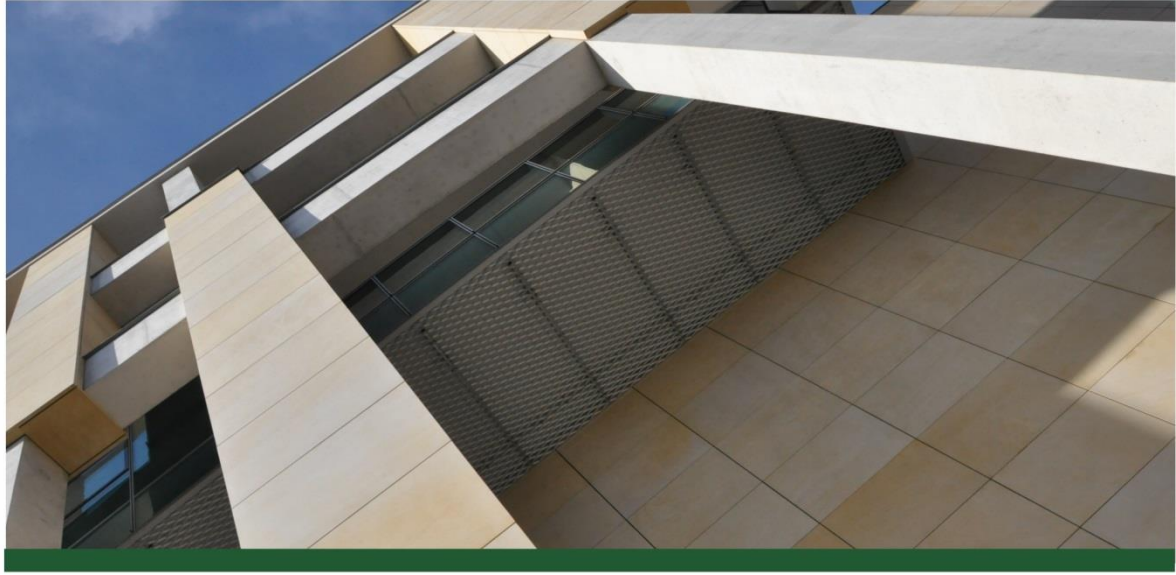

POZNAŃ UNIVERSITY OF ECONOMICS AND BUSINESS

Delegated monitoring - institutional investors and trade credit financing

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Supported by funds granted by the Minister of Science of the Republic of Poland under the „Regional Initiative for Excellence" Programme for the implementation of the project "The Poznań University of Economics and Business for Economy 5.0: Regional Initiative – Global Effects (RIGE)"

Ministerstwo Nauki i Szkolnictwa Wyższego

Regionalna Inicjatywa Doskonałości

RESEARCH QUESTION AND MOTIVATION

Regionalna Inicjatywa Doskonałości

Our main aim was to verify whether motivated institutional investors **exhibit additional demand for third-party information production (i.e. analyst following)**, which would help them **monitor insiders** of companies listed on the Warsaw Stock Exchange (WSE)

We believe that the Polish setting is a **perfect laboratory** for testing the relations between ownership structure and information production, for **three reasons**:

- **most companies** listed on WSE are **controlled by a single large shareholder** (a family, another company or a state) – an average stake of the largest shareholder is app. 42%
- **institutional investors** in Poland **hold relatively large stakes** (in terms of aggregate institutional ownership app. 30%) and typically play the role of the **largest majority shareholders**
- the percentage of **stocks with analyst recommendations** in Poland **is signifficantly lower** (app. 30%) than in both emerging markets (47%) and developed markets (62%)

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LITERATURE REVIEW AND HYPOTHESES

Theoretical background:

- Analyst activity serves as a **monitoring device in the presence of potential agency problems** (Jensen and Meckling 1976)
  - „.. we would expect monitoring activities to become specialized to those institutions and individuals who possess comparative advantages in these activities. One of the groups who seem to play a large role in these activities is composed of the security analysts employed by institutional investors, brokers and investment advisory services."

- Analysts **produce, collect and process** a wide variety of **information** to analyze the firms they follow and the **ownership structure** of a firm is likely to affect both the aggregate **demand and supply of analyst services** (Bhushan, 1989)

- Large shareholders (blockholders) motivation to monitor (Shleifer and Vishny 1986; Admati et al. 1994; Maug 1998; Admati and Pfleiderer 2009; Edmans 2009)

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LITERATURE REVIEW AND HYPOTHESES

Empirical evidence on institutional ownership in corporate governance context:

- Institutional investors can **effectively monitor insiders** (Brickley et al., 1988, Chen et al., 2007; Cronqvist and Fahlebrach, 2009) using **two different channels: voice (intervention) or exit (trading)** (McCahery, Sautner, & Starks, 2016)
- Institutional investors with **shareholdings that constitute a significant part of their portfolios**, called motivated monitors, have a **particular incentive to monitor** insider activities (Fitch et al., 2015)
- **Motivated monitors** and corporate policies:
  - motivated institutions **affect portfolio companies' financial decisions**, including:
    i) M&A (Fitch et al. 2015),
    ii) payout policy (Nagel et al. 2015),
    iii) cash holdings (Ward et al. 2018),
    iv) investments (Ward et al. 2020; Miller et al. 2022)
  - monitoring by motivated institutions **improves corporate governance** (Liu and Yin, 2023), enhances **corporate performance** and **increases firm value** (Nagel et al. 2015)

LITERATURE REVIEW AND HYPOTHESES

Empirical evidence on the governance role of financial analysts :

- Increased analyst following is associated with **higher valuations**, particularly for firms likely to face governance problems (Lang et al., 2004)
- Analysts can serve as an external governance mechanism through at least two channels (Chen at al., 2015)
  - by **tracking firms' financial reports** and **interfacing with management** directly (e.g asking questions during conference calls) – direct monitoring
  - by **distributing public and private information** to both institutional and individual investors through research reports and media outlets – indirect monitoring
- Firms with **a decrease** in **analyst following** experience **managerial misbehaviour**, including (Irani and Oesch, 2013; Chen at al., 2015):
  - lower financial reporting quality
  - decrease in the marginal value of excess cash
  - increase in the CEO's excessive compensation
  - are more likely to engage in value-destroying acquisitions

LITERATURE REVIEW AND HYPOTHESES

Institutional investors' demand for analyst activities:

- The institutional investors' demand for analyst services varies according to their investment and trading strategies. From three different institutional investor types defined by Bushee (1998): transient, dedicated and quasi-indexers, the latter rely on public information, including analyst services, the most (Boone and White, 2015)
- Large institutional shareholders may produce their own in-house information and thus rely less on third-party public information (Sabherwal and Smith, 2008)

Hypotheses:

***Ha**: Motivated institutional investors **increase analyst coverage** in their portfolio firms*

***Hb**: Motivated institutional investors **decrease analyst coverage** in their portfolio firms*

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MEASURES

Measure of trade credit financing:

TCF_AGGR$_{it}$ *- industry- and size-adjusted trade credit financing ratio*

We compute TCF_AGGR in two steps:

First, we measure TCF$_i$ as the ***accounts payable scaled by COGS****. Then for the same period we calculate TCF$_P$ for the portfolio of firms in the same tercile of total assets and the same industry.* ***TCF_AGGR$_i$ is equal to the firm's TCF$_i$ less the industry-size matched TCF$_P$.***

A ***positive*** *value of such measure indicates that the firm uses* ***more trade credit financing*** *than its size-industry peers, and therefore greater values for this measure indicate greater trade credit aggressiveness.*

**in the robustness checks we scaled accounts payable by total assets*

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MEASURES CONT.

Measures of motivated institutional monitoring :

MM_IO $_{it}$ *- fraction of shares owned by monitoring motivated institutions, where motivated institutions are institutions whose holding value in the firm is in the* ***top 20%*** *of the institution's portfolio*

MM_PCNT $_{it}$ *- proportion of monitoring motivated institutions among all institutions holding firm's shares*

PORTFWEIGHT $_{it}$ *- firm-level weighted average weight of the value of the equity investment in a firm in the institutional shareholder's portfolio*

TMATT $_{it}$ *- firm-level weighted average of a firm's institutional ownership, with the weights being the institutional investors' monitoring motivation as proposed by Ward et al. (2018)*

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EMPIRICAL MODEL AND OTHER VARIABLES

$$TCF_{i,t} = \alpha + \beta_1 \times MOTIVATED\_IO_{i,t-1} + \sum_{j=2}^{n} \beta_j \times CONTROLS_{j,i,t-1} + \alpha_t + \varepsilon_{i,t}$$

Control variables :

- SIZE
- TANG
- EBIT/S
- CFOPER/S
- S_GROWTH
- S_VOLATILITY
- EARSUPRISE
- LEV
- TOBIN'S Q

Information environment:

- OPACITY – Anderson et al. (2009)
- QUAL_TRANSP – Ellul et al. (2016)

Inst_Inv heterogeneity:

- MM_IO_LT / MM_IO_NON_LT
- MM_IO_INDEP / MM_IO_GREY
- MM_IO_LMLTB / MM_IO_SMLTB

SAMPLE

- Study based on **436** nonfinancial companies listed on the main market of WSE for at least one year during the period **2010–2019**
- Data source: ***Capital IQ - S&P Global; Amadeus - Bureau Van Dijk– A Moody's Analytics Company; Notoria Serwis, Polish Financial Market Supervisor (KNF); hand-collected ownership data***
- Final sample is limited to **2,520** firm-year observations across **11 industries of four-digit** Global Industry Classification System (**GICS**)

Sample firms' characteristics

VARIABLES	No	Mean	Std	25th	Median	75th
Trade Credit Financing						
FCF_AGGR	2,520	-2.228	13.722	-0.148	-0.044	0.033
TCF	2,520	0.262	0.868	0.111	0.170	0.246
Motivated Institutional Monitoring Variables						
MM_IO	2,520	0.069	0.136	0.000	0.000	0.080
MM_PCNT	2,520	0.093	0.169	0.000	0.000	0.130
TMATT	2,520	2. 420	2.359	0.185	1.915	3.710

PRIMARY FINDINGS

Regionalna Inicjatywa Doskonałości

Motivated institutional monitoring and trade credit financing – OLS

	TCF_AGGR					
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	−0.350***	1.904	1.751	1.649	1.407	1.484
	(−4.20)	(0.62)	(0.56)	(0.54)	(0.54)	(0.49)
Motivated Institutional Monitoring						
MM_IO_{t-1}	**5.219*** **	**3.947** **	X	X	X	X
	(4.32)	**(1.98)**	X	X	X	X
$\Delta\ MM\_IO_{t-1}$	X	X	**4.560** **	X	X	X
	X	X	**(2.29)**	X	X	X
MM_IO_{t-2}	X	X	**3.205***	X	X	X
	X	X	**(1.68)**	X	X	X
MM_PCNT_{t-1}	X	X	X	**2.225** **	X	X
	X	X	X	**(2.16)**	X	X
$PORTFWEIGHT_{t-1}$	X	X	X	X	**2.564** **	X
	X	X	X	X	**(2.41)**	X
$TMATT_{t-1}$	X	X	X	X	X	**0.341** **
	X	X	X	X	X	**(1.99)**
Control Variables	NO	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES
Obs.	2,520	2,520	2,520	2,520	2,520	2,520
Adjusted R^2	0.069	0.081	0.081	0.081	0.081	0.082

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CROSS-SECTIONAL ANALYSIS

Information environment and the effect of motivated institutional ownership on TCF

	TCF_AGGR	
	(1)	(2)
Intercept	3.474	2.856
	(1.08)	(0.84)
Motivated Institutional Ownership and Information Environment		
MM_IO_{t-1}	0.152	1.514
	(0.07)	(0.68)
$OPACITY\_ADR\_HIGH_{t-1}$	**−1.708*****	X
	(−3.04)	X
$MM\_IO_{t-1} \times OPACITY\_ADR\_HIGH_{t-1}$	**9.877*****	X
	(3.83)	X
$QUAL\_TRANSP\_LOW_{t-1}$	X	**−0.877**
	X	**(−1.12)**
$MM\_IO_{t-1} \times QUAL\_TRANSP\_LOW_{t-1}$	X	**6.055*****
	X	**(2.62)**
Control Variables	YES	YES
Year Fixed Effects	YES	YES
Obs.	2,520	2,520
Adjusted R^2	0.084	0.082

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CROSS-SECTIONAL ANALYSIS

Introducing MAR (2016) and the effect of motivated institutional ownership on TCF – DiD analysis

	TCF_AGGR	
	(1)	(2)
Intercept	1.754*	5.821
	(1.88)	(1.28)
MIO and Information Environment (MAR)		
$POST\_MAR \times TREAT \times MM\_IO_{t-1}$	**−26.518*** **	**−21.507** **
	(−3.17)	**(−2.50)**
$POST\_MAR \times TREAT$	3.719**	3.644**
	(2.09)	(2.03)
$TREAT \times MM\_IO_{t-1}$	30.509***	27.849***
	(3.73)	(3.30)
$TREAT$	−4.791***	−3.611**
	(−2.78)	(−2.15)
$POST\_MAR \times MM\_IO_{t-1}$	−4.814	−4.725
	(−1.26)	(−1.25)
MM_IO_{t-1}	5.191*	3.964
	(1.85)	(1.09)
Control Variables	NO	YES
Year Fixed Effects	YES	YES
Obs.	1,807	1,807
Adjusted R^2	0.069	0.082

CROSS-SECTIONAL ANALYSIS

Heterogeneity of motivated institutional ownership and TCF

	TCF_AGGR		
	(1)	**(2)**	**(3)**
Intercept	1.957	1.859	1.952
	(0.63)	(0.60)	(0.63)
Motivated Institutional Ownership Heterogeneity			
$MM\_IO\_INDEP_{t-1}$	3.582*	X	X
	(1.79)	X	X
$MM\_IO\_GREY_{t-1}$	**26.823*****	X	X
	(2.83)	X	X
$MM\_IO\_LT_{t-1}$	X	2.609	X
	X	(1.17)	X
$MM\_IO\_NON\_LT_{t-1}$	X	**7.173****	X
	X	**(2.33)**	X
$MM\_IO\_LMLTB_{t-1}$	X	X	3.746*
	X	X	(1.85)
$MM\_IO\_SMLTB_{t-1}$	X	X	**26.531****
	X	X	**(2.42)**
Control Variables	YES	YES	YES
Year Fixed Effects	YES	YES	YES
Obs.	2,520	2,520	2,520
Adjusted R^2	0.081	0.081	0.081

ROBUSTNESS TESTS

Endogeneity – IV (2SLS)

	1st stage		2nd stage
	MM_IO	**BLOCK_IO**	**TCF_AGGR**
	(1)	**(2)**	**(3)**
Intercept	−0.051	0.051	4.275
	(−1.55)	(1.21)	(1.29)
Motivated Institutional Monitoring			
MM_IO$_{t-1}$	X	X	**21.791*** **
	X	X	**(2.82)**
Instrumental Variables			
WIG20&mWIG40$_{t-1}$	0.091***	−0.028*	X
	(3.17)	(−1.78)	X
IO_IND_2009	−0.060	0.236***	X
	(−0.73)	(3.48)	X
Control Variables	YES	YES	YES
Year Fixed Effects	YES	YES	YES
Obs.	2.520	2.520	2.520
Adjusted R^2	0.161	0.033	0.065

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ROBUSTNESS TESTS

Alternative explanation – financial constraints

	TCF_AGGR			
	(1)	**(2)**	**(3)**	**(4)**
Intercept	3.651	1.933	1.867	2.306
	(1.12)	(0.65)	(0.60)	(0.72)
Motivated Institutional Monit.				
MM_IO_{t-1}	**4.083****	**3.945****	**3.989****	**4.912****
	(2.09)	**(1.98)**	**(2.00)**	**(2.34)**
Financial constraints				
AGE_{t-1}	−0.947***	X	X	X
	(−2.67)	X	X	X
$DIVIDEND_{t-1}$	X	−0.068	X	X
	X	(−0.12)	X	X
$LTDEBT\_RATING_{t-1}$	X	X	−0.433	X
	X	X	(−0.35)	X
$FININST\_RELATIONS_{t-1}$	X	X	X	0.030
	X	X	X	(0.28)
Control variables	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
Obs.	2,520	2,520	2,520	2,358
Adjusted R^2	0.083	0.081	0.081	0.076

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ROBUSTNESS TESTS

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Alternative measures

	Trade credit scaled by assets	Net trade credit scaled by assets	MM_IO at 10% treshold	MM_PCNT at 10% treshold
	(1)	(2)	(3)	(4)
Intercept	−0.182	−0.163	1.958	1.853
	(−0.94)	(−0.84)	(0.64)	(0.62)
Motivated Institutional Monitoring				
MM_IO_{t-1}	**0.599***	**0.661****	X	X
	(1.96)	**(2.15)**	X	X
$MM10\_IO_{t-1}$	X	X	**2.635***	X
	X	X	**(1.75)**	X
$MM10\_PCNT_{t-1}$	X	X	X	**2.249****
	X	X	X	**(2.18)**
Control Variables	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
Obs.	2,520	2,520	2,520	2,520
Adjusted R^2	0.026	0.028	0.078	0.078

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SUMMARY

Main conclusions:

- there is a **positive relationship** between the motivated institutional ownership and the trade credit financing
- the **observed effect** holds mostly for **opaque companies**
- the observed relation seems to reflect the **demand for private information production** by **grey** and **non-long-term** motivated institutional investors and those with **small number of multiple blockholdings** (these group of institutional investors have proven to be less efficient in monioring and thus more prone to delegate monitoring to the third party)

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Thank you for your attention!

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