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Motivated institutional investors and analyst following

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RESEARCH QUESTION AND MOTIVATION

Our main aim was to examine 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 **significantly lower** (app. 30%) than in both emerging markets (47%) and developed markets (62%)

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)

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 Fahlenbrach, 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 et 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 et 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:

H_a: Motivated institutional investors increase analyst coverage in their portfolio firms

H_b: Motivated institutional investors decrease analyst coverage in their portfolio firms

MEASURES

Measure of analyst activity :

***AN_COVERAGE_{it}** - number of analysts issuing earnings per share estimates for a particular firm*

Additional measure of a firm's information environment :

***OPACITY_{it}** - opacity index that ranks the relative opacity of each firm in the sample. Each of four separate proxies for firm's opacity (trading volume, bid–ask spread, analyst following, and analyst forecast errors) are ranked into deciles, with the most opaque firms taking a value of ten and the least opaque firms assuming a value of one. The four rankings are then summed and scaled by a factor of 40 (total possible points) to provide an index that ranges from 0.1 to 1.0. See Anderson et al. (2009) for complete details.*

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*

***MM_NUM_{it}** - number of monitoring motivated institutions*

***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)*

EMPIRICAL MODEL AND OTHER VARIABLES

$$AN_COV_{i,t} = \alpha + \beta_1 \times MOTIVATED_IO_{i,t-1} + \sum_{j=2}^n \beta_j \times CONTROLS_{j,i,t-1} + \alpha_t + \alpha_s + \varepsilon_{i,t}$$

Control variables :

- SIZE
- ROA
- LEV
- MB
- EARGROWTH
- LOSS
- EARSUPRISE
- VOLATILITY
- BETA
- FLOAT
- BLOCK_IO

Severity of agency problems :

- AGENCY_1 (High FCF&Low CEOOWN)
- AGENCY_2 (High Excess Cash&Family Control)

Cross-monitoring :

- BANKDEBT_PRE
- MLS

Investors heterogeneity :

- MM_IO_LT / MM_IO_NON_LT
- MM_IO_LMLTB / MM_IO_SMLTB
- MM_IO_DOM / MM_IO_FOR

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 **2,888** firm-year observations

Sample firms’ characteristics

VARIABLES	No	Mean	Std	25th	Median	75th
Analyst Following						
<i>AN_COVERAGE</i>	2,888	0.845	2.114	0.000	0.000	1.000
Motivated Institutional Monitoring Variables						
<i>MM_IO</i>	2,888	0.081	0.146	0.000	0.000	0.110
<i>MM_PCNT</i>	2,888	0.109	0.182	0.000	0.000	0.170
<i>MM_NUM</i>	2,888	1.696	3.950	0.000	0.000	1.000
<i>TMATT</i>	2,888	2.641	2.424	0.330	2.260	4.130

SAMPLE CONT.

- We identified **379** institutional investors holding stocks in our sample companies with the availability of data on their portfolios necessary to calculate our measures of motivated institutional monitoring
- The **representativeness** of identified institutions is **relatively high**. The average stake held by all institutional investors in a WSE company in 2010 is app. 23% and is consistent with international studies reporting institutional ownership statistics for Poland (e.g., Ferreira et al., 2017)
- Institutional investors **distribute their holding value unevenly** across five quantile groups

Institutional stock holdings by quantile portfolios

VARIABLES	Average (median) number of stocks per institution	Average (median) holding value (Mio USD)	Average (median) quantile portfolio value to total portfolio value
QUANTILE_1	25	281.763	0.742
QUANTILE_2	24	52.301	0.111
QUANTILE_3	24	22.912	0.037
QUANTILE_4	24	9.989	0.012
QUANTILE_5	25	6.732	0.009

PRIMARY FINDINGS

Motivated institutional monitoring and analyst coverage – OLS

	AN COVERAGE				
	(1)	(2)	(3)	(4)	(5)
Intercept	0.456*** (3.22)	-2.670*** (-6.51)	-2.970*** (-6.96)	-1.235*** (-4.35)	-3.120*** (-6.76)
Motivated Institutional Monitoring					
<i>MM_IO</i> _{<i>t-1</i>}	5.156*** (6.45)	3.900*** (5.86)	X X	X X	X X
<i>MM_PCNT</i> _{<i>t-1</i>}	X X	X X	2.206*** (4.32)	X X	X X
<i>MM_NUM</i> _{<i>t-1</i>}	X X	X X	X X	0.317*** (11.33)	X X
<i>TMATT</i> _{<i>t-1</i>}	X X	X X	X X	X X	0.105*** (2.81)
Control Variables	NO	YES	YES	YES	YES
Industry Fixed Effects	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES
Obs.	2,888	2,888	2,888	2,888	2,888
Adjusted R ²	0.294	0.501	0.490	0.656	0.468

ENDOGENEITY

Motivated institutional ownership and analyst coverage : Quasi - indexers vs Non - indexers

AN_COVERAGE	
(1)	
Intercept	-2.395*** (-5.85)
Motivated Institutional Ownership Heterogeneity	
<i>MM_IO_QUASI-INDEXER_{t-1}</i>	11.743*** (4.30)
<i>MM_IO_NON-INDEXER_{t-1}</i>	3.224*** (4.61)
Control Variables	YES
Industry Fixed Effects	YES
Year Fixed Effects	YES
Obs.	2,888
Adjusted R ²	0.510
F-test:	
<i>MM_IO_QUASI-INDEXER_{t-1} = MM_IO_NON-INDEXER_{t-1}</i>	5.40

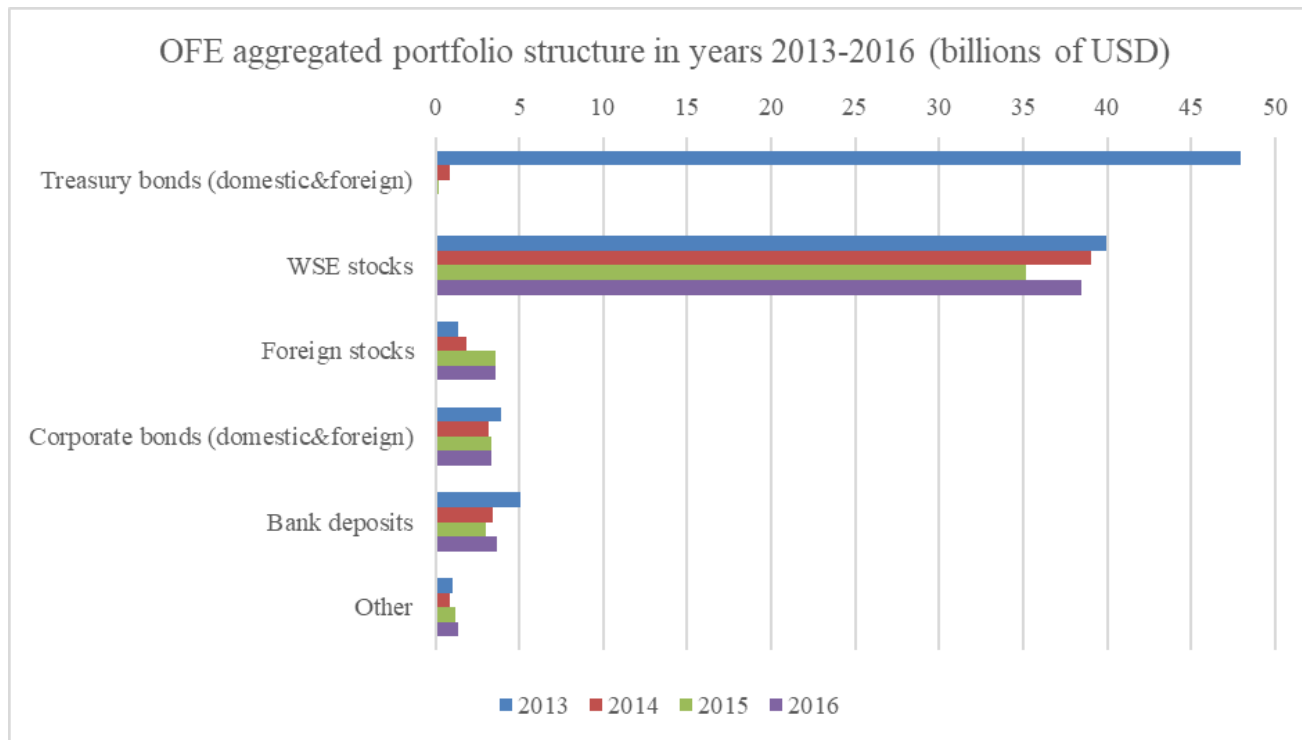
Derrien et al. (2013):

splitting investor ownership into two components, one that is plausibly exogenous (indexer ownership) and another that is possibly endogenous (non-indexer ownership), provides a useful identification strategy

ENDOGENEITY CONT.

Pension funds (OFEs) reform of 2013 as a quasi-natural experiment

Changes **transforming OFEs from balance funds to equity funds** (forcing them to invest mostly in shares), allowing for **much higher involvement in international stock markets** (gradually increasing the limit from 5% to 30%) **and reducing “mimicking” the behavior of market leaders** by smaller funds resulted in rebuilding the investment policy of OFEs



ENDOGENEITY CONT.

Motivated institutional ownership and analyst coverage: IV

	1 st stage		2 nd stage
	MM IO (1)	BLOCK IO (2)	AN COVERAGE (3)
Intercept	-0.096*** (-3.48)	-0.066 (-1.46)	-1.236** (-2.57)
Motivated Institutional Monitoring			
<i>MM_IO_{t-1}</i>	X X	X X	16.339*** (6.26)
Instrumental Variables			
<i>OFERATIO_2013</i>	-0.047*** (-3.06)	0.028 (1.19)	X X
<i>WIG20&mWIG40_{t-1}</i>	0.096*** (4.61)	-0.047** (-1.98)	X X
Control Variables	YES	YES	YES
Industry Fixed Effects	YES	YES	YES
Year Fixed Effects	YES	YES	YES
Obs.	2.888	2.888	2.888
Adjusted R ²	0.259	0.202	0.336

OFERATIO_2013
proportion of firm's
ownership stake held by
OFE among all
institutional holdings as
of the end of 2013 and
0 for the years before
2014

WIG20&mWIG40 = 1 if
the firm's stock is a
member of WIG20 or
mWIG40 index, 0
otherwise

ENDOGENEITY CONT.

Motivated institutional ownership and analyst coverage : change regressions and others

	Δ AN_COVERAGE (1)
Intercept	-0.143 (-1.42)
Motivated Institutional Ownership ΔMM_{IO}_{t-1}	0.970*** (2.74)
Δ Control Variables	YES
Industry Fixed Effects	YES
Year Fixed Effects	YES
Obs.	2,406
Adjusted R ²	0.014

Others:

- PSM sample
- firm fixed effects
- alternative definitions -
- using dummy variable for analyst coverage
- classifying motivated institutions using 10% threshold

CROSS-SECTIONAL ANALYSIS

Severity of agency problems and the effect of motivated institutional ownership on analyst coverage

	AN_COVERAGE			
	High FCF&Low CEOOWN (AGENCY_1)		High Exceeds Cash&Family Control (AGENCY_2)	
	1	0	1	0
	(1)	(2)	(3)	(4)
Intercept	-5.090*** (-6.31)	-1.701*** (-4.85)	-2.597*** (-3.62)	-2.558*** (-5.40)
Motivated Institutional Monitoring <i>MM_IO_{t-1}</i>	5.068*** (4.96)	1.820** (2.47)	6.392*** (3.46)	3.419*** (5.08)
Control Variables	YES	YES	YES	YES
Industry Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
Obs.	945	1,943	450	2,255
Adjusted R ²	0.611	0.367	0.531	0.506
CHOW-test:				
<i>Difference in coefficient on MM_IO_{t-1} (AGENCY_1= 1 – AGENCY_1= 0)</i>		4.72		
<i>Difference in coefficient on MM_IO_{t-1} (AGENCY_2= 1– AGENCY_2= 0)</i>		2.09		

CROSS-SECTIONAL ANALYSIS CONT.

Cross - monitoring and the effect of motivated institutional ownership on analyst coverage

	AN COVERAGE			
	Bank debt predominance (BANKDEBT_PRE)		Multiple large shareholders (MLS)	
	1	0	1	0
	(1)	(2)	(3)	(4)
Intercept	-2.458*** (-6.50)	-2.650** (-2.39)	-2.024*** (-4.91)	-2.903*** (-6.08)
Motivated Institutional Monitoring				
$MM_{IO_{t-1}}$	3.561*** (5.75)	6.095*** (4.39)	0.645 (1.05)	4.350*** (6.00)
Control Variables	YES	YES	YES	YES
Industry Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
Obs.	2,552	336	477	2,411
Adjusted R ²	0.474	0.609	0.467	0.513
CHOW-test:				
<i>Difference in coefficient on</i> $MM_{IO_{t-1}}$ (BANKDEBT_PRE = 1 - BANKDEBT_PRE = 0)		-2.25		
<i>Difference in coefficient on</i> $MM_{IO_{t-1}}$ (MLS = 1 - MLS = 0)		-6.75		

CROSS-SECTIONAL ANALYSIS CONT.

Motivated institutional ownership and analyst coverage: the effect of institutional investor heterogeneity

	AN COVERAGE		
	(1)	(2)	(3)
Intercept	-2.311*** (-5.91)	-2.664*** (-6.51)	-2.584*** (-6.56)
Motivated Institutional Ownership Heterogeneity			
<i>MM_IO_LT_{t-1}</i>	6.872*** (5.97)	X	X
<i>MM_IO_NON_LT_{t-1}</i>	2.211*** (3.62)	X	X
<i>MM_IO_LMLTB_{t-1}</i>	X	3.975*** (5.80)	X
<i>MM_IO_SMLTB_{t-1}</i>	X	6.133 (1.58)	X
<i>MM_IO_DOM_{t-1}</i>	X	X	3.029*** (4.80)
<i>MM_IO_FOR_{t-1}</i>	X	X	8.990*** (3.88)
Control Variables	YES	YES	YES
Industry Fixed Effects	YES	YES	YES
Year Fixed Effects	YES	YES	YES
Obs.	2,888	2,888	2,888
Adjusted R ²	0.528	0.502	0.501
F-test:			
<i>MM_IO_LT_{t-1}</i> = <i>MM_IO_NON_LT_{t-1}</i>	6.51	X	X
<i>MM_IO_LMLTB_{t-1}</i> = <i>MM_IO_SMLTB_{t-1}</i>	X	2.52	X
<i>MM_IO_FOR_{t-1}</i> = <i>MM_IO_DOM_{t-1}</i>	X	X	5.03

ADDITIONAL ANALYSES

Motivated institutional monitoring and corporate opacity – OLS/IV

	OPACITY	
	OLS	2SLS
	(1)	(2)
Intercept	60.237*** (26.22)	58.089*** (22.96)
Motivated Institutional Monitoring <i>MM_IO_{t-1}</i>	-6.539** (-2.37)	-25.452** (-2.35)
Control Variables	YES	YES
Industry Fixed Effects	YES	YES
Year Fixed Effects	YES	YES
Obs.	2,888	2,888
Adjusted R ²	0.324	0.300

ADDITIONAL ANALYSES CONT.

Motivated institutional ownership, analyst coverage and overinvestment

	EXCESS INV		
	(1)	High Excess Cash	Low Excess Cash
Intercept	0.021* (1.74)	0.045** (2.52)	-0.002* (-0.14)
Motivated Institutional Ownership and Analyst Coverage			
MM_IO_{t-1}	0.034** (2.09)	0.065** (2.48)	0.007 (0.47)
$AN_COVERAGE_{t-1}$	0.004** (2.11)	0.005** (2.33)	-0.001 (-0.30)
$MM_IO_{t-1} \times AN_COVERAGE_{t-1}$	-0.008** (-2.06)	-0.015*** (-2.94)	0.001 (0.14)
Control Variables	YES	YES	YES
Year Fixed Effects	YES	YES	YES
Obs.	2.888	1.411	1.477
Adjusted R ²	0.010	0.049	0.041
CHOW-test:			
<i>Difference in coefficient on $MM_IO_{t-1} \times AN_COVERAGE_{t-1}$ (HIGH EXCESS CASH – LOW EXCESS CASH)</i>			-2.36

SUMMARY

Main conclusions:

- there is a positive relationship between the shareholdings of motivated institutional investors and the analyst following
- the observed effect holds mostly for companies suffering from substantial agency problems and is attenuated in the presence of other groups of entities that perform the monitoring role
- motivated institutions improve corporate decision-making and mitigate the overinvestment problem, but only in companies with high analyst coverage
- the observed relation seems to reflect the demand for analyst services and information production by motivated institutional investors, especially long-term and foreign motivated institutional investors, and those with large number of multiple blockholdings

Thank you for your attention!