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% for British and US 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, but not a collapse, in blockholdings (see Thomsen, 2004, pp. 306-308), a sharp increase in the equity-based part of executive remuneration and a rise in the proportion of independent directors at the board level. Entry of new investors has also put pressure on listed companies to adopt a more open form of communication with investors. In parallel, important changes in securities law and, to a lesser extent, in corporate law have strongly enhanced minority shareholder protection (Cioffi and Cohen, 2000; Lele and Siems, 2006). Arguably, information disclosure is the area that has experienced the deepest transformation. By so doing, a specific regulation for listed companies has developed, largely along the lines of the financial disclosure requirements of the U.S. SEC model.

European legislation has been a driving factor along this line, with a couple of Directives intended to rule listed companies across the E.U.: the so-called 'Transparency Directive', adopted in 2004 and harmonizing the periodic and ongoing disclosure requirements for public companies (and only for them), is a typical example. But the distinction between listed and non listed firms has been also clearly adopted by the national (French) regulator, at odds with the traditional approach. The first step was the "New Economic Regulation" (NER) Act of May 2001, that forced listed companies, and only them, to yearly disclose a *Rapport de gestion* (business report), 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 NER Act increased transparency for all the *Sociétés anonymes*, whether or not shares were traded on a regulated market. Yet The Financial Security Law (August 2001) has since restricted this obligation to listed *Sociétés anonymes* only.

Summing up, managers in French listed companies 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 had rather beneficial outcomes for workers, for at least two reasons. First, and most directly, works councils have the right to receive all the (periodic and ongoing) information communicated to shareholders (see *supra*). Second, and more broadly, the fact that corporate executives have to disclose (and therefore to process and 'build') information for shareholders allegedly decreases the cost of communicating this information to workers. If true, however, one may anticipate that this extra information is slightly different from what is usually addressed by labour law and communicated by managers: this information should concern strategic dimensions on firm's future global position, rather than 'shop floor-related' issue such as organisational and technical changes or employment prospects. In sum, while there were no reason to posit any difference in terms of information access between workers in listed and private companies back in the 80s or 90s, it is likely that workers employed in listed firms now benefit from a richer and better information, on a range of topics related to the firm strategy. The rest of this paper addresses this issue, by using a representative sample of French workplaces for 2004-2005 and 1998.

2. The data and empirical strategy

2.1 – Dataset sources and dependent variables

The 2004 REPONSE survey is the third in a series of surveys (after 1992 and 1998), that aims to provide a nationally representative account of the state of employment relations and working life inside French workplaces. The sample is representative of establishments with 20 workers or more in the French productive sector, excluding the agricultural and the public sectors. In each establishment, one executive officer (manager) has been questioned in a face-to-face interview on a large range of topics, regarding industrial relations, labour organization but also the firm's strategy and competitive environment. A questionnaire has been addressed to a random selection of workers with more than 15 months of tenure from each establishment (on average 4 workers per workplace). The survey also entails an interview with an employee representative, so that this survey generates an 'employer-employee-employee representative' linked dataset. Data was initially collected from 2,930 managers, 1,970 employee representatives and 7,940 employees. Each dataset may be linked to another by means of a unique workplace identifier.

We dropped workplaces belonging to (non profit) association, for they present highly specific patterns of employment and industrial relations. We end up with a dataset, thereafter referred as Sample_1, of 2,650 establishments where a manager representative has been interviewed, for which we have information on 7,124 workers. A second dataset, thereafter referred as Sample_2, includes 1,761 establishments where one manager *and* one worker representative have been interviewed and for which we have information on 4,890 sampled workers.

We also use the 1998 survey, that similarly produces linked employer-employee-employee representative data. For 1998, Sample_1 and Sample_2 respectively entail 2,519 and 1,398 establishments. For reasons detailed thereafter, we did not use the worker questionnaire in 1998.

For each sample, information on industry and the socio-demographic characteristics of the workforce is drawn from the DADS (Déclaration Administrative de Données Sociales), a matched employer-employee administrative data constructed from firm tax-reports (by the INSEE).

2.2 – Variables of interest

We are primarily interested in estimating the relationship between listing and the quality of information communicated to workers. To evaluate this quality (the dependent variable), we use three sets of questions stemming from the three different types of questionnaires:

- The manager is asked whether or not the information disclosed to workers is frequent, on a range of six different topics.
- The worker representative is asked whether or not the information he/she receives is satisfying, on the same set of items. Note that the question here refers to the information flow circulating directly from managers to worker representatives and not to workers in general (contrary to the question in the managerial survey)
- Finally, the employee self-completion questionnaire asks workers whether or not they receive information on these topics and, in case of a positive answer, whether they are usually informed by corporate executives, worker representatives or by rumor.

In sum, for a given item, the survey collects the opinion of three distinct types of actors in the same establishment. Seven different topics are listed: the strategic orientation of the firm, the economic situation of the firm, the social and environmental consequences of the firm's activities, the employment prospects at the establishment or firm-level, wage prospects, training opportunities and organizational or technological change. In 1998, similar questions were raised, albeit with two differences. First, the item 'social and environmental consequences' did not exist. Second the worker survey did not include any question on information. Summary statistics for these variables are presented in Tables A1 and A2 for 2004 and 1998 (see appendix).

2.3 - Empirical strategy

For the manager survey, as well as for the worker representative survey, logistic regressions are used to estimate the (logarithm of the) odds-ratio of the information to be satisfying or frequent in the establishment according to the respondent:

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

where $P_{j\,k}$ is the probability for the respondent in establishment j to estimate that information on topic $k = \{1,\ldots,7\}$ is frequent or satisfying ($y_{j\,k} = 1$). X_j is a vector of control variables including respondent's individual characteristics, workplace characteristics, and firm characteristics. *listed* is a dummy that takes the value of 1 if the firm the establishment j belongs to is listed, 0 otherwise. ε_j is the independent and identically distributed random noise. For workers, we ran multinomial logit estimations for each item $k = \{1,\ldots,7\}$, with 'not informed' as the reference category. The models are unweighted: as such, they provide within-sample estimates rather than population estimates.

2.4 – Control variables

At the firm-level, in addition to stock market listing, we control for the size (number of employees). At the establishment-level, we control for size (number of employees), age and the state of the market over the three years preceding the survey (growth, stable or decline). Concerning the industry, we first use a 1-digit indicator that distinguishes 16 different positions. 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 2 digit (85 positions) and 3-digit indicators (185 positions). By doing so, we intend to hone in closely enough to industry characteristic: firms within narrowly defined industries should *a priori* choose rather similar production and organization methods and have rather similar workforce composition, therefore permitting to better observe conditional effect of stock market listing. The characteristics of the workforce are taken into account through the structure of occupational groups (proportion of managers and supervisors; technicians and professionals; clerical workers; frontline workers), the proportion of employees aged under 40 and the proportion of women. Summary statistics for firm and workplace characteristics are presented in Table A3 for 2004. For 1998, the same variables have been used, with two exceptions (no information available): the age structure of the workforce at the establishment level and the 3-digit industry indicator. For practical convenience, summary statistics for 1998 are not presented here, but are available upon request.

We also introduced into regressions individual-level information, characterizing the respondent *i.e.* the interviewed manager (function and tenure), the worker representative (mandate as representative[7], union membership, occupation and tenure) or workers (union membership, occupation and tenure). The justification is twofold. First, the assessment of information quality is partly subjective, and therefore might be related to the personal attribute of the respondent. Second, an individual's position in the firm influences his knowledge and perception of information flows. Summary statistics for individual characteristics are presented in Table A4. Once again, we do not provide these statistics for 1998 (available upon request).

3. Estimation results

3.1. Cross sections for 2004: the manager survey

Results are displayed in Table 1 (manager survey), Table 2 (worker representative survey) and Table 3 (worker survey). We are primarily interested by ϕ, the point estimate for listed.

Table 1 shows there is a positive, significant conditional correlation between being listed and the quality of information, considering managerial assessment. For example, looking at model 1 (sample 1, 1-digit industry dummy), we observe that, and except for wage prospects, all the point estimates are significant at the 1, 5 or 10% levels, ranging from 0.188 (for employment prospects) to 0.364 (for the economic situation). This global correlation between listing and information frequency is robust to the introduction of 2-digit and 3-digit industry dummies, and to the sample we use (models 2, 3 and 4). Note however that the point estimate for wage prospect increases as we control in more details for industry (up to 0.318, significant at the 5% level in model 4), whereas it decreases for organizational change. Overall, this correlation is more pronounced for certain items: the strategy, the economic situation of the firm and the environmental and social consequences of the firm's activities. Interestingly, these items are those of greatest interest for financial investors and, as a consequence, directly covered by information disclosure requirement in corporate law. By contrast, information sharing is less intense regarding shop-floor related issues, of more direct interest for workers (employment and wage prospects, organisational and technological changes), with the noticeable exception of training.

[7] The French legal system institutes two types of worker representatives: those directly elected by their colleagues (who are potentially union members but not necessarily) and those nominated by unions ('union delegates'). The former potentially participate in various consultative councils but the latter are the only ones entitled to participate in negotiations with employer representatives.

Table 1 – Estimation results for the Manager survey, REPONSE 2004

Point estimate (std errors) for 'listed'

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5) IV model
Strategy	0.263***(0.095)	0.296**(0.116)	0.223*(0.123)	0.220*(0.133)	1.020***(0.220)
Economic situation	0.364***(0.101)	0.330***(0.124)	0.350***(0.133)	0.434***(0.144)	1.138***(0.277)
Envir. & social consequences	0.292***(0.097)	0.398***(0.117)	0.413***(0.125)	0.440***(0.134)	1.085***(0.225)
Employment prospects	0.188**(0.093)	0.194*(0.113)	0.208*(0.121)	0.250*(0.131)	0.722**(0.352)
Wage prospects	0.058 (0.092)	0.149 (0.111)	0.242**(0.119)	0.318**(0.128)	0.234 (0.370)
Training opportunities	0.223**(0.100)	0.237*(0.123)	0.265**(0.131)	0.312**(0.140)	0.871***(0.315)
Org. & techn. changes	0.191**(0.093)	0.152 (0.112)	0.138 (0.120)	0.175 (0.129)	0.438 (0.341)
% concordant pairs (min-max)	60.3-67.7	60-68.1	65.2-70.8	69.6-75.3	
Sample	1	2	2	2	1
NAF16 (1 dig)	yes	yes	no	no	yes
NAF85 (2 dig)	no	no	yes	no	no
NAF185 (3 dig)	no	no	no	yes	no
Estimation method	Logit	Logit	Logit	Logit	Bi-probit

Source: REPONSE survey, 2004 cross-section. Notes: *, **, *** indicate significance at the 10%, 5%, 1% level, respectively. Controls include: establishment industry dummy (1-digit, 2-digit or 3-digit), establishment size (number of employees) and age, firm size (number of employees), dynamics of the activity (growth, stable, decline), presence of a union representative in the establishment, % of women (establishment level), % of managers and supervisors (idem), % of technicians and professionals (idem), % of clerks (idem), % of employees aged under 40 (idem), a dummy indicating whether the interviewed manager is in charge of human resource management, tenure of the interviewed manager.

We test whether our results are robust to changes in the control variables. In particular, we introduced into models 1-4 a dummy indicating whether equity capital is primarily held by a family. Indeed, a growing literature tends to show that family firms have a rather traditional, 'paternalist' approach in terms of Human Resource Management (see e.g. Sraer and Thesmar, 2007; Mueller and Philippon, 2007). We therefore expect family firms to provide workers with relatively few information. We find however that the conditional correlation between family ownership and information frequency is weak, having virtually no impact on point estimates for listed.

3.2. Endogeneity issue

The previous analysis makes no attempt to account for the potential endogeneity of stock market listing with respect to worker information. While 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 regulated market.

A first procedure to alleviate endogeneity concerns is to control for firm or establishment fixed effects. While the REPONSE survey contains a panel, with around 900 workplaces from the 1998 cross-section selected to be traced for re-interview in 2004, we do not use this strategy, for three different reasons. First, our theoretical analysis suggests that the relation between listing and information sharing is not time-unvarying, but rather depends on institutional features (corporate law, relationships between shareholders and managers) that evolve over time. This point is confirmed by our cross sectional analysis for 1998 (see below). Second and most importantly, using changes in ownership (firms that went listed and firms that became private) as a way to estimate the influence of listing on information raises serious concerns: besides impacting information flows, stock market listing or delisting has other important consequences for workers (higher uncertainty, in particular) that may interfere with new information standards. Third, estimating fixed effect model is problematic given that stock market listing has little variation over time (see e.g. Sraer and Thesmar, 2006, p.13; Villalonga and Amit, 2006, p.410; Cronqvist, Heyman, Nilsson, Svaleyrd and Vlachos, 2007, p.12), even with a long-difference of 6 years: only 16% of the establishments in the panel sample have delisted or became listed.

A second procedure to deal with endogeneity problems is to have an instrumental variables 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 since stock market listing enables to raise 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 effect on worker information. Our instrumental variable model is based on a recursive bivariate probit estimation as both our regressor (listing) and outcome variable (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 among regressors the predicted probability for listing.

Model 5 in Table 1 presents estimates of listing effects on worker information derived from the instrumental variable approach (with sample 1 and 1-digit industry dummy). These new results confirm the view that listed companies better inform their workers. Comparing with model 1, we observe that the point estimates of instrumental regressions are increased, suggesting that the logit model underestimates the positive effect of listing on information sharing.

3.3. Cross sections for 2004: the employee representative survey and the employee survey

Estimations from the worker representative survey (see Table 2) displays rather different results: for nearly all items, there is no significant conditional correlation between listing and worker representative's assessment on information quality. This conclusion is independent of the industry dummy that we use. For training, the point estimate is even negative in all models, albeit not significant at conventional level. Strategy is the only item for which there is a clear significant and positive conditional correlation, with estimated coefficient ranging from 0.296 (model 1) to 0.346 (model 2). Once again, family ownership has no impact.

Table 2 – Estimation results for the worker representative survey, REPONSE 2004

Point estimate (std errors) for 'listed' in logit models

	Model (1)	Model (2)	Model (3)
Strategy	0.296**(0.119)	0.346***(0.127)	0.302**(0.136)
Economic situation	0.215*(0.122)	0.292**(0.131)	0.213 (0.140)
Envir. & social consequences	0.183 (0.116)	0.215*(0.124)	0.152 (0.133)
Employment prospects	0.106 (0.120)	0.120 (0.127)	0.052 (0.136)
Wage prospects	0.138 (0.122)	0.182 (0.131)	0.188 (0.142)
Training opportunities	-0.060 (0.116)	-0.059 (0.125)	-0.173 (0.134)
Org. & techn. changes	0.089 (0.116)	0.135 (0.124)	0.080 (0.133)
% concordant pairs (min-max)	65.5-70.8	68.9-73.9	72.5-77.3
Sample	2	2	2
NAF16 (1 dig)	yes	no	no
NAF85 (2 dig)	no	yes	no
NAF185 (3 dig)	no	no	yes

Source: REPONSE survey, 2004 cross-section. Notes: *, **, *** indicate significance at the 10%, 5%, 1% level, respectively. Controls include: establishment industry dummy (1-digit, 2-digit or 3-digit), establishment size (number of employees) and age, firm size (number of employees), dynamics of the activity (growth, stable, decline), presence of a union representative in the establishment, % of women (establishment level), % of managers and supervisors (idem), % of technicians and professionals (idem), % of clerks (idem), % of employees aged under 40 (idem), tenure, mandate (union delegate or not), occupation and union affiliation of the interviewed worker representative.

Worker assessment (see Table 3) confirms and conciliates the global picture stemming from the manager and worker representative questionnaires. On the one hand, being employed in a listed company significantly increases the probability to be informed by managers, rather than not being informed[8]. Once again, we find that 'upper' items, most directly connected to stock market disclosure requirements (strategy and the economic situation) display the strongest point estimates (from 0.433 to 0.533 for strategy; from 0.414 to 0.476 for the economic situation). On the other hand, listing does not enhance the probability to be informed by worker representatives, except on strategy (a coherent result with worker representative perceptions), wage and employment evolution. Interestingly, point estimates for training opportunities are negative (albeit not significant) in models 2 and 3, a result that proves to be

[8] Note that we did not use the 3-digit industry indicator, that raised convergence issue in multinomial setting.

consistent with worker representatives assessment (see *supra*, Table 2). Finally, being informed by rumors (rather than having no information) is rather uncorrelated with stock market listing.

Table 3 – Estimation results for the employee survey, REPONSE 2004

Point estimate (std errors) for 'listed' in multinomial logit models

	Model (1)	Model (2)	Model (3)
Srategy			
Informed by hierarchy	0.533***(0.103)	0.494***(0.130)	0.433***(0.138)
Informed by worker rep	0.391***(0.141)	0.417**(0.170)	0.366**(0.182)
Informed by rumor	0.410***(0.129)	0.383**(0.159)	0.394**(0.169)
Economic situation			
Informed by hierarchy	0.476***(0.104)	0.428***(0.132)	0.414***(0.140)
Informed by worker rep	0.215*(0.129)	0.222 (0.158)	0.259 (0.169)
Informed by rumor	0.193 (0.132)	0.185 (0.168)	0.194 (0.178)
Envir.& social consequences			
Informed by hierarchy	0.262***(0.076)	0.199**(0.092)	0.170*(0.097)
Informed by worker rep	0.235**(0.095)	0.185 (0.113)	0.168 (0.121)
Informed by rumor	0.043 (0.113)	-0.089 (0.139)	-0.139 (0.148)
Employment prospects			
Informed by hierarchy	0.190***(0.072)	0.108 (0.087)	0.113 (0.092)
Informed by worker rep	0.252**(0.101)	0.198*(0.119)	0.216*(0.129)
Informed by rumor	0.103 (0.103)	-0.165 (0.124)	-0.179 (0.131)
Wage prospects			
Informed by hierarchy	0.258***(0.079)	0.205**(0.098)	0.178*(0.103)
Informed by worker rep	0.247***(0.085)	0.208**(0.102)	0.239**(0.109)
Informed by rumor	0.126 (0.119)	0.029 (0.147)	0.050 (0.156)
Training opportunities			
Informed by hierarchy	0.295***(0.075)	0.179*(0.092)	0.177*(0.098)
Informed by worker rep	0.016 (0.127)	-0.117 (0.152)	-0.127 (0.162)
Informed by rumor	0.145 (0.135)	0.015 (0.167)	0.046 (0.177)
Org. & techn. changes			
Informed by hierarchy	0.279***(0.072)	0.287***(0.087)	0.280***(0.092)
Informed by worker rep	-0.039 (0.155)	0.059 (0.182)	0.114 (0.197)
Informed by rumor	0.302**(0.118)	0.337**(0.145)	0.327**(0.154)
Sample	1	2	2
NAF16 (1 dig)	yes	yes	no
NAF85 (2 dig)	no	no	yes

Source: REPONSE survey, 2004 cross-section. Notes: *, **, *** indicate significance at the 10%, 5%, 1% level, respectively. Multinomial logistic regressions with 'not informed' as the reference category. Controls include: establishment industry dummy (1-digit or 2-digit), establishment size (number of employees) and age, firm size (number of employees), dynamics of the activity (growth, stable, decline), presence of a union representative in the establishment, % of women (establishment level), % of managers and supervisors (idem), % of technicians and professionals (idem), % of clerks (idem), % of employees aged under 40 (idem), tenure, occupation and union affiliation of the interviewed worker.

In sum, for 2004, there is evidence that workers in listed company do benefit from extra information, especially on items of interests for shareholders and potential investors. This information runs directly from managers to workers, rather than through the mediation of worker representatives as it traditionally does in French industrial relations.

3.2. Cross sections for 1998

Estimations run on the 2004 cross-section survey have been replicated on the 1998 survey. The objective is to test the existence of the positive conditional correlation between worker information and listing earlier in time, prior to a series of legal changes that have increased disclosure requirements for listed companies. Information disclosure to workers is estimated successively through the employer (manager) and the worker representative questionnaires, where questions strictly similar to 2004 have been posed (albeit with no mention to the environmental and social consequences of the activity).

Table 4 gives the estimation results for the manager survey. The difference with 2004 is striking: the conditional correlation between information frequency and listing is not significant for five items out of six. The positive relation only holds for information on the firm’s strategy, with coefficients ranging from 0.213 (model 1) to 0.359 (model 3). Using a 1-digit dummy or a 2-digit dummy for industry does not alter this result. As noted earlier, these estimations are strictly 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 re-ran our estimations in 2004 excluding the age structure of the workforce. Results hold very similar, with a global positive, significant correlation between listing and information frequency.

Table 4 – Estimation results for the Manager survey, REPONSE 1998

Point estimate (std errors) for 'listed' in logit models

	Model (1)	Model (2)	Model (3)
Strategy	0.213**(0.105)	0.265*(0.153)	0.359**(0.147)
Economic situation	0.104 (0.107)	0.137 (0.137)	0.146 (0.148)
Employment prospects	0.06 (0.104)	0.035 (0.135)	0.137 (0.145)
Wage prospects	0.037 (0.104)	0.093 (0.135)	0.123 (0.146)
Training opportunities	0.006 (0.113)	-0.087 (0.145)	-0.153 (0.156)
Org. & techn. changes	0.099 (0.104)	0.103 (0.134)	0.105 (0.143)
% concordant pairs (min-max)	59.4-66.3	61.1-64.5	65.7-70.4
Sample	1	2	2
NAF16 (1 dig)	yes	yes	no
NAF85 (2 dig)	no	no	yes

Source: REPONSE survey, 1998 cross-section. Notes: *, **, *** indicate significance at the 10%, 5%, 1% level, respectively. Controls include: establishment industry dummy (1-digit or 2-digit), establishment size (number of employees) and age, firm size (number of employees), dynamics of the activity (growth, stable, decline), presence of a union representative in the establishment, % of women (establishment level), % of managers and supervisors (idem), % of technicians and professionals (idem), % of clerks (idem), a dummy indicating whether the interviewed manager is in charge of human resource management, tenure of the interviewed manager.

Running parallel estimations on worker representative's assessment of the quality of information they get (Table 5), we find, once again, striking differences with 2004: while there was no statistical relationship between listing and information quality in 2004 (positive yet not significant point estimates), we observe, in 1998, that the coefficients are all negative (with the exception of training), with three out of six being significantly negative (for strategy, employment prospects and organizational and technical changes). Put differently, we certainly cannot conclude that in 1998 information to worker representatives is better in listed companies. We are rather led to the conclusion that being listed tends to deteriorate information quality.

Table 5 – Estimation results for the worker representative survey, REPONSE 1998

Point estimate (std errors) for 'listed' in logit models

	Model (1)	Model (2)
Strategy	-0.258*(0.138)	-0.353**(0.148)
Economic situation	-0.070 (0.147)	-0.166 (0.158)
Employment prospects	-0.308**(0.139)	-0.375**(0.151)
Wage prospects	-0.025 (0.143)	-0.025 (0.153)
Training opportunities	0.145 (0.143)	0.106 (0.153)
Org. & techn. changes	-0.331**(0.135)	-0.473***(0.146)
% concordant pairs (min-max)	64.3-70	69.2-74
Sample	2	2
NAF16 (1 dig)	yes	no
NAF85 (2 dig)	no	yes

Source: REPONSE survey, 1998 cross-section. Notes: *, **, *** indicate significance at the 10%, 5%, 1% level, respectively. Controls include: establishment industry dummy (1-digit or 2-digit), establishment size (number of employees) and age, firm size (number of employees), dynamics of the activity (growth, stable, decline), presence of a union representative in the establishment, % of women (establishment level), % of managers and supervisors (idem), % of technicians and professionals (idem), % of clerks (idem), tenure, mandate (union delegate or not), occupation and union affiliation of the interviewed worker representative.

Summing up, our empirical analysis on cross sections yields the following conclusion: the frequency/quality of information in listed firms is estimated to be (much) lower in 1998 than in 2004. According to the manager questionnaire, the positive conditional correlation found in 2004 is nearly nonexistent six years earlier. According to the worker representative survey, the correlation is rather negative in the end of the 1990s while it is non significant or positive by the mid-2000s. We therefore document a modification of the conditional correlation between listing and worker information over time, from a non existent or negative relation to a positive one. Cross section analysis, together with instrumental variables approach, back up the hypothesis according to which there has been a change in the way listing impacts information disclosure to workers. Because of stock market pressure and regulatory changes, worker information has improved in listed companies between 1998 and 2004, but not in private ones.

4. Conclusion

Demand for greater and better information disclosure in listed companies is a key component of the financialization process, in the U.S. as well as in Europe. *A priori*, workers are likely to support these requirements: as a non rival good, information may be used by all stakeholders to better control corporate executives and firm's strategy. In this paper, we have investigated whether workers have benefited from stock market pressure for transparency using an 'employer-employee-employee representative' linked dataset, representative of the French productive sector. The answer is positive. We find that worker information has improved in listed companies between 1998 and 2004, but not in private ones: while we find no positive conditional correlation between stock market listing and information frequency or quality in 1998, we observe a positive correlation in 2004. Our estimations further show that this extra-information flows directly from managers to workers rather than being mediated by employee representatives.

While this analysis highlights a positive aspect of the financialization process for labour, it also conveys a rather critical appraisal of another important face of this process: the development of leveraged buyout (or 'LBO') transactions, which typically entail the acquisition of control by one or more specialist financial firms over a formerly listed company, by means of intensive recourse to borrowed funds. Private equity in the form of leveraged buyouts (LBOs) expanded in significance throughout the 1980s to become a relatively mainstream practice of US corporate finance and governance by the end of the decade. The first decade of the 21st century witnessed the onset of a larger-scale and more globalised LBO movement, against the background of very low interest rates, buoyant equity markets after they had recovered from the ICT crash and a (temporary) revival in the international junk bond market.

Trade unions, in the US and in Europe, usually worry about the implications of private equity/LBOs, pointing both to the large scale restructurings that usually follow the completion of such transactions (so as to face debt constraint) and to the lack of transparency of private equity, as compared to listed company. By virtue of their de-listed status, private equity-controlled firms are exempt from the public company disclosure requirements. Our analysis stresses the fact that this exemption is not neutral for workers, that loose a significant part of the information they were able to gather beforehand. This analysis therefore supports the idea of a possible 'accountability deficit' within the private equity sector, whereby the activities of firms with large socio-economic impact can be effectively 'veiled' from public and worker inspection simply by means of removing their securities from stock market.

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APPENDIX (to be done)

Table A1: worker information, means of variables in 2004
(employer survey, employee representative survey, employee survey)

Table A2: worker information, means of variables in 1998
(employer survey, employee representative survey)

Table A3: firm and workplace characteristics, means of variables in 2004
(employer survey, DADS)

Table A4: individual characteristics, means of variables in 2004
(employer survey, employee representative survey, employee survey, DADS)