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EVIDENCE OF INCOME-DECREASING EARNINGS MANAGEMENT BEFORE LABOUR NEGOTIATIONS WITHIN FIRMS

ARACELI MORA
Universidad de Valencia
ANA SABATER
Universidad Miguel Hernández

The "political costs" hypothesis predicts that labour bargaining creates incentives to reduce accounting earnings in order to avoid salary demands. Previous studies in countries with a "close shop system", such as the U.S. and Canada, have obtained mixed results. We argue that the political costs hypothesis is better suited to the "open shop system" of Continental European countries. Using a sample of Spanish companies, Jones (1991) model and its extensions are used to analyse total and discretionary accruals around the time of labour negotiations. The evidence that we obtain is consistent with the hypothesis that managers depress earnings prior to negotiations.

Keywords: Accruals, earnings management, collective bargaining.

(*JEL* M41, J30, J51)

1. Introduction

Earnings management has become one of the main issues documented by academics, regulators and the financial press in the last decade. The initial empirical approaches in this field focused on contractual motivations. The Positive Accounting Theory stated by Watts and Zimmerman (1986) considers that under a contractual process with a potential wealth transfer between several parties (stakeholders, managers, creditors, and other parties), managers use accounting strategies

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to manage those transfers. Empirical evidence shows that managers´ accounting choices are affected by firm contracts based explicitly or implicitly on accounting numbers.

In summary, earnings management can be defined as a purposeful alteration of the financial reports to either mislead some stakeholders about the underlying performance of the company or to influence contractual outcomes (Healy and Wahlen, 1999). The objective and direction of these earnings management practices vary depending on the incentives that managers face. It could be said that *earnings management studies* examine "whether managers act as if they believe users of financial reporting data can be misled into interpreting reported accounting earnings as equivalent to economic profitability". (Fields *et al.,* 2001, p 279)

Under the Positive Accounting Theory, it can be said that the more a firm is subject to potential wealth transfers in a process between firms and other parties, the more its management is likely to adopt accounting policies that reduce such a transfer. This is normally called the *political cost hypothesis*[1].

One aspect that can be analysed under similar assumptions to the *political cost* hypothesis is the effect of contract negotiations with labour unions on the accounting choices of managers. This has been analysed in the U.S. and Canadian context which have institutional characteristics which make us think that this hypothesis could be not entirely applicable, and so this fact could explain the mixed results that researchers have obtained. However, the empirical evidence in Continental Europe, whose institutional characteristics are different, is inexistent. Leuz *et al.* (2003) show in their study that there are international differences in earnings management around the world depending on the characteristics of institutional factors. Thus, different institutional environments lead to differences in managers' incentives to manipulate earnings. The institutional characteristics of European countries encourage us to explore the potential differences with U.S. and Canadian firms in managers incentives to manipulate accounting earnings, in general, and in this aspect in particular.

The effects of labour considerations on managers accounting choices have been examined in the accounting literature from two different theoretical perspectives, the so called *ability-to-pay theory* and the

[1]See García Osma et al., (2005).

attract-and-retain theory. The latter would be more applicable to the Anglo-Saxon system, in specific firms or industries in which salaries are negotiated directly with individuals. The hypothesis is that labour-intensive firms are more likely to choose income-maximizing accounting policies to reassure their employees of the firm's financial strength[2].

However, one perspective, which seems to be the more intuitive and was tested first, is that labour bargaining may create incentives for managers to make income-minimizing accounting choices to lower a firm's perceived ability to pay a wage demand. This was called the *ability-to-pay theory.* According to this theory the hypothesized effect of reported accounting numbers on labour negotiations is similar to the hypothesized effect of earnings on the political process. In both cases managers' reports of lower earnings are assumed to affect the process implicitly. As Liberty and Zimmerman (1986) point out, union members presumably do not adjust completely the reported earnings for expected manipulations of managers because such adjustments are costly. The existence of information costs is assumed to create incentives for managers to report lower earnings. The argument of this theory is that if accounting earnings are high and the business outlook is good, then the union leader can afford to make larger demands.

Several papers develop and test the hypothesis, using US and Canadian firms, that managers reduce earnings released during contract talks relative to earnings released before and after negotiations. One of the pioneers in analysing this relation was Liberty and Zimmerman (1986). Their hypothesis is that expense accruals would be higher for periods immediately preceding union wage bargaining, and additionally they compare annual accruals in the negotiation period and in the previous year. Their results do not support the hypothesis. These authors give several explanations for these results. One explanation could be that companies are in a recession period, so managers do not need to reduce earnings. Another possible explanation could be that unions can detect manipulation and adjust earnings accordingly, so the incentives for manipulation disappear. Finally, the authors point out another possible explanation for their results namely that the methodology to measure earnings management is not appropriate. In fact, we consider this to be extremely important. This study is carried out before the development of the literature on discretionary accruals models.

[2]Bowen *et al.* (1995) find support for this hypothesis among U.S. companies and Cullinan and Bline (2003) provide mixed support with Canadian firms.

Analysing total accruals does not seem to be the most suitable way to observe earnings manipulation.

Other studies use methodologies similar to Liberty and Zimmerman (1986). DeAngelo and DeAngelo (1991) and Mautz and Richardson (1992) for instance find some evidence or little evidence that these expenses differ significantly across periods in relation to the timing of negotiations. Later studies, such as Scott (1994), Cullinan and Knobett (1994) or Bowen *et al.* (1995) find some relation between union intensity and accounting strategies in the U.S. or Canadian context.

Finally, the most recent study is Cullinan and Bline (2003). They examine the effects of labour considerations on accounting choice in depreciation policy. Their results suggest that ability-to-pay incentives, measured by unionization, are not associated with depreciation polices. These authors consider that the lack of significance in their study and in prior studies in finding no support for the notion that ability to pay considerations influence accounting choices may result from the practice of negotiating with unions once every three years. The infrequency of negotiations may indicate that other relationships which occur more frequently tend to mute whatever effects ability to pay considerations may have on accounting choices. In fact, we consider this reason to be extremely possible in a context (U.S. and Canada) where the effect of the agreement is just applied to unionized workers. In this case the effect of the increment in salaries for the company may not provide enough motivation to compensate for other motivations managers might have to increase earnings.

On the other hand, evidence of the effect of labour unions contracts in Europe is practically inexistent. Harris *et al.* (1994) support the hypothesis that German firms are hesitant to report high earnings for fear of strengthening the position of labour unions in their negotiations with the firm, but these authors do not give direct empirical evidence. Similarly García Lara et al., (2005) argue that in code-law based countries managers engage in persistent income decreasing strategies, which could be partially explained by the existence of strong labour unions, although, as McLeay (2005) points out, these authors do not provide direct empirical evidence for this argument.

The aim of this study is to test the hypothesis that managers in Spain depress earnings before the firm-level collective agreements in order to avoid a transfer of wealth to workers. There is no previous evidence

in Continental Europe concerning earnings management before collective agreements. Although previous evidence in the U.S. and Canada obtain mixed results, we consider the institutional factors in those countries to be completely different to continental European countries. Furthermore, there is no real motivation (or at least not as strong) in these countries to depress earnings prior to agreements as there is in Continental Europe.

Spain is a good example of an environment with institutional factors which make the depressing earnings hypothesis more plausible. As a result, our analysis is based on a sample of Spanish companies. We use accruals and discretionary accruals obtained through Jones' (1991) model and its extensions to analyse earnings management in relation to labour contracts, using a control sample without firm level collective agreements to see the differences in managers' behaviour. Our results strongly support initial predictions. Managers depress earnings before firm level collective agreements. This result does not change when alternative models to estimate discretionary accruals are used, or after using additional tests to give more robustness to the analysis.

This paper contributes to the growing body of literature on motivations for earnings management in a non Anglo-Saxon context where all the previous studies have been carried out until now. We analyse this motivation in a context where we predict that it is present due to the institutional characteristics of the country. At the same time we use a more appropriate methodology to measure earnings manipulation, based on recent developments of this literature. In this way we contribute to the understanding of results in previous literature and at the same time we 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 shows the institutional characteristics of collective agreements in Spain and the differences with the Anglo-Saxon system. The development of the hypothesis and the research design are presented in the Section 3. The sample is outlined in Section 4, where descriptive statistics are included. In Section 5, we present our results and finally in Section 6, we show the conclusions and implications of the study.

2. Institutional background

Among the labour market institutions that are common across Western European countries, collective bargaining is one of those with a most distinctive *European flavour.* Admittedly, both the coverage rate of collective bargaining and the legal rules under which collective bargaining is conducted vary widely across countries. However, there are some key characteristics shared by the collective bargaining system of some European countries which were not observed in the U.S. and Canada when the research concerning the effect of labour contract on accounting choices was developed.

Collective bargaining across Continental Europe is mostly organized under an *open-shop* rule, so that, agreements are extended to all workers within the scope of the agreement, independently of their union status. On the contrary, Anglo-Saxon countries are under the *close-shop system* which means that agreements affect only unionized workers.

Collective bargaining across Continental Europe is often structured around multiple levels of negotiation (national, industry, firm. . .) while in other countries such as in U.S., only a single level of bargaining (firm-level bargaining) is operative. In fact, in those countries individual negotiation of salaries with the workers is quite common.

An important feature is that 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) which can only be revised downwards by firm-level agreements under very special circumstances. So, the increment of the salary agreed by both parts will be always (with extremely special occasions) higher that the industry agreement.

According to most pundits (and, even, union officials), firm-level bargaining is mostly devoted to large firms which supposedly have the income and capacity to pay higher wages.

The appendix shows a summary of the main differences between the *close shop* and the *open shop* systems.

In this study we consider companies from Spain. In general terms, the Spanish system of collective bargaining concurs with the outline of the European model of collective bargaining mentioned above. The percentage of unionized workers in Spain is rather low (somewhere between 10-15%) but the coverage of collective bargaining is around

90%[3]. Spain is the country (excluding France) with the largest difference between the unionization rate and the coverage rate of collective bargaining. The organization of bargaining around the *open shop system,* and the *ex-ante* mandatory extension of collective agreements where the results of the agreement are extended to all workers unionized or not, clearly explain the huge difference between these two rates. In the Spanish labour market, collective bargaining may cover agreements at industry or company level. However, the incidence of formal firm level bargaining is lower than the incidence of industry agreements: only about 15% of employees are covered by firm-level collective bargaining.

In the first instance, the industry-level agreement is signed, and individual companies may decide whether to apply it or to negotiate their own labour and economic conditions in a firm-level agreement[4]. These firm level agreements have a limited life and the conditions can be renegotiated, normally every three years. As the firm level agreement supposes a higher salary than the industrial agreement, workers will exert pressure in order to renegotiate an agreement at firm level. In general terms most companies tend to renegotiate a firm level collective agreement with few exceptions.

The parties make the decision to negotiate (or renegotiate) an agreement at least one year before signing. The negotiation o renegotiation of the conditions may last several months, during which the company gives relevant information to the workers. To start negotiations both parts must be informed in order to plan their strategies. The workers need information about the financial statements, so they use the last annual financial statements published by the company.

Collective bargaining is a worker's right recognized by constitutional law and the Workers' Charter, in effect since 1980. This right is exercised by the election of representatives by all the workers in the company, who may or may not belong to unions. Workers' representatives constitute work councils which are entitled to negotiate salaries and employment conditions at firm level.

Work councils may call strikes in support of their demands. The fact that Spanish work councils can produce a wage drift relative to indus-

[3]See Jimeno and Rodríguez (1996), Bárcena e Inurrieta (1997).
[4]See Rodríguez Fernández (2000).

try agreements, and that they can call strikes, are distinctive features of the Spanish system of collective bargaining[5].

Collective agreements are legally enforceable and apply to all workers, regardless of their union status. That is, in practice the contract works as if 100% of workers were unionized (while in 2003 it was 14,1% in U.S. and 34,5% in Canada). At the same time, as all the workers have the right to elect members to the work council, it can be said that there are not many incentives to be unionized in Spain, and the results of the negotiation can not be significantly influenced by the percentage of unionized workers in the company.

It is important to remark that one of the main differences of the *open shop system* and the *close-shop system* is that under the close-shop system there are only firm level agreements negotiated by the unions. As the results of the agreements are only applicable to unionized workers, it could be argued that the effect of increasing salaries after a collective agreement could be non-significant in the earnings of the company. Therefore, this fact could be essential in understanding differences in managers' motivations in the Continental European countries.

3. Research design

Accounting accruals are defined as the difference between earnings before extraordinary items and discontinued operations, as well as cash-flow from operations. The accruals adjustments reflect business transactions that affect future cash-flow although cash has not currently changed hands. Under generally accepted accounting principles, firms have discretion to recognize these transactions so that reported earnings reflect the true underlying business conditions to the company. However, managerial flexibility in accruals also opens opportunities for earnings management.

The literature essentially distinguishes two accounting mechanisms used to manage accounting earnings, that is, accounting changes and the time allocation of revenues and expenses. The first mechanism is more visible. As Liberty and Zimmerman (1986) say it is unlikely that managers will 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 (p. 695). So, earnings manipulation tends

[5] See Roger and Streek (1994).

to be based on the second mechanism. However, most of the previous evidence on the effect of labour agreements on earnings management focuses on the first mechanisms. This paper focuses on the second mechanism and considers accruals as the instrument used to manipulate earnings.

In order to test whether earnings are reduced during labour contract negotiations we need to model manipulation by managers. We want to examine if there is a manipulation of accounting accruals surrounding labour contracts. We define total accruals TA_{it} as the change in non-cash current assets minus the change in current liabilities excluding the current portion of long-term debt, minus depreciation and amortization. Total accruals, TA_{it}, can be theoretically decomposed into two unobservable components[6]. The non-discretionary, $NDACC_{it}$, and the discretionary accruals, $DACC_{it}$. Those discretionary accruals can be used as a proxy of earnings management. Subscripts i and t refers to company and period, respectively.

Several theoretical models try to obtain this decomposition estimating the pattern of accruals in absence of accounting discretion. Concretely, these models try to explain the part of accruals due to objective reasons as accounting rules and firm economic conditions. Thus, the part of accruals not explained by the model is considered as discretional and employed as a proxy of earnings management and a variation in this component will represent manager's manipulation.

The model of Jones (1991), Dechow *et al.* (1995), Kasznik (1999), Peasnell *et al.* (2000) and Kothari *et al.* (2005), has been used in this study to estimate discretionary accruals. To estimate the models we employ a cross-sectional approach and secondly a panel-data estimation procedure of the models.

3.1 Cross sectional approach

As accruals could be different depending on the industry we estimate the coefficients of each model for each industry and year. The estimation sample in each cluster industry-year includes exclusively firms without a firm level collective agreement and without equity rights offers, merger process, splits or any other relevant issue requiring a minimum of 10 observations. With these estimated coefficients *clear*

[6] In order to calculate total accruals, we employ the normalized balance sheet presented in the Comisión Nacional del Mercado de Valores (CNMV). This Spanish institution is the equivalent of the American SEC.

of earnings management for each cluster industry-year, we predict the normal accrual for firms with firm level agreement or event firms.

Essentially, Jones´ proposal consists of regressing observed accruals TA_{jt} on two variables (see expression 1): the change in revenues ($\triangle REV_{jt}$), which models the normal component of short-term, or working capital accrual, and the level of gross property, plant and equipment (PPEjt) which controls for the non-discretionary component of long-term accruals.

$$\frac{TA_{jt}}{Assets_{jt-1}} = \alpha_{s,j} + \beta_{s,j}\left[\frac{1}{Assets_{jt-1}}\right] + \gamma_{s,j}\left[\frac{\triangle REV_{jt}}{Assets_{jt-1}}\right] + \quad [1]$$
$$+\lambda_{s,j}\left[\frac{PPE_{jt}}{Assets_{jt-1}}\right] + \mu_{jt}$$

Where j firms are non event companies belonging to same two-digit CNMV code as the firm with labour agreement. Assetsjt-1 is lagged total asset, the use of assets as the deflactor is intended to mitigate heteroskedasticity in residuals[7]. This intra-industry cross-sectional regression is estimated for each event firm i and year in the test period (from year -1 to +1 relative to year of the agreement)[8].

Once the coefficients are estimated the discretionary accruals ($DACC_{it}$) are estimated for event firms as follow:

$$DACC_{i,t} = \left[\frac{TA_{it}}{Assets_{it-1}}\right] - \widehat{\alpha}_{s,t} - \widehat{\beta}_{s,t}\left[\frac{1}{Assets_{it-1}}\right] - \quad [2]$$
$$-\widehat{\gamma}_{s,t}\left[\frac{\triangle REV_{it}}{Assets_{it-1}}\right] - \widehat{\lambda}_{s,t}\left[\frac{PPE_{it}}{Assets_{it-1}}\right]$$

Some researchers have argued that accounting discretion mainly focuses on short-term accruals. Long-term accruals principally include the depreciation expense, which is difficult to manage without carrying out accounting changes that have to be justified in financial statements. Therefore, this item represents an unlikely vehicle for

[7] White (1980) statistics for the annual, cross-sectional, industry models show that deflation reduces, but not eliminate heteroskedasticity. While prior research typically does not include a constant in the above model, we include a constant in the estimation because it provides an additional control for heteroskedasticity not alleviated by using assets as the deflator and it mitigates problems stemming from an omitted size (scale) variable (see Brown et al, 1999).

[8] As the agreements take place every 3 years on average it is not possible to analyse a longer period.

systematic earnings management. Because of this, in this paper, the empirical analysis has also been performed using the short-term accruals version of the Jones (1991), Dechow *et al.* (1995) and Peasnell *et al.* (2001). In these models, represented above, working capital accruals WCA are calculated as total accruals plus depreciation and amortization expenses, and WCA are the dependent variable and variable representing property, plant and equipment (PPE_{jt}) is excluded from the right hand side (see expression 1).

3.2 Panel data approach

As an additional robustness test, we estimate different models using firm specific fixed effects, and including year specific dummy variables. We use panel data techniques as our cross sectional estimation might not be robust due to the relatively low number of observations in every industry-year portfolio. In particular, we employ industry-panels of non-event firms from January 1992 to December 2003, requiring a minimum of four observations per firm. The Jones (1991) model in panel-data is estimated as follow:

$$\left[\frac{TA_{jt}}{Assets_{jt-1}}\right] = \eta_j + \sum_{y=1992}^{2003} D_y\gamma_y + \alpha_s\beta_s\left[\frac{1}{Assets_{jt-1}}\right] + \quad [3]$$
$$+\delta_s\left[\frac{\triangle REV_{jt}}{Assets_{jt-1}}\right] + \lambda_s\left[\frac{PPE_{jt}}{Assets_{jt-1}}\right] + \mu_{jt}$$

The variables are the same as in the cross-sectional approach, except for the introduction of the unobservable heterogeneity coefficients in each equation, and the year dummy variables $\{D_y : y = 1992, \ldots 2003\}$to identify possible changes in mean accruals based on the economic cycle. Once the model is estimated using samples of sector-panels *clear* of earnings management, coefficients are use to *predict* the abnormal component, as we explained in the cross-sectional approach.

3.3 Adjusted accruals

Once we have estimated the discretionary accruals of the event companies we must be sure those accruals are due to the event we are analyzing. As Perry and Williams (1994), Holthausen and Lacker (1996) and Pastor and Poveda (2005) point out, in order to control for the possibility that those discretionary accruals of the event companies

may be due to different timing or industry behavior effects we have built a control sample.

We match each firm-year observation with another from the same industry and size, without labour agreement[9]. We call adjusted accrual the difference between accruals in the event sample and accruals in the matched non-event sample.

In order to test the general hypothesis of income decreasing practices before the contracts we will expect that:

a) The total and working capital accruals in event companies are lower than control sample the year before the agreement

b) Discretionary accruals in event companies are negative the year before the agreement and more negative than discretionary accruals in $t = 0$ and $t = +1$.

c) The adjusted discretionary accruals are negative the year before the agreement.

In order to test the significance of the observed, discretionary and adjusted accruals we use different tests[10]: t - statistic, Wilcoxon test and bootstrapping test[11].

[9] For each event firm we select as control firm a non-event company in the same industry closest in size. For this selection the firm size is measured as the mean total asset from year $t-1$ to year t.

[10] These tests do not correct for uncertainty in the (first stage) estimation of accruals.

[11] In order to contrast the hypotheses, in this study we have incorporated a non parametric test based on the methodology *bootstrap*. The bootstrapping procedure is a method for estimating the distribution of an estimator or test statistic by resampling one´s data. This consists of obtaining the empirical distribution of the target variable, that is, current accruals and abnormal current accruals of the companies with firm level agreement, and tests its significance in each year of the test period, based on that simulated distribution. The distribution of the conventional t statistic is simulated in order to obtain the critical values from that simulated distribution. In order to obtain the empirical distribution $M = 10.000$ sub-samples are subtracted with replacement of size $N_i = 100\%$ of the original sample $\{X_i : i = 1, \ldots, N\}$:

$\{X_{b,i} : i = 1, \ldots, N_b\}$ for $b = 1, ..., M$

The following statistic is calculated for each sub-sample:

$$t_b = \frac{\overline{X}_b - \overline{X}}{\widehat{\sigma}\left(X_{b,i}\right) \Big/ \sqrt{N_b}} \qquad \text{for } b = 1, \ldots, M$$

in which $\overline{X}_b$ and $\widehat{\sigma}\left(X_{b,i}\right)$ are the mean average and the standard deviation of sub-sample b.

4. The sample and descriptive statistics

Our sample consists of companies quoted on the Madrid Stock Market, which negotiate a firm level collective agreement between 1995 and 2002. These agreements are voluntary and their periodicity in the sample varies from 3 to 7 years, although in most case is normally every 3 years. The information regarding contract negotiations was drawn from Record of Collective Agreements Register. First, we collect information on Spanish firms with firm level collective agreement from the Register of collective agreements from Spanish Ministry of Employment. Collective Agreements in Spain must be registered in the Ministry of Employment and the conditions of the agreement must be issued in an official diary (B.O.E.) to be legally enforceable. We identify 281 listed firms that negotiate a firm-level labour agreement during the period 1995-2002. 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 appear in CNMV for the year before the negotiation takes place ($t = -1$), negotiation year ($t = 0$) and the following year ($t = +1$)
2. The company has not any equity rights offers, merger process, splits or any other relevant issue.
3. The company does not belong to the financial and insurance sectors.

Following this process if the number of extracted sub-samples, M, is high, we obtain a sample of bootstrap statistics, $\{t_b : b = 1, \ldots, M\}$, large enough to obtain the empirical distribution of the conventional t statistic. Using the percentiles of this distribution we can establish the acceptation and exclusion regions. Thus, the critical values X_L and X_u for an α significance level (bilateral contrast) will be those for which:

$$Pr(t_b \leq X_L) = Pr(t_b \geq X_u) = \frac{\alpha}{2}$$

And the zero hypothesis will be rejected if $t \leq X_L$ or $t \geq X_u$.

The final sample consists of 76 firm/observations which we call *event firms* which are classified into eight different industries. Panel A in table 1 shows the distribution of the event sample among the different industries and years.

TABLE 1
Sample distribution among years and sectors

The table shows the distribution of event sample and estimation sample, among years and sectors. We eliminate observations in estimation sample where there are fewer than ten observations in two-digit industry code for a given year. The industries are: OMI=Other Manufacturing Industries, MM= Metal Manufacture, CI=Chemistry Industry, EW=Utilities, TC=Transport and Communication, BM=Basic Metal, NT=New Technologies, CGC=Cement, Glass and Construction Materials, TOS=Trade and Other Services.

PANEL A
EVENT SAMPLE

	1995	1996	1997	1998	1999	2000	2001	2002	TOTAL
OMI	3	2	2	1	0	2	1	2	13
MM	3	0	2	1	0	1	0	0	7
CI	2	1	0	0	0	0	0	0	3
EW	2	6	3	2	3	3	1	2	22
TC	1	2	3	4	3	0	1	2	16
BM	0	0	0	0	0	1	0	0	1
NT	0	1	0	0	2	1	0	0	4
CGC	1	0	0	0	1	0	1	0	3
TOS	1	0	0	1	2	1	2	0	7
TOTAL	13	12	10	9	11	9	6	6	76

PANEL B
ESTIMATION SAMPLE

	1995	1996	1997	1998	1999	2000	2001	2002	TOTAL
OMI	47	47	46	44	0	41	40	36	301
MM	14	0	10	10	0	10	0	0	44
CI	10	10	0	0	0	0	0	0	20
EW	25	25	24	23	18	16	14	15	160
TC	18	18	18	17	16	0	15	12	114
BM	0	0	0	0	0	10	0	0	10
NT	0	10	0	0	10	10	0	0	30
CGC	10	0	0	0	10	0	10	0	30
TOS	19	0	0	16	18	18	16	0	87
TOTAL	143	110	98	110	72	105	95	63	796

We can observe that most of the observations of the event companies are in the first years[12]. More that 50% of the observations belong to three industries (utilities, transport and communications and other manufacturing industries).

TABLE 2
Descriptive analysis. Event sample and estimation sample for industry

Average of certain financial and accounting variables in event sample (M1) and estimation sample (M2). The industries are: OMI=Other Manufacturing Industries, MM= Metal Manufacture, CI=Chemistry Industry, EW=Utilities, TC=Transport and Communication, BM=Basic Metal, NT=New Technologies, CGC=Cement, Glass and Construction Materials, TOS=Trade and Other Services.

INDUSTRY	SAMPLE	Size	Employment	Lc/empl	Capital intensity	Earnings
OMI	M1	1089,38***	6183**	63,2***	110,87	71,44***
	M2	210,62	3057	29,5	142,79	11,23
MM	M1	1591,91***	4424,18***	38,37*	248,6*	33,45***
	M2	152	2136,21	32,31	73,4	12,7
CI	M1	12173,52***	1175,50	45,00	204,25	44,57***
	M2	102,48	984,75	39,50	102,75	8,57
EW	M1	5869,13	9254	45,61	402,78	414,8
	M2	5909,31	13078	39,75	350	350,9
TC	M1	29388,29***	60417,25**	38,75	795,80	992,42***
	M2	3990,32	3113,80	39,30	498,9	-60,97
MM	M1	1126,25**	16073,00**	38,00	185	37,53***
	M2	386,54	1575,67	33,50	183,75	56,18
NT	M1	307,47	1970,75*	31,38	37,57**	6,41**
	M2	520,47	3443,43	33,29	196,85	19,61
CGC	M1	542,68*	2710,40	70,80**	149,4	54,98***
	M2	132,29	535,33	30,00	116,5	13,78
TOS	M1	390,14	12819	21,88	35,11	22,0
	M2	762,29	6100	21,76	130,35	41,4

Size: Market capitalisation in thousand €; Employment: Number of employees the year the agreement is signed; Labour costs/number of employees in thousand €; Annual earnings in million €; Capital intensity: Equity/number of employees. * Significantly different at 10%; ** significantly different at 5%; *** significantly different at 1%

In panel B we can observe the distribution of each sample (industry-year) used to estimate the coefficients of the models. As we explain in the previous section, to estimate the normal component of accruals we need firms, without labour agreement, in the same two-digit CNMV

[12] This difference through the years is due mainly to the exclusions of observations when, apart from having a firm level agreement they have other events that could influence earnings management.

code as the event firm. In order to get more robustness in results, we consider as *non-event firms* those companies that do not negotiate a labour agreement and do not present conversions, equity offerings, mergers, splits or others events given that they could contaminate the coefficients estimation. The estimation samples are taken from the panel illustrated in panel B of Table 1 for the 9 sectors and 8 years employed in this study.

As we use a different estimation sample for each industry it is interesting to show some differences between the companies with and without firm agreement in that year. The variables are size, number of workers, marginal cost per worker, wage per worker capital per worker and accounting earnings. It is shown in Table 2 that event companies in each year are bigger companies in terms of size and number of workers. However in industries without industry level agreement (such as utilities, where all the companies have firm level agreements), there are no significant differences between companies with firm level agreement and without firm level agreement in that year. Table 2 also shows that wage per worker is higher in companies with firm level agreements.

Focusing on accounting earnings it is observed that they are higher in companies with firm level agreements. This is consistent with Jimeno and Rodríguez's (1996) argument regarding greater pressure exercised by unions to sign firm level agreements with companies with higher incomes in order to obtain a transfer of that wealth.

Table 3 and 4 show some descriptive statistics of the variables in the accruals models for the event sample and the estimation sample as a whole since year $t = -1$ until year $t = +1$

Table 3 shows that the mean and the median of total accruals (TA) in the event companies are significantly negative at 1% statistical level in the year prior to the firm level collective agreement ($t = -1$) , due to the working capital component. However these working capital components are positive and statistically different from zero in the event year and the year after the agreement ($t = 0$ and $t = +1$). On the contrary, Table 4 shows working capital accruals in non-event companies are statistically significantly positive every year. Total observed accruals are negative in both cases but more negative in the event sample. The values of the remaining variables are very similar in both samples and consistent with the values obtained in previous studies.

TABLE 3
Descriptive statistics of the analysis variables for event sample

Table 3 reports the mean, median, standard deviation, skewness and Kurtosis of analysis variables for the entire event sample. We exclude observations if they do not have sufficient data to construct the accrual measures. All the statistics were computed using the variables divided by lagged total assets, as they are used to estimate the models. The t-test and the sign and rank Wilcoxon test were used.

YEAR -1 VARIABLE	Mean	Median	Std. Dev.	Skewness	Kurtosis	Observations
TA	-0,078***	-0,067***	0,067	-0,634	3,378	76
WCA	-0,029***	-0,011***	0,062	-1,248	1,778	76
PPE	0,527***	0,521***	0,271	-0,117	2,129	76
REV	0,779***	0,550***	0,643	0,466	2,914	76
ΔREV	0,079***	0,042***	0,187	0,473	1,408	76
ΔDEB	0,015***	0,009***	0,049	0,419	1,509	76
ΔCF	0,058***	0,034***	0,104	0,531	1,622	76
ROA	0,041***	0,039***	0,062	-0,728	6,370	76
YEAR 0 VARIABLE	Mean	Median	Std. Dev.	Skewness	Kurtosis	Observations
TA	-0,036***	-0,035***	0,054	-0,247	1,251	76
WCA	0,012**	0,004**	0,048	0,282	1,513	76
PPE	0,523***	0,528***	0,271	-0,068	2,059	76
REV	0,825***	0,558***	0,730	0,856	1,890	76
ΔREV	0,105***	0,051***	0,179	0,847	1,437	76
ΔDEB	0,021**	0,014**	0,058	0,174	1,071	76
ΔCF	0,003	0,008	0,102	0,284	2,011	76
ROA	0,050***	0,043***	0,048	0,806	5,757	76
YEAR +1 VARIABLE	Mean	Median	Std. Dev.	Skewness	Kurtosis	Observations
TA	-0,039***	-0,042***	0,065	0,062	2,833	76
WCA	0,009	0,006	0,060	-0,162	1,171	76
PPE	0,510***	0,536***	0,272	0,054	0,211	76
REV	0,850***	0,591***	0,725	0,595	1,844	76
ΔREV	0,089***	0,042***	0,182	1,854	1,635	76
ΔDEB	0,016***	0,008***	0,041	0,673	1,630	76
ΔCF	0,007	0,011	0,107	-0,728	1,595	76
ROA	0,043***	0,040***	0,053	-0,926	6,864	76

TA=observed total accruals; WCA=working capital accruals; PPE=gross property, plant and equipment; REV=revenues; ΔREC=change in revenues; ΔDEB=change in trade debtors; ΔCF=change in cash-flow and ROA= return of assets.

*Significantly different from zero at 10%; ** significantly different from zero at 5%; ***significantly different from zero at 1%.

TABLE 4
Descriptive statistics of the analysis variables for estimation samples

Table 4 reports the mean, median, standard deviation, Skewness and Kurtosis of analysis variables for the entire estimation sample, that is, firms without firm level agreement. We exclude observations if they do not have sufficient data to construct the accrual measures. All the statistics were computed using the variables divided by lagged total assets, as they are used to estimate the models. The t-test and the sign and rank Wilcoxon test were used.

YEAR -1 VARIABLE	Mean	Median	Std. Dev.	Skewness	Kurtosis	Observations
TA	-0,034***	-0,032***	0,085	1,480	1,132	119
WCA	0,015**	0,011**	0,078	1,884	1,345	119
PPE	0,422**	0,385**	0,261	0,696	3,021	119
REV	0,941***	0,886***	0,626	0,092	1,533	119
ΔREV	0,088***	0,062***	0,262	-2,500	2,152	119
ΔDEB	0,020**	0,010**	0,068	1,831	1,219	119
ΔCF	0,010	0,012	0,119	-1,237	1,024	119
ROA	0,043***	0,042***	0,059	-0,538	7,974	119
YEAR 0 VARIABLE	Mean	Median	Std. Dev.	Skewness	Kurtosis	Observations
TA	-0,028***	-0,037***	0,113	2,531	1,480	115
WCA	0,014**	0,011**	0,108	2,352	1,440	115
PPE	0,396**	0,352**	0,240	0,591	2,685	115
REV	0,960**	0,897**	0,692	1,463	2,285	115
ΔREV	0,083**	0,049**	0,275	3,063	1,664	115
ΔDEB	0,018**	0,010**	0,082	1,655	2,900	115
ΔCF	0,013	0,029	0,195	-2,301	1,452	115
ROA	0,046***	0,047***	0,087	-0,957	2,825	115
YEAR +1 VARIABLE	Mean	Median	Std. Dev.	Skewness	Kurtosis	Observations
TA	-0,024***	-0,026***	0,071	0,213	1,651	112
WCA	0,021**	0,019**	0,067	0,018	1,037	112
PPE	0,417**	0,400**	0,248	0,773	1,451	112
REV	0,881***	0,792***	0,594	1,628	1,790	112
ΔREV	0,072***	0,049***	0,167	1,436	2,136	112
ΔDEB	0,032**	0,025**	0,062	1,089	1,032	112
ΔCF	0,014	0,008	0,132	1,160	2,264	112
ROA	0,039***	0,036***	0,048	-0,188	5,306	112

TA=observed total accruals; WCA=working capital accruals; PPE=gross property, plant and equipment; REV=revenues; ΔREC=change in revenues; ΔDEB=change in trade debtors; ΔCF=change in cash-flow and ROA= return of assets.

*Significantly different from zero at 10%; ** significantly different from zero at 5%; ***significantly different from zero at 1%.

5. Empirical results

5.1 Total and working capital accruals

As a first approximation we observe the behavior of accruals in the event and control sample. As accruals can be different depending on the industry Table 5 shows for the estimation period ($t = -1$ till $t = 1$) the total accruals and working capital accruals for each industry.

TABLE 5
Accruals around the firm level collective agreement

Table 5 shows total and working capital accruals for event sample and control sample. The industries are: OMI=Other Manufacturing Industries, MM= Metal Manufacture, CI=Chemistry Industry, EW=Utilities, TC=Transport and Communication, BM=Basic Metal, NT=New Technologies, CGC=Cement, Glass and Construction Materials, TOS=Trade and Other Services. TA=total accruals, calculated as change in non-cash current assets minus the change in current liabilities excluding the current portion of long-term debt, minus depreciation and amortization; WCA=working capital accruals, calculated as total accruals plus depreciation and amortization expenses; We test the null hypothesis the equality of means between event and matched firm using t-statistic, Wilcoxon test and bootstrap only for whole sample. We only show the significance of t-statistic.

		EVENT SAMPLE			SIZE CONTROL SAMPLE		
INDUSTRY	variable	YEAR -1	YEAR 0	YEAR +1	YEAR -1	YEAR 0	YEAR +1
OMI	WCA	-0,033	0,043	0,009	0,020	-0,026	0,043
N=13	TA	-0,097	-0,012	-0,046	-0,020	-0,061	0,004
MM	WCA	-0,075	0,033	0,003	0,036	0,006	-0,025
N=7	TA	-0,131	-0,021	-0,044	-0,021	-0,068	-0,088
CI	WCA	0,017	0,009	0,022	0,000	0,023	0,025
N=3	TA	-0,008	-0,017	-0,006	-0,038	-0,020	-0,019
EW	WCA	-0,015	0,011	0,009	0,003	0,006	-0,003
N=22	TA	-0,067	-0,039	-0,041	-0,045	-0,042	-0,051
TC	WCA	-0,000	0,004	0,000	-0,001	-0,009	-0,014
N=16	TA	-0,046	-0,041	-0,050	-0,020	-0,027	-0,036
BM	WCA	-0,028	0,020	0,006	0,027	0,144	-0,100
N=1	TA	-0,080	-0,032	-0,046	-0,024	0,086	-0,151
NT	WCA	-0,051	-0,006	-0,011	0,010	0,007	-0,014
N=4	TA	-0,082	-0,039	-0,041	-0,017	-0,018	-0,042
CGC	WCA	-0,020	0,011	0,001	0,000	-0,014	0,010
N=3	TA	-0,100	-0,073	-0,084	-0,079	-0,101	-0,069
TOS	WCA	-0,037	0,038	0,032	-0,055	0,034	0,039
N=7	TA	-0,069	0,000	-0,005	-0,079	0,011	0,021
TOTAL	WCA	-0,029 a	0,012	0,009	0,004	0,019	-0,004
N=76	TA	-0,078 a	-0,036	-0,039	-0,038	-0,027	-0,048

a, b, c Significantly different from size control sample at 1%, 5% y 10% respectively.

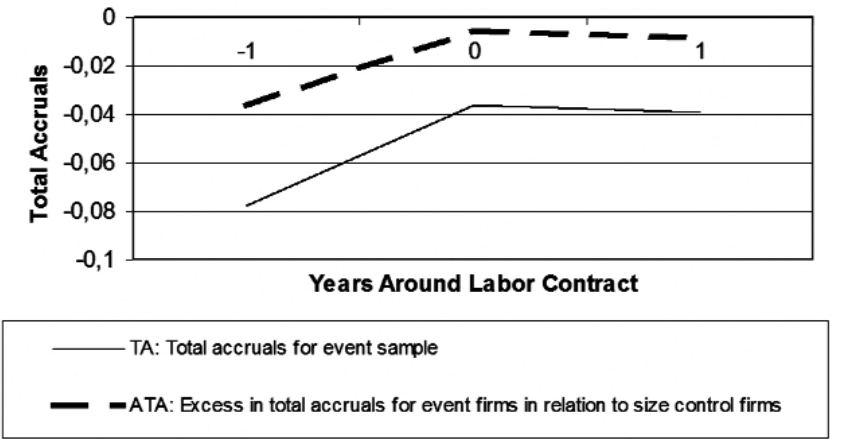
The results show that the amount of accruals is different for each industry. However, independently of the industry, accruals in event companies are more negative than in the matched companies. When we consider the whole sample, the results show that the total accruals and working capital accruals are statistically significantly more negative in the year prior to the agreement ($t = -1$) for the event companies that for the matched companies. For years $t = 0$ and $t = +1$ accruals in event companies are more negative that the matched companies, but those differences are not significant.

If we consider accruals in the control sample matched by size and industry we can observe than in year $t = -1$ the difference between the event company and its matched size-industry-company is -0.036 and -0.021 for total accrual and working capital accruals respectively and those differences are significant at 1% for all the tests.

Those results show that in year $t = -1$ the observed accruals in event companies are more negative that the observed accruals in the matched companies and those differences are significant. Those differences are not significant in year $t = 0$ and $t = +1$.

These results are consistent with the managers depressing accounting earnings the year prior to the signing of the collective agreement.

FIGURE 1
Total accruals around labor contract



For a better appreciation of results in table 5, we represent graphically the time profile of total accruals and the differences in total accruals between the event sample and control samples. In particular, figure

1 shows as the performance of accruals around the firm level collective agreement matches up perfectly with the earnings management hypothesis. In the year previous to the event there is a clear decrease and subsequently, there is a clear change arising in the zero and first year after the event.

5.2 Discretionary accruals

Table 6 shows the results when we separate accruals in the discretionary and non-discretionary components in order to see if the results shown in the previous sections are due to managers´ behavior. Table 6 shows the discretionary accruals using the models Jones (1991), Dechow *et al.* (1995), Kasznik (1999), Peasnell *et al.* (2000) and Kothari *et al.* (2005), on long and short-term accruals versions. We test the null hypothesis that the mean of discretionary accruals is equal to zero using t-statistic. In order to analyze the robustness of the results, in this study we have incorporated a non parametric test based on bootstrap methodology, and we obtain the same results.

If we focus on the Jones (1991), Kasznik (1999), and Kothari *et al.* (2005) models of long-term discretionary accruals version, we notice that the lowest level of this variable is obtained in year -1, reaching a value of -0,031 for Jones model, -0,032 for Kasznik model and -0,037 for Kothari model, with a statistical p-value for all them around 0% for cross- section approach. If we observe the years after the agreement, we can see that the discretionary accruals, although still negative, they are not statistically significant.

Regarding Jones (1991) and Dechow *et al.* (1995) models in their short-term versions and Peasnell *et al.,* (2000) model, we can observe the same results, that is, the presence of discretionary current accruals, statistically significant, in year -1. The lowest level of this variable is obtained applying Dechow *et al.* (1995) model, with a value of -0,046 significantly different from zero at 1% for cross-section approach. Regarding the remaining years, we can see the same pattern that in the long-term models versions, that is, the presence of negative discretionary current accruals the years after the agreement, but they are not statistically significant. We obtain the same result using panel the data approach.

TABLE 6

Discretionary accruals around the firm-level agreement. Cross section and panel data estimation

The table 6 shows the discretionary accruals calculated using different models. We test the null hypothesis the mean of abnormal accruals is equal to zero and equality of means between t=-1 and the rest of years using t-statistic. The number of observation in each model is 76. *A, B, C* Significantly different from discretionary accruals year 0 at 1%, 5% y 10% respectively. *a, b, c* Significantly different from discretionary accruals year +1 at 1%, 5% y 10% respectively.

	YEAR -1				YEAR 0				YEAR +1			
MODEL	CROSS SECTION		PANEL DATA		CROSS SECTION		PANEL DATA		CROSS SECTION		PANEL DATA	
	DACC	t-statistic	DACC	t-statistic	DACC	t-statistic	DACC	t-statistic	DACC	t-statistic	DACC	t-statistic
1) JONES L.P.	-0,031A, a	-1,96	-0.038	-4.55	-0,014	-1,25	0.003	0.50	-0,001	-0,11	-0.009	-0.95
2) KASZNIK L.P.	-0,032C,b	-3,14	-0.019	-2.63	-0,015	-1,04	-0.003	-0.61	-0,007	-0,97	0.000	0.02
3) KOTHARI L.P	-0,037A,b	-2,78	-0.039	-4.96	-0,012	-1,26	0.001	0.21	-0,009	-0,74	-0.011	-1.28
4) JONES C.P.	-0,035A, a	-3,34	-0.027	-3.72	-0,001	-0,45	0.001	0.43	-0,002	-0,11	0.002	0.30
5) DechowC.P.	-0,053A, a	-2,34	-0.025	-3.20	-0,008	-0,22	0.001	0.38	-0,003	-0,45	0.003	0.45
6) PEASNELL	-0,046A, a	-2,36	-0.018	-1.77	-0,009	-0,56	0.002	0.26	-0,001	-0,13	0.011	0.96

We show the specification of each model. Subscripts i and t refers to company and period, respectively. Assetsit-1 is lagged total asset. TA=observed total accruals, calculated as change in non-cash current assets minus the change in current liabilities excluding the current portion of long-term debt, minus depreciation and amortization; WCA=working capital accruals, calculated as total accruals plus depreciation and amortization expenses; PPE=gross property, plant and equipment; REV=revenues; ΔREV=change in revenues; ΔTD=change in trade debtors; ΔCF=change in cash-flow, cash-flow is computed as earnings before extraordinary items minus total accruals and ROA= return of assets, calculated as net income divided by total assets.

1) $\frac{TA_{it}}{Assets_{it-1}} = \beta_0 + \beta_1 \left[\frac{1}{Assets_{it-1}}\right] + \beta_2 \left[\frac{\triangle REV_{it}}{Assets_{it-1}}\right] + \beta_3 \left[\frac{PPE_{it}}{Assets_{it-1}}\right] + \mu_{it}$

2) $\frac{TA_{it}}{Assets_{it-1}} = \beta_0 + \beta_1 \left[\frac{1}{Assets_{it-1}}\right] + \beta_2 \left[\frac{\triangle REV_{it}}{Assets_{it-1}}\right] + \beta_3 \left[\frac{PPE_{it}}{Assets_{it-1}}\right] + \beta_4 \left[\frac{\triangle CF_{it}}{Assets_{it-1}}\right] + \mu_{it}$

3) $\frac{TA_{it}}{Assets_{it-1}} = \beta_0 + \beta_1 \left[\frac{1}{Assets_{it-1}}\right] + \beta_2 \left[\frac{\triangle REV_{it}}{Assets_{it-1}}\right] + \beta_3 \left[\frac{PPE_{it}}{Assets_{it-1}}\right] + \beta_4 \left[\frac{ROA_{it}}{Assets_{it-1}}\right] + \mu_{it}$

4) $\frac{WCA_{it}}{Assets_{it-1}} = \beta_0 + \beta_1 \left[\frac{1}{Assets_{it-1}}\right] + \beta_2 \left[\frac{\triangle REV_{it}}{Assets_{it-1}}\right] + \mu_{it}$

5) $\frac{WCA_{it}}{Assets_{it-1}} - \widehat{\beta}_0 - \widehat{\beta}_1 \left[\frac{1}{Assets_{it-1}}\right] - \widehat{\beta}_2 \left[\left(\frac{\triangle REV_{it} - \overbrace{\triangle TD_{it}}^{adjustment}}{Assets_{it-1}}\right)\right]$

6) $\frac{WCA_{it}}{Assets_{it-1}} = \beta_0 + \beta_1 \left[\frac{1}{Assets_{it-1}}\right] + \beta_2 \left[\frac{REV_{it}}{Assets_{it-1}}\right] + \beta_3 \left[\frac{REV_{it} - \triangle TD_{it}}{Assets_{it-1}}\right] + \mu_{it}$

TABLE 7
Adjusted discretionary accruals measures around the firm level agreement

The table 7 shows the results of the alternative abnormal accruals measures using several models. We test the null hypothesis the equality in means between event and matched firms using t-statistic. ADA: mean excess in discretionary accruals of event firms in relation to size-matched firm. Number of observations in each model is 76.

	CROSS SECTION		PANEL DATA	
YEAR/VARIABLE	*ADA*	*t-sta*	*ADA*	*t-sta*
1) JONES L.P.				
-1	-0,045	2,54	-0,048	-4,41
0	-0,020	1,25	-0,003	-0,434
1	0,001	0,11	-0,016	-1,445
2) KASZNIK L.P.				
-1	-0,048	3,76	-0,033	-3,54
0	-0,019	1,25	-0,017	-1,37
1	-0,003	0,09	-0,006	-0,83
3) KOTHARI L.P.				
-1	-0,049	3,42	-0,046	-4,22
0	-0,016	1,38	-0,001	-0,196
1	0,001	0,08	-0,016	-1,55
4) JONES C.P.				
-1	-0,048	4,14	-0,023	-2,39
0	-0,013	1,09	0,018	1,59
1	0,015	1,29	0,003	0,49
5) DECHOW C.P.				
-1	-0,036	4,15	-0,024	-2,31
0	-0,011	1,22	0,016	1,20
1	0,003	0,08	0,002	0,35
6) PEASNELL				
-1	-0,061	2,63	-0,022	-2,18
0	-0,015	0,89	0,003	1,28
1	0,005	0,5	0,004	0,39

We show the specification of each model. Subscripts i and t refers to company and period, respectively. Assetsit-1 is lagged total asset. TA=observed total accruals, calculated as change in non-cash current assets minus the change in current liabilities excluding the current portion of long-term debt, minus depreciation and amortization; WCA=working capital accruals, calculated as total accruals plus depreciation and amortization expenses; PPE=gross property, plant and equipment; REV=revenues; ΔREV=change in revenues; ΔTD=change in trade debtors; ΔCF=change in cash-flow, cash-flow is computed as earnings before extraordinary items minus total accruals and ROA= return of assets, calculated as net income divided by total assets.

$$1)\ \frac{TA_{it}}{Assets_{it-1}} = \beta_0 + \beta_1\left[\frac{1}{Assets_{it-1}}\right] + \beta_2\left[\frac{\triangle REV_{it}}{Assets_{it-1}}\right] + \beta_3\left[\frac{PPE_{it}}{Assets_{it-1}}\right] + \mu_{it}$$

$$2)\ \frac{TA_{it}}{Assets_{it-1}} = \beta_0 + \beta_1\left[\frac{1}{Assets_{it-1}}\right] + \beta_2\left[\frac{\triangle REV_{it}}{Assets_{it-1}}\right] + \beta_3\left[\frac{PPE_{it}}{Assets_{it-1}}\right] + \beta_4\left[\frac{\triangle CF_{it}}{Assets_{it-1}}\right] + \mu_{it}$$

$$3)\ \frac{TA_{it}}{Assets_{it-1}} = \beta_0 + \beta_1\left[\frac{1}{Assets_{it-1}}\right] + \beta_2\left[\frac{\triangle REV_{it}}{Assets_{it-1}}\right] + \beta_3\left[\frac{PPE_{it}}{Assets_{it-1}}\right] + \beta_4\left[\frac{ROA_{it}}{Assets_{it-1}}\right] + \mu_{it}$$

$$4)\ \frac{WCA_{it}}{Assets_{it-1}} = \beta_0 + \beta_1\left[\frac{1}{Assets_{it-1}}\right] + \beta_2\left[\frac{\triangle REV_{it}}{Assets_{it-1}}\right] + \mu_{it}$$

$$5)\ \frac{WCA_{it}}{Assets_{it-1}} - \widehat{\beta}_0 - \widehat{\beta}_1\left[\frac{1}{Assets_{it-1}}\right] - \widehat{\beta}_2\left[\left(\frac{\triangle REV_{it} - \overbrace{\triangle TD_{it}}^{adjustment}}{Assets_{it-1}}\right)\right]$$

$$6)\ \frac{WCA_{it}}{Assets_{it-1}} = \beta_0 + \beta_1\left[\frac{1}{Assets_{it-1}}\right] + \beta_2\left[\frac{REV_{it}}{Assets_{it-1}}\right] + \beta_3\left[\frac{REV_{it} - \triangle TD_{it}}{Assets_{it-1}}\right] + \mu_{it}$$

Thus, we can see that independently of the model, discretionary accrual are statistically more negative in t=-1 than the rest of the years[13].

These results allow us to accept the hypothesis of earnings decreasing practices in the year previous to the event.

5.3 Adjusted accruals

Table 7 shows the results considering the matching sample, in this case, discretionary accrual of event sample minus size and industry -matched firms´ discretionary accruals (ADA). We test the null hypothesis the equality in means between event and matched firms using t-statistic, we obtain the same results with bootstrap.

For all models these differences (ADA) is greater and negative and statistically significant in year $t = -1$, while the differences in the years $t = 0$ and $t = +1$ are not statistically significant. The most important difference appears, using Peasnell et al.'s (2000) model, with a value of -0,061 for ADA in year -1, statistically significant at 1% level for cross-section approach.

These results allow us to reject the equality between event sample and its matched sample and they are consistent again with the hypothesis of managers depressing earnings before the agreement[14].

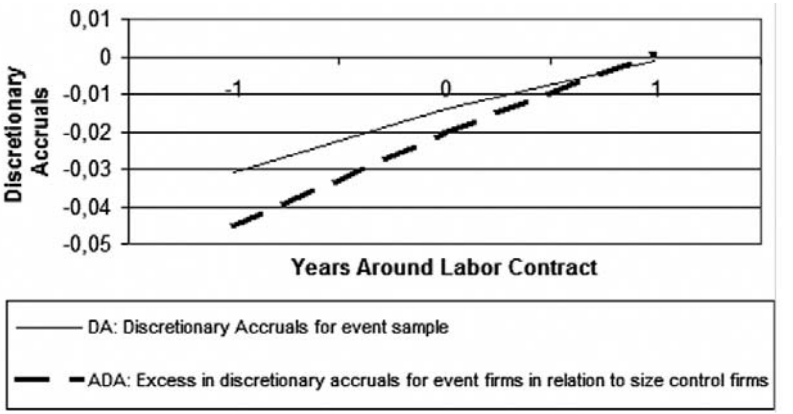
With the aim of illustrating graphically the performance of abnormal accruals analyzed in the present section, in Figure 2 we represent the time profile for the mean of the abnormal accruals estimation with Jones (1991) in his long-term version.

In this figure we can appreciate how event firm ´s discretionary accruals and adjusted abnormal accruals experiment a decrease before the agreement; they reach the minimum in the prior event year and rise afterwards.

[13] Additionally in order to show there is not a selection bias in the event sample we estimate the models for the whole sample (event and estimation sample) in $t = -1$, $t = 0$ and $t = +1$, and test the equality in means using Chow test. The results obtained for Jones model show a F-statistic of 3.97, 0.29 and 0.76 in $t = -1$, $t = 0$ and $t = +1$ respectively. So we reject the equality of means just for the year $t = -1$ which means there is not self-selection bias in the event sample.

[14] Some authors exclude utilities industries because as they are commonly regulated and that creates different incentives and opportunities for earnings management. We repeat the analysis excluding those companies and the results do not change.

FIGURE 2
Discretionary accruals around labor contract



In conclusion, we can say that our results show the existence of manipulation accounting practices to understate reported earnings before the firm level collective agreement.

6. Conclusions and implications

This paper adds evidence in support of contractual motivations for earnings management by looking at the effect of contracts with workers councils in an *open shop system.* Previous evidence was based on *close shop systems* as in the U.S. or Canada. The institutional framework about labour contracts on one side, and about earnings management on the other, are completely different in Europe. We consider a sample of Spanish companies to test the political costs hypothesis that considers managers who tend to decrease accounting earnings before labour contract agreements to avoid wage and other demands from workers. Previous literature obtained mixed results for companies in the context of a *close shop system.* Most of the studies obtained results which are not consistent with the hypothesis. At the same time most of the literature on earnings management regarding labour contracts does not use discretionary accruals models as a methodology to measure earnings management. In this paper, we obtain evidence consistent with the view that managers in Spain depress earnings before negotiations.

We consider that our study has two main implications:

On the one hand, evidence about motivation for earnings management helps standard setting bodies and users of information to better understand the accounting practices of companies. This is important to increase the quality of accounting earnings and so its relevance in the decision making process.

On the other hand, we show the importance of institutional factors in managers' motivation, and that these factors can differ from country to country. The international differences in earnings management affect the differences in earnings properties and quality, and this subsequently influences comparability of information. Under these circumstances the use of a common set of standards can not guarantee the comparability of accounting data, which seem to be one of the main goals of capital markets. Therefore, further in-depth studies on earnings management and accounting choices in Europe are, without doubt, an extremely important and necessary concern for future research and investigation.

Appendix A1

Differences between *Open Shop* and *Closed Shop* System

CLOSED 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.

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Resumen

La presencia de contratos ligados a las cifras contables, como un convenio colectivo de empresa, donde el sindicato utiliza esta información para llevar a cabo su estrategia en la negociación, podría propiciar la manipulación del resultado contable por parte de la gerencia. El objetivo del trabajo es analizar el efecto de la negociación colectiva sobre las cifras contables en un contexto institucional distinto al anglosajón, como es el caso de España, bajo la óptica de la hipótesis de costes políticos. Los resultados en la literatura previa no son concluyentes. Nuestro argumento es que las características de la estructura de negociación en España son las idóneas para que se cumpla la gestión del resultado a la baja por parte de la gerencia para evitar así una transferencia de riqueza de la empresa al trabajador. Los resultados obtenidos confirman la hipótesis.

Palabras clave: Ajustes por devengo, manipulación contable, negociación salarial.

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