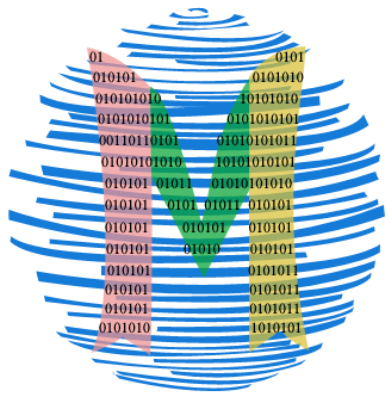# The impact of corruption on analyst coverage.

HASSAN, O. and GIORGIONI, G.

2022

The 3rd International Conference on Modern Management based on Big Data (MMBD2022)
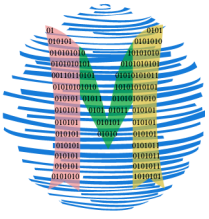
Aug. 15-18, 2022.   Seoul, South Korea

The Impact of Corruption on Analyst Coverage
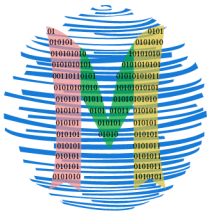
OMAIMA HASSAN & GIANLUIGI GIORGIONI

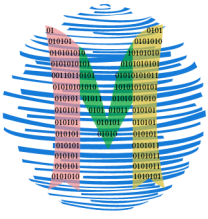ROBERT GORDON UNIVERSITY & LIVERPOOL UNIVERSITY

Outlines

- Terminology used
- The purpose of the study
- The importance of the study
- Main motivations
- The contributions of this study
- Hypotheses development
- Research sample
- Research model
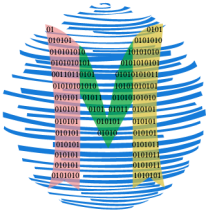- Results
- Conclusions
- Implications

Terminology used

- **Corruption** is defined as the "abuse of entrusted power for private gains" (Transparency International, 2017), this definition indicates that:
  - the abuse of entrusted power goes beyond corrupt government officials.
  - people abuse that entrusted power for their own benefits at the cost of their organizations.

- **Analyst coverage** is the total number of analysts making recommendations for the security at the financial year-end.
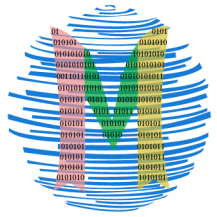
Purpose

The purpose this study is to examine the impact of country-level corruption and firms' self-reported policies for combating bribery on the number of analysts following a firm.
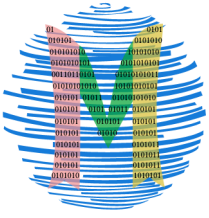
Importance

- The importance of the current study arises from the importance of analyst coverage to a firm:
    - Analysts play a key role in reducing the agency problem between shareholders and managers through direct and indirect monitoring.
    - Evidence from prior empirical studies suggest that higher analyst coverage is associated with lower transaction costs, higher stock liquidity, lower cost of capital and higher firm value.
- Higher analyst coverage increases firm visibility, increasing thereby the demand for its common shares.

Motivations

- Although the literature on corruption at the **country level** is rich, relatively fewer studies have focused on the impact of corruption at firm level due to data limitations.

- Most of the literature on corruption is skewed towards examining the **causes of corruption** rather than its consequences.

- Prior studies on **analyst coverage** have focused on the impact of firm characteristics, corporate governance and information quality on the number of analysts following a firm, but seemingly no prior study has investigated the impact of firm policy on analyst coverage.

Contributions

This study contributes to two streams of literature:

I.   The literature on corruption by investigating the influence (consequences) of corruption on firm performance,

II.   The literature on analyst coverage by extending its determinants to include firm policy and institutional factors.
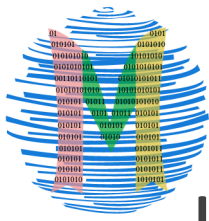
Hypotheses development

A) Corruption at country level:

We postulate that the level of corruption at country level can impact the aggregate demand for and supply of analyst services:

- The supply of analyst service. Companies that operate in highly corrupt countries attract less analyst coverage due to increased levels of information costs.
- The demand for analyst service. High level of corruption at country level may induce access to private information through bribes, reducing thereby the demand for outside analyst services.
- Alternatively, one may argue that the monitoring role of analyst will be stronger in "highly" corrupt countries, increasing thereby the demand for outside analyst services.

Thus, our first research hypothesis is as follows:

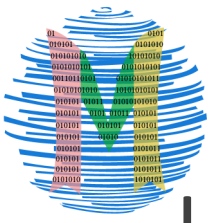**H1: there is an association between the level of corruption and analyst coverage**

Hypothesis development-Continued

b) Firms' action to tackle corruption

While self-reported anti-bribery policies might not be enough to draw on their effectiveness in combating bribery and corruption at the firm level, the fact that a firm adopts and reports such policies may signal the serious commitment of the management to prevent, monitor, and address corruption, and not merely cheap talk (Healy and Serafeim, 2016). Thus, our second research hypothesis is a s follows:

H2: the adoption of anti-bribery policies at firm level attracts higher analyst coverage
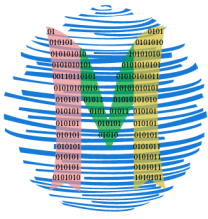
Hypothesis development-Continued

c) The interaction term:

we test whether the adoption of anti-bribery policies in firms that operate in highly corrupt countries would induce analyst coverage. Therefore, the third research hypothesis is:
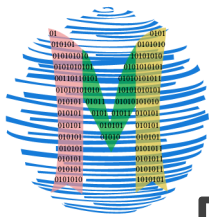
H3: the presence of anti-bribery policies at firm level increases the number of analyst following a company operating in a highly corrupt country.

Research sample

I. We collected data for the constituents of S&P Global 1200 for the years 2010 to 2015. This has yielded an initial sample of 1187 companies for the years 2010 to 2015 with 7122 firm-year observations.

- Data at firm level are collected from Bloomberg database.

- Data on the Corruption Perception Index scores (CPI) are obtained from Transparency International database.

- Data on gross domestic product per capita, foreign direct investments, corporate governance indicators and disclosure index at the country level are obtained from the World Bank.

II. Due to missing observations on individual variables, the final common sample consists of 1050 firms covering 30 different countries for the years 2010 to 2015 with 5888 firm-year observations.
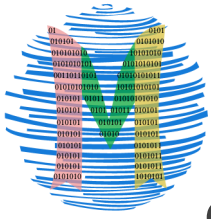
Research Model

We regress estimates of firm's policy to prevent corruption (ABP), country-level corruption (CPI) and the interaction term between CPI and ABP on the number of analysts following a company (NOA) as follows:

NOA= f (ABP, CPI, ABP*CPI, FIRM-LEVEL CONTROLS, COUNTRY-LEVEL CONTROLS)

The research model in detail is as follows:

$$NOA_{f,c} = \beta_0 + \beta_1 ABP_{f,c} + \beta_2 \text{CPI}_c + \beta_3 NINST_{f,c} + \beta_4 INST_{f,c}$$
$$+ \beta_5 INSID_{f,c} + \beta_6 MCAP_{f,c} + \beta_7 VOL_{f,c} + \beta_8 SEG_{f,c} + \beta_9 BETA_{f,c} + \beta_{10} ROA_{f,c} + \beta_{11} GAAP_{f,c}$$
$$+ \beta_{12} INDUSTRY_{f,c} + \beta_{13} CGOV_c + \beta_{14} GDP_c + u_{f,c}$$

Summary of expectations

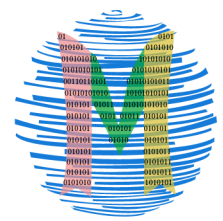| Dependent variable	Explanatory variable	Expected Sign/Explanation
NOA	Corruption Perception Index* (CPI)- Higher values indicate highly clean countries.	+ (-): less (highly) corrupt countries attract more analysts consistent with low transaction costs (monitoring role).
	ABP- It takes 1 if the firm adopts anti-bribery policies and 0 otherwise.	+ (-): indicates serious (artificial) commitment to combat corruption.
	ABP* (CPI)- the interaction term.	+ (-) : less (highly) corrupt countries with ABP in place attract more analysts coverage.

Estimation method

The estimation is based on a count regression model, a negative binomial count (NBC) regression method, that better suits an integer dependent variable, after controlling for heteroscedasticity.
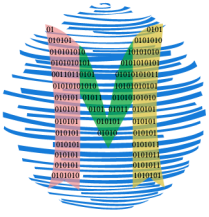
Since endogeneity is an issue for our research model, we use two-stage regression analysis to control for this potential bias. We run the analysis with one and two estimated variables and compare the results.

Results: Method: ML - Negative Binomial Count (Quadratic hill climbing) with QML (Huber/White) standard errors & covariance

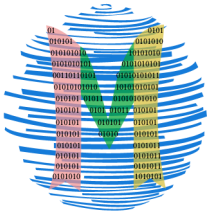|	One estimated variable*		Two estimated variables**	
ABP	**0.126[a]**	0.276	**0.164[a]**	-6.984[a]
CPI	**-0.007[a]**	-0.006[c]	**0.034[a]**	-0.011
ABP*CPI		**-0.002**		**0.097[a]**
NINST	5.33E-05[a]	5.29E-05[a]	7.53E-05[a]	8.20E-05[a]
INST	-3.52E-04	-3.41E-04	-5.27E-04[b]	-5.48E-04[b]
INSID	-1.74E-03	-1.76E-03	-1.44E-04	-4.16E-04
LOG(MCAP)	0.177[a]	0.177[a]	0.161[a]	0.159[a]
VOL	0.001	0.001	0.001[c]	0.001[c]
SEG	-0.004[c]	-0.004[c]	-0.002	-0.002
BETA	0.131[a]	0.131[a]	0.081[a]	0.078[a]
ROA	-0.004[a]	-0.004[a]	-0.003[a]	-0.003[a]
GAAP	0.322[a]	0.322[a]	0.327[a]	0.317[a]
CGOV	0.044[a]	0.044[a]	0.007[b]	0.007[b]
GDP	-3.09E-06[a]	-3.08E-06[a]	-2.78E-06[a]	-2.93E-06[a]
IND	INCLUDED	INCLUDED	INCLUDED	INCLUDED
Intercept	1.460[a]	1.362[a]	-1.432[a]	1.917[a]
Adjusted R-squared	0.40	0.40	0.39	0.39
Log likelihood	-13021.92	-13021.79	-19742.91	-19728.39
Obs.	3897	3897	5888	5888

Conclusions

After controlling for potential endogeneity bias, the results show that the adoption of anti-bribery policies at firm level attracts more analysts to follow a firm. The results for corruption at country level show that analyst coverage increases in less corrupted countries. So, low analyst coverage could be added to the list of potential costs of corruption. When the variables corruption at country level and anti-bribery policies are interacted, the relationship is positive and highly significant.

Implications

Given the potential important role played by anti-corruption measures, firms are encouraged to adopt them to reduce the incidence of corruption and to increase analyst coverage which will reinforce the benign effect of monitoring.

Thank you for your attention