Board gender-balancing, network information, and insider trading

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Abstract

Following Norway's forced board gender-balancing (12/2007), which more than doubled the network of female directors, the short-term market reaction to the population of primary female insider purchases has become significantly positive. However, accounting for insiders' actual holding periods, this positive network-driven information effect does not map into positive abnormal insider trading performance. During the financial crisis period (10/2008–12/2010), both male and female insiders of the by then gender-balanced boards significantly increased their stock purchases. This increase, which we show does not reflect inside information, suggests that female directors are not more risk averse than their male counterparts.

Primary Insider trades

Trades by executives or directors in own company stock.

Source of trading profit

Trades reflect knowledge/understanding/experience of

- Own company
- Industry in which company operates

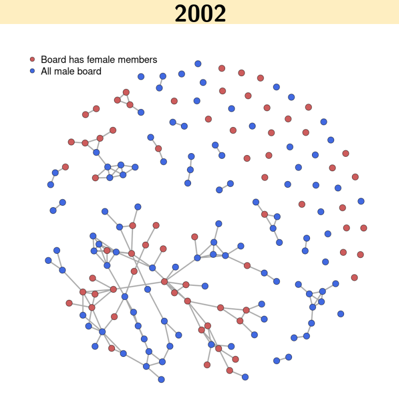
Sources of gender differences?

- *Network* of insiders (e.g. board memberships) determine information (Inci, Narayanan and Seyhun, 2017)
  - When females few, trades reflect less inside information
- Norway: Shock to gender network: Board reform – 40% minimum female representation on boards of OSE listed companies. (Eckbo, Nygaard and Thorburn, 2021)

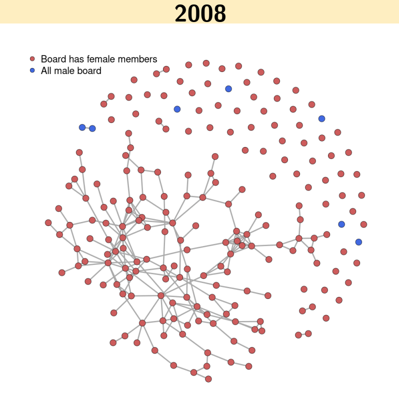
Evolving connectedness of board networks

Board network maps

2002



2008



Blue: All male boards;
Red: Boards with at least one female director

This investigation

Norway: All reported inside trades 1997–2016.

Measure gender differences in

- Short term market *reaction* when insiders trade.
- Long term *performance* measuring the actual gains implied in insider's trading.

Short term price movements when insiders trade

- Timing by insiders (insider knowledge)
- Market's evaluation of the fact that an insider traded.

Method: Event study

Market reaction (CAR):Coefficient Γ in

$$r^e_{it} = a_i + b_i r^e_{mt} + \Gamma D^{event}_{it} + \varepsilon_{it}$$

Event windows:	$(-1,1)$	$(-1,5)$	$(-1,25)$	$(-1,50)$
A: Female Insiders 1997–2007				
CAR	0.0039	-0.0008	-0.0150	-0.0151
	(0.002)	(0.001)	(0.001)	(0.0005)
B: Male Insiders 1997–2007				
CAR	0.0163***	0.0148***	0.0117	0.0104
	(0.001)	(0.001)	(0.0003)	(0.0003)
C: Female Insiders 2008-2016				
CAR	0.0154***	0.0212***	0.0172	0.0161
	(0.002)	(0.001)	(0.001)	(0.0004)
D: Male Insiders 2008-2016				
CAR	0.0167**	0.0083	-0.0141	-0.0429
	(0.002)	(0.002)	(0.001)	(0.001)

Market reaction to female trades larger as the female network increases

Gender difference in long term performance

Construct portfolio incorporating information in insider trades

- Ownership weights
- Value weights

→ Monthly series of portfolio weights.

Performance evaluation

- Holdings-based evaluation
  - Do weight changes in (inside) portfolio predict performance?
- Returns-based evaluation
  - "Alpha"

Results of long term performance comparison

Point estimate: Females do (slightly) better.
Statistically: No significant performance differences

Risk aversion and gender - the '08 crisis

Insider reactions to '08 fall in equity values

1. → buy stocks to rebalance portfolios.
2. → higher potential for inside view to differ from consensus view (increase inside holdings if positive view).

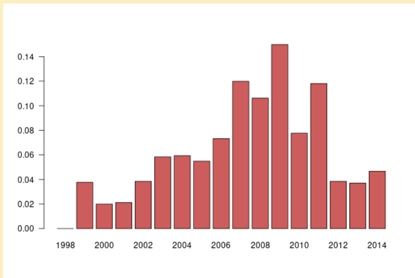
Risk aversion's influence on this decision
More risk averse:

1. → Less equity in optimal portfolio
2. → Less willing to lower diversification to concentrate holdings in own company stocks.

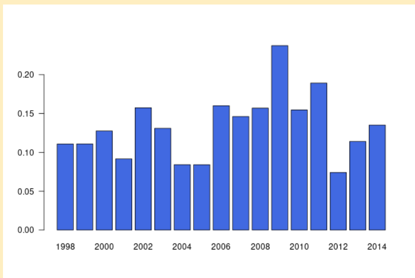
Prediction More risk averse individuals will buy less equity following the fall in stock values.

Propensity to trade by directors

Females



Males



Key takeaways

Gender based performance differences?

→ Positive short term market reaction higher for male trades.

→ No significant long term differences

Board reform: influx of female directors

→ Market reacts *more positively* to inside trades by females after board reform.

Financial crisis and risk aversion

→ Female insiders increase equity buying during crisis.

→ Not consistent with female executives/directors being more risk averse than their male colleagues.