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The impact of mandatory IFRS adoption on disclosure of macroeconomic risks by public firms in China

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Abstract

This paper presents the first empirical study on Chinese firms' disclosure of macroeconomic risks. We study the impact of mandatory IFRS adoption in 2007 on listed Chinese firms' disclosure of macroeconomic risks. 45 out of 100 firms improved their quality of disclosure in their 2010 annual report compared to 2005 (or 2006). We also find that firms which employ Big 4 audit firms, belong to financial services industry or have already implemented IFRS voluntarily before 2007 are more likely to improve their disclosure of macroeconomic influence. Despite the improvement, none of the firms in our sample reaches the satisfactory level of macroeconomic risks disclosure that can help outsiders filter out impact of macroeconomic fluctuation and understand the intrinsic performance of the firm. In terms of level of disclosure in 2010, firms employing Big 4, early adopters, larger firms and firms within financial services industry are more likely to have higher level of disclosure, which is consistent with previous studies.

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1. Introduction

With an increasing degree of economic integration, Chinese firms are becoming more international in the sense that they purchase raw materials, produce and/or sell their product in other countries. The implication is that an increasing number of Chinese firms are exposed not only to domestic macroeconomic conditions, but also to the uncertainty of conditions in the world economic arena. Among the most important macroeconomic factors are currency exchange rates, interest rates and inflation (Oxelheim, 2002). The importance of acknowledging macroeconomic risks is three-fold. First, a thorough analysis of a firm's macroeconomic risk factors and the size of their impact plays an important role in risk management, in the sense that optimal financial structure can be designed to hedge these exposures. One example of such analysis is MUST (Macroeconomic Uncertainty Strategy)-analysis, suggested by Oxelheim and Wihlborg (1997). Second, disclosure of sensitivities to macroeconomic risks and strategies to handle these risks serves to mitigate the agency problem between firm management and investors, and brings the benefit of lower cost of capital. Studies of developed countries show that failure to analyze and disclose macroeconomic factors can lead to higher cost of capital and lower level of investment (Healy and Palepu, 2001; Leuz and Wysocki, 2008; Oxelheim, 2008). Third, optimal disclosure of macroeconomic risks can help policy makers understand the real impact of macroeconomic fluctuations on firms and thus facilitate better policy making (Oxelheim, 2008).

Aiming to improve the quality of corporate information available for risk management, pricing of risk and policy making, China has recently adopted a local version of International Financial Reporting Standards (IFRS) in 2007. However, according to a previous study of the impact of EU's implementation of the same version of IFRS in 2005, there are only weak signs of improvement by European firms in terms of reporting macroeconomic influence (Oxelheim, 2008).

In our research we aim to investigate the impact of the 2007 IFRS implementation on Chinese firms' reporting of macroeconomic influence. We conduct our study by comparing the level of disclosure of macroeconomic influence in individual firm's annual reports of 2005 and 2010 (with the policy shock - introduction of IFRS in 2007), for a

sample of 100 largest public Chinese companies by market capitalization. In addition, we also analyze the firm characteristics associated with high level of disclosure in 2010.

The rest of the paper is organized in the following manner. Part 2 sets the background and hypotheses. Part 3 describes the method used in this paper. Part 4 reports the results and analysis. Part 5 concludes the paper.

2. Background and hypotheses

2.1 Background and research questions

Since the adoption of open-door policy in 1979, China has been gradually performing economic reform towards a market economy under the guidance of an old Chinese proverb “crossing the river by touching the stones on the river bed”. Privatization of state-owned and collectively-owned firms, emergence of private firms, foreign joint ventures and foreign firms have resulted in dramatic increase in the requirement for higher disclosure levels. The establishment of Shanghai Stock Exchange and Shenzhen Stock Exchange in 1990 and 1991 respectively has especially brought pressure for more transparency. Subsequently in 1992, the Ministry of Finance (MoF) of China launched a new version of accounting standards called “Accounting Standards for Business Enterprises” (ASBE), which is a major improvement in terms of financial reporting and disclosure compared to the old standards used in a planned economy. Since the implementation of the first market-oriented accounting standards ASBE in 1992, MoF has been continuously seeking to improve the Chinese accounting standards. The most recent effort is the adoption of a new generation of ASBE in 2007 which are almost identical to the current IFRS (Oxelheim, 2008).

The main standards defining the disclosure requirements related to macroeconomic exposure and corresponding risk management strategies for listed companies¹, part of which were absent in previous accounting standards, are ASBE 19 “Foreign currency translation”, ASBE 22 “Recognition and measurement of financial instruments”, ASBE 24 “Hedging”, ASBE 25 “Direct insurance contracts”, ASBE 30 “Presentation of

¹ We studied the ASBE rev. 2006 (available only in Chinese) on the website of China Accounting Standards Committee, Ministry of Finance, P.R.C. (http://www.casc.gov.cn/kifg/200607/t20060703_337130.htm)

financial statements”, ASBE 35 “Segment reporting”, ASBE 37 “Presentation of financial instruments”. Standards require companies to disclose nature of business and major operations (ASBE 30), information about geographical and business segments (ASBE 35), information about financial instruments used, risk exposure (e.g. to credit, liquidity or market risk) and risk management strategies related to financial instruments (ASBE 22 and 37). Although the current version of accounting standards requires only partial description of macroeconomic risks, it has provided a direction in which Chinese firms could improve in terms of their reporting of macroeconomic risks.

In the setting of IFRS adoption in China, our study intends to answer two questions:

1. Did the IFRS adoption facilitate improvement of corporate disclosure in terms of reporting macroeconomic risks? If so, what kinds of firms are more likely to improve their disclosure level?
2. What kinds of firms tend to have higher level of disclosure in their current financial reporting (2010 annual report)?

2.2 Hypotheses

Based on previous studies, we formulate the following hypotheses:

2.2.1 Auditor type

According to signaling theory, firms choose large, well-know auditors (e.g., Big 4, namely Deloitte, PWC, Ernst & Young and KPMG) in order to signal to investors high quality and authenticity of their financial reporting (Datar et al., 1991). Agency theory also suggests that auditing serves as a way to mitigate the agency problem between the shareholders and firm management because large audit firms are more likely to be independent and require high compliance with accounting standards. Studies show that the size and the reputation of the auditor firm have an impact on corporate financial disclosure (Malone et al., 1993).

The audit market is rather fragmented in China compared to western countries such as US and UK (Li et al., 2005). In Chinese market, the Big 4 earn a significant audit fee premium over the second tier auditors due to their brand reputation as well as their

industry specialization (Wang et al., 2009). Xiao et al. (2004) also confirmed that the Chinese firms audited by Big 4 have higher voluntary internet-based corporate financial disclosure. Moreover, the Chinese Securities Regulation Commission (CSRC) recommends companies that issue B-shares to employ Big 4 auditors to ensure high credibility of their annual report. Based on signaling theory, agency theory, high reputation of Big 4 audit firms in China, policy requirement from Chinese government, and previous evidence of high correlation between Big 4 and corporate disclosure, we form the following hypothesis:

H1: Firms audited by Big 4 tend to have higher disclosure level and are more likely to improve disclosure in line with new accounting standards.

2.2.2 Risk management committee/chief risk officer

Some literature argues that setting up a risk management committee to oversee risk management serves as a signal both internally and externally about the board of directors' attitude towards risk management (Kleffner et al., 2003; Hoyt et al., 2006). Study conducted by Beasley et al. (2007) provides evidence that the US equity market responds positively to a firm's announcement of setting up a risk management committee or alternatively appointing a chief risk officer (CRO). We hereby form our second hypothesis:

H2: Firms that have a risk management committee/chief risk officer tend to have higher disclosure level and are more likely to improve disclosure in line with new accounting standards.

2.2.3 Independent board directors

The board of directors serves as an instrument for investors and other stakeholders to monitor the management's performance, which entitles them to require high level of corporate disclosure. Beasley (1996) shows that independent board directors can mitigate the problem of financial statement fraud. Independent directors are also positively associated with higher quality of earnings forecast made by management (Ajinkya et al., 2005). For firms in Hong Kong, Chen and Jaggi (2000) report that the

comprehensiveness of corporate disclosures is correlated with the share of independent board directors. [Xiao et al. \(2004\)](#) find that Chinese firms with larger proportion of independent board directors tend to have higher level of internet-based disclosure. In the same vein, we expect:

H3: Independent board directors can facilitate higher level of disclosure of a firm's macroeconomic risks and require improvement in disclosure level in line with new accounting standards.

2.2.4 B-share or cross-listing

Studies show that there is a positive relationship between firms' corporate disclosure and their cross-listed status. [Meek et al. \(1989\)](#) show that Continental European firms cross-listed on London Stock Exchange have higher level of mandatory and voluntary disclosure. [Xiao and Yuan \(2007\)](#) find that foreign listing/shares ownership is favorably associated with corporate disclosure among Chinese firms.

Firms can issue B-shares on the two main stock exchanges in mainland China. The face value of B-shares is denominated in foreign currency, aiming for foreign investors. Firms issuing B-shares are required by the CSRC to follow IFRS in their financial reporting. Additionally, due to language barrier, foreign investors face higher information asymmetry and thus are more likely to demand more information disclosure. Moreover, most cross-listed Chinese firms are registered in developed countries such as USA, UK and Hong Kong, where a higher standard of financial disclosure is required.

H4: Cross-listed firms and firms issuing B-shares have higher disclosure of macroeconomic risks and are more likely to improve disclosure in line with new accounting standards.

2.2.5 State ownership

Because of China's gradual approach towards market reform, a considerable share of firms listed on the two mainland stock exchanges are partially owned by the state. Gradually decreasing share of state ownership reflects the government's effort to improve productivity and corporate management. The government represent a different kind of

stakeholder and may consider the importance of social order and wealth distribution, rather than simply efficiency and profitability, and consequently put less pressure on corporate disclosure (Xu and Wang, 1999). Moreover, as the state generally has direct access to corporate information, a larger share of state ownership would lead to less pressure on disclosing information to the general public (Xiao et al., 2004).

H5: Firms with larger share of state-ownership tend to have lower disclosure level and are less likely to improve disclosure in line with new accounting standards.

3. Research Methodology

3.1 Measure of macroeconomic risk disclosure

We use information provided in a firm's annual report to gauge the level of disclosure of macroeconomic risks. Following the method proposed by Oxelheim et al. (2002), we classify each financial report into one of the following four categories (two quantitative and two qualitative):

1. Non-quantitative reporting type 1: No specification of macroeconomic variables, the magnitude of their influence, or strategies are described.
2. Non-quantitative reporting type 2: Macroeconomic variables, the magnitude of their influence and the strategies are described in general terms but without further detailed specification. Typical examples are: "The firm's business has been negatively affected by changes in USD/RMB exchange rates" or "The sales benefit from a lower interest rate which stimulate domestic demand".
3. Quantitative reporting type 1: Quantitatively describing some (but not all) information about important macroeconomic variables, the magnitude of their impact and strategies to handle them. A typical example is the case only one coefficient is given: "For every 1 000 RMB increase of the aviation oil price, net income reduces by 4 000 000 RMB."
4. Quantitative reporting type 2: A complete specification of significant macroeconomic variables, their corresponding coefficients in a multivariate framework. Furthermore, the company's strategies to cope with these risks in the past and future are disclosed. This

type of quantitative reporting is consistent with the output of a MUST-analysis (Oxelheim, 2008).

3.2 Sample

Our sample includes 100 Chinese firms publicly traded on the two stock exchanges in mainland China. Because there is no existing categorization of Chinese firms according to the 4 groups defined above, it requires us to read each annual report manually to assign a disclosure score. Due to time constraint, we limit the sample size to 100 largest firms by market capitalization as of 1st May 2011. These firms also satisfy the criteria of conducting their IPOs before (and including) 2006². We choose the largest firms on the one hand because we expect that large firms are more likely to have the resources to meet requirement of the newly adopted IFRS and disclose more in terms of their macroeconomic risks (Xiao et al., 2004); this way we can rule out the case that lack of resources causes poor disclosure. On the other hand, picking the largest firms would make our analysis serve more audience since larger firms are of higher concerns for both investors and policy makers.

3.3 Multivariate framework

We use the following logistic model to study our five hypotheses and answer the first question of the paper:

$$\text{CHANGE_GROUP} = f(\text{BIG4}, \text{CRO}, \text{INDEPENDENT_MEMBERS}, \text{CROSS_LISTED}, \text{STATE_OWNERSHIP}, \text{LNREVENUE}, \text{LEVERAGE}, \text{ROA}, \text{EARLY_ADOPTERS}, \text{INDUSTRY_GR_FIN}, \text{INDUSTRY_GR_IND}, \text{COASTAL})$$

The dependent variable CHANGE_GROUP is a dummy variable, equal to 1 if a company improved disclosure level (ranked in higher disclosure group in 2010 than in 2005/2006), and 0 otherwise. BIG4, CRO and CROSS_LISTED are dummy variables, reflecting if the company was audited by one of the Big4 firms, if the company appointed a chief risk officer or had a risk management committee, and if the company issued B-share or was

² For 7 firms we use the annual reports of 2006 instead of 2005 due to lack of data in 2005. However we believe this has rather limited influence on the effectiveness of our results.

cross-listed on foreign exchanges. INDEPENDENT_MEMBERS refers to the percentage of independent directors on the Board of Directors. Percentage of issued shares owned by state is represented by STATE_OWNERSHIP.

In addition to 5 tested variables, we control for several other variables which are identified by literature as being relevant for corporate disclosure. The natural logarithm of annual revenue (LNREVENUE) is included to capture firm size effect. As a firm's size grows, the impact of macroeconomic fluctuations on the firm is likely to be larger. Moreover, larger firms tend to disclose more information because they are more likely to be subject to public scrutiny (Leftwich et al., 1986). The positive correlation between firm size and disclosure is identified by literature (Colquitt et al., 1999; Xiao et al., 2004; Cooke, 1989).

We also controlled for firm leverage firstly because an increase in leverage would worsen the agency problem between creditors and firm management who tend to transfer wealth from creditors to shareholders. This agency problem would prompt creditors to increase their monitoring and require more corporate disclosure (Jensen and Meckling, 1976). Moreover, probability of default increases with higher leverage, consequently both the creditors and shareholders would demand more inside information for them to access financial health of a firm. We include firm profitability measure – return on assets (ROA), calculated as net profit divided by total assets³. Managers of firms with high profitability may choose to disclose more information to validate its capability of generating profits and to increase compensation (Inchausti, 1997). EARLY_ADOPTERS is included because we expect that mandatory implementation of IFRS is less likely to induce improvement if a firm has already adopted IFRS voluntarily in its 2005/2006 annual report.

We group the firms in our sample into three industries: financial services (including securities, banks and insurance companies, represented by INDUSTRY_GR_FIN), industrial (including industrials and materials, denoted as INDUSTRY_GR_IND) and other industries (utilities, energy, IT, telecom, consumer and health care). The logic

³ Here total asset is the average of the beginning and the end of year figure, to account for large changes of asset during the year.

behind such industry aggregation is: (1) According to regulations of CSRC, financial service firms in China face higher requirement of transparency than other industries; (2) We expect industrial firms to score lower on disclosure because they represent China’s “traditional” and less innovative firms. Non-industrial firms tend to be more innovative with their product or business approaches, therefore are more likely to improve their financial disclosure as well.

We control for geographic location of the firm with variable COASTAL (headquartered in coastal provinces of China). There is a considerably large gap in terms of economic development between coastal and non-coastal areas in China. Foreign Direct Investment (FDI) is significantly higher in coastal provinces than non-coastal provinces (Graham and Wada, 2001). As a result, we anticipate that firms based in coastal area would be more transparent, and possibly be more responsive to changes of financial reporting policies.

To answer the second question of this paper, we replace the dependent variable with the level of disclosure in 2010, which assumes ordinal value of 1, 2, 3 or 4. The same explanatory variables are used.

3.4 Marginal effect of logit model

Since the coefficients of the above multivariate framework cannot be directly interpreted, we also further calculate the marginal effect of each explanatory variable based on the methods described in Brooks C.’s book “Introductory Econometrics for Finance (second edition)”. Below is a brief description of method for calculating marginal effect when the dependent variable is binary.

For the fitted value of dependent variable $\hat{y} = a_1 + a_2x_2 + \dots + a_kx_k + \mu$, we have

$$y = \begin{cases} 0, & \text{if } \hat{y} < 0 \\ 1, & \text{if } \hat{y} \geq 0 \end{cases}$$

In the logit model, the probability density function of μ is $f(\mu) = \frac{e^\mu}{(1+e^\mu)^2}$. And the cumulative distribution function of μ is $F(\mu) = \frac{e^\mu}{1+e^\mu}$.

$$\begin{aligned}
P(y = 1) &= P(\hat{y} \geq 0) = P(\mu \geq -a_1 - a_2x_2 - \dots - a_kx_k) \\
&= F(a_1 + a_2x_2 + \dots + a_kx_k) = \frac{e^{a_1+a_2x_2+\dots+a_kx_k}}{1 + e^{a_1+a_2x_2+\dots+a_kx_k}}
\end{aligned}$$

The marginal effects in the logit model is thus given by the following formula:

$$\frac{\partial P(y = 1)}{\partial x_k} = F'(a_1+a_2x_2+\dots+a_kx_k) * a_k = \frac{a_k e^{a_1+a_2x_2+\dots+a_kx_k}}{(1 + e^{a_1+a_2x_2+\dots+a_kx_k})^2}$$

4. Results and Analysis

4.1 Sample descriptive statistics

Table 1 presents descriptive statistics of the variables used in regression.

During the studied period 45% of companies improved the quality of disclosure, 4% companies changed from group 1 to 3 (improvement by 2 grades). One company decreased level of disclosure.

In 2010 7% of the sample still did not disclose any information about macroeconomic risks (classified into group 1), 59% limited themselves to qualitative description of macroeconomic risks and/or risk management policy, without quantifying the effects. 34% of the companies disclosed numerical influence of change of one or two macroeconomic factors (though, mostly relating to their financial instruments, e.g. influence of interest rate risk change or exchange rate risk change on assets and liabilities, but not on demand for the product). None of the firms meets the requirement of group 4.

37% of the sample issued B shares and/or were cross-listed on foreign stock exchanges, 46% of the companies were audited by big 4 auditors. 32% have appointed a chief risk officer or have a risk management committee within the board of directors.

Sample has almost even representation of the industries – around 20% in industrials, materials, financials, consumer and health care and others (utilities, energy, IT, telecom).

Table 1. Descriptive statistics for variables in the model.

Variable name	Mean	Median	Std. Dev.	Maximum	Minimum
CHANGE_GROUP	0.45	0.00	0.50	1.00	0.00
BIG4	0.46	0.00	0.50	1.00	0.00
CRO	0.32	0.00	0.47	1.00	0.00
INDEPENDENT_MEMBERS	0.36	0.34	0.07	0.62	0.17
CROSS_LISTED	0.37	0.00	0.49	1.00	0.00
STATE_OWNERSHIP	0.42	0.51	0.24	0.90	0.00
REVENUE, mln RMB	60,202	16,041	188,939	1,913,182	86
LEVERAGE	0.57	0.56	0.20	0.97	0.11
ROA	0.09	0.07	0.09	0.64	-0.05
EARLY_ADOPTERS	0.36	0.00	0.48	1.00	0.00
COASTAL	0.69	1.00	0.46	1.00	0.00

Variables definition: CHANGE_GROUP=1 if company improved disclosure level (ranked in higher disclosure group in 2010, than in 2005/2006), 0 otherwise. CROSS_LISTED=1 if company issued B-shares or was cross-listed on foreign stock exchanges, 0 else. BIG4=1 if company's report was audited by one of Big4 auditors, 0 otherwise. COASTAL=1 if headquarter of the company is located along the coastal areas of China, 0 otherwise. EARLY_ADOPTERS=1 if the companies disclose in the reports of 2005/2006 information according to both IFRS and PRC GAAP, 0 otherwise. STATE_OWNERSHIP - percentage of issued shares, owned by state (as disclosed in financial reports). INDEPENDENT_MEMBERS – percentage of independent directors on the Board of Directors. CRO=1 if company appointed Chief Risk officers or has Risk Management Committee on the Board of Directors. REVENUE = annual revenues in mln RMB. LEVERAGE=total liabilities, divided by total assets (percentage). ROA=return on assets, net profit divided by average total assets.

4.2 Regression

Question 1: what kinds of firms are more likely to improve their disclosure level?

Before proceeding with regression, we examined correlations between variables to eliminate multi-collinearity problem. We find no variables are highly correlated with each other (with the highest correlation being 0.72, between EARLY_ADOPTERS and BIG4).

The results are presented in [Table 2](#). Explanatory power of the model is rather strong with pseudo $R^2 = 31\%$.

Out of five tested variables, only auditor type is identified as a significant factor of improvement in macroeconomic risk disclosure (at 1% confidence level) and it's also the most significant factor among all explanatory variables. The marginal effect of being audited by one of the big 4 companies is an increase in probability of disclosure by 32

percent, holding all other explanatory variables constant. This is consistent with our hypothesis that because of short history of implementation of local version of IFRS in China, local auditors do not have extensive experience in checking compliance of reports with IFRS, while international auditors do. Big 4 auditors have an incentive to demand firms to implement improvement in their financial reporting in line with new ASBE. Despite our expectation, the other four tested variables, namely chief risk officer, independent board director, cross-listing and state ownership, show no significant association with improvement in disclosure of macroeconomic risks.

Table 2. Firm characteristics associated with improvement in disclosure.

Variable	Expected sign	Coefficient	Std. Error	z-Statistic	Prob.
C	n/a	0.75	6.04	0.12	0.90
BIG4	+	2.11	0.80	2.63	0.01 *
CRO	+	0.90	0.70	1.29	0.20
INDEPENDENT_MEMBERS	+	-3.08	3.88	-0.79	0.43
CROSS_LISTED	+	-0.99	0.76	-1.30	0.20
STATE_OWNERSHIP	-	0.79	1.20	0.66	0.51
LNREVENUE	+	-0.08	0.26	-0.31	0.75
LEVERAGE	+	-0.61	1.72	-0.35	0.72
ROA	+	1.41	3.45	0.41	0.68
EARLY_ADOPTERS	+	1.60	0.80	1.99	0.05 **
COASTAL	+	-0.16	0.59	-0.26	0.79
INDUSTRY_GR_FIN	+	1.72	1.00	1.73	0.08 ***
INDUSTRY_GR_IND	n/a	0.71	0.59	1.21	0.23

1. *, **, *** - variables, significant at 1%, 5% and 10% level respectively.
2. Pseudo R² = 0.312, Model Chi-Square (10 df) p = 0.26.
3. Variables explanation: see Table 1. INDUSTRY_GR_FIN=1 if company belongs to financial sector, 0 otherwise. INDUSTRY_GR_IND=1 if company belongs to industrials or materials, 0 otherwise.

Among the controlled variables, we identify a positive association between being an early adopter of IFRS and disclosure improvement (at 5% confidence level). If a firm had already voluntarily adopted IFRS before its mandatory implementation in 2007, the probability of improvement in disclosure of macroeconomic risks increases by 24 percent. Being a bank, insurance company or other financial institute is also relevant to disclosure improvement. If a firm belongs to financial services sector, its likelihood of

disclosure improvement increases by 26 percent. This is consistent with our expectation, as financial institutions are more regulated and face higher legal requirements for disclosing information about risks concerning their activities.

The model correctly predicted result in 75% of cases (both for companies, increased level of disclosure and those, which did not change it).

Question 2: What kinds of firms tend to have high level of disclosure?

To assess the relationship between firm characteristics and disclosure quality in financial reports, we use ordinary logit model. Results are presented in [Table 3](#).

Again out of our five hypotheses, we identify only one significant factor positively associated with higher level of disclosure: Big 4 auditors. Among the controlled variables, EARLY_ADOPTERS is significant at 1% confidence level. The firms which had adopted IFRS voluntarily before 2007 tend to have higher disclosure in 2010. This is consistent with our expectation that firms adopting IFRS voluntarily have stronger desire to provide stakeholders with information of higher quality. Firm size and financial service industry are also positively correlated with high disclosure of macroeconomic influence (at 5% confidence level).

Model has significant statistical power (pseudo R^2 – 52%, LR statistics – 90.60 with prob 0.000) and correctly predicts the rank of the company's disclosure level in 80% of cases for our sample.

4.3 Sensitivity test

To assess the sensitivity of our models to the change in regression specification, we study two cases. In first case we exclude variable EARLY_ADOPTERS variable, based on the fact the EARLY_ADOPTERS has the highest correlation with BIG4 and CROSS_LISTED, 0.72 and 0.69, respectively. In the second case, we also added the percentage of shares owned by foreigners as an explanatory variable. In both cases the variables identified to be significant are the same and their significance levels remain unchanged.

Table 3. Firm characteristics associated with level of disclosure.

Variable	Expected sign	Coefficient	Std. Error	z-Statistic	Prob.
BIG4	+	1.79	0.63	2.82	0.00 *
CRO	+	0.48	0.57	0.85	0.40
INDEPENDENT_MEMBERS	+	-4.25	3.50	-1.21	0.22
CROSS_LISTED	+	-0.83	0.53	-1.56	0.12
STATE_OWNERSHIP	-	-1.22	0.77	-1.59	0.11
LNREVENUE	+	0.61	0.26	2.31	0.02 **
LEVERAGE	+	0.76	2.00	0.38	0.70
ROA	+	-2.54	2.16	-1.17	0.24
EARLY_ADOPTERS	+	2.50	0.79	3.18	0.00 *
COASTAL	+	-0.19	0.48	-0.40	0.69
INDUSTRY_GR_FIN	+	1.77	0.90	1.98	0.05 **
INDUSTRY_GR_IND	n/a	0.76	0.50	1.51	0.13

1. *, ** - variables, significant at 1% and 5% level respectively.
2. Pseudo R² = 0.52, LR statistic 90.60, prob. 0.000
3. Variables explanation: see [Table 1](#) and [Table 2](#). DISCLOSURE_GR – rank of the company according to disclosure quality in 2010, from 1 to 3.

5. Conclusion

The abolition of capital controls in an open door policy has brought Chinese firms opportunities but at the same time also exposes Chinese firms to macroeconomic fluctuations on the international economic arena. In this setting, it's crucial for corporate management to acknowledge and communicate their macroeconomic vulnerability, not only for the benefit of lower cost of capital, but also to help policy makers better understand the macroeconomic risks Chinese firms are facing and thus facilitate better policy making to reduce the impact of these risks.

There has been no previous empirical research conducted on Chinese firms' disclosure on macroeconomic risks. Our study provides some initial empirical results on the firm characteristics associated with level of disclosure of macroeconomic risk, and the impact of the recent mandatory adoption of IFRS in China on macroeconomic risk disclosure.

Our results from Chinese firms are somewhat similar to the study on European firms conducted by [Oxelheim \(2008\)](#). 45% of the firms improved their disclosure in terms of

macroeconomic influence (moving to a higher category). This is definitely a solid step in the right direction to help investors and policy makers fully understand the firms' intrinsic competitiveness. However, none of the 100 firms fully disclosed their exposure to macroeconomic risks under a multivariate framework as captured by category 4. One explanation could be that in the current version of ASBE, as well as in IFRS, qualitative but quantitative disclosures of macroeconomic risks are proposed. In order to reach the satisfactory level of disclosure which can convey the intrinsic performance of firms, further improvement in accounting standards, e.g. including requirement of quantitative disclosure of macroeconomic sensitivities, is necessary, as suggested by [Oxelheim \(2008\)](#).

Concerning firm characteristics, we find that firms which employ Big 4, belong to financial services industry or have already implemented IFRS voluntarily before 2007 are more likely to keep high compliance to accounting standards and improve their disclosure of macroeconomic influence. In terms of level of disclosure in 2010, firms employing Big 4, early adopters, larger firms and firms within financial services industry are more likely to have higher level of disclosure, consistent with previously studies ([Xu and Wang, 1999](#); [Xiao and Yuan, 2007](#)).

Finally, we would like to acknowledge the limitations of our study. First, our sample size is limited due to time constraint. Second, the improvement in disclosure could be a result of time effect⁴ instead of policy shock (implementation of IFRS in 2007). Based on our second limitation, we suggest further research to study a control period, e.g. 2000 – 2005, to validate our hypothesis that IFRS is indeed the main cause of improvement in disclosure level.

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⁴ The firms would have the same probability to improve even without IFRS implementation.

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