Strategic accounting choice around firm level labour negotiations

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Abstract

We study accounting choice around firm-level collective agreement negotiations. Prior literature argues that managers make income-decreasing accounting choices to reduce firm political costs and visibility and thus, limit the concessions made to trade unions during contract negotiations. However, empirical research to date fails to find evidence in support of this hypothesis. We expect that this lack of evidence is driven by the confounding effects of (i) methodological concerns and (ii) influential institutional factors. Using a sample of US firms that engage in firm-level labour bargaining during the period 1994-2007, we study whether managers act strategically in an attempt to reduce the proportion of firm wealth that is accrued to employees. Our findings suggest that managers take real rather than accounting actions to minimize payments. In particular, we find evidence consistent with (i) managerial strategic timing of the collective agreement negotiation and with (ii) increased conditional conservatism in the year of labour negotiation. We do not find evidence of earnings manipulation, potentially signalling that accounting choice around labour negotiations in the US is informative rather than opportunistic.

1. Introduction

Publicly held firms are increasingly characterised by the existence of private benefits of control. Institutional investors, managers or large block-holders can use these benefits to extract firm rents at the expense of other parties such as employees or minority shareholders (Dyck and Zingales 2004). Against this backdrop, firm-level collective agreement negotiations between the firm and its employees potentially leads to a redistribution of firm wealth, limiting the ability of controlling parties to extract private benefits. As a result, firms are predicted to act strategically to improve their bargaining position with labour, by for example, holding less cash to shelter corporate income from the demands of unions (Klasa et al. 2009).

Klasa et al. (2009) argue that by strategically holding less liquid assets, firms can gain concessions from employees as they can credibly make the case that the risk of liquidity shortages threatens the firm competitive viability. However, this strategy may prove harmful if the firm indeed ends up facing liquidity constraints. A potentially less costly alternative is to directly reduce income, by utilizing the flexibility inherent to accounting accruals calculation.

During contract negotiations, the different parties use financial statements information data to inform their demands and expectations and to predict firm viability, growth and wealth over the collective agreement horizon. Particularly, they use accounting earnings as a major input (Watts and Zimmerman 1986, DeAngelo and DeAngelo 1991).[1] However, accounting earnings need not always map into economic earnings. A large stream of empirical and analytical

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[1] Although firms do not prepare special information for labour negotiation purposes, both the FASB and the IASB recognise in their conceptual frameworks that employees and their representatives are external users of financial information (IASB 1989, FASB 1978).

literature demonstrates that conflicts of interests, coupled with the prevalence of information asymmetries among the different parties to the firm, results in the emergence of incentives to manage accounting numbers to conceal true economic performance (Healy and Wahlen 1999, Dechow and Skinner 2000).

In this paper, we study whether managers (who are ultimately responsible for the preparation of financial statements), attempt to minimize the percentage of firm rents that are accrued to employees. In particular, we analyse if they make use of the flexibility inherent to accrual calculations to artificially depress accounting earnings immediately before labour negotiations. We expect that this income-decreasing hypothesis hinges crucially on the *relative power* of employees vis-à-vis other parties. In turn, employee power is predicted to depend on two key elements: (i) the level of labour organization and unionizing, since unionized workers are stronger than single employees trying to separately renegotiate their contracts (Foner 1988, Mathias and Davis 1996); and on (ii) the perception of the parties of what is accrued to each: clearly, not all workers are expected to be equally costly to replace and concessions may be made to some classes of workers. Therefore, to the extent that employees are able to extract rents through negotiation and these rents are considered undeserved, management is expected to act strategically in an attempt to minimize the wealth impact of collective agreement bargaining.

Previous evidence on this area is scarce and presents conflicting evidence (and theories). In their seminal work on positive accounting theory, Watts and Zimmerman (1986) predict that managers make income-decreasing accounting choices to reduce firm visibility. This leads to the general predictions that managers decrease earnings prior to collective agreement negotiations to minimize payments to employees. However, the empirical evidence on the links between accounting choice and labour negotiations is generally inconclusive and appears to be sensitive

to the research method employed, as well as to the previously mentioned structure of the labour market, i.e., the unit of negotiation or the strength of trade unions in the setting under analysis. Early work on Anglo-Saxon countries by DeAngelo and DeAngelo (1991) finds evidence that unionized firms artificially deflate earnings prior to labour negotiations, whilst Liberty and Zimmerman (1986) fail to document income-decreasing manipulations in a similar setting, when using a different method to estimate accounting discretion.

In a European context, recent work by Mora and Sabater (2008) finds evidence of income-decreasing activity prior to collective agreement negotiations. In particular, in their Spain-based study, Mora and Sabater (2008) argue that the 'open shop' collective agreement system of continental European countries, jointly with these countries' institutional characteristics (historically more favourable to unionizing and employee rights movements), create incentives for managers to manipulate earnings downwards prior to firm-level collective agreement negotiations. Using discretionary accruals models, these authors find compelling evidence of strategic accounting choices around labour negotiations. Their research method (based on discretionary accrual modelling) had not been employed by the early studies that fail to find evidence of income-decreasing activity.

To shed light on the relative importance of research methods and institutional backgrounds in driving the results of prior accounting choice literature, we study a set of US firms that undergo firm-level labour bargaining (as opposed to industry- or nation- wide). We focus on the US as exemplifying an environment with institutional factors that make the depressing earnings hypothesis less plausible, being a country where traditionally the labour union movement has achieved relatively low power (Mathias and Davis 1996). This choice of setting permits

disentangling the identified potentially confounding effects.

We identify a sample of US firms that sign firm-level collective agreements in the period 1994-2007, and study strategic accounting choice around labour contracts by benchmarking our results against a matched control group. We run two set of tests. First, we look at the timing of the collective agreement negotiation (which we denote 'event'). If wealth is redistributed amongst the parties due to labour negotiations, then, these negotiations could be seen as analogous to exercising an option. Managers probably have discretion as to the period of negotiation and likely consider the net benefits for multiple future periods during their decision. In essence, it is expected that managers can estimate the net benefits of negotiating with employees in any given year and develop a preference concerning when to negotiate. Managers likely decide whether to negotiate in period t or to wait based on the estimated net benefits. We test this hypothesis using an event history model designed for diffusion processes (Reppenhagen 2009). Event history analysis is used to illuminate the process leading to the occurrence of an event (Box-Steffensmeier and Jones 1997), in contrast to traditional binary regression techniques (e.g. logistic, probit) that focuses only on the event itself (LeClere 2000). In addition, binary regression cannot handle the heterogeneous timing dimension of labour negotiation decisions without bias whereas event history models excel in that area.

The results from this test provide evidence in favour of the hypothesis that managers time their decision to negotiate with employees. In particular, we show that managers time the collective agreement negotiation when firm profitability and liquidity are low. This is consistent with the US evidence in Klasa et al. (2009) on the association between industry unionizing and cash holdings. Our evidence is also consistent with the relative strength of the different parties being important in determining when labour negotiations take place. We also show that

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collective agreement negotiation is positively related to the relative power of the employee base.

In a second set of tests, we study accounting choice around labour negotiations. We measure accounting choice in two related ways. First we look at abnormal accruals and cash flow behaviour around the event, using (i) abnormal accruals as calculated by the Jones (1991) model and its extensions, and (ii) abnormal cash flows as calculated by the Roychowdhury (2006) model. Second, we study conditional accounting conservatism (i.e., the asymmetric timing of gain and loss recognition) using the models proposed by Basu (1997) and Ball and Shivakumar (2005). The results from this second test are generally consistent with a depression of reported income around labour negotiations. However, this reduction in income appears to be informative rather than opportunistic. The evidence from the abnormal accruals modelling is weak and does not support the hypotheses of opportunistic income-decreasing. The results obtained from the conditional conservatism models suggests that conditional conservatism increases around collective agreement bargaining. This would mean that the identified reduction in reported income that is associated with contract negotiations appear to respond to informative rather than opportunistic motivations.

This paper contributes to literature on the determinants of accounting choice. In their review of the literature, Fields et al. (2001) call for further research on the determinants and consequences of accounting choice. These authors argue that despite its long history, this line of research has made limited progress in furthering our understanding. We also add to the literature on the motivations for earnings management, by using a methodology that permits shedding light on the previously considered confounding effects affecting prior research on labour bargaining of institutional factors vs. methodological choices. In particular, by using conditional conservatism models, we can better analyse if income decreasing accounting choices are driven by

opportunistic or informative (signalling) motivations. By studying accounting choice before the negotiation of firm-level collective agreements in an institutional context such as the US, we can analyse whether employee strength is a significant driver of accounting choice to avoid a transfer of wealth to the workers. We thus contribute to the understanding of results in prior literature and at the same time explore the role of differences in institutional factors between countries with diverse quality of earnings.

The remainder of the paper is organised as follows: Section 2 reviews the prior literature and presents the hypotheses, as well as describes the institutional characteristics of collective agreements in US, highlighting the differences with the continental European system. Section 3 presents the research design and describes the sample. Section 4 presents the main results of the paper, and finally, section 5 concludes.

2. Literature review and predictions

Prior literature proposes two theoretical approaches to the study of the association between managerial accounting choices and labour considerations: (i) the 'ability-to-pay' theory that was tested by the early studies, most of them focusing on Anglo-Saxon settings, and (ii) the more recent 'attract-and-retain' theory.

Broadly, the first perspective assumes that through labour negotiations employees can reduce the part of firm rents accrued to other parties. Because earnings are a key item to evaluate firm future outlook and profitability, the greater accounting earnings are, the greater the demands from trade unions and employees. In this setting, the onset of employee bargaining creates incentives to artificially deflate accounting earnings, to lower the firm perceived ability to pay high(er) wages, and thus, constrain employees' demands. This hypothesis links directly with the

influential 'political cost' hypothesis in Watts and Zimmerman (1986) positive accounting theory. Watts and Zimmerman (1986) predict that managers will reduce accounting earnings to reduce firm visibility. Large, profitable firms draw the attention of interested parties such as the press, politicians or employees. This attention, in turn, may lead to governmental intervention (by for example, imposing new regulations or caps on prices) or to greater concessions to employees during collective agreement negotiations.

Early work on this hypothesis by Liberty and Zimmerman (1986) argues that union members presumably do not completely adjust reported earnings for expected manipulations because such adjustments are costly and thus, thanks to income-decreasing manipulation, a lower transfer of wealth to the employees may be agreed upon. In their study, Liberty and Zimmerman (1986) analyse expense accruals in the period immediately preceding union wage bargaining. However, they fail to find results in support of their hypothesis. They suggest that this failure to obtain evidence may be due to economic wide recession in the period under analysis, or to managerial beliefs that unions can see through the manipulation and adjust earnings accordingly, rendering manipulation meaningless. As an additional explanation to their (lack of) results, Liberty and Zimmerman (1986) indicate that it is likely that the method employed to proxy for income-decreasing manipulation is incapable of measuring it without error. Evidence in Mora and Sabater (2008) highlights that this last problem could be an important issue, as the Liberty and Zimmerman (1986) study was conducted before the development of the earnings management literature on discretionary accruals modelling.

Subsequent work by DeAngelo and DeAngelo (1991) and Mautz and Richardson (1992) finds only weak evidence in favour of patterns in expenses associated to the timing of labour negotiations. In a slightly different setting, later studies, such as Scott (1994) or Cullinan and

Knobett (1994) also find weak evidence of an association between labour union intensity and accounting strategies. The recent Canada-based study of Cullinan and Bline (2003) analyses the association between labour considerations and the choice of depreciation policies. They find no evidence that unionization is associated with depreciation policy choice. Cullinan and Bline (2003) argue that the general lack of evidence in this line of research is driven by the fact that labour negotiations are relatively infrequent, and thus, other common incentives for income-increasing manipulation override the income-decreasing motives. In line with this argument, extant literature on earnings management demonstrates that managers face income-increasing incentives derived from compensation and debt contracts, or from meeting and beating simple accounting targets, such as beating analysts' forecasts or prior period earnings (Burgstahler and Dichev 1997, Degeorge et al. 1999).

Recent related work by Klasa et al. (2009) analyses whether unionized industries strategically hold less cash to gain concessions from employees. Klasa et al. (2009) argue that by strategically holding less liquid assets firms can credibly make the case that the risk of liquidity shortages threatens the firm competitive viability. This US-based study is one of the few that has found evidence in support of strategic decision making around labour negotiations, although their evidence refers to real rather than accounting choices.

With regards to the 'attract-and-retain' hypothesis, it is argued that in certain settings managers choose income-maximizing accounting policies to reassure their employees of firm financial strength (Bowen et al. 1995, Cullinan and Bline 2003). This hypothesis clearly applies to settings where it is possible to differentiate amongst classes of workers, as well as in settings (industries or firms) characterised by the presence of highly qualified workers that are difficult to replace. Mora and Sabater (2008) argue that in Anglo-Saxon countries salaries are commonly

negotiated directly with individuals, instead of via the signature of a collective agreement. Clearly, in the absence of collective negotiations, the incentives to reduce accounting earnings are attenuated, as (i) employees are unlikely to have sufficient power to individually demand increases in salary or other benefits; (ii) each individual contract signed represents an insignificant proportion of total firm wealth, and (iii) there is no single event when all or most labour contracts are negotiated at once. This is particularly the case in a context such as US, where even the signature of a collective agreement does not apply to all workers, but only to those unionized. Under these circumstances, labour negotiation, even if it results in increases in salaries, does not represent an event that creates sufficient incentives to override the more generally prevailing income-increasing motivations.

Hence, institutional factors are expected to be a significant driver of accounting choice around labour negotiations. Work by Harris et al. (1994) and García Lara et al. (2005), while not directly testing their predictions, argues that income-decreasing practices in countries like Germany are partially motivated by the strength of labour unions. In addition, prior research by Leuz et al. (2003) or Ball et al. (2003) demonstrates that institutional factors significantly drive cross-country differences in accounting quality (and choices). In the next section, we discuss in more detail how institutional factors may influence accounting choice.

2.1. Collective agreement negotiations and institutional background

The relationships between managers and workers, companies and employees or capitalists and proletarians are considered central to the modern process of economic growth. Economic historians generally consider that different countries and economies have experienced different patterns of growth and followed different paths to establish modern economics, resulting in

differing company and labour organization systems (Mathias and Davis 1996). In fact, nowadays, both the coverage rate of collective bargaining and the legal rules that mandate labour negotiations vary across countries.

Collective bargaining across continental European countries is commonly organized under an 'open-shop' rule. In an 'open-shop' system, labour contract agreements and concessions are extended to all workers within the scope of the agreement, independently of their union status. Collective bargaining in these systems is often structured in multiple levels of negotiation, at the national-, industry- and firm- levels. Generally, an important feature of labour negotiation in these systems is that firm-level agreements cannot contradict the terms of industry- or national-level agreements. Thus, *de facto*, industry agreements establish a second layer of minimum wages (above the national statutory minimum) which can only be revised downwards by firm-level agreements under special circumstances. Hence, a salary increment agreed at the firm-level is almost always inevitably higher than the industry-level agreement. According to most pundits (and, even, union officials), firm-level bargaining is almost exclusive of large (visible) firms that supposedly have the income and capacity to pay higher wages. Appendix 1 summarises the main differences between the 'close shop' and the 'open shop' systems.

The study of Mora and Sabater (2008) is a good example of analysis of labour negotiation in an 'open-shop' system. In Spain, collective bargaining is a worker's right recognized by constitutional law and in the Workers' Charter, in effect since 1980. This right is exercised by the election of representatives by all workers in the company, who may not belong to unions. Workers' representatives constitute work councils which are entitled to negotiate salaries and employment conditions at the firm-level. For example, work councils may call strikes in support of their demands, which is a distinctive feature of their system of collective bargaining not

present in many other countries (Rogers and Streek 1994).

In the 'close-shop' system common in Anglo-Saxon countries, only unionized workers are affected by contract agreements. In this system, labour negotiation is structured in a single level of bargaining: at the firm-level, and it is common for individual employees to negotiate their salaries and work conditions independently of other workers. One of the main differences between 'open-shop' and 'close-shop' systems is that in a 'close-shop' system the concessions and conditions agreed upon in the bargaining process only apply to unionized workers. This reduces the overall effect on company earnings of an increase in wages. Thus, it is less likely that managers will attempt to artificially depress earnings in a firm operating in a 'close-shop' system, as the net benefits of such an action are unclear, particularly in the presence of overriding motivations to meet earnings targets or avoid debt-covenant violations.

As previously mentioned, because of the potentially confounding effects that could cause the lack of empirical support for the income-decreasing hypothesis proposed by Watts and Zimmerman (1986), we focus on US firms. In general terms, the US system of collective bargaining fits with the outline of the Anglo-Saxon 'close-shop' model of collective bargaining, where collective bargaining can only cover agreements at the firm level. For example, according to the Bureau of Labor (2009), the percentage of unionized workers in the US is relatively low (10-15%), and the coverage of collective bargaining is around 14%. The US has the smallest difference between the unionization rate and the coverage rate of collective bargaining of any country in the World. The organization of bargaining around a 'closed-shop' system, together with the extension of collective agreement concessions only to unionized workers, explains the small difference between these two rates. Clearly, the incidence of formal firm-level bargaining is lower than the incidence of individual salary and working conditions negotiations, as only

about 14% of employees are covered by firm-level collective agreement.

Firm-level collective agreements in the US have a limited life. Their conditions can be renegotiated. It is rare for the workers to exert pressure to renegotiate the agreement because they cannot call for strikes in support of their demands, as strikes are held only by referendum. Normally, the parties make the decision to negotiate (or renegotiate) an agreement at least one year before the signature. This (re)negotiation of the conditions may last several months (and span different years), during which the company gives the workers relevant information on current and future performance. To start negotiations both parties must be informed to plan their strategies and time their actions. The very fact that a firm signs a collective agreement signals the strength of its employee base as a pressure group, particularly in a country such as the US, where traditionally, trade unions are not as well organized or powerful as in other countries like France or Germany. To the extent that this process reduces the share of managers, debt-holders, shareholders and other parties in the firm's wealth, it is expected that managers may intercede in the bargaining process to lower the percentage of firm's rents that are distributed to the employees. We test two interlinked hypothesis, the first one related to the timing of the bargaining process:

H1: Managers strategically time collective agreement negotiations to limit the transfer of wealth to employees.

During contract negotiations, workers may have limited access to private information, but commonly, the information used to inform their demands and expectations comes mainly from the (prior) annual and (current) quarterly financial statements published by the company. Based on the previously discussed theories and evidence, we formulate a second hypothesis related to

accounting choice around contract negotiations:

> *H2: Managers make strategic accounting choices to reduce corporate income before*
>
> *collective agreement negotiations thereby limiting the transfer of wealth to the employees.*

3. Method and sample

In this section, we describe the empirical method and data used to test our predictions. We study managerial strategic actions around firm-level bargaining with employees (in the form of collective agreements). In our empirical tests, we run two set of analyses. First, we model the timing of firm collective agreement negotiations, conditional on its corporate finance structure. Second, we study the relationship between labour bargaining in a given year (the event, henceforth) and accounting quality in the years that surround this event. If firm stakeholders are reluctant to share firm wealth with employees, on aggregate, we should observe (i) a strategic timing of the collective agreement negotiation; and (ii) lower (abnormal) earnings and delayed economic gains recognition before the event, to minimize the wealth transferred to employees.

3.1. Collective agreement negotiations timing

We estimate the following event history model relating the signature of a collective agreement to a set of corporate variables, firm visibility, performance, and a vector of dummy variables that control for industry membership and year:

$$CollAgr_{it} = \gamma_0 + \gamma_1 CEOInf_{it} + \gamma_2 Lev_{it} + \gamma_3 ROA_{it} + \gamma_4 Nemp_{it} + \gamma_5 MKTB_{it}$$
$$+ \gamma_6 Cash_{it} + \gamma_7 Visibility_{it} + \sum_{k=1}^{K} IND_{kit} + \sum_{k=1}^{J} YR_{jit}, \qquad (1)$$

where *CollAgr* takes the value of 1 if firm *i* signs a collective agreement in year *t* ($event_{it} = 1$)

and 0 if firm *i* does not sign a collective agreement in year *t* ($event_{it} = 0$); *CEOInf* is an indicator variable that takes the value of 1 if the CEO of the firm is also the chairman of the board of directors, 0 otherwise; *Lev* is financial leverage calculated as the value of total debt to total assets. We define *CEOInf* and *Lev* so that greater values of these variables are associated to more power from stakeholders other than employees. We expect that the greater the power of other stakeholders vis-à-vis employees, the more likely it is that the agreement will be strategically timed.

As additional variables in model (1) we incorporate *ROA*, *Cash*, *Nemp* and *Visibility*. *ROA* is the return on assets measured as the ratio of net income to total assets; *Nemp* is the natural logarithm of the number of employees; *MKTB* is the market-to-book ratio; *Cash* is cash and cash equivalents divided by beginning-of-period total assets; and *Visibility* is a vector of variables that measures firm visibility. Specifically, we consider a) *SIZE*, measured as the natural logarithm of firm assets; b) *Leader,* an indicator variable that takes the value of 1 if the ratio of annual changes in firm sales to industry change in sales is in the top quartile of the annual distribution, 0 otherwise; and c) *Perform,* a variable measuring prior firm performance that takes the value of 1 if the firm has had positive earnings in each of the past three years, 0 otherwise. Finally, we incorporate industry dummies (*IND*) and year (*YR*) fixed effects in the model.

If managers time their decision to negotiate with workers to reduce the share of employees in firm rents, it is expected that they will bargain in periods with low *ROA* and *Cash*, and will be less likely to negotiate after periods of consecutive growth (*Perform*=1), to minimize payments to employees. On the contrary, they may be obliged to negotiate when the employee base is greater, or they hold a position of leadership in their industry (visibility is high).

3.2. Accounting choice surrounding collective agreement negotiations

An alternative to timing the decision to negotiate with employees when corporate performance is low is to directly reduce corporate income. Managers can reduce the employees' share in firm profits is by reducing earnings. We study whether this is the case using two set of tests. First, we look at the evolution of firm abnormal accounting accruals in the years surrounding labour bargaining. If earnings are artificially depressed in the years leading up to the event, we should observe lower abnormal accruals in the years prior to the signature, and greater abnormal accruals after the event, when prior years' abnormal accruals reverse.

Second, we study the level of conditional accounting conservatism around the event. Conditional conservatism is the consequence of the asymmetric verifiability requirements for the recognition of gains and losses that results in earnings that reflect bad news (losses) in a timelier fashion that good news (gains). This property of accounting earnings is referred to as the asymmetric timeliness of earnings (Basu 1997) or conditional conservatism (Beaver and Ryan 2005). Although a significant part of conditional conservatism is driven by accounting regulation, there is also scope for discretion: managers can time the recognition of certain gains and losses, thereby increasing or reducing conditional conservatism in any given year. We study whether managers are more likely to delay the recognition of gains and more likely to timely recognise losses, thereby increasing conditional conservatism (and lowering earnings, in this case, for informative purposes) around the signature of a collective agreement with employees.

3.2.1. Earnings management tests

The literature essentially distinguishes two accounting mechanisms used to manage accounting earnings: (i) changes in accounting method; and (ii) timing the allocation of revenues

and expenses. The first mechanism is clearly more visible. It is unlikely that managers change accounting procedures during contract talks since these manipulations are easily observed, and the repeated game nature of labour contracts necessitates switching back to the previous procedure after the talks (Liberty and Zimmerman 1986: 695). Thus, we focus on the second mechanism and study accounting accruals and cash flow behaviour.[2]

Accounting accruals are defined as the difference between earnings before extraordinary items and discontinued operations, and cash-flow from operations. Accruals adjustments reflect business transactions that affect future cash flows (for which cash has not yet changed hands). Under generally accepted accounting principles, firms have discretion to recognize these transactions so that reported earnings reflect the true underlying business condition of the firm. However, managerial flexibility in calculating these accruals opens up opportunities for opportunistic earnings management.

In our second set of tests, we study whether firms that sign a collective agreement artificially depress earnings to lower the amount of firm rents that are transferred to employees by using income-decreasing accounting accruals. Extant research on earnings management calculates abnormal accruals using the Jones (1991) model in cross-section, to improve the estimation of the parameters, as suggested by DeFond and Jiambalvo (1994). The Jones model uses the unexplained part of a regression of total accruals on the change in revenue and gross property, plant and equipment as a proxy for abnormal accruals. We deviate from the basic Jones model for two reasons. First, we focus on analyzing working-capital accruals because current research indicates that management has the most discretion over current accruals, and that manipulation

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[2] Most of the previous evidence on the effect of labour agreements on earnings management focuses on the first mechanisms.

of long-term accruals such as depreciation, is unlikely due to their high visibility and low

flexibility (Becker et al. 1998, Young 1999). Second, we employ the Kasznik (1999) model,

which differs from the standard Jones model in that it incorporates the change in operating cash

flow as an explanatory variable to take into account the negative correlation between accruals

and cash flow from operations (Dechow 1994). To check the robustness of the findings, we also

use the Jones (1991) and the modified Jones model (Dechow et al. 1995).

To obtain a measure of abnormal working capital accruals for all firms in industry j for year

t, we estimate the Kasznik model cross-sectionally for all industry-year combinations with at

least 6 observations of data, as follows:

$$\frac{WCA_t}{TA_{t-1}} = \alpha_0 \left[\frac{1}{TA_{t-1}} \right] + \alpha_1 \left[\frac{\Delta REV_t}{TA_{t-1}} \right] + \alpha_3 \left[\frac{\Delta CFO_t}{TA_{t-1}} \right] + \varepsilon_t, \tag{2}$$

where, WCA is working capital accruals, ΔREV is change in sales, ΔCFO is change in cash

flow from operations and TA are total assets, and t is the time-period indicator. Next, for each

firm, we calculate abnormal working capital accruals ($AWCA$) as:

$$AWCA_t = \frac{WCA_t}{TA_{t-1}} - \left(\hat{\alpha}_0 \left[\frac{1}{TA_{t-1}} \right] + \hat{\alpha}_1 \left[\frac{\Delta REV_t - \Delta REC_t}{TA_{t-1}} \right] + \hat{\alpha}_3 \left[\frac{\Delta CFO_t}{TA_{t-1}} \right] \right), \tag{3}$$

where, $\hat{\alpha}_0$, $\hat{\alpha}_1$ and $\hat{\alpha}_3$ are the fitted industry-coefficients from equation (2) and ΔREC is the

change in accounts receivable. To run models (2) and (3) all available observations are used,

including firms that sign a collective agreement, to avoid introducing biases in the analysis.[3]

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[3] The estimation is made based on a set of over 35,000 firm-year observations for the considered sample period.

To obtain abnormal accruals measures using the modified Jones model, we use the same procedure, but we do not include ΔCFO as an additional variable in models (2) and (3). Finally, to estimate abnormal accruals using the original Jones model, we follow this last procedure (i.e., exclude ΔCFO from the models), but without subtracting change in accounts receivable from change in sales in the second step and adding as an additional regressor PPE (gross property, plant and equipment scaled by lagged total assets)..

Once we have obtained a measure of discretionary accruals, we study the association between collective agreement negotiation and earnings quality as follows:

$$AWCA = \beta_0 + \beta_1 Event + \beta_2 SIZE + \beta_3 MKTB + \beta_4 Lev + \beta_5 CFO +$$
$$\beta_6 IssDEBT + \beta_7 IssEQ + \sum_{k=1}^{K} IND_{kit} + \sum_{j=1}^{J} Yr_{jit} + \mu_t, \qquad (4)$$

where *Event* takes the value of 1 if the firm signs a collective agreement during the year, 0 otherwise. As control variables, we include in model (4) a set of variables that may influence the size and sign of accruals but that are not expected to be related to the event. *MKTB* is the market-to-book ratio calculated as the ratio of year-end market value of equity to the year-end book value of shareholder's equity. The greater *MKTB* is, the greater the investment opportunities available to the firm. Firms that operate in high *MKTB* industries are expected to have a greater proportion of highly qualified (and difficult to replace) workers, and be more likely to take measures in an attempt to retain their employees. *CFO* is cash flow from operations divided by beginning-of-period total assets. *IssDEBT* (*IssEQ*) is an indicator variable of whether the firm issued debt (equity) in the year, to proxy for debt (equity) issuances, we create a dummy variable that takes the value of 1 if there is an increase of over 10 per cent in the value of outstanding debt (equity capital), 0 otherwise. All other variables as measured as before.

When running model (4), we are interested in studying the evolution of accounting quality surrounding the event, thus, we run the model from year t-1 to t+1, where t is the event year. If firms artificially depress earnings, we expect that β_1 will be negative when we run model (4) in t and t-1, and a positive in year t+1, indicating that firms that sign a collective agreement in year t, depress earnings and there is a reversal of previously negative accruals after the event.

As an additional analysis, and given the evidence in Klasa et al. (2009) of strategic cash holdings, we also look at abnormal cash flow behaviour. Earnings are the sum of cash flows and accounting accruals, thus, to manage earnings, it is conceivable that both components could be manipulated. In fact, the recent survey conducted by Graham et al. (2005) suggests that US-based CFOs and CEOs may in fact prefer to manipulate earnings through the use of real (vs. purely accounting) actions. We estimate abnormal cash flows (*AbCFO*) using the Roychodhury (2006) model. Similar to the calculation of abnormal accruals in equations (2) and (3), the first stage consists of deriving normal cash flow activity. We run the following cross-sectional regression for every industry-year combination with at least 6 observations of data:

$$\frac{CFO_t}{TA_{t-1}} = \beta_0 \left[\frac{1}{TA_{t-1}} \right] + \beta_1 \left[\frac{REV_t}{TA_{t-1}} \right] + \beta_2 \left[\frac{\Delta REV_t}{TA_{t-1}} \right] + e_t \tag{5}$$

where all variables are defined as before. For every observation, abnormal cash flow (*ACFO*) is obtained by subtracting from actual firm *CFO* the normal *CFO* calculated using the estimated $\hat{\beta}$ coefficients from equation (5). The procedure is the same as the one previously explained.

3.2.2. Conditional conservatism tests

Our proxy of conditional conservatism is based on Basu's (1997) measure. Under conservative accounting, earnings capture bad news faster than good news because of the

asymmetric standards of verification for losses and gains. Basu uses stock returns to proxy for good and bad news. Stock prices incorporate all information arriving to the market from multiple sources, including reported earnings, in a timely fashion. Therefore, stock price changes are a measure of news arrival during the period. Because earnings are timelier in recognizing bad news than good news, Basu expects to find a higher association of earnings with negative returns (the bad news proxy) than with positive returns (the good news proxy). We use Basu's regression as follows:

$$X_t = \beta_0 + \beta_1 D_t + \beta_2 R_t + \beta_3 D_t R_t + \mu_t, \tag{6}$$

where X_t is earnings before extraordinary items and discontinued operations, deflated by the firm's market value of equity at the beginning of the period. R_t is the annual stock rate of return of the firm. D_t is a dummy variable that equals 1 in the case of bad news (negative or zero rate of return) and 0 in the case of good news (positive stock rate of return). The coefficient β_3 measures the level of asymmetric timeliness —of conditional conservatism— and it is expected to be positive and significant. The greater β_3 is, the more conditionally conservative firms are. We augment the Basu model to incorporate the signature of a collective agreement as follows:

$$\begin{aligned} X_t = \beta_0 &+ \beta_{01} Event + \beta_1 D_t + \beta_{11} D_t Event_t + \beta_2 R_t + \beta_{21} R_t Event_t \\ &+ \beta_3 D_t R_t + \beta_{31} D_t R_t Event_t + \sum \psi_t Yr + \mu_t \end{aligned} \tag{7}$$

where *Event* is our indicator that the firm has signed a collective agreement during the year, and all other variables are defined as before. We run model (7) separately for years *t*-1 to *t*+1. If firms reduce earnings around the signature of a collective agreement, we expect that they will be more conditionally conservative than their counterparts in *t*-1 and *t*. Then, once previous accounting unravels after the event, these firms may appear to be less conservative in *t*+1. These

effects are captured by the β_{21} and β_{31} coefficients in model (7), the main coefficients of interest.

3.2.3. Alternative test of conditional conservatism

Because of concerns with the reliability of the Basu (1997) measure (Dietricht et al. 2007), as a robustness check, we rerun our analysis using an alternative measure of conditional conservatism. In particular, we use the measure from Ball and Shivakumar (2005), which does not require market values to estimate good and bad news. These authors develop a model to measure timely incorporation of gains and losses in accounting income 'as the tendency for increases and decreases in earnings to reverse' (p. 92). We estimate their model for our sample:

$$\Delta NI_t = \phi_0 + \phi_1 DNI_{t-1} + \phi_2 \Delta NI_{t-1} + \phi_3 DNI_{t-1} * \Delta NI_{t-1} + \varepsilon_t, \tag{8}$$

where ΔNI_t (ΔNI_{t-1}) is change in net income from fiscal year t-1 to t (t-2 to t-1), scaled by beginning-of-period total assets. DNI is a dummy variable that takes the value of 1 if the prior-year change in net income is negative; 0 otherwise.

As described by Ball and Shivakumar (2005: 92), 'if gains are recognized in an untimely (smoothed) manner, they will be persistent components of net income that tend not to reverse and thus, ϕ_2 will be equal to zero'. That is, under conservative accounting, they expect $\phi_2 = 0$. If managers choose aggressive accounting methods and foster good news recognition, positive income changes will behave as 'temporary earnings components that tend to reverse'. Regarding economic losses, their timely recognition implies that 'they are recognized as transitory income decreases, and hence reverse' (Ball and Shivakumar, 2005: 92). As they show, the implication is that ϕ_3 will be negative. Hence, the more negative ϕ_3 is, the more temporary bad news are, indicating increased conditional conservatism.

To summarise, we expect to observe an association between labour negotiations and low corporate earnings, to reduce the concessions made to employees in the bargaining process. Our first set of tests looks at the timing of the bargaining decision. It is predicted that managers will negotiate when earnings are low, but this low earnings could be the product of accounting choice. In our second set of tests, we analyse whether this is the case. We try to understand if managers artificially depress earnings at the onset of negotiations, or if they prefer to simply time the negotiation when earnings are low (for economic reasons). In our second set of tests, we separately study the possibility that earnings are low for opportunistic (earnings management tests) vs. informative (conditional conservatism tests) reasons. Managers can make income-decreasing accounting choices around contract negotiations that need not be opportunistic. They can be related to economic shocks to the firm that are relevant for the contract negotiation and to inform the expectations of employees of firm growth, performance and viability.

3.3. Sample and data

We identify firms quoted on the New York Stock Market that negotiate a firm level collective agreement between 1995 and 2007. These agreements are voluntary and their periodicity in the sample varies from 3 to 7 years. The information regarding contract negotiations was drawn from the Office of Labor-Management Standards. First, we collect information on US firms with firm level collective agreements from the Office of Labor-Management Standards from the US Department of Labor. We identify 120 listed firms that negotiate a firm-level labour agreement during the period 1995-2007. To ensure the validity of the information we analyze the full text of each agreement. To be included in the sample labour contracts identified in the register must meet the following criteria: (1) the company's annual

earnings data is available for the year before the negotiation takes place (t-1) , negotiation year (t) and the following year (t+1); (2) the company has no merger processes, splits or any other relevant issue on the event year; and (3) the company does not belong to the financial and insurance sectors.

In total, we identify 75 firms that meet the data requirements. For each of these firms, we identify a matching firm (that did not sign a collective agreement in the same year) by industry, size and number of employees. Accounting and market data necessary to run the tests are downloaded from the *Extel Financials* database, which also contains data on firm CEO, President and chairman of the board. We only retain firms that have full data available to run the tests. This leads to a final sample of 150 firms (75 pairs). Panels A and B of Table 1 show the distribution of the event sample among the different industries and years. From Panel A we can observe that nearly 50% of the observations belong to five industries (Automobile and parts, Electricity, Electronic & Electrical, Food producers and Telecommunication services).

This industry concentration is in line with the information provided by the Bureau of Labor Statistics of the US (2009). According to the Bureau of Labor, in the US there are wide differences in the rate of unionizing by industry. The percentage of union affiliation is generally higher in the public sector. Within the private sector, affiliation rates in 2007 ranged from 41.5% in 'Education, training and library occupations' or 37,2% in 'Protective services' to just 2.4% in 'Financial activities'. As shown in Appendix 2, there is a positive association between increases in weekly wages and the rate of unionizing (i.e., percentage of all workers who are members of a labour unions or a employee association similar to a union as well as workers who report no union affiliation but whose jobs are covered by a union or an employee association contract).

On average, in 2007, unionized workers earned each week 131$ more than non-unionized workers (22% increase in wages). In the 'Financial Activities' industry, unionized workers actually earn less than those not represented by unions (7% less on average), whilst in 'Education, training and library occupations' and 'Protection services' the unionized workers earned 29% and 56% more than their non-unionized counterparts, respectively. From these statistics, it is clear that there is a positive relation between percentage of workers unionized in a given industry and weekly wages, as expected. The Pearson correlation coefficient between the percentage of unionizing and the increase in weekly wages is of 0.38. From this data however, it is difficult to tell if workers join unions because of the higher salaries available to those who are unionized, or alternatively, if unions that represent a larger proportion of workers are capable of obtaining greater concessions (and wages) in dealings with management.

Tables 2 and 3 provide sample descriptive evidence and Pearson correlation coefficients amongst the variables, respectively. The descriptive evidence is consistent with prior research. In particular, it can be observed that discretionary accruals and cash flows are on average close to zero. This is as expected, since these abnormal accruals and cash flows are the residual term from running models (2), (3) and (5) for the full sample of firms with valid data available (between 35,000 and 40,000 firm-year observations, depending on the model).

4. Results

Table 4 presents results of running model (1) first for the full sample, and then, for a restricted sample of 897 firm-year observations where we only consider years t-4 to t+1.[4] If

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[4] Commonly, studies analysing financial health show that the properties of accounting numbers start to differ from five years prior to the event (Beaver 1966).

managers time their decision to negotiate with workers to reduce the share of employees in firm rents, it is expected that they will bargain in periods with low *ROA* and *Cash*, and will be less likely to negotiate after periods of great growth (*Perform*=1), to minimize payments to employees. The evidence presented in Table 4 confirms the predictions with regards to *ROA* and *Cash*. In particular, *ROA* and *Cash* are significantly negative across all model specifications.

On the contrary, managers may be obliged to negotiate when the employee base is greater, or they hold a position of leadership in their industry (visibility is high). In agreement with this view, *Nemp* and *Leader* are significantly positive across all model specifications, confirming that employee power is positively associated to collective agreement signature. The evidence also confirms that greater leverage is associated to lower incidence of collective agreement negotiations. *LEV* is negative across all model specifications and is significantly negative for the restricted sample tests.

A slightly surprising result is the negative coefficient on *SIZE*. Clearly, *SIZE* and *Nemp* are relatively sticky variables that change slowly over time, and as shown in Table 3, there is a large significant correlation between them. As a robustness check, we recalculate *SIZE* by creating a size variable orthogonal to *Nemp*. To do so, we regress *SIZE* on *Nemp* in a first stage, and then, we repeat the analysis in Table 4 replacing *SIZE* by this new measure of size that is orthogonal to the employee base. The results are qualitatively the same, with the exception of *Perform*, which becomes significantly negative in this model estimation. This negative and significant coefficient on *Perform* is as predicted: if managers are able to strategically time negotiations, they will prefer to bargain with workers in periods when visibility is low (*Perform* is an indicator variable that takes the value of 1 if the firm has had positive earnings in the past three years, 0 otherwise).

Regarding abnormal accruals and cash flows around labour negotiations, Figure 1 Panels A to D provides a graphical view of evolution of these figures (*ATACC*, *AWAC1*, *AWAC2* and *AbCFO*), as well as of *Cash* and *ROA*. Panels A and B present evidence for the event firms, and Panels C and D for the non-event firms. Visually, the evidence in Panel A suggests a certain decline in abnormal accruals in year *t*. The evidence in Panel B suggests a moderate increase in *ROA* and *Cash* after year *t*, preceded, in the case of *ROA* by a prior decline from *t*-4 to *t*-1. The graphical representation of *ATACC*, *AWAC1* and *AWAC2* is u-shaped in years *t*-1, *t* and *t*+1. This evidence could be consistent with a certain depression of earnings surrounding labour negotiations, in agreement with the income-decreasing hypothesis. It should be noted however, that this graphical regularity is not centred on *t*-1, as in Mora and Sabater (2008), but on *t*. This may be indicative of different usage of accounting data in collective agreement bargaining in the US. Unions may use quarterly data or management forecasts of future performance to better estimate growth and performance over the collective agreement negotiation, leading to a depression of earnings in the same year of the negotiations. Alternatively, management may try to limit concessions to employees by providing more timely information on present and future economic losses. No discernible pattern can be observed with regards to *AbCFO* in Panel A, or in Panels C and D (the non-event subset).

Table 5 presents results of running model (4) between *t*-1 and *t*+1. We use as dependent variables first the two abnormal working capital accruals measures (*AWAC1* and *AWAC2*) and then, the abnormal cash flow measure (*AbCFO*). All regressors are identical in the models with the exception of *CFO* and *TACC*, which are only used in the abnormal accruals and abnormal cash flows regressions, respectively.

In model (4) the main coefficient of interest is *Event*, which takes the value of 1 if the firm

has a collective agreement negotiation. In the presence of income-decreasing earnings management, we should observe lower accruals prior to the negotiation (in t-1 and t), and greater accruals after the negotiation (t+1). The evidence however does not support this hypothesis. We fail to find evidence of any significant pattern in the evolution of abnormal accruals and abnormal cash flows for the periods from t-1 to t+1. The results presented in Table 5 are generally consistent with prior work in the literature of earnings management, with respects to the sign and significance of the coefficients as well as to the goodness-of-fit of the model.

Therefore, we fail to find evidence of income-decreasing opportunistic earnings management surrounding collective agreements negotiations, much like the prior literature. This failure to obtain evidence of downwards earnings management cannot be attributed to methodological concerns, as argued in Mora and Sabater (2008), as we follow the recent stream of literature in this area in calculating abnormal accrual behaviour. The evidence in Table 4 is consistent with the overriding and time-continued income-increasing motivations dominating any incentives to manage earnings downwards during contract negotiations. These results indicate that likely, the institutional setting in the US creates more incentives for income-increasing than income-decreasing manipulation, even in periods of greater political and visibility costs, such as the ones analysed in this study.

In our final set of tests, we analyse the evolution of conditional conservatism around labour negotiations. Table 6 Panel A presents the results obtained from running model (7) (the Basu model) separately for the periods t-1, t and t+1. We are interested in whether there is evidence of increased conditional conservatism before and during labour negotiations (in t-1 and t). If conditional conservatism increases, it would indicate that the observed association between lower earnings and labour negotiations is driven by economic events, i.e., managers recognise

losses on a timely basis to increase the informativeness of earnings for collective bargaining with the employees. The results presented in Table 6 Panel A are consistent with this hypothesis. We observe increased conditional conservatism for the subset of event firms in both t-1 and t. Specifically, in period t-1, the main coefficient of interest (the bad news coefficient) is significantly positive for the event firms ($\beta_3+\beta_{31}=0.201$, p-val=<0.01), and greater than for the non-event firms ($\beta_3=0.158$, p-val=0.02). The same holds true for period t, where the bad news coefficient is also significantly positive for the event firms ($\beta_3+\beta_{31}=0.623$, p-val=0.01), and greater than for the non-event firms ($\beta_3=0.185$, p-val=0.15). This is consistent with increased conditional conservatism during firm-level contract labour negotiations. The results from the Ball and Shivakumar (2005) model, presented in Panel B of Table 6, although slightly weaker, confirm that event firms are more conditionally conservative than non-event firms.[5]

5. Summary and conclusions

We study accounting choice around firm-level collective agreement negotiations. In their seminal work, Watts and Zimmerman (1986) argue that managers make income-decreasing accounting choices to reduce firm political costs and visibility and thus, limit the concessions made to trade unions during contract negotiations. However, the empirical research to date fails to find evidence in support of this hypothesis. We expect that this lack of evidence is driven by the confounding effects of (i) methodological concerns and (ii) influential institutional factors. Using a sample of US firms that engage in firm-level labour bargaining during the period 1994-2007, we study whether managers act strategically in an attempt to reduce the proportion of firm

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[5] Ball and Shivakumar (2005) develop a second model based on the association between cash flows and accruals. However, it our setting, it is not feasible to implement their model due to data limitations, as there are very few firms with negative cash flows.

wealth that is accrued to employees. We use alternative methodologies to analyse income-decreasing accounting choices based on the developments of the discretionary accruals literature and the work on conditional conservatism. This choice permits disentangling whether any income-decreasing choices observed around labour negotiations are driven by opportunistic vs. informative motivations.

The results provide evidence in favour of the hypothesis that managers time their decision to negotiate with employees. In particular, we show that managers time the collective agreement negotiation when firm profitability and liquidity is low. This is consistent with the US evidence in Klasa et al. (2009) on the association between industry unionizing and cash holdings. Our evidence is also consistent with the relative strength of the different parties being important in determining when labour negotiations take place. Using an event history model, we show that collective agreement negotiation is positively related to the relative power of the employee base.

In a second set of analyses we study whether the coincidence of low corporate income and collective agreement negotiations is driven by accounting choices, and whether these decisions can be interpreted as being opportunistic or as signalling information to the market on future and current growth, performance and firm viability. The results also provide evidence in favour of the hypothesis that managers accelerate the recognition of losses and delay the recognition of gains in years surrounding collective bargaining. We do not find conclusive evidence of accounting accruals manipulation, indicating that potentially, accounting choice around labour negotiation is informative of current economic conditions and not driven by managerial attempts to expropriate employees of their deserved share in the firms' rents.

Appendix 1. Differences between "Open Shop" and "Closed Shop" System

CLOSE SHOP SYSTEM	*OPEN SHOP SYSTEM*
Low Union Density (20%)	High Union Density and Collective Bargaining Coverage (90% of occupied population).
Collective Bargaining affects only to unionized workers	Collective Bargaining is a worker´s right. Collective agreements are legally enforceable and apply to all workers, regardless of their union status.
Collective Bargaining takes place only at firm-level.	Collective agreements may be take place at multiple levels: national, industry and firm-level. Firm-level agreements cannot contradict the terms of industry agreements. Thus, de facto, industry agreements establish a second layer of minimum wages (above the national statutory minimum).
Union elections are not regular. The workers decide if they ask for elections within the firm. The alternative is to negotiate the salary and working conditions individually.	Union elections take place regularly and have an institutional character. In Spain the elections take place every four years on a regional, industry and firm basis. The workers´ representatives constitute work councils which are entitled to bargain wages and employment conditions in the firm.
The Unions cannot call for strikes in support of their demands. The strikes have to be held by referendum.	Work councils may call for strikes in support of their demands.

Appendix 2. Unionizing in the US

	Weekly Wages		Difference in Wages		Percent
	Union	Non-union	Total $	Percent	union
Management, professional and related	996	996	0	0%	14,9
Management, business & financial op	1066	1081	-15	-1%	6,0
Management occupations	1172	1160	12	1%	5,4
Business and financial op	934	940	-6	-1%	7,2
Porfessional and related occupations	987	942	45	5%	20,5
Computer and mathematical	1188	1231	-43	-3%	5,8
Architecture and ingeneering	1179	1221	-42	-3%	8,7
Life, physical, and social sci	1147	1036	111	11%	10,9
Community and social services	920	732	188	26%	17,1
Legal	1180	1148	32	3%	6,4
Education, training and library	959	742	217	29%	41,5
Art, design, entertainment, sport, media	1000	807	193	24%	9,3
Healthcare practitioner & technical	1005	906	99	11%	15,1
Service occupations	666	421	245	58%	12,4
Healthcare support	502	446	56	13%	11,1
Protective service	954	610	344	56%	37,2
Food preparation and serving	502	379	123	32%	4,9
Building and grounds cleaning and maintenance	551	407	144	35%	11,8
Personal care	585	420	165	39%	8,6
Sales and office occupations	717	587	130	22%	8,1
Sales and related	648	643	5	1%	3,7
Office and administrative support	726	560	166	30%	11,3
Natural resources, construction and maintenance	973	617	356	58%	17,7
Construction and extraction	976	597	379	63%	19,2
Installation, maintenance and repair	975	709	266	38%	18,0
Production, transportation and material moving	759	540	219	41%	16,8
Production	761	552	209	38%	14,8
Transportation and material moving	757	523	234	45%	19,0
Private sector	818	651	167	26%	8,2
Non-agriculture related industries	819	654	165	25%	8,2
Mining	960	975	-15	-2%	10,2
Construction	1000	624	376	60%	14,4
Manufacturing	783	708	75	11%	12,0
Wholesale and retail trade	639	584	55	9%	5,7
Transportation and utilities	902	695	207	30%	23,4
Information	1000	867	133	15%	13,1
Financial activities	729	784	-55	-7%	2,4
Professional and business services	800	782	18	2%	3,0
Education and health services	779	657	122	19%	10,0
Leisure and hospitality	580	431	149	35%	3,2
Other services	822	593	229	39%	3,3
Public sector	901	749	152	20%	39,8
Federal	927	996	-69	-7%	31,5
State	865	731	134	18%	34,0
Local	907	688	219	32%	45,6
Average	**867**	**736**	**131**	**22%**	**14,5**

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Table 1. Sample composition by industry and year

The sample comprises 1307 firm-year observations corresponding to 150 individual firms for the period 1994-2008. Out of these firms, 75 are 'event' firms which negotiate a firm-level collective agreement during the sample period, and 75 are 'non-event' firms. The 'non-event' firms are matched to the event firm by 2 digit industry SIC code and total assets (size).

Panel A: Industry composition

INDUSTRY	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Aerospace&Defence	83	6.35	83	6.35
Automobiles&Parts	171	13.08	254	19.43
Chemicals	54	4.13	308	23.57
Construction&Building Mats.	29	2.22	337	25.78
Diversified Industrials	20	1.53	357	27.31
Electricity	159	12.17	516	39.48
Electronic&Electrical	135	10.33	651	49.81
Engineering&Machinery	93	7.12	744	56.92
Food Producers&Tobacco	78	5.97	822	62.89
Food&Drug Retailers	38	2.91	860	65.80
Gas Distribution	50	3.83	910	69.63
General Retailers	86	6.58	996	76.21
Household Goods&Textiles	37	2.83	1033	79.04
Leisure&Entertainment&Hotel	54	4.13	1087	83.17
Media&Photography	41	3.14	1128	86.30
Oil&Gas	29	2.22	1157	88.52
Packaging	32	2.45	1189	90.97
Steel&Other Metals	23	1.76	1212	92.73
Telecommunication Services	95	7.27	1307	100.00

Panel B: Year composition

YRFISCAL	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1993	37	2.83	37	2.83
1994	46	3.52	83	6.35
1995	42	3.21	125	9.56
1996	67	5.13	192	14.69
1997	81	6.20	273	20.89
1998	88	6.73	361	27.62
1999	92	7.04	453	34.66
2000	90	6.89	543	41.55
2001	98	7.50	641	49.04
2002	101	7.73	742	56.77
2003	101	7.73	843	64.50
2004	98	7.50	941	72.00
2005	98	7.50	1039	79.50
2006	95	7.27	1134	86.76
2007	90	6.89	1224	93.65
2008	83	6.35	1307	100.00

Table 2. Descriptive statistics of sample variables

The sample comprises 1307 firm-year observations corresponding to 150 individual firms for the period 1994-2008. Out of these firms, 75 are 'event' firms which negotiate a firm-level collective agreement during the sample period, and 75 are 'non-event' firms. The 'non-event' firms are matched to the event firm by 2 digit industry SIC code and total assets (size). TACC is total accruals. WAC is working capital accruals. ATACC is discretionary total accruals as calculated by the Jones (1991) model. AWAC1 (AWAC2) is discretionary working capital accruals as calculated by the modified Jones (Kasznik 1999) model. AbCFO is abnormal cash flow from operations as calculated by the Roychowdhury (2006) model. CFO is cash flow from operations deflated by beginning-of-period total assets. REV is total sales deflated by beginning-of-period total assets. SIZE is the natural logarithm of total assets. LEV is total debt divided by total assets. ROA is return-on-assets. EMP is the natural logarithm of total employees. MKTB is the market-to-book ratio. IssDEBT (IssEQ) is an indicator variable that takes the value of 1 if total debt (number of shares) changes by more than 10% from the previous year. Cash is cash deflated by beginning-of-period total assets. NearCash is cash and short term investments deflated by beginning-of-period total assets. DivPayout is the dividend payout ratio. AssetDisp is the net benefits from asset disposals deflated by beginning-of-period total assets.

Panel A: Descriptive evidence

Variable	N	Mean	Min	Q1	Median	Std.	Q3	Max
Earnings quality variables								
TACC	1307	-0.05	-0.25	-5.01	-0.05	0.08	-0.03	0.13
WAC	1307	0.00	-0.20	-0.08	0.00	0.07	0.02	0.20
ATACC	1307	0.04	-0.27	-0.03	0.01	0.52	0.05	0.89
AWAC1	1307	0.01	-0.39	-0.02	0.01	0.19	0.04	0.32
AWAC2	1307	0.01	-0.25	-0.02	0.01	0.12	0.03	0.23
AbCFO	1307	0.02	-0.14	-0.02	0.02	0.06	0.05	0.17
Control variables								
CFO	1307	0.01	-0.13	-0.01	0.01	0.05	0.03	0.15
REV	1307	1.08	0.19	-0.01	0.95	0.71	1.35	3.42
SIZE	1307	16.09	12.83	0.59	16.08	1.46	17.05	19.73
LEV	1307	4.42	0.01	15.07	0.46	67.32	0.88	17.09
ROA	1307	0.03	-0.23	0.21	0.04	0.12	0.07	0.18
EMP	1307	10.19	6.48	0.02	10.15	1.51	11.39	12.87
MKTB	1307	3.01	-7.53	9.23	2.11	10.08	3.36	22.25
IssDEBT	1307	0.34	0.00	1.48	0.00	0.47	1.00	1.00
IssEQ	1307	0.17	0.00	0.00	0.00	0.37	0.00	1.00
Cash	1307	0.04	0.00	0.00	0.02	0.05	0.06	0.24
Loss	1307	0.16	0.00	0.00	0.00	0.37	0.00	1.00
Perform	1307	0.53	0.00	0.00	1.00	0.49	1.00	1.00
Leader	1307	0.27	0.00	0.00	0.00	0.44	1.00	1.00
DivPayout	1307	0.26	-3.36	0.00	0.25	1.17	0.51	2.59
AssetDisp	1307	-0.19	-5.01	0.00	0.00	1.29	0.00	0.64

Table 3. Pearson correlation coefficients

The sample comprises 1307 firm-year observations corresponding to 150 individual firms for the period 1994-2008. Out of these firms, 75 are 'event' firms which negotiate a firm-level collective agreement during the sample period, and 75 are 'non-event' firms. The 'non-event' firms are matched to the event firm by 2 digit industry SIC code and total assets (size). ATACC is discretionary total accruals as calculated by the Jones (1991) model. AWAC1 (AWAC2) is discretionary working capital accruals as calculated by the modified Jones (Kasznik 1999) model. AbCFO is abnormal cash flow from operations as calculated by the Roychowdhury (2006) model. CFO is cash flow from operations deflated by beginning-of-period total assets. REV is total sales deflated by beginning-of-period total assets. SIZE is the natural logarithm of total assets. LEV is total debt divided by total assets. ROA is return-on-assets. EMP is the natural logarithm of total employees. MKTB is the market-to-book ratio. IssDEBT (IssEQ) is an indicator variable that takes the value of 1 if total debt (number of shares) changes by more than 10% from the previous year. Cash is cash deflated by beginning-of-period total assets. NearCash is cash and short term investments deflated by beginning-of-period total assets. DivPayout is the dividend payout ratio. AssetDisp is the net benefits from asset disposals deflated by beginning-of-period total assets.

	ATACC	AWAC1	AWAC2	AbCFO	CFO	REV	SIZE	LEV	ROA	EMP	MKTB	IssDebt	IssEQ	Cash	Loss	PERF	Leader	DivPay
ATACC																		
AWAC1	0,22																	
AWAC2	0,16	0,25																
AbCFO	-0,07	-0,05	-0,02															
CFO	-0,06	-0,10	-0,10	0,46														
REV	0,07	-0,05	0,03	-0,23	0,09													
SIZE	-0,02	-0,06	0,00	0,10	-0,01	-0,25												
LEV	0,00	0,06	0,16	-0,03	0,07	-0,01	-0,01											
ROA	0,01	0,13	0,28	0,16	0,14	0,14	-0,01	0,10										
EMP	0,02	-0,03	-0,01	-0,02	0,01	0,23	0,72	0,00	0,03									
MKTB	0,00	0,05	0,03	0,06	0,04	0,02	-0,02	-0,02	0,09	-0,02								
IssDebt	-0,01	0,00	0,03	0,05	-0,04	0,06	0,03	-0,03	0,02	-0,01	-0,01							
IssEQ	0,00	-0,01	-0,01	0,06	0,10	0,08	0,01	-0,02	0,03	-0,01	0,02	0,16						
Cash	0,02	0,03	0,11	-0,03	-0,01	0,06	-0,05	0,06	0,00	-0,02	0,02	-0,08	-0,01					
Loss	0,02	-0,04	-0,09	-0,13	-0,09	-0,09	-0,06	0,07	-0,46	-0,07	-0,09	-0,06	0,00	0,13				
PERF	-0,01	-0,04	0,00	0,15	0,06	0,05	0,11	-0,08	0,30	0,07	0,02	0,15	-0,01	-0,19	-0,62			
Leader	0,05	0,01	-0,02	0,01	0,12	0,08	-0,02	-0,02	0,04	-0,06	0,05	0,12	0,14	0,00	-0,06	0,04		
DivPay	0,00	0,02	-0,01	0,09	0,00	-0,15	0,36	-0,01	0,00	0,21	0,02	0,06	-0,02	-0,06	-0,07	0,10	0,00	
AssetD	-0,01	-0,07	-0,11	-0,04	0,03	0,06	-0,03	0,01	-0,09	0,00	0,00	-0,01	-0,04	0,08	0,04	-0,01	0,04	-0,01

Table 4. Timing of labour negotiations

The sample comprises 1307 firm-year observations corresponding to 150 individual firms for the period 1994-2008. Out of these firms, 75 are 'event' firms which negotiate a firm-level collective agreement during the sample period, and 75 are 'non-event' firms. The 'non-event' firms are matched to the event firm by 2 digit industry SIC code and total assets (size). CEO (PRESIDENT) is a dummy variable that takes the value of 1 if the CEO (President) is the chairman of the board, 0 otherwise. LEV is total debt divided by total assets. SIZE is the natural logarithm of total assets. ROA is return-on-assets. EMP is the natural logarithm of total employees. MKTB is the market-to-book ratio. Leader is a dummy variable that takes the value of 1 if the annual change in sales is above the industry median, 0 otherwise. Loss is a dummy variable that takes the value of 1 if the firm reports a loss in the period, 0 otherwise. Cash is cash and cash equivalents divided by beginning-of-period total assets. Perform takes the value of 1 if the firm reported an increase in earnings in the last two periods, 0 otherwise.

	Full Sample			*Restricted sample*		
	Parameter chi-sq	*Parameter chi-sq*	*Parameter chi-sq*	*Parameter chi-sq*	*Parameter chi-sq*	*Parameter chi-sq*
CEO	0.089			0.054		
	0.13			*0.81*		
PRESIDENT		0.249	0.226		0.291	0.304
		1.07	*0.66*		*1.74*	*1.40*
LEV	-0.072	-0.076	-0.071	-0.094	-0.091	-0.082
	1.15	*1.11*	*0.92*	*2.24*	*2.00*	*1.42*
SIZE	-0.199	-0.214	-0.410	-0.261	-0.287	-0.280
	3.17	*3.57*	*5.98*	*5.10*	*6.02*	*3.36*
ROA	-1.166	-1.198	-1.102	-1.012	-1.055	-1.084
	8.93	*9.39*	*6.50*	*6.89*	*7.48*	*6.65*
EMP	0.436	0.463	0.727	0.510	0.539	0.566
	15.26	*17.61*	*15.30*	*21.18*	*23.91*	*11.96*
MKTB	-0.001	-0.001	0.000	-0.003	-0.003	-0.003
	0.01	*0.02*	*0.00*	*0.05*	*0.07*	*0.07*
Leader	0.367	0.361	0.473	0.482	0.486	0.590
	2.05	*1.99*	*3.18*	*4.33*	*4.38*	*5.67*
Loss	0.316	0.323	0.325	0.434	0.437	0.373
	0.35	*0.36*	*0.37*	*0.81*	*0.82*	*0.59*
Cash	-5.899	-5.887	-6.736	-6.311	-6.557	-5.496
	4.24	*4.15*	*4.89*	*5.37*	*5.86*	*3.70*
Perform	-0.093	-0.085	-0.167	0.113	0.139	0.198
	0.84	*0.03*	*0.12*	*0.07*	*0.10*	*0.19*
Industry dummies			Included			Included
N	1307	1307	1307	897	897	897
Chi-sq	31.529	32.45	40.25	42.97	44.62	56.70
Pr>ChiSq	<0.01	<0.01	0.02	<0.01	<0.01	<0.01

Table 5. Accounting accruals and cash flows around labour negotiations

The sample comprises 1307 firm-year observations corresponding to 150 individual firms for the period 1994-2008. Out of these firms, 75 are 'event' firms which negotiate a firm-level collective agreement during the sample period, and 75 are 'non-event' firms. The 'non-event' firms are matched to the event firm by 2 digit industry SIC code and total assets (size). EVENT is a dummy variable that identifies if the firm has a collective agreement in time t, 0 otherwise. We model discretionary accruals and cash flows around time t (from t-1 to t+1). AWAC1 (AWAC2) is discretionary working capital accruals as calculated by the modified Jones (Kasznik 1999) model. AbCFO is abnormal cash flow from operations as calculated by the Roychowdhury (2006) model. LEV is total debt divided by total assets. SIZE is the natural logarithm of total assets. ROA is return-on-assets. MKTB is the market-to-book ratio. IssDEBT (IssEQ) is an indicator variable that takes the value of 1 if total debt (number of shares) changes by more than 10% from the previous year. CFO is cash flow from operations deflated by beginning-of-period total assets. TACC is total accruals deflated by beginning-of-period total assets.

	$t-1$			t			$t+1$		
	WCACC1	WCACC2	AbCFO	WCACC1	WCACC2	AbCFO	WCACC1	WCACC2	AbCFO
	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
	(p-val)	(p-val)	(p-val)	(p-val)	(p-val)	(p-val)	(p-val)	(p-val)	(p-val)
Intercept	-0.362	0.023	-0.133	0.035	-0.034	-0.131	-0.198	-0.048	-0.121
	(0.02)	(0.31)	(<0.01)	(0.41)	(0.27)	(0.02)	(0.05)	(0.27)	(0.01)
EVENT	-0.017	0.008	-0.005	0.008	0.001	0.002	0.005	0.001	-0.004
	(0.25)	(0.15)	(0.23)	(0.35)	(0.45)	(0.41)	(0.36)	(0.47)	(0.32)
SIZE	0.021	-0.002	0.006	-0.003	0.002	0.006	0.011	0.002	0.006
	(0.02)	(0.25)	(<0.01)	(0.33)	(0.27)	(0.07)	(0.06)	(0.31)	(0.02)
MKTB	0.006	0.001	0.001	-0.002	0.001	0.004	0.009	0.001	0.001
	(<0.01)	(0.21)	(0.15)	(0.21)	(0.31)	(0.32)	(<0.01)	(0.44)	(0.24)
LEV	0.002	0.001	-0.001	-0.001	-0.001	-0.001	0.003	0.002	-0.001
	(0.43)	(0.45)	(0.40)	(0.45)	(0.24)	(0.12)	(0.27)	(0.21)	(0.45)
ROA	-0.232	0.323	0.507	0.168	0.176	0.191	0.465	0.659	0.502
	(0.12)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)	(<0.01)
IssDebt	-0.005	0.008	-0.003	-0.494	-0.091	0.015	-0.435	-0.307	0.016
	(0.43)	(0.16)	(0.30)	(0.02)	(0.17)	(0.11)	(0.03)	(0.02)	(0.05)
IssEQ	0.065	-0.013	-0.011	0.021	0.001	0.009	-0.054	-0.047	-0.002
	(0.04)	(0.12)	(0.08)	(0.22)	(0.47)	(0.25)	(0.01)	(<0.01)	(0.45)
CFO	-0.211	-0.286	.	0.036	-0.001	.	-0.081	0.033	.
	(0.25)	(<0.01)	.	(0.12)	(0.50)	.	(0.01)	(0.05)	.
TACC	.	.	-0.684	.	.	-0.753	.	.	-0.502
	.	.	(<0.01)	.	.	(<0.01)	.	.	(<0.01)
N	150	150	150	150	150	150	136	136	136
Adj-Rsq	0.19	0.19	0.45	0.12	0.39	0.27	0.42	0.44	0.40

Table 6. Conditional conservatism around labour negotiations

The sample comprises 1307 firm-year observations corresponding to 150 individual firms for the period 1994-2008. Out of these firms, 75 are 'event' firms which negotiate a firm-level collective agreement during the sample period, and 75 are 'non-event' firms. The 'non-event' firms are matched to the event firm by 2 digit industry SIC code and total assets (size). EVENT is a dummy variable that identifies if the firm has a collective agreement in time t, 0 otherwise. We model discretionary accruals and cash flows around time t (from t-1 to t+1). Panel A presents results of running the Basu (1997) model. X is earnings before extraordinary items deflated by beginning of period market value. D is a dummy variable that takes the value of 1 if the firm has a negative or zero annual return, 0 otherwise. R is the annual stock return. Panel B presents results of running the Ball and Shivakumar (2005) model. CFO is cash flow from operations deflated by beginning-of-period total assets. TACC is total accruals deflated by beginning-of-period total assets. DCFO is a dummy variable that takes the value of 1 if the firm cash flow from operations is negative, 0 otherwise.

Panel A: Basu (1997) model (Dep. Variable = X)

|		t-1	t	t+1
		Coeff.	Coeff.	Coeff.
		(p-val)	(p-val)	(p-val)
Intercept		0.065	0.048	0.034
		(<0.01)	(0.12)	(0.01)
D		-0.027	0.012	0.056
		(0.13)	(0.44)	(0.04)
Event		-0.029	-0.007	0.025
		(0.06)	(0.45)	(0.16)
D*Event		0.061	0.086	-0.088
		(0.02)	(0.21)	(0.03)
R		-0.084	-0.003	-0.004
		(0.01)	(0.47)	(0.35)
R*Event		0.067	0.004	0.003
		(0.03)	(0.47)	(0.47)
D*R		0.158	0.185	0.233
		(0.02)	(0.15)	(<0.01)
D*R*Event		0.043	0.623	-0.137
		(0.29)	(0.01)	(0.10)
R+R*Event	$(\beta_2 + \beta_{21})$	-0.017	0.001	-0.001
		(0.23)	(0.49)	(0.49)
D*R+D*R*Event	$(\beta_3 + \beta_{31})$	0.201	0.808	0.096
		(<0.01)	(<0.01)	(0.15)
N		150	150	135
Adj-Rsq		0.15	0.15	0.14

Table 6. (Continued) Conditional conservatism around labour negotiations

Panel B: Ball and Shivakumar (2005) model (Dep. Variable = TACC)

|	t-1	t	t+1
	Coeff.	Coeff.	Coeff.
	(p-val)	(p-val)	(p-val)
Intercept	0.001	-0.015	-0.007
	(0.47)	-0.06	-0.37
DNI	-0.012	0.002	-0.015
	(0.18)	(0.45)	(0.37)
Event	0.019	0.023	0.008
	(0.10)	(0.20)	(0.40)
*DNI*Event*	-0.012	-0.003	-0.122
	(0.22)	(0.45)	(0.02)
ΔNI_{t-1}	0.111	0.782	-0.028
	(0.30)	(0.01)	(0.49)
ΔNI_{t-1}*Event*	-0.045	-0.606	-0.091
	(0.47)	(0.06)	(0.43)
DNIΔNI_{t-1}	-0.516	-1.715	-0.99
	(0.04)	(<0.01)	(0.08)
DNIΔNI_{t-1}*Event*	-0.294	0.531	-4.511
	(0.01)	(0.35)	(<0.01)
ΔNI_{t-1}+ΔNI_{t-1}*Event*	0.066	0.176	-0.119
	(0.43)	(0.31)	(0.34)
DNIΔNI_{t-1}+DNI* ΔNI_{t-1}*Event*	-0.810	-1.184	-5.501
	(0.02)	(<0.01)	(<0.01)
N	150	150	136
Adj-Rsq	0.16	0.24	0.83

Figure 1. Evolution of accounting measures around labour negotiation

The sample comprises 1307 firm-year observations corresponding to 150 individual firms for the period 1994-2008. Out of these firms, 75 are 'event' firms which negotiate a firm-level collective agreement during the sample period, and 75 are 'non-event' firms. The 'non-event' firms are matched to the event firm by 2 digit industry SIC code and total assets (size). ATACC is discretionary total accruals as calculated by the Jones (1991) model. AWAC1 (AWAC2) is discretionary working capital accruals as calculated by the modified Jones (Kasznik 1999) model. AbCFO is abnormal cash flow from operations as calculated by the Roychowdhury (2006) model. Cash is cash deflated by beginning-of-period total assets. ROA is return on assets.

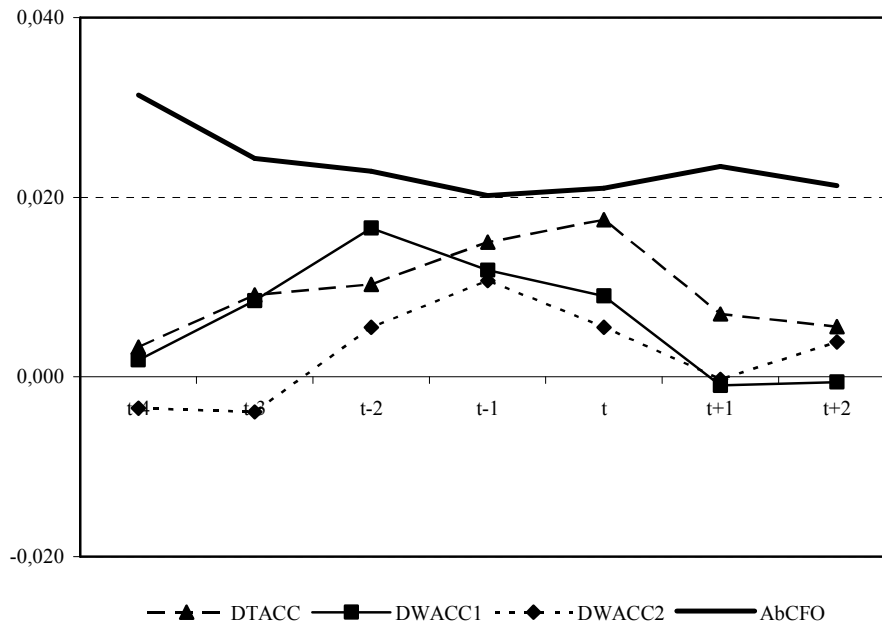*Panel A: Event firms: discretionary accruals and cash flows*
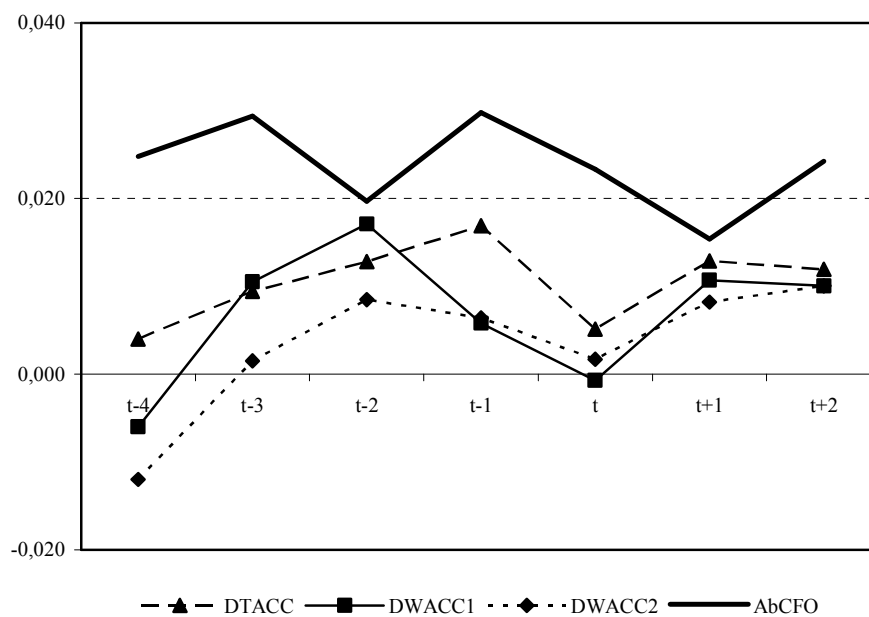
Panel B: Event firms: Cash and ROA
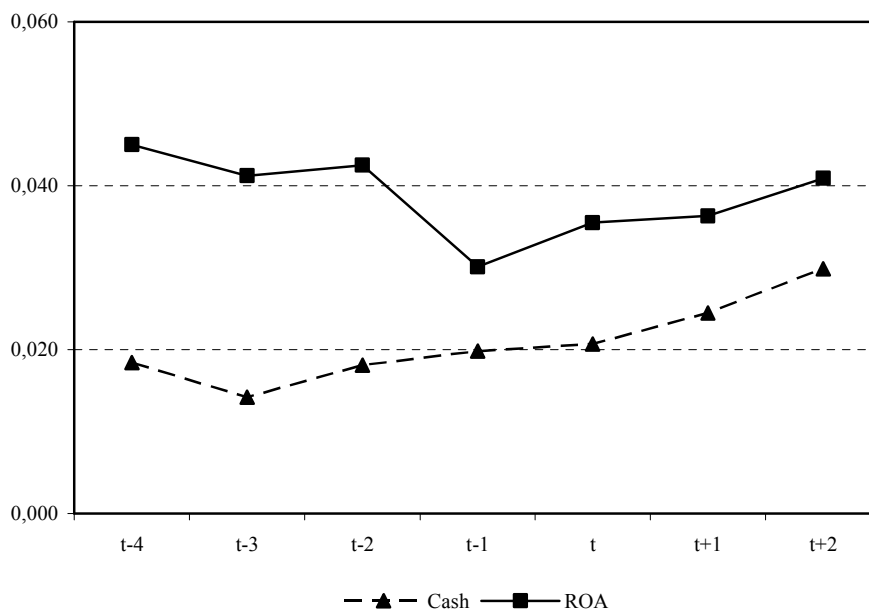
Figure 1 (Continued). Evolution of accounting measures around labour negotiation

Panel C: Non-event firms: discretionary accruals and cash flows

Panel D: Non-event firms: Cash and ROA