Does piggy backing on insider trades benefit brokers?

-Aditi Khatri

Indian School of Business, Hyderabad

December, 2017

Motivation

- Globally, firm insider trades have been studied to understand their advantage (Dymke and Walter (2008),Alldredge and Cicero (2015)).

- Research has demonstrated that insiders are able to time their trades better (Lakonishok and Lee, 2001).

- Insider trades are regulated through restrictions like blackout periods and trade disclosure requirements.

- But, brokers, by virtue of their role, posses this undisclosed information until it is publically available. I study if insiders' brokers exploit this information.

Questions

- Do insider brokers tip clients?

- Who is tipped?

- Does tipping impact insider brokers?

Questions

- Do insider brokers tip clients?
  - There is an abnormal increase in the directional trading activity through insider brokers around insider trades indicative of tipping.

- Who is tipped?
  - Large clients of the insider broker contribute to abnormal trading activity in case of insider sales. No specific client group seems to be favoured in case of insider buys.

- Does tipping impact insider brokers?
  - In the long run, insider brokers who (apparently) tip, seem to capture more transaction volumes on BSE, but the increase is not driven by "imitator clients". (Work in progress)

Literature & Contribution

- Related Literature
  - Inci, Lu and Seyhun (2010)-Market professionals respond to insider trades prior to public disclosure.
  - Markov, Muslu, and Subasi (2017)
  - McNally et al. (2015)
  - Irvine et al. (2006)
  - Li, Mukherjee, and Sen (2017)
- Explore the characteristics of apparently tipped clients.
- Long term impact of tipping on brokers.

Regulatory Overview in India

- Insider Trades:
  - Prohibition of Insider Trading Act (2008 Amendment).
  - Trade to be reported to exchange within 2 days .
  - Trades resulting in a change in holding by 25,000 shares/0.5 million INR/1% of outstanding share-holding to be reported.

- Trading Members/Brokers:
  - Stock Brokers and Sub-Brokers Regulation, 1992.
  - "Breach of Trust" clause.

Data Sources

- ## BSE Trade book:
  - Contains every equity transaction on BSE.
  - 3 years (2009-2011).
  - Account is identified by Trading Member Id- Client Id. Eg. Broker X- Client Id 105

- ## BSE Website :
  - Scanned copies of Form D under Regulation 13 of Prohibition of Insider Trading Act, 1992 .

Key Variables

BSE Trade Book	Regulatory Filings
Stock	Stock
Date time	Date
Transaction Volume	Transaction Volume
Price	Price
Buyer Client Id	Insider Name
Buyer Trading member	Trading Member
Seller Client Id	Direction
Seller Trading Member	

Sample construction

- BSE data is aggregated at daily stock-account-direction level.

- Identify insider account by uniquely matching on the following fields:
  - Stock
  - Date
  - Volume
  - Direction

- Insider trades prior to corporate events are excluded for the study to eliminate confounding effects.

Sample construction
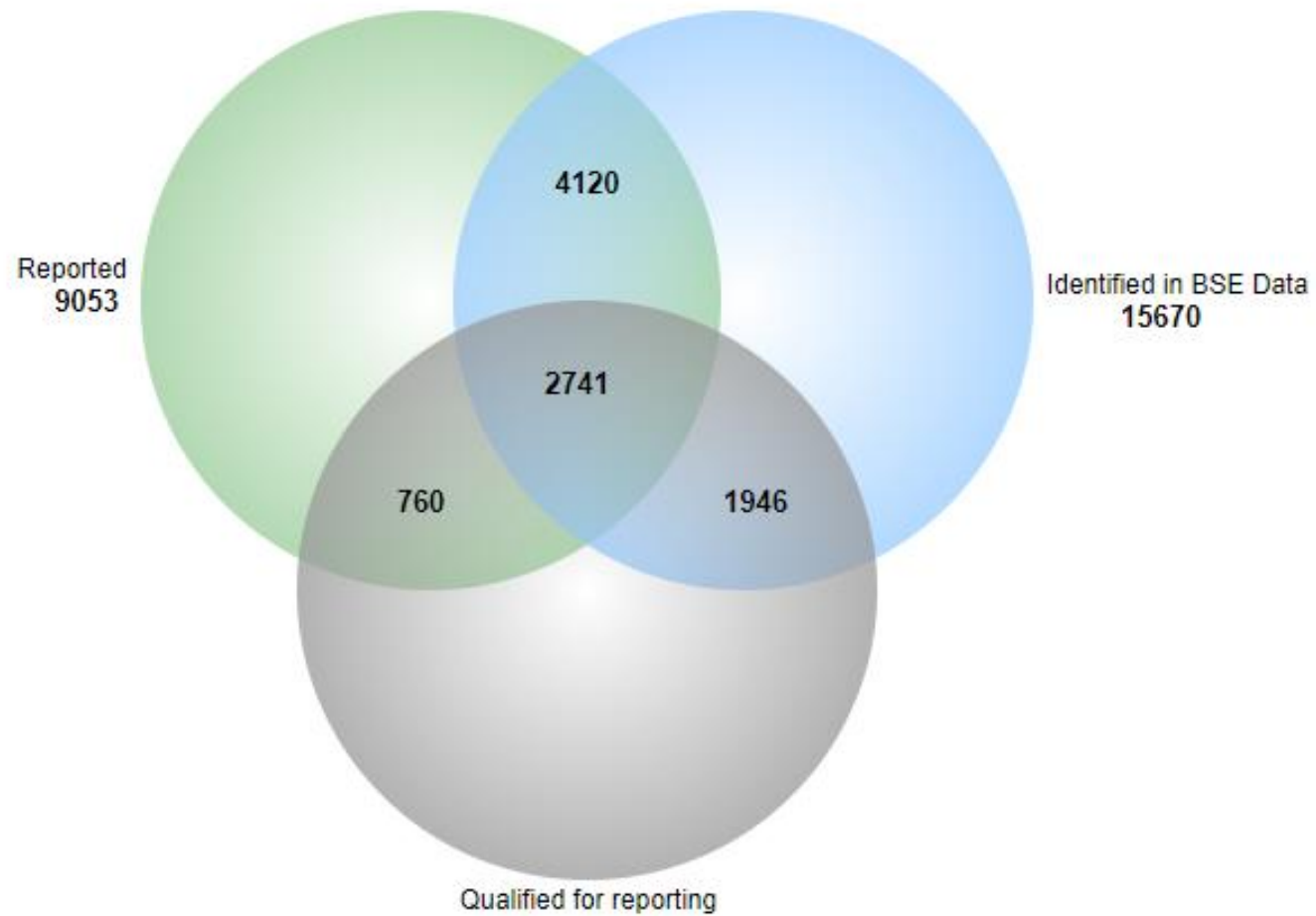
Summary Statistics

Variable	From Reported trades		From BSE Trades		
	Total	Matched	Identified	Filtered	Events
Number of insider trades	9,053	6,861	15,670	7,831	4,051
Number of insider purchase	6,265	4,816	10,877	4,644	2,343
Number of insider sale	2,788	2,045	4,793	3,187	1,708
Number of unique insiders	1,683	1,232	1,232	1,084	1,084
Number of insider accounts	Not Applicable	1,393	1,393	1,215	1,215
Number of insider own company stocks	724	620	620	563	563
Number of Trading Members	Not Applicable	328	328	295	295

Do insider brokers tip other clients?

$$MS_{ijt}^{d} = \frac{\nu_{ijt}}{V_{it}}$$

MS= Market Share

ν = Third-party volume through a broker

V = Third-party volume on BSE

i = stock

j = broker

t = trading day

d = direction of trade

Do insider brokers tip other clients?

MS_IE = Market share on Insider Trade Day
MS_Bench = Market share during Benchmark period

Date	Insider Buy Event					Insider Sell Event				
	MS_IE	MS_Bench	Diff	t-stat	N	MS_IE	MS_Bench	Diff	t-stat	N
	(1)	(2)	(1)-(2)	(3)		(1)	(2)	(1)-(2)	(3)	
-2	0.0482	0.0476	0.0005	0.1476	2,040	0.0274	0.0213	0.0061	2.3499	1,461
-1	0.0474	0.0473	0.0001	0.0084	2,050	0.0307	0.0214	0.0093	3.4003	1,462
0	**0.0872**	**0.0478**	**0.0394**	**8.7953**	**2,038**	**0.0537**	**0.0214**	**0.0323**	**8.6867**	**1,454**
1	0.046	0.048	-0.002	-0.5713	2,049	0.025	0.0215	0.0035	1.4857	1,461
2	0.0447	0.0476	-0.0029	-0.8284	2,039	0.0276	0.0218	0.0059	2.2124	1,461

Do insider brokers tip other clients?

$$MS_{ijt}^d = \alpha + \beta_1 * \text{shared\_broker} + \beta_2 * \text{post} + \beta_3 * \text{shared\_broker} * \text{post} + \epsilon_{ijs}$$

MS= Market Share

Shared Broker = Dummy to indicate if the broker is an insider broker

Post = Dummy to identify the period after insider trade

Do insider brokers tip other clients?

Independent Variable	Insider Purchase Event				Insider Sale Event			
Post	-0.0022	***	-0.0017	***	-0.0008	***	-0.0007	***
	(-12.06)		(-20.94)		(-8.78)		(-15.29)	
Shared Broker	0.0473	***	0.0386	***	0.0227	***	0.0197	***
	(8.06)		(13.15)		(5.24)		(8.72)	
Post * Shared Broker	0.0137	***	0.0142	***	0.0156	***	0.0138	***
	(3.58)		(3.83)		(3.96)		(4.96)	
Intercept	0.0093	***	0.0092	***	0.0062	***	0.0062	***
	(64.97)		(165.38)		(77.75)		(197.2)	
Window	6		6		6		6	
Exclude 1 day before event	Yes		Yes		Yes		Yes	
Broker Fixed Effects	Yes		No		Yes		No	
Event Fixed Effects	No		Yes		No		Yes	
No. of Observations	1,074,174		1,074,174		1,199,108		1,199,108	
R2 Adj.	0.0323		0.0479		0.0321		0.0477	

Do insider brokers tip other clients?
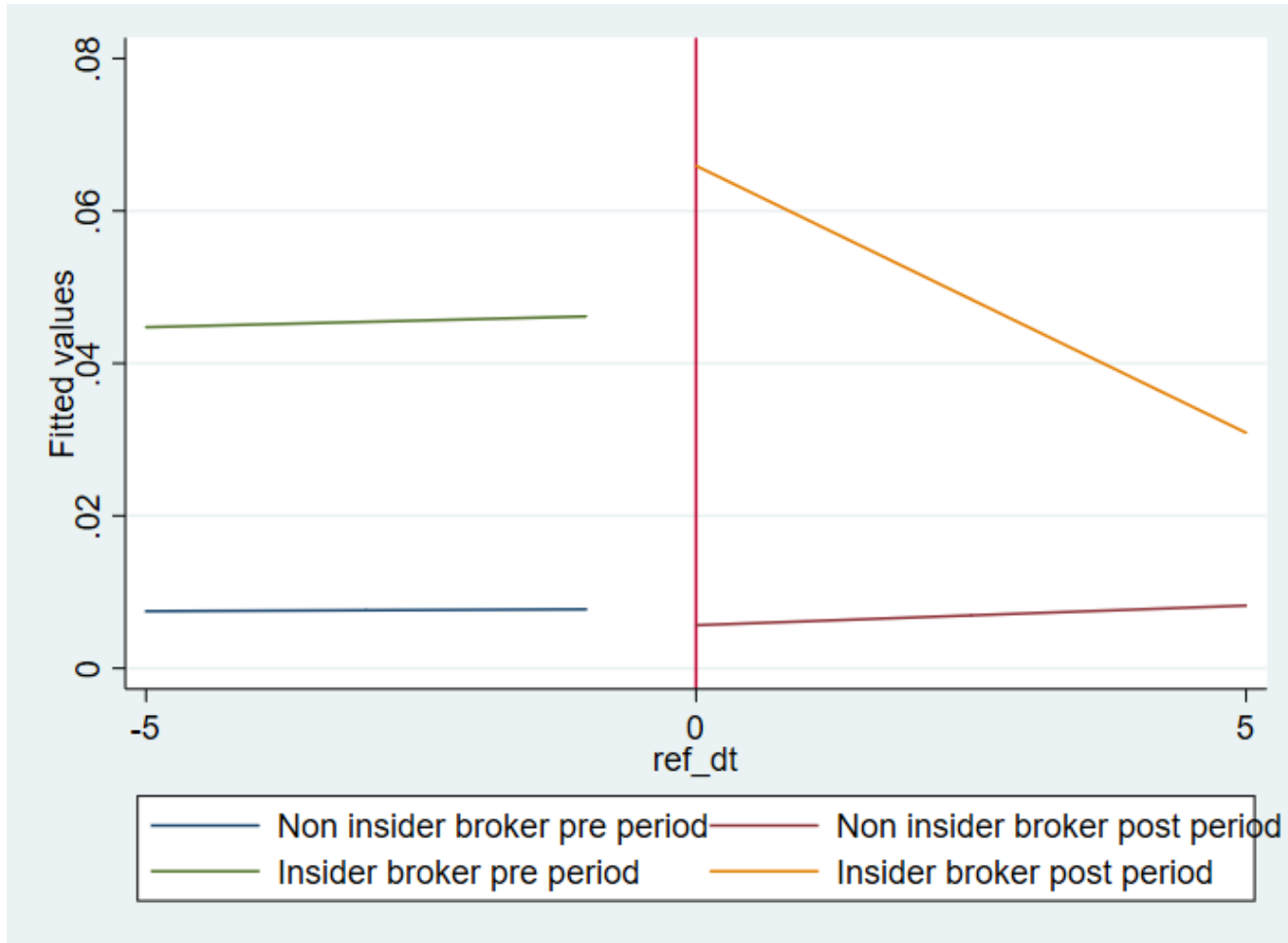
Who is tipped?

- Tipping is selective dissemination of information to preferred clients.
- Larger clients of a broker are more likely to receive a tip as an incentive or opportunity to exploit asymmetric information by a broker to generate substantial profits.
- Also, level of trust and likelihood of response to a tip are major factors.
- Client base of the broker is studied based on historic trading activity through accounts with the brokers.

Who is tipped?

$$Diff\_MS_{ijt}^{d} = \alpha + \beta_1 * High\ Rank_{jb} + \beta_3 * Log\ Insider\ Vol + \epsilon_{ijs}$$

- Diff_MS = Difference in Market Share of insider broker during insider trade and insider broker
- High Rank = Dummy variable to indicate a high ranked imitator account
- Log Insider Vol=Logarithm of insider trade volume (based on McNally et al.)
- i=stock
- j=broker
- t=trading date
- d=direction
- b=benchmark period for evaluation of rank for an account

Who is tipped?

Independent Variables	Insider Purchase Event				Insider Sale Event		
No. of days in benchmark period	40		40		40		40	
Deciles with "High Rank" =1	>=8th		>=5th		>=8th		>=5th	
High Rank	-0.00834		0.00189		0.00337	**	0.00364	*
	(-1.43)		(0.26)		(2.17)		(1.79)	
Log Insider Vol	0.00998	***	0.00996	***	0.00263	***	0.00263	***
	(4.60)		(4.59)		(5.39)		(5.40)	
Intercept	0.0372	*	0.0312		0.00457		0.00341	
	(1.85)		(1.50)		(1.06)		(0.75)	
Broker Fixed Effects	Yes		Yes		Yes		Yes	
Observations	3650		3650		9598		9598	
R2 Adj.	0.333		0.333		0.294		0.294	

Does tipping impact insider broker?

The decision of the broker to tip is driven by:

- Profitability:
  - Current Profits
  - Future Profits

- Repercussion:
  - Extreme Repercussions
  - Mild Repercussion

Does tipping impact insider broker?

Variable	N	Mean (x 10^{-6})	t-stat
Difference in market share of insider brokers around insider trade	3,519	1,803.68	4.19
Difference in market share of non-tipping insider brokers around insider trades	1,691	1,243.91	2.29
Difference in market share of potentially tipping brokers	1,151	2,056.49	2.62
Difference in market share of potentially tipping brokers owing to imitator accounts	1,076	255.85	1.69

Conclusion

- The market share (considering third party volumes traded through insider broker) of insider broker around insider trade is significantly higher than their historic contribution. This could be driven by potential tipping.
- Insider sales are accompanied by similar trades by large client of the insider broker. No specific client group (in terms of their historic trading activity) seems to imitate insider trades.
- Overall, insider brokers involved in "apparent" tipping, tend to capture higher market share over the next few weeks. But, this is not due to direct contribution from "apparently" tipped client accounts.(Work in progress)