Panel Session 4
FINANCIAL MARKET & INSTITUTION

Short Biography of
Dr. Wahyoe Soedarmono (Moderator)

Sampoerna University - OJK

Dr. Wahyoe Soedarmono holds a PhD in Money, Finance and Banking from the University of Limoges, France. He currently serves as a Head of School of Management at Sampoerna University, and HSBC Project Manager on Banking and Finance Education in collaboration with Putera Sampoerna Foundation, in order to enhance financial literacy and inclusion from Aceh to Papua. His research interests are in the areas of macrofinancial economics, empirical banking, and prudential regulations.

He has been a consultant for the World Bank Indonesia Country Office, the Indonesia Financial Services Authority, and Bank Indonesia. His research papers have been published in reputable international journals, such as Global Finance Journal; Journal of International Financial Markets, Institutions and

Money; Emerging Markets Finance and Trade; Journal of Asian Economics, etc.

INTRODUCTION

Dr. Wahyoe mentioned that after the crisis in 2008, regulation has gained more attention from policymakers and academics. This last session of the seminar discussed some studies which were performed empirically using real data analysis and tried to figure out the value of regulation in the banking and capital market case.

First Presentation by
Dr. Emilio Bisetti

Short Biography of
Dr. Emilio Bisetti

HongKong University of Science and Technology

Dr. Emilio Bisetti's research on regulation in the banking sector. In his paper "The Value of Regulators as Monitors: Evidence from Banking," he shows that a particular aspect of financial regulation—financial supervision—can increase bank value by reducing shareholder monitoring costs. Before joining HKUST, Emilio graduated with Ph.D in Financial Economics from Carnegie Mellon University in 2018, where his thesis was awarded the Alexander Henderson Award for Excellence in Economic Theory.

The Value of Regulators as Monitors: Evidence from Banking

By: Dr. Emilio Bisetti

Dr. Emilio mentioned that based on conventional wisdom, regulation was costly for the shareholder. However, the agency theory stated that it was beneficial, as it reduced the monitoring cost. Emilio discussed this in his paper by highlighting the sudden decrease in the reporting requirement for a small bank. The result showed that with the sudden decrease of the Fed monitoring, there was a 1% loss in Tobin's Q and 7% loss in the market to book ratio. This was due to the increase in the expenditure related to internal monitoring and the managerial rents, which was larger for banks with big cash flow risk and banks without bank subsidiaries. This study was also among the first which quantify the shareholder value of monitoring.

Using a stylized model of costly state verification (Townsend, 1979), Emilio used the model to attribute value losses to economic drivers, test mechanism. The model proved that in line with agency theory predictions:

1. Reduced regulatory monitoring induced large value losses

2. Value losses come from internal monitoring and managerial rents
3. Value losses were larger for banks with high cash flow risk, non-bank subsidiaries

From the policy side, there might be an implication of unintended consequences of current small-bank deregulation. While from the economics side there might be a large impact of regulatory monitoring on firm value.

The Value of Regulators as Monitors: Evidence from Banking

Emilio Bisetti

HKUST

OJK International Research Seminar
October 14, 2018

Motivation and Research Question

- Policy debate highlights costs of regulation for bank shareholders

  ◦ Decline of small US banks often attributed to regulatory burden

  ◦ Regulatory costs concern policymakers

    "We will continue to consider appropriate ways to ease regulatory burdens while preserving core reforms." Powell (Nov 28,2017)

- However, financial regulators monitor banks

  ◦ Regulatory monitoring can reduce shareholder monitoring costs

  ◦ Agency theory suggests this can be valuable to shareholders

⇒ Does regulatory monitoring increase or destroy bank value?

This Paper: Regulatory Monitoring Increases Bank Value

- I study the impact of regulatory monitoring on bank value

- I exploit a quasi-natural experiment that reduced small-bank regulatory monitoring
  - Examine changes in value due to reduced regulatory monitoring

- I show that reduced regulatory monitoring *decreases* bank value
  - 1% decline in Tobin's q
  - 7% decline in equity Market-to-Book

Mechanism

- Regulatory monitoring reduces shareholder monitoring costs
- To guide tests, I build a stylized model of monitoring (Townsend (1979))
  - Interpret reduced Fed monitoring as shock to shareholder monitoring costs
  - Use model to attribute value losses to their economic drivers
- Empirical evidence
  - Consistent with model, I document two sources of value losses
    - Internal monitoring: Show increase in internal controls' expenditure
    - Managerial rents: Show increase in earnings management
  - Additional support for mechanism: Value losses are larger for banks with high cash flow risk, non-bank subsidiaries
  - In paper, show little evidence for alternative hypotheses
    - E.g. changes in risk, implicit government guarantees

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Institutional Framework

Fed Monitoring and Bank Reporting

- 86% of US banks are part of a Bank Holding Company (BHC)

- Federal Reserve is primary BHC supervisor

- *BHC Supervision Manual* details Fed officials' monitoring tasks
  - BHC financial statement collection
  - Off-site financials' verification and risk analysis
  - On-site inspections based on results/flags from off-site analysis

- Financial statements collected by Fed vary with BHC size
  - Large BHCs: Consolidated financial statements, quarterly (FR Y-9C)
  - Small BHCs: Parent-only, annually (FR Y-9SP)

⇒ BHC reporting, Fed monitoring functions of BHC size

Quasi-Natural Experiment: Small-Bank Definition Change

- Quasi-natural experiment: March 2006 increase in threshold defining small banks
  - $150M in assets before Q1-2006
  - $500M in assets starting Q1-2006

- I interpret experiment as implicit reduction in Fed's supervisory attention to banks below new threshold

- In a few slides, will provide support for experiment validity

Empirical Setting

Data Sources and Sample Period

- Data sources
  - Fed Regulatory Data: BHC assets (treatment assignment)
  - Quarterly Compustat Bank: Balance sheet/income statement
  - CRSP: Stock prices
  - I/B/E/S: Analyst profitability estimates

- Sample period: Q1-2004 to Q4-2007

Treatment Assignment

- Treatment: Shock to regulatory monitoring for banks below $500M

- Using 2005 asset data, assign banks to treated/control groups

Treated Group	Control Group
• 108 BHCs	• 100 BHCs
• 2005 assets $150-$500M	• 2005 assets $500-$850M
• Below new threshold	• Above new threshold
• Average assets: $387M	• Average assets: $720M

Treatment Assignment: An Example

Landmark Bancorp, Inc.

- 2005 assets: $455 million
- Large for 2005 reporting

Timberland Bancorp, Inc.

- 2005 assets: $547 million
- Large for 2005 reporting

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- Small for 2006 reporting
- ⇒ Part of treated group

Timberland Bancorp, Inc.

- 2005 assets: $547 million
- Large for 2005 reporting
- Large for 2006 reporting
- ⇒ Part of control group

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Identification

- Identification assumption
  - Quasi-random assignment around new threshold *before* change
    - -Controlling for observables, Landmark and Timberland are "equal" before treatment
  - Value differences *after* change are only due to differences in regulatory monitoring

- Two potential violations of this assumption
  - Systematic pre-treatment differences in treated/control value
  - Pre-treatment size manipulation

Pre-Treatment Market-to-Book Differences?
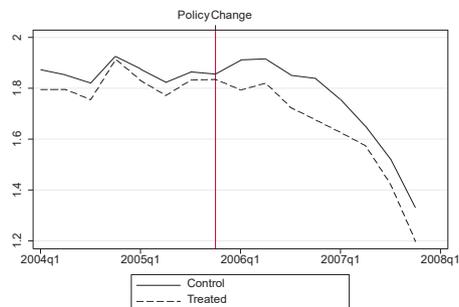
- Similar pre-treatment average Market-to-Book across two groups
- *Statistically* equal before treatment? Quarterly averages are noisy

Pre-Treatment Market-to-Book Differences?

Policy Change
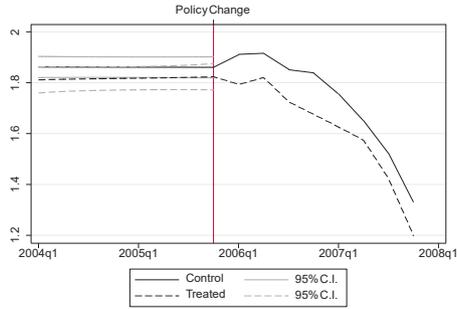
- Local polynomial approximates value trend before/after
- No differences across groups before treatment

Pre-Treatment Market-to-Book Differences?

Policy Change
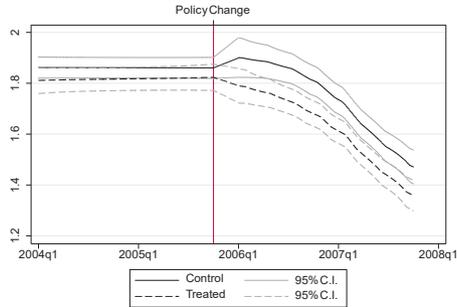
- Local polynomial approximates value trend before/after
- Visual preview of main result

Size Manipulation around New Threshold?

- Regulation details prevent ex-post size manipulation
  - Threshold change announced in late 2005, based on early 2005 assets
- McCrary (2008) tests show no signs of manipulation
  - Idea: Manipulation leads to concentration on either threshold side
  - No density discontinuities ⇒ No manipulation
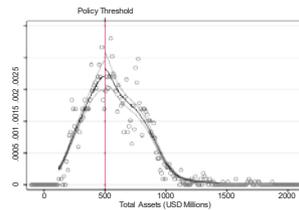
Estimating Equation

$$Y_{it} = \beta_0 + \beta_1 \left(\text{Post}_t \times \text{Treated}_i\right) + \beta_2 X_{it} + \gamma_i + \delta_t + \varepsilon_{it}$$

- Y_{it}: Value outcome (e.g. Market-to-Book) for bank i in quarter t

- Post_t: Post-treatment indicator for quarter t

- Treated_i: Treatment indicator for bank i

- β_1: Treatment effect

Main Result: The Value of Regulatory Monitoring

Fed Monitoring Increases Bank Value

	log Tobin's q			log Market-to-Book		
	(1)	(2)	(3)	(4)	(5)	(6)
Post × Treated	-0.010*** (0.00)	-0.011*** (0.00)	-0.011*** (0.00)	-0.074*** (0.03)	-0.083*** (0.03)	-0.078*** (0.02)
Leverage		0.337*** (0.12)	0.274*** (0.10)		5.640*** (0.81)	5.387*** (0.67)
Tier 1 Ratio		0.381*** (0.08)	0.285*** (0.07)		2.573*** (0.52)	1.778*** (0.49)
Other Controls	No	No	Yes	No	No	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
BHC FE	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.365	0.398	0.424	0.416	0.476	0.511
Observations	2,076	2,076	2,076	2,076	2,076	2,076

- Treatment effect: 1% Tobin's q loss, 7% Market-to-Book loss
  - Result not affected by controls (e.g. leverage, ROE, asset growth)
- On average, $4M relative market cap loss, $430M total loss
- In paper, provide robustness tests on main result
  - E.g. change sample bandwidth, run placebo tests, event study

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Mechanism: Regulatory Monitoring Reduces Shareholder Monitoring Costs

A Stylized Model of Monitoring

- In the paper, I build a stylized model of monitoring by bank outsiders (Townsend (1979))

  ◦ Interpret experiment as shock to monitoring costs

  ◦ Use model to attribute value losses to economic drivers, test mechanism

- Model gives three testable predictions

  ◦ Increased monitoring costs decrease shareholder value

  ◦ Value losses come from monitoring expenditure, managerial rents

    -In the data, treated banks increase their internal controls' expenditure, earnings management

  ◦ Value losses increase with bank cash flow risk

    -In the data, value losses are larger for treated banks with high cash flow risk, non-bank subsidiaries (Pogach and Unal (2018))

Results: Monitoring Expenditure

	log Professional Fees			log $\frac{\text{Professional Fees}}{\text{Net Interest Income}}$		
	(1)	(2)	(3)	(4)	(5)	(6)
Post × Treated	0.243**	0.254***	0.224***	0.210**	0.212**	0.213***
	(0.09)	(0.09)	(0.07)	(0.09)	(0.09)	(0.07)
Leverage Controls	No	Yes	Yes	No	Yes	Yes
Other Controls	No	No	Yes	No	No	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
BHC FE	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.070	0.097	0.191	0.046	0.064	0.152
Observations	978	978	978	978	978	978

- Treatment leads to 25% increase in professional fees
  - Discounted PV of increased expenditure ~25% of value loss
- Consistent with model predictions
  - Professional fees related to internal controls in my sample
  - Professional fee growth strongly correlated with value losses   (More)

Results: Managerial Rents

	log $\frac{\text{Int. Expense}}{\text{Total Loans}}$		log $\frac{\text{LLP}}{\text{Total Loans}}$		log DNLLP	
	(1)	(2)	(3)	(4)	(5)	(6)
Crisis × Unmonitored	0.053**	0.054***	-0.151	-0.289*	0.610**	0.614**
	(0.02)	(0.02)	(0.18)	(0.15)	(0.25)	(0.25)
Controls	No	Yes	No	Yes	No	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
BHC FE	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.673	0.760	0.380	0.526	0.336	0.351
Observations	899	899	746	746	543	543

- Use August 2007 interbank lending distress as funding shock
  - Study response to funding shock for banks around $500M
  - Coefficient captures crisis effect on banks below $500M
- Results
  - Funding cost *increase* for banks below threshold
  - Loan Loss Provisions *decrease* after controlling for observables
  - Discretionary LLP increase ⇒ Earnings management   (Robustness)

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Cash Flow Risk and Value Losses

- Third model prediction: Value losses increase in cash flow risk
  - Intuition: Cash flow risk increases likelihood of low cash flows or high managerial rents

- Test prediction with different cash flow risk proxies
  - Absolute difference between consensus forecast of one-year-forward EPS and realized EPS
  - Equity volatility and tail risk (Ellul and Yerramilli (2013))
  - Presence of non-bank subsidiaries (Pogach and Unal (2018))

- Sort treated banks by cash flow risk
  - Show that value losses are larger for banks with high cash flow risk

Results: Cash Flow Risk and Value Losses

	(1)	(2)	(3)	(4)	(5)	(6)
Post × Treated	-0.033 (0.03)	-0.052** (0.03)	-0.025 (0.03)	-0.035 (0.03)	-0.026 (0.03)	-0.029 (0.03)
Post × Treated × High CF Risk	-0.165** (0.06)	-0.102* (0.06)				
Post × Treated × High Eq. Vol.			-0.121** (0.06)	-0.106** (0.05)		
Post × Treated × High Tail Risk					-0.104* (0.05)	-0.111** (0.05)
Controls	No	Yes	No	Yes	No	Yes
Low-Order Interaction Terms	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
BHC FE	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.429	0.519	0.423	0.516	0.421	0.516
Observations	2,076	2,076	2,076	2,076	2,076	2,076

- Dependent variable is log Market-to-Book
- CF risk is absolute difference between forcasted and realized EPS
- Treated banks with above-median risk experience 10% higher losses

Results: Non-Bank Subsidiaries

	log Market-to-Book			log Prof. Fees		
	(1)	(2)	(3)	(4)	(5)	(6)
Post × Treated	-0.053	-0.051*	-0.060**	0.032	0.045	0.022
	(0.03)	(0.03)	(0.03)	(0.10)	(0.10)	(0.10)
Post × Treated × Non-Bank Subs	-0.066	-0.091**	-0.080*	0.313**	0.270*	0.277*
	(0.05)	(0.04)	(0.04)	(0.14)	(0.15)	(0.15)
Leverage Controls	No	Yes	Yes	No	Yes	Yes
Other Controls	No	No	Yes	No	No	Yes
Low-Order Interaction Terms	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
BHC FE	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.099	0.227	0.271	0.051	0.060	0.090
Observations	1,039	1,039	1,039	512	512	512

- Value losses, monitoring expenditure larger for treated BHCs with at least one non-bank subsidiary
- Result also confirms role of Fed monitoring
  - Bank subsidiaries are monitored by FDIC, Fed, OCC
  - Non-bank subsidiaries are monitored exclusively by Fed

Conclusion

- What is the impact of regulatory monitoring on bank value?

- Exploit quasi-natural shock to small-bank regulatory monitoring to answer question

- Consistent with agency theory predictions, show
  - Reduced regulatory monitoring induces large value losses
  - Value losses come from internal monitoring and managerial rents
  - Value losses are larger for banks with high cash flow risk, non-bank subsidiaries

- Implications:
  - Policy: Possible unintended consequences of current small-bank deregulation
  - Economics: Large impact of (regulatory) monitoring on firm value

The Value of Regulators as Monitors: Evidence from Banking

Robustness: Sample Bandwidth around Threshold

	Dependent Variable: log Market-to-Book					
	$400M-600M		$300M-700M		$150M-1B	
	(1)	(2)	(3)	(4)	(5)	(6)
Post × Treated	-0.087**	-0.088**	-0.055**	-0.072***	-0.052**	-0.073***
	(0.04)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Controls	No	Yes	No	Yes	No	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
BHC FE	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.149	0.338	0.106	0.296	0.068	0.250
Observations	355	355	724	724	1,313	1,313

- Possible concern: Results driven by sample bandwidth

- Strategy: Experiment with different bandwidths

- Results not affected by bandwidth choice

Back

Placebo: Arbitrary Treatment Assignment

	Dependent Variable: log Market-to-Book							
	$300M Threshold		$1B Threshold		After 12/2004		After 12/2006	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Post × Treated	-0.03	-0.04	0.03	0.01	-0.01	-0.00	-0.04	-0.04*
	(0.04)	(0.04)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BHC FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.432	0.528	0.427	0.532	0.038	0.145	0.407	0.496
Observations	1,056	1,056	2,076	2,076	1,028	1,028	2,177	2,177

- Possible concern: Results driven by sub-samples of banks/specific time periods

- Strategy: Experiment with placebo thresholds/treatment dates

- Results disappear when using different thresholds/dates Back

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Event Study

	Daily Frequency		Weekly Frequency	
	Treated	Control	Treated	Control
Cumulative Abnormal Return	-0.0180	0.00264	-0.0139	0.00725
t-stat	-2.144	0.277	-3.315	1.189
Observations (Event Window)	24	24	5	5

- Event study around March 6, 2006

- 2% negative CAR for portfolio of treated banks

- No CAR changes for portfolio of control banks Back

Sample Restrictions

	2005-2006 Sample		2004-2008 Sample		Survivors Only		Listed in 2005	
Dependent Variable: log Market-to-Book								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Post × Treated	-0.078***	-0.094***	-0.072**	-0.074**	-0.061**	-0.070**	-0.074***	-0.079***
	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BHC FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.089	0.260	0.650	0.738	0.426	0.522	0.408	0.511
Observations	1,064	1,064	2,599	2,599	1,454	1,454	2,004	2,004

- Results robust to
  - Shorter, longer sample analysis
  - Exclusion of non-surviving banks
  - Exclusion of post-treatment listings

Quarterly Treatment Effect

	log Tobin's q			log Market-to-Book		
	(1)	(2)	(3)	(4)	(5)	(6)
Q1-2006 × Treated	-0.010**	-0.011***	-0.010**	-0.060**	-0.066***	-0.063**
	(0.00)	(0.00)	(0.00)	(0.03)	(0.02)	(0.02)
Q2-2006 × Treated	-0.011**	-0.012***	-0.011***	-0.071**	-0.078***	-0.075***
	(0.00)	(0.00)	(0.00)	(0.03)	(0.03)	(0.03)
Q3-2006 × Treated	-0.012***	-0.014***	-0.014***	-0.084**	-0.093***	-0.089**
	(0.00)	(0.00)	(0.00)	(0.03)	(0.03)	(0.03)
Q4-2006 × Treated	-0.013***	-0.013***	-0.013***	-0.075**	-0.083***	-0.078***
	(0.00)	(0.00)	(0.00)	(0.03)	(0.03)	(0.03)
Q1-2007 × Treated	-0.010**	-0.011***	-0.011**	-0.077**	-0.083***	-0.077***
	(0.00)	(0.00)	(0.00)	(0.03)	(0.03)	(0.03)
Q2-2007 × Treated	-0.008*	-0.010**	-0.010**	-0.070*	-0.084**	-0.083***
	(0.00)	(0.00)	(0.00)	(0.04)	(0.03)	(0.03)
Q3-2007 × Treated	-0.009*	-0.010**	-0.010**	-0.079**	-0.085**	-0.077**
	(0.01)	(0.00)	(0.00)	(0.04)	(0.04)	(0.03)
Q4-2007 × Treated	-0.008	-0.008	-0.009	-0.081*	-0.090**	-0.082**
	(0.01)	(0.01)	(0.01)	(0.05)	(0.04)	(0.04)
Leverage Controls	No	Yes	Yes	No	Yes	Yes
Other Controls	No	No	Yes	No	No	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
BHC FE	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.366	0.399	0.424	0.417	0.476	0.511
Observations	2,076	2,076	2,076	2,076	2,076	2,076

Falsification: Non-Fed-Regulated Financial Firms

	log Tobin's q			log Market-to-Book		
	(1)	(2)	(3)	(4)	(5)	(6)
Post × Small Non-BHC	0.109	0.040	-0.032	0.131	0.112	0.040
	(0.20)	(0.19)	(0.15)	(0.20)	(0.18)	(0.15)
log Assets		-0.383*	-0.415*		-0.105	-0.164
		(0.20)	(0.20)		(0.18)	(0.17)
Other Controls	No	No	Yes	No	No	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.231	0.337	0.508	0.310	0.314	0.558
Observations	299	299	299	299	299	299

- Non-BHC Financials (SIC Code 6000-6799)
- No effect in falsification test around $500M
- Same result for non-financials

(Back)

Post-Treatment Monitoring and Value Losses

	log Tobin's q			log Market-to-Book		
	(1)	(2)	(3)	(4)	(5)	(6)
Post × Treated	-0.001	-0.001	-0.000	0.003	0.005	0.004
	(0.01)	(0.01)	(0.01)	(0.04)	(0.03)	(0.03)
Prof. Fees	-0.037	-0.062	-0.075*	-0.103	-0.416	-0.437
	(0.05)	(0.04)	(0.04)	(0.52)	(0.42)	(0.36)
Post × Treated × Prof. Fees	-0.139***	-0.101**	-0.124**	-1.447***	-1.300***	-1.188***
	(0.05)	(0.05)	(0.06)	(0.54)	(0.38)	(0.39)
Risk Controls	No	Yes	Yes	No	Yes	Yes
Other Controls	No	Yes	Yes	No	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
BHC FE	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.290	0.338	0.376	0.368	0.452	0.485
Observations	1,641	1,641	1,641	1,641	1,641	1,641

- Interact professional fees with treatment indicator
- Treatment effect's significance absorbed by professional fees
  - Strong correlation between value losses and professional fees

(Back)

Funding Costs and Profitability during the Crisis

	log Funding Costs			log Loan Loss Provisions		
	(1)	(2)	(3)	(4)	(5)	(6)
Crisis × Unmonitored	0.051** (0.02)	0.044** (0.02)	0.054** (0.02)	-0.175 (0.18)	-0.208 (0.18)	-0.215 (0.17)
Leverage Controls	No	Yes	Yes	No	Yes	Yes
Other Controls	No	No	Yes	No	No	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
BHC FE	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.676	0.727	0.758	0.383	0.389	0.416
Observations	873	873	873	723	723	723

- Small bank cost of funding increase, LLP decrease

Earnings Management

	log Discretionary LLP-v1			log Discretionary LLP-v2		
	(1)	(2)	(3)	(4)	(5)	(6)
Crisis × Unmonitored	0.610** (0.25)	0.611** (0.25)	0.731*** (0.27)	0.704*** (0.24)	0.699*** (0.24)	0.715*** (0.26)
Leverage Controls	No	Yes	Yes	No	Yes	Yes
Other Controls	No	No	Yes	No	No	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
BHC FE	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.336	0.342	0.353	0.344	0.350	0.360
Observations	543	543	543	549	549	549

- Discretionary Negative LLP: absolute negative residual from first-stage regression of LLP on observables (Kanagaretnam et al. (2014))

Back

Results: Government Bailout Guarantees

	Factor Loading (Market Model)			Factor Loading (GL Model)		
	(1)	(2)	(3)	(4)	(5)	(6)
Post × Treated	0.001	0.001	0.000	0.001	0.001	0.000
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Liquidity Controls	No	Yes	Yes	No	Yes	Yes
Other Controls	No	No	Yes	No	No	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
BHC FE	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.016	0.023	0.045	0.013	0.018	0.037
Observations	1,955	1,955	1,955	1,955	1,955	1,955

Back

Results: Disclosure

	Dependent Variable: log Market-to-Book					
	Voluntary Reporting			Not Reporting		
	(1)	(2)	(3)	(4)	(5)	(6)
Post × Treated	-0.090**	-0.096**	-0.092**	-0.083***	-0.090***	-0.080***
	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)
Other Controls	No	Yes	Yes	No	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
BHC FE	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.424	0.493	0.509	0.411	0.469	0.521
Observations	1,351	1,351	1,351	1,837	1,837	1,837

Back

Other Fed Regulations

	log Tier 1 Ratio		log Tier 2 Ratio		log Combined Ratio	
	(1)	(2)	(3)	(4)	(5)	(6)
Post × Treated	0.029	0.035	-0.065	-0.065	0.011	0.016
	(0.03)	(0.02)	(0.05)	(0.05)	(0.02)	(0.02)
Controls	No	Yes	No	Yes	No	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
BHC FE	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.029	0.178	0.047	0.054	0.061	0.176
Observations	2,077	2,077	2,062	2,062	2,100	2,100

Back

Second Presentation by
Dr. Deddy P. Koesrindartoto

Short Biography of
Dr. Deddy P. Koesrindartoto

Institut Teknologi Bandung – OJK

Dr. Deddy P. Koesrindartoto is Assistant Professor at the School of Business and Management, Institut Teknologi Bandung (SBM ITB). Deddy is the Head of Capital Market and Investment Laboratory at the School of Business and Management ITB. He was the former Director of Graduate Program of Management Science in SBM ITB, overseeing both Master and PhD Programs. Before that assignment, he served as Director of Institutional Development and Planning at SBM ITB.

He was consultant for World Bank, Ministry of Finance, BAPPENAS, Islamic Development Bank, Indonesia Antitrust and Competition Agency (KPPU), Australian Indonesia Partnership for Economic Governance (AIPEG), Indonesia National Council for Climate Change (DNPI), Boston Consulting Group, and some other private companies.

He received Ph.D in Economics with a minor in Statistics and M.Sc in Industrial Engineering from the Iowa State University. He earned his undergraduate degree in Electrical Engineering from Institut Teknologi Bandung.

Investors Behavior and Trading Strategies: Evidence from Indonesia Stock Exchange

By: Dr. Deddy P. Koesrindartoto

In his study, Dr. Dedy analyzed the dynamic behavior of institutional and individual traders in the Indonesia Stock Exchange (IDX) using all of their transactions during 2013–2015. Dr. Dedy emphasized the fact that the capital market is important. However, the number of investors in Indonesia did not experience a significant increase. Based on KSEI, the number of investors in IDX was indeed experiencing a significant increase from the year 2012- 2017, but the participation rate was still really low (below 1%).

The study tried to examine:

1. The dynamics relation of the trading behavior of various institutional and individual investors
2. The underlying strategy applied by each investor type in its trading activities, i.e., contrarian and momentum
3. How the contemporaneous relationship among players trade and stocks return (herding behavior activity) is

What made the research performed by Dr. Deddy different was the use of microstructure methods in analyzing capital market, as review using such method was still rare in Indonesia. The paper also showed that among all of the investors, institutional investor accounts for 66% of the overall investor while the other 34% are by an individual investor, which meant it has a significant impact on the capital market.

The results showed that the dynamic relationship between institutional and individual investors were as follow:
1. Individual investors looked at the strategy of institutional investors and also the market return
2. While the institutional investors only looked at the market return but not at the strategy of the individual investor

While in term of strategy, individual investors use contrarian strategy while institutional investors use momentum strategy. Contrarian strategy is the strategy where the investor action the next day will contradict the market condition in the previous day. For example, if the yesterday market is favorable, the investor will sell the share today, vice versa. While the momentum strategy is a method that attempts to take advantage of the most recent market trends. The research argued that as the activity of both individual and institutional investor

Investors Behavior and Trading Strategies:
Evidence from Indonesia Stock Exchange

Deddy P. Koesrindartoto*, Aurelius Aaron, and Abdurrohman Arroisi
School of Business and Management, Institut Teknologi Bandung, Indonesia

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1. Introduction : Background

- The increasing importance of Capital Market in Indonesia Economy
- In term of structure, from year to year insignificance contributions in term of equity ownerships from individual investors compared to the institutional investors
- While the number of investor is raising, the significantly low participation rate compared of other pairing countries
- The development of using microstructure methods in analyzing capital market
- The relatively low number of analysis about capital market in Indonesia using market microstructures
- Very limited study the discuss the behavior and strategy in the term of institutional vs individual investors

Investors Behavior and Trading Strategies: Evidence from Indonesia Stock Exchange

1. Introduction : Background (Cont'd)

	In percent of GDP			In percent of aggregated assets of financial institutions			Number of institutions		
	2005	2010	2015	2005	2010	2015	2005	2010	2015
Financial institutions: Total assets	63.4	59.9	71.7	100.0	100.0	100.0	3,258	3,103	3,671
Deposit-taking institutions	52.0	45.6	55.4	82.1	76.1	77.3	2,143	1,828	1,755
Of which, commercial banks	51.3	44.9	54.5	81.0	75.0	76.1	134	122	118 1/
Of which, stated-owned banks	18.7	16.3	20.0	29.5	27.1	28.0	5	4	4
Other non-bank financial institutions	11.3	14.3	16.3	17.9	23.9	22.7	1,115	1,275	1,916
Insurance companies	4.4	5.9	7.2	6.9	9.9	10.0	157	142	137
Pension funds	2.2	1.9	1.8	3.5	3.2	2.5	312	272	260
Mutual funds	1.0	2.2	2.4	1.5	3.7	3.3	293	559	1,091
Financing intermediaries	3.2	3.4	4.1	5.0	5.7	5.7	236	194	266
Other non-bank financial institutions	0.7	0.9	0.8	1.1	1.5	1.2	117	108	162
Financial markets: Market values									
Outstanding debt securities	15.5	14.1	15.7	...	...	...	...	...	...
Stock market capitalization	26.0	47.2	40.8	...	...	...	...	...	...
Memo item:									
Sharia financing	0.7	1.4	2.6	1.1	2.4	3.6	21	34	34
Sharia banks	0.6	1.2	1.8	0.9	1.9	2.6	3	11	12
Conventional banks with Sharia financing units	0.1	0.3	0.7	0.2	0.4	1.0	18	23	22

Sources: OJK; Bloomberg; BIS Debt Securities Statistics; and IMF staff estimates.
1/ One foreign bank branch was closed at the end-February 2017, and the number of commercial banks is now 117.

Investors Behavior and Trading Strategies: Evidence from Indonesia Stock Exchange

1. Introduction : Background (Cont'd)

Percentage of Equity by Investor Type

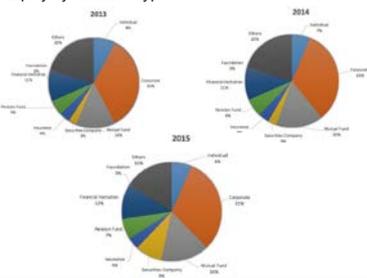| Type of Investor	2013	2014	2015
Individual	7.8%	6.4%	6.5%
Corporate	54.7%	50.9%	31.2%
Mutual Fund	22.6%	25.3%	15.7%
Securities Company	4.3%	4.7%	8.6%
Insurance	6.0%	5.8%	3.8%
Pension Fund	8.6%	9.6%	6.8%
Financial Institution	17.6%	17.6%	11.6%
Foundation	0.3%	0.4%	0.2%
Others	32.3%	31.2%	15.5%

Investors Behavior and Trading Strategies: Evidence from Indonesia Stock Exchange
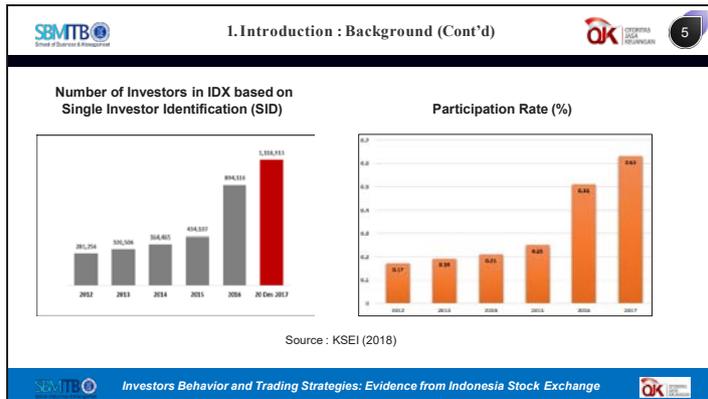
Slide 5 — 1. Introduction : Background (Cont'd)

Number of Investors in IDX based on Single Investor Identification (SID)

Participation Rate (%)

Source : KSEI (2018)

Investors Behavior and Trading Strategies: Evidence from Indonesia Stock Exchange

Slide 6 — 2. Literature Review : Market Microstructure Research in Indonesia

No	Author(s)	Year	Title	Range	Data Type	Topic Coverage
1	Roll	1995	An empirical survey of Indonesian equities 1985–1992	Jan 1985-Dec 1992	M	General
2	Chang et al.	1995	Price volatility of Indonesian stocks	Sep 1992 - Feb 1994	T	Opening & Closing
3	Bonser-Neal, Linnan, and Neal	1999	Emerging market transaction costs: Evidence from Indonesia	Sep 1992 - Jan 1995	T	Transaction Costs
4	Comerton-Forde	1999	Do trading rules impact on market efficiency? A comparison of opening procedures on the Australian and Jakarta Stock Exchanges	Nov 1995 - June 1997	T	Opening
5	Hanafi and Rhee	2004	The wealth effect of foreign investor presence: Evidence from the Indonesian market	May 1995 - Aug 1998	D	Financial Market Liberalization
6	Dvorak	2005	Do domestic investors have an information advantage? Evidence from Indonesia	Jan 1998 - Dec 2001	T	Trading Performance of Domestic and Foreign
7	Agarwal, Faircloth, Liu, and Rhee	2009	Why do foreign investors underperform domestic investors in trading activities? Evidence from Indonesia	May 1995 - Dec 2003	T & O	Clarifying the finding of Dvorak (2005)
8	Rhee and Wang	2009	Foreign institutional ownership and stock market liquidity: Evidence from Indonesia	Jan 2002 - Dec 2007	D	Ownership & Stock Market Liquidity
9	Hanafi	2010	Unusual market activity announcements: A study of price manipulation on the Indonesian Stock Exchange	Jan 2008 - Dec 2008	D	Unusual Market Activity (UMA)

Investors Behavior and Trading Strategies: Evidence from Indonesia Stock Exchange

No	Author(s)	Year	Title	Range	Data Type	Topic Coverage
10	Henker and Husodo	2010	Noise and efficient variance in the Indonesia Stock Exchange	Jan 2000 - Dec 2007	T	Separating Microstructure Noise from Volatility
11	Agarwal, Chiu, Liu, and Rhee	2011	The brokerage firm effect in herding: Evidence from Indonesia	May 1995 - May 2003	T & O	Brokerage Effect on Investor's Herding Behavior
12	Ekaputra and Asikin	2012	Impact of tick size reduction on small caps price efficiency and execution cost on the Indonesia Stock Exchange	Nov 2006 - Feb 2007	T	Implication of Tick Size Reduction
13	Setiyono, Tandelilin, Hartono, Hanafi	2013	Detecting the existence of herding behavior in intraday data: Evidence from the Indonesia Stock Exchange	Jan 2003 - Dec 2005	T	Investigating Herding Behavior
14	Ekaputra	2014	Impact of foreign and domestic order imbalances on return and volatility-volume relation	Jan 2010 - Dec 2010	T	Order Imbalances & Volatility-Volume Relation
15	Aaron, Koesrindartoto, Takashima	2018	Micro-foundation investigation of price manipulation in Indonesian capital market	Jan 2003 - Dec 2004	T	Unchecked Price Manipulation

Investors Behavior and Trading Strategies: Evidence from Indonesia Stock Exchange

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RO 1.
Investigating the dynamics relation and trading behavior of various institutional and individual investors in the IDX

RO 2.
Finding out the general trading strategies for all investor types in the IDX and their herding behavior, if any.

RO 3.
Assessing the impact of trading activities conducted by each type of investor in the IDX on stocks return using high-frequency data.

RO 4.
Carefully determining the possible implications of the findings for the IDX.

Investors Behavior and Trading Strategies: Evidence from Indonesia Stock Exchange

Calculating portfolio weighed return

$$r_{p,t} = \sum_{i=1}^{N} w_{i,t} \cdot r_{i,t}$$

Where:
$r_{p,t}$: portfolio return at period t
$w_{i,t}$: weight of stock i at period t
$r_{i,t}$: return of stock i at period t

Calculating trading imbalances

$$IMB_{x,t} = \frac{BuyTV_{x,t} - SellTV_{x,t}}{BuyTV_{x,t} + SellTV_{x,t}}$$

Where:
$IMB_{x,t}$: Trading imbalances of investor x at period t

Buy (Sell)$TV_{x,t}$: Buy (Sell) trading value of investor x at period t

Investors Behavior and Trading Strategies: Evidence from Indonesia Stock Exchange

$$r_{p,t} = \alpha + \sum_{i=1}^{k} \beta_1 r_{p,t-i} + \sum_{i=1}^{k} \beta_{x+1} IMB_{x,t-i} + \varepsilon_{t,r_p}$$

$$IMB_{x,t} = \alpha + \sum_{i=1}^{k} \beta_1 r_{p,t-i} + \sum_{i=1}^{k} \beta_{x+1} IMB_{x,t-i} + \varepsilon_{t,IMB_x}$$

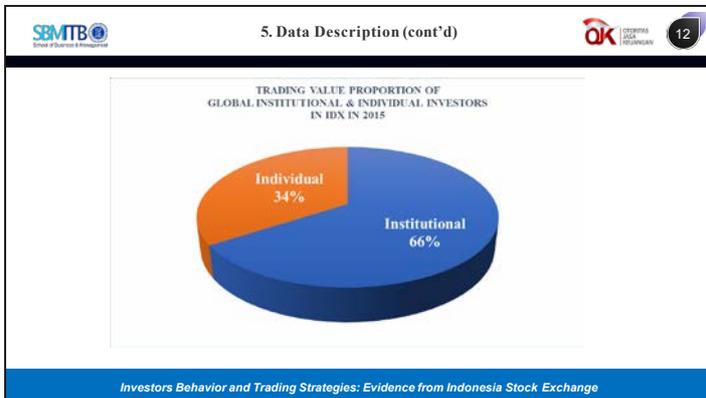x = 1 … 2 (general players) ; x = 1 … 8 (detailed players)

Computing Vector Autoregression (VAR)
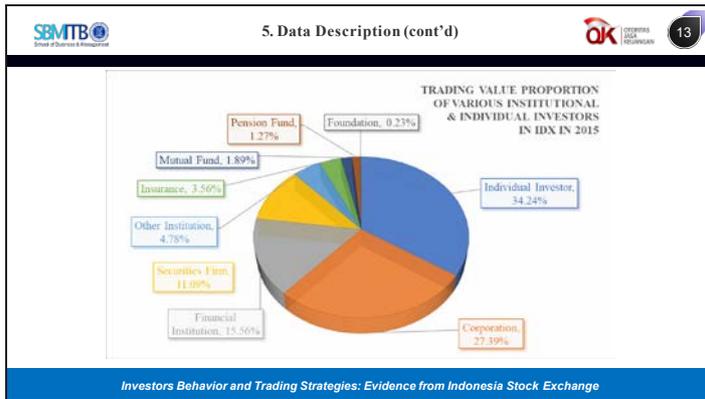
with Newey-West correction using above equation

Investors Behavior and Trading Strategies: Evidence from Indonesia Stock Exchange

5. Data Description

Period	Trading Days	Stocks Traded	Trading Frequency	Trading Volume (in billion)	Trading Value (in million)
2013	240	485	73,105,756	2,632.13	2,972,772.82
Q1	60	451	19,393,710	749.69	751,915.62
Q2	59	455	19,550,760	717.81	893,518.60
Q3	61	462	18,983,014	597.89	724,901.16
Q4	60	470	15,178,272	566.74	602,437.43
2014	242	570	103,714,922	2,712.37	2,908,436.33
Q1	60	517	25,813,196	581.73	714,970.69
Q2	59	520	24,344,006	596.07	711,822.75
Q3	60	529	25,947,892	734.29	760,149.79
Q4	63	536	27,609,828	800.28	721,493.11
2015	244	582	108,558,876	2,917.01	2,811,921.93
Q1	62	534	28,807,152	816.08	816,296.24
Q2	61	534	26,570,562	747.32	739,468.62
Q3	60	538	25,127,206	629.87	565,480.00
Q4	61	544	28,053,956	723.75	690,677.07
2013-2015	726	582	285,379,554	8,261.51	8,693,131.08

Investors Behavior and Trading Strategies: Evidence from Indonesia Stock Exchange

5. Data Description (cont'd)

TRADING VALUE PROPORTION OF GLOBAL INSTITUTIONAL & INDIVIDUAL INVESTORS IN IDX IN 2015

Individual 34%

Institutional 66%

Investors Behavior and Trading Strategies: Evidence from Indonesia Stock Exchange

TRADING VALUE PROPORTION
OF VARIOUS INSTITUTIONAL
& INDIVIDUAL INVESTORS
IN IDX IN 2015

- Pension Fund, 1.27%
- Foundation, 0.23%
- Mutual Fund, 1.89%
- Insurance, 3.56%
- Other Institution, 4.78%
- Securities Firm, 11.09%
- Financial Institution, 15.56%
- Corporation, 27.39%
- Individual Investor, 34.24%

Investors Behavior and Trading Strategies: Evidence from Indonesia Stock Exchange

Investor Type	Equity Ownership as of 30 Dec 2015		Trading Value in 2015		Number of Players in 2015		Average Trading Value of a Player in 2015
	in trillion Rp	in %	in billion Rp	in %	in #	in %	(in billion Rp)
Individual	173.65	6.51%	962,808.85	34.24%	151,617	98.61%	6.35
Institutional	2494.19	93.49%	1,849,113.09	65.76%	2,142	1.39%	863.26
Corporation	833.11	31.23%	770,248.30	27.39%	1,159	0.75%	664.58
Financial Institution	309.51	11.60%	437,566.08	15.56%	123	0.08%	3,557.45
Securities Firm	230.71	8.65%	311,826.99	11.09%	122	0.08%	2,555.96
Others	413.73	15.51%	134,279.21	4.78%	158	0.10%	849.87
Insurance	101.69	3.81%	100,136.06	3.56%	85	0.06%	1,178.07
Mutual Fund	418.66	15.69%	53,075.85	1.89%	223	0.15%	238.01
Pension Fund	180.73	6.77%	35,580.83	1.27%	221	0.14%	161.00
Foundation	6.05	0.23%	6,399.77	0.23%	51	0.03%	125.49
Total	2667.84	100.00%	2,811,921.93	100.00%	153,759	100.00%	18.29

Investors Behavior and Trading Strategies: Evidence from Indonesia Stock Exchange

Panel A. Optimal Lag Selection

Lag	General Players	
	LR	AIC
0	NA	-14.24
1	93.28	-14.34
2	13.09	-14.34
3	25.36	-14.34#
4	3.86	-14.33
5	4.09	-14.31
6	28.58#	-14.33
7	7.05	-14.31
8	10.79	-14.30

Investors Behavior and Trading Strategies: Evidence from Indonesia Stock Exchange

$$RET_t = \alpha + \sum_{i=1}^{3/6} \beta_{1_i} RET_{t-i} + \sum_{i=1}^{3/6} \beta_{2_i} INS_{t-i} + \sum_{i=1}^{3/6} \beta_{3_i} IND_{t-i} + \varepsilon_{t,RET}$$

$$INS_t = \alpha + \sum_{i=1}^{3/6} \beta_{1_i} RET_{t-i} + \sum_{i=1}^{3/6} \beta_{2_i} INS_{t-i} + \sum_{i=1}^{3/6} \beta_{3_i} IND_{t-i} + \varepsilon_{t,INS}$$

$$IND_t = \alpha + \sum_{i=1}^{3/6} \beta_{1_i} RET_{t-i} + \sum_{i=1}^{3/6} \beta_{2_i} INS_{t-i} + \sum_{i=1}^{3/6} \beta_{3_i} IND_{t-i} + \varepsilon_{t,IND}$$

Panel C. Heteroscedasticity Test

	General Players	
	Lag 3	Lag 6
Chi-Squared	780.8*	1848.2*
(Joint-test)	(0.000)	(0.000)

Investors Behavior and Trading Strategies: Evidence from Indonesia Stock Exchange

	RET (1)	INS (2)	IND (3)		RET (1)	INS (2)	IND (3)
RET (-1)	0.075 (0.046)	0.947*** (0.120)	-1.757*** (0.255)	IND (-1)	0.003 (0.012)	0.018 (0.049)	0.029 (0.106)
RET (-2)	-0.051 (0.046)	0.052 (0.116)	-0.362 (0.345)	IND (-2)	-0.006 (0.006)	0.031 (0.027)	-0.061 (0.042)
RET (-3)	-0.087 (0.057)	0.042 (0.178)	-0.254 (0.320)	IND (-3)	-0.043*** (0.008)	-0.099*** (0.033)	0.177*** (0.062)
INS (-1)	0.011 (0.021)	0.102 (0.089)	-0.077 (0.183)	CONS	0.0005 (0.000)	0.002 (0.001)	-0.001 (0.002)
INS (-2)	-0.003 (0.013)	0.099* (0.058)	-0.136 (0.092)	df_r	713	713	713
INS (-3)	-0.088*** (0.017)	-0.218*** (0.062)	0.443*** (0.116)	df_m	9	9	9
				F-stat	5.006	16.92	11.76
				No of Obs.	723	723	723

Investors Behavior and Trading Strategies: Evidence from Indonesia Stock Exchange

Variables		Effect (t)		
		RETURN	INSTITUTION	INDIVIDUAL
Cause (t-i)	RETURN	2.296** (0.033)	16.33*** (0.000)	16.94*** (0.000)
	INSTITUTION	4.233*** (0.005)	9.381*** (0.000)	3.12** (0.025)
	INDIVIDUAL	4.137*** (0.006)	1.817 (0.142)	10.44*** (0.000)

Investors Behavior and Trading Strategies: Evidence from Indonesia Stock Exchange

7. Results of Detailed Players

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Panel A. Optimal Lag Selection

Lag	Detailed Players	
	LR	AIC
0	N/A	-9.74
1	689.30	-10.43#
2	162.52	-10.39
3	124.60	-10.29
4	107.88	-10.17
5	122.76	-10.08
6	113.34	-9.97
7	98.129	-9.85
8	124.57#	-9.76

Investors Behavior and Trading Strategies: Evidence from Indonesia Stock Exchange

7. Results of Detailed Players (cont'd)

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	RET (4)	CP (5)	FD (6)	IB (7)	ID (8)	IS (9)	MF (10)	OT (11)	PF (12)	SC (13)
RET (-1)	0.078 (0.057)	0.613 (0.551)	-2.134 (1.954)	0.174 (0.527)	-1.458*** (0.310)	0.931 (1.566)	0.257 (1.138)	2.061* (1.125)	-2.079 (1.368)	1.342* (0.765)
CP (-1)	0.001 (0.004)	0.158** (0.063)	-0.163 (0.215)	-0.102* (0.058)	-0.010 (0.029)	0.154 (0.185)	0.026 (0.122)	0.101 (0.126)	0.038 (0.193)	-0.060 (0.079)
FD (-1)	-0.001 (0.001)	-0.001 (0.012)	-0.028 (0.039)	-0.031** (0.014)	0.0022 (0.006)	0.037 (0.040)	-0.056* (0.031)	0.054* (0.028)	0.049 (0.036)	0.053 (0.019)
IB (-1)	0.005 (0.003)	-0.049 (0.041)	-0.063 (0.166)	0.157*** (0.043)	-0.019 (0.023)	-0.142 (0.134)	-0.246** (0.096)	0.142 (0.105)	-0.133 (0.135)	0.075 (0.049)
ID (-1)	0.008 (0.008)	0.099 (0.080)	0.196 (0.300)	-0.004 (0.088)	0.060 (0.044)	0.012 (0.315)	-0.159 (0.243)	0.310* (0.181)	-0.211 (0.274)	-0.045 (0.123)
IS (-1)	0.000 (0.001)	-0.007 (0.016)	0.000 (0.044)	-0.066*** (0.016)	0.008 (0.006)	0.354*** (0.051)	-0.015 (0.034)	-0.030 (0.035)	0.037 (0.042)	-0.082*** (0.021)
MF (-1)	0.002 (0.001)	0.048** (0.018)	-0.035 (0.047)	-0.039** (0.020)	0.008 (0.008)	0.009 (0.045)	0.059 (0.044)	-0.012 (0.030)	-0.044 (0.044)	-0.017 (0.026)
OT (-1)	0.001 (0.001)	-0.010 (0.018)	-0.040 (0.063)	-0.007 (0.021)	0.003 (0.009)	-0.009 (0.067)	-0.056 (0.046)	0.240*** (0.043)	-0.056 (0.051)	0.009 (0.033)
PF (-1)	0.000 (0.001)	0.010 (0.016)	0.068 (0.057)	-0.014 (0.021)	0.004 (0.008)	-0.077 (0.051)	0.093** (0.043)	-0.036 (0.037)	0.184*** (0.051)	-0.001 (0.023)
SC (-1)	0.002 (0.002)	-0.063 (0.046)	-0.023 (0.113)	0.045 (0.037)	-0.005 (0.018)	-0.177 (0.109)	-0.124 (0.066)	0.154*** (0.072)	-0.090 (0.091)	0.201*** (0.067)
CONS	0.000 (0.000)	0.001 (0.005)	0.025 (0.016)	0.000 (0.005)	-0.003 (0.002)	0.037** (0.017)	0.058*** (0.013)	-0.006 (0.011)	-0.007 (0.014)	0.005 (0.008)
df_r	714	714	714	714	714	714	714	714	714	714
df_m	10	10	10	10	10	10	10	10	10	10
F-stat	1.100	5.199	2.360	10.79	8.418	33.94	4.824	10.05	9.969	14.43
No of Obs.	725	725	725	725	725	725	725	725	725	725

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7. Results of Detailed Players(cont'd)

Variables		RET	ID	CP	IB	SC	OT	IS	MF	PF	FD
						Effect (t)					
Cause (t-i)	RET	0.651 (0.753)	23.43*** (0.000)	1.153 (0.283)	0.070 (0.790)	2.619 (0.106)	2.887* (0.089)	0.267 (0.605)	0.036 (0.849)	1.606 (0.205)	1.283 (0.257)
	ID	0.977 (0.323)	6.472*** (0.000)	1.074 (0.300)	0.002 (0.964)	0.108 (0.742)	2.304 (0.129)	0.001 (0.967)	0.486 (0.485)	0.587 (0.443)	0.383 (0.536)
	CP	0.046 (0.829)	0.117 (0.731)	3.066*** (0.001)	2.375 (0.123)	0.513 (0.473)	0.665 (0.414)	0.705 (0.401)	0.037 (0.816)	0.053 (0.817)	0.727 (0.394)
	IB	1.823 (0.177)	0.758 (0.384)	1.371 (0.242)	7.013*** (0.000)	1.536 (0.215)	2.508 (0.113)	1.147 (0.284)	6.055** (0.014)	1.206 (0.272)	0.211 (0.646)
	SC	0.647 (0.421)	0.106 (0.743)	3.497* (0.061)	1.370 (0.242)	5.673*** (0.000)	4.517** (0.033)	2.712* (0.100)	2.336 (0.125)	0.848 (0.357)	0.045 (0.831)
	OT	0.517 (0.472)	0.099 (0.753)	0.253 (0.614)	0.113 (0.735)	0.104 (0.746)	3.907 (0.000)	0.021 (0.883)	1.349 (0.245)	0.929 (0.335)	0.355 (0.551)
	IS	0.010 (0.918)	1.424 (0.233)	0.264 (0.607)	16.44*** (0.000)	15.85*** (0.000)	0.997 (0.318)	1.730* (0.078)	0.219 (0.639)	0.824 (0.364)	0.000 (0.990)
	MF	2.144 (0.143)	1.043 (0.307)	9.195*** (0.002)	4.762** (0.029)	0.592 (0.441)	0.130 (0.718)	0.034 (0.853)	3.520 (0.000)	0.952 (0.329)	0.447 (0.503)
	PF	0.164 (0.685)	0.234 (0.628)	0.338 (0.561)	0.505 (0.477)	0.006 (0.937)	0.974 (0.323)	1.994 (0.158)	5.082** (0.024)	1.663* (0.094)	1.437 (0.231)
	FD	0.267 (0.605)	0.114 (0.735)	0.021 (0.884)	4.737** (0.029)	0.085 (0.770)	4.214** (0.040)	0.916 (0.338)	3.656* (0.056)	1.265 (0.260)	1.794* (0.0659)

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8. Conclusion

Variables			DEPENDENT VARIABLE (t)		
			RETURN	INSTITUTION	INDIVIDUAL
INDEPENDENT VARIABLE (t-i)	RETURN	-1		(+) VS	(-) VS
		-2			
		-3			
	INSTITUTION	-1			
		-2		(+) W	
		-3	(-) VS	(-) VS	(+) VS
	INDIVIDUAL	-1			
		-2			
		-3	(-) VS	(-) VS	(+) VS

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SBM ITB   8. Conclusion (cont'd)

Variables		Effect (t)		
		RETURN	INSTITUTION	INDIVIDUAL
Cause (t-i)	RETURN	VS	VS	VS
	INSTITUTION	VS	VS	S
	INDIVIDUAL	VS		VS

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SBM ITB   8. Conclusion (cont'd)

Variables		Effect (t)									
		RET	ID	CP	IB	SC	OT	IS	MF	PF	FD
Cause (t-1)	RET		(-) VS			(+) W	(+) W				
	ID						(+) W				
	CP			(+) S	(-) W						
	IB					(+) VS			(-) S		
	SC					(+) VS	(+) S				
	OT						(+) VS				
	IS				(-) VS	(-) VS		(+) VS			
	MF			(+) S	(-) S						
	PF								(+) S	(+) VS	
	FD				(-) S		(+) W	(-) W			

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8. Conclusion (cont'd)

Variables		Effect (t)									
		RET	ID	CP	IB	SC	OT	IS	MF	PF	FD
Cause (t-i)	RET		VS				W				
	ID		VS								
	CP			VS							
	IB				VS				S		
	SC			W		VS	S	W			
	OT										
	IS				VS	VS			W		
	MF		VS		S						
	PF								S	W	
	FD				S		S		W		W

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In the discussion section, Dr. Emilio highlighted the fact that only 151.000 individual investor trading in Indonesia, which were a tiny sample compared to the overall population of Indonesia. Yet they covered 34% of the traded volume. Emilio was interested in finding out what kind of frictions that were more severe in Indonesia compared to other countries. Whether it was trading cost, regulation, financial literacy levels or information asymmetries. He also highlighted the fact that there was a higher individuals' imbalance (buying relative to selling) which predicted higher returns. He argued that it was important to find out whether this was caused by private information, insider trading or other reason. If the researcher can analyze this further, it might be helpful for the policy.

Also, regarding a presentation from Dr. Emilio, both Dr. Wahyoe and Dr. Deddy added several feedbacks to strengthen the quality of his study. Dr. Wahyoe mentioned that Dr. Emilio considered the regulatory change as a proxy for the "shock." However, it might be beneficial to test for the robustness of the proxy, as there might be other factors around the year 2004-2007 which could distort the net effect of regulatory shock as a proxy. Moreover, secondly, the paper may also consider

that there was a potential reverse causality between bank value and other control variables, for example, risk-taking, leverage, etc, because some papers have mentioned that bank value can affect those controls variables. Finally, risk supervisory action undertaken by the regulators were meant to overcome riskiness, not necessarily focused on bank value. Therefore, Dr. Emilio may consider the trade-off between bank value, profitability and also riskiness.

Further, Dr. Deddy added that it was important to explain the moral hazard of the manager to explain what the manager would do. And secondly, regarding the distribution of the bank, the top 20% of the bank held 80% of the total asset. However, there was no calculation of the total effect, but only the return of the small banks. Therefore, it might be interesting to add some point about the offsetting the effect of this kind of policy.

Questions and Answers Session

None of the participants raised their questions in this session.