



Financial supervision workshop 2018

“Public enforcement of securities market rules: Resource-based evidence from the Securities and Exchange Commission”

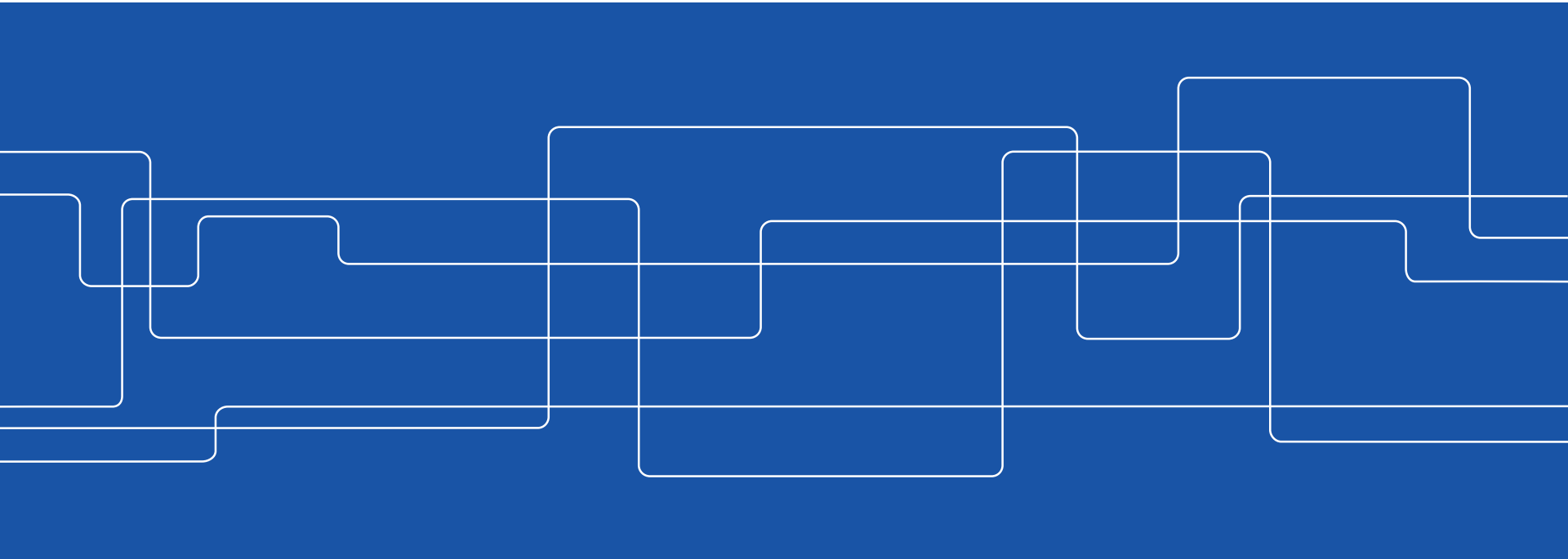
Presenter: Christian Thomann, KTH Royal Institute of Technology



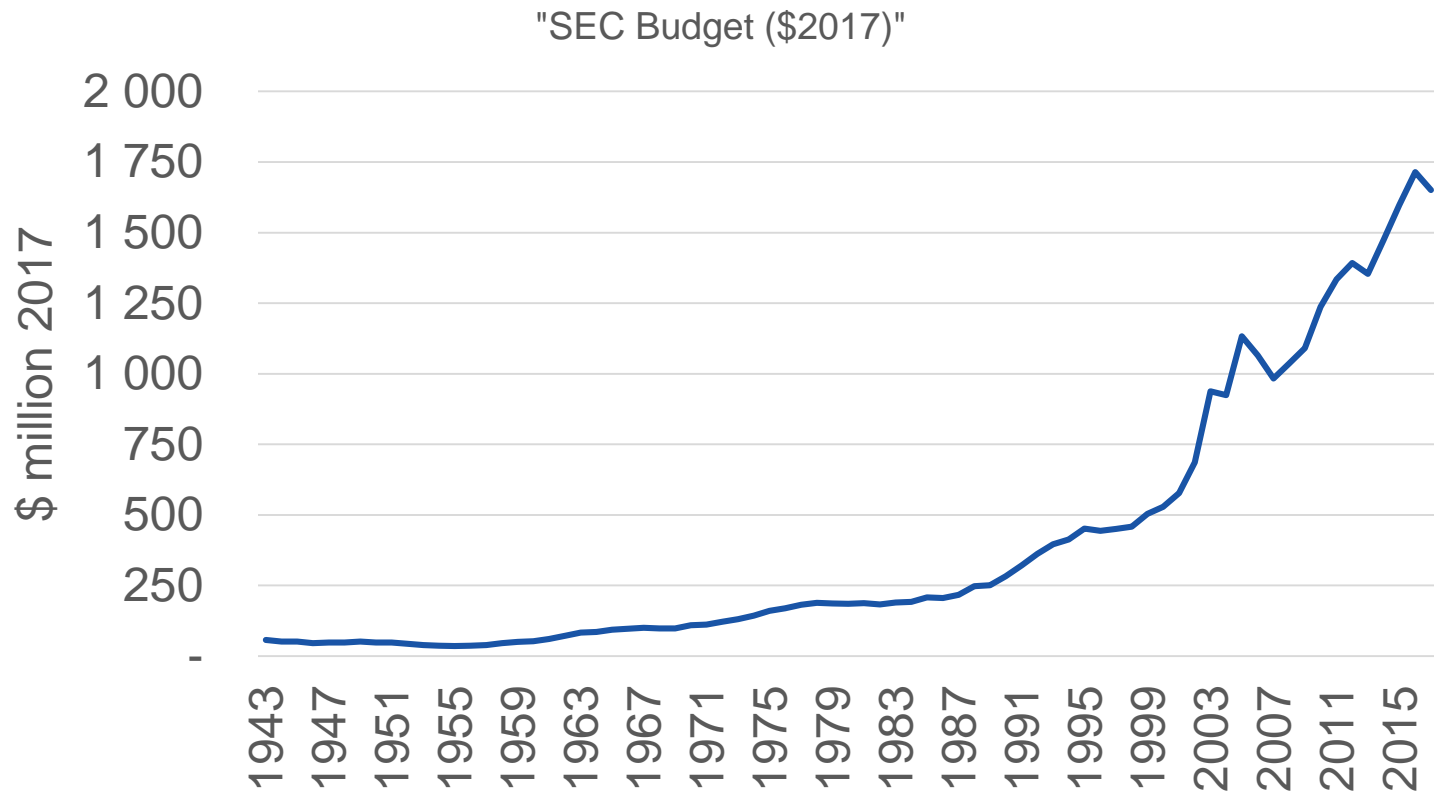
Public enforcement of securities market rules: Resource-based evidence from the Securities and Exchange Commission

Christian Thomann

(joint work with Razvan Pascalau and Tim Lohse)



SEC's budget 1943-today



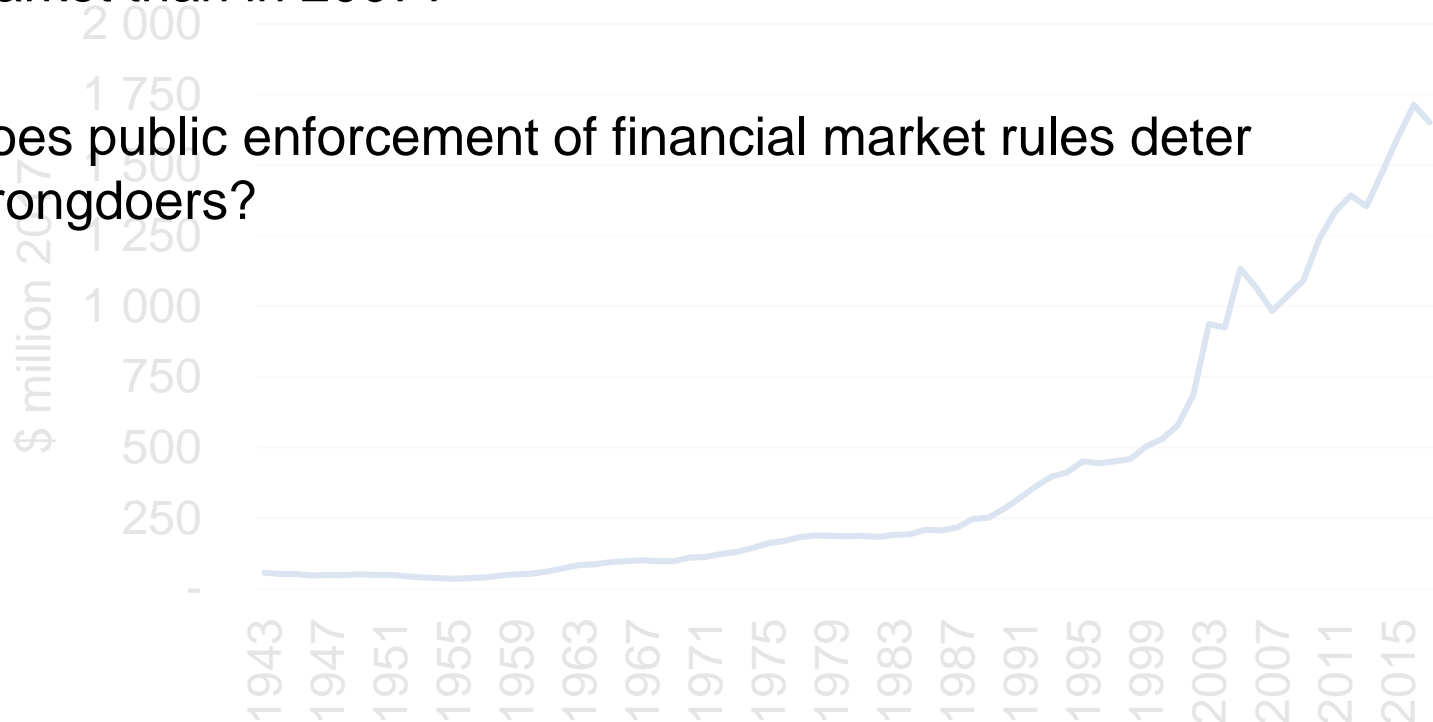
Source: Lohse et al. 2014 & SEC Annual Reports



Research Question

Can today's investors expect to invest in a better policed financial market than in 2007?

Does public enforcement of financial market rules deter wrongdoers?



SP500 index 2000-today



Source: <http://www.econ.yale.edu/~shiller/data.htm>

Keep on dancing

"When the music stops, in terms of liquidity, things will be complicated. But as long as the music is playing, you've got to get up and dance. We're still dancing."

Charles O. Price III 2007

Is there a regulatory cycle?

Yes: Coffee, 2007, Zingales, 2009 ...

Unfortunately: Povel et al. (2007) and Hertzberg (2003) who suggest that violations against financial market rules are more prevalent during boom times



Source: <http://www.econ.yale.edu/~shiller/data.htm>



Does public enforcement of securities market rules impact outcomes, eg compliance?

Debate in Literature

No: La Porta et al. (2006, JF) and Djankov et al. (2008 JFE)

Yes: Jackson and Roe (2009, JFE)

Data used cross section data, heterogeneous group of countries, 1999-2003 (LP), 2006 (JR)

Assume causality



Our Study

Lohse, Pascalau, Thomann (*Journal of Economic Behavior & Organization*, 2014)

Investigate whether increases in the SEC's resources improve compliance with securities market rules.

Use time series data from SEC 1946-today

Test for causality

We find that increases in the SEC's resources

- improve compliance

- increase SEC's activity level



Literature: Economics of Crime

Becker (1968, JPE): an increase in expected punishment, will lead to a decrease in criminal activity (= *deterrence hypothesis*)

Problems to find support for *deterrence hypothesis* in the data

- Bayley (1994): “one of the best kept secrets of modern life [is that] police do not prevent crime”
- Simultaneity of (a) the level of criminal activity and (b) the resources targeted at law enforcement

Solution

- High frequency data (Corman and Mocan, 2000)
- Exogenous shift of enforcement (Di Tella and Schargrodsky, 2004, Drago et al., 2009)
- VAR analysis (Marvell and Moody, 1996)



Data

Data from 1946 to 2010 on enforcement actions and SEC's budget (from annual reports)

Enforcement Actions

Injunctions: used to deal with matters requiring prompt actions (see next slides)

Investigations: When conducting investigations, the SEC is able to require witnesses to testify and to produce information (*Total Number of Investigations* and the *Number of New Investigations*)



SEC Stops Ponzi-Schemer Targeting Retail Investors and Obtains Preliminary Injunction and Asset Freeze

FOR IMMEDIATE RELEASE

2018-46

Washington D.C., March 23, 2018 — The Securities and Exchange Commission today announced charges and a preliminary injunction and asset freeze against Niket Shah, a New Jersey resident who stole more than \$250,000 in a Ponzi scheme in which his friends and coworkers invested.

Based on investor complaints, the SEC moved quickly to investigate and charge Shah. According to the SEC's complaint, unsealed on March 22, 2018, in federal court in Brooklyn, New York, Shah used Spark Trading Group, LLC to defraud more than 15 investors into contributing hundreds of thousands of dollars to two funds that Shah marketed. Shah obtained investments for the funds by lying about his success as a trader, Spark Trading's returns, and how he intended to use investors' money, including altering financial statements to make the funds appear profitable when they were actually losing money. For instance the complaint alleges that Shah promised investors he would pay them monthly returns and guaranteed against losses. According to the complaint, Shah misused investor money for his own benefit and suffered substantial losses on the amounts actually invested. When investors sought their money back, he lied and said the money had been frozen by government agencies, including the Commission.

"Fraudsters who swindle their friends and colleagues using doctored financial statements and outright lies should expect the Commission and its staff to act swiftly and decisively, as we have here today," said Melissa Hodgman, Associate Director of the SEC's Enforcement Division.



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SEC Halts Fraudulent Scheme Involving Unregistered ICO

FOR IMMEDIATE RELEASE

2018-53

Washington D.C., April 2, 2018 — The Securities and Exchange Commission today charged two co-founders of a purported financial services start-up with orchestrating a fraudulent initial coin offering (ICO) that raised more than \$32 million from thousands of investors last year. Criminal authorities separately charged and arrested both defendants.

The SEC's complaint alleges that Sohrab "Sam" Sharma and Robert Farkas, co-founders of Centra Tech. Inc., masterminded a fraudulent ICO in which Centra offered and sold unregistered investments through a "CTR Token." Sharma and Farkas allegedly claimed that funds raised in the ICO would help build a suite of financial products. They claimed, for example, to offer a debit card backed by Visa and MasterCard that would allow users to instantly convert hard-to-spend cryptocurrencies into U.S. dollars or other legal tender. In reality, the SEC alleges, Centra had no relationships with Visa or MasterCard. The SEC also alleges that to promote the ICO, Sharma and Farkas created fictional executives with impressive biographies, posted false or misleading marketing materials to Centra's website, and paid celebrities to tout the ICO on social media.

According to the complaint, Farkas made flight reservations to leave the country, but was arrested before he was able to board his flight. Criminal authorities also arrested Sharma.

"We allege that Centra sold investors on the promise of new digital technologies by using a sophisticated marketing campaign to spin a web of lies about their supposed partnerships with legitimate businesses," said Stephanie Avakian, Co-Director of the SEC's Division of Enforcement. "As the complaint alleges, these and other claims were simply false."

"As we allege, the defendants relied heavily on celebrity endorsements and social media to market their scheme," said Steve Peikin, Co-Director of the SEC's Division of Enforcement. "Endorsements and glossy marketing materials are no substitute for the SEC's registration and disclosure requirements as well as diligence by investors."

The SEC's complaint, filed in federal court in the Southern District of New York, charges Sharma and Farkas with violating the anti-fraud and registration provisions of the federal securities laws. The complaint seeks permanent injunctions, return of allegedly ill-gotten gains plus interest



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Press Release

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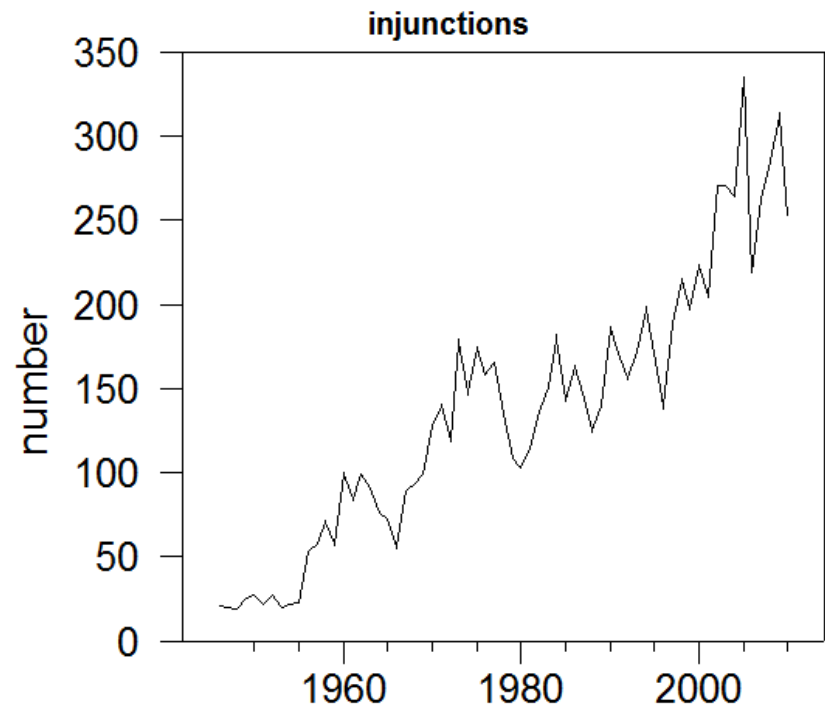
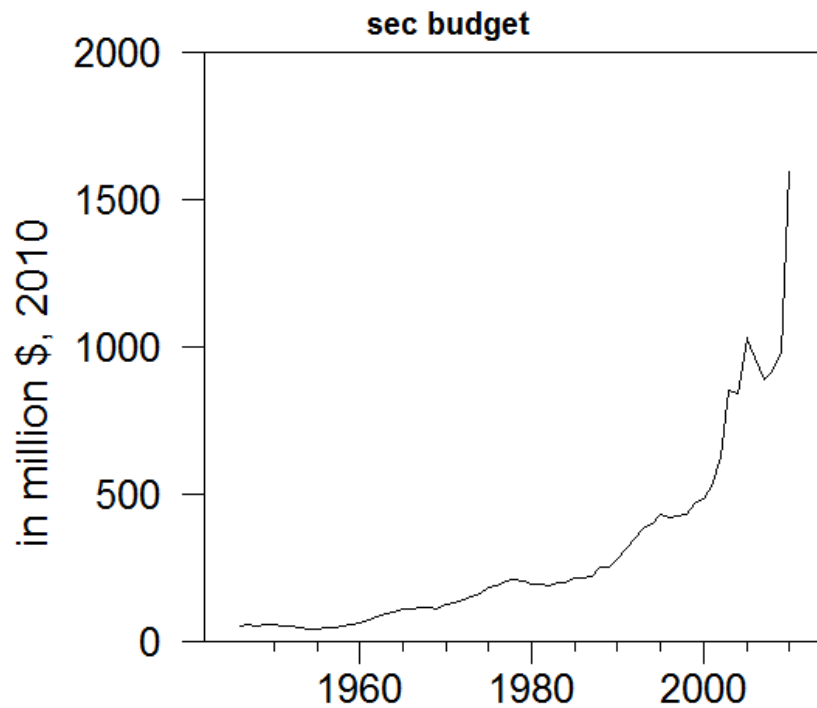
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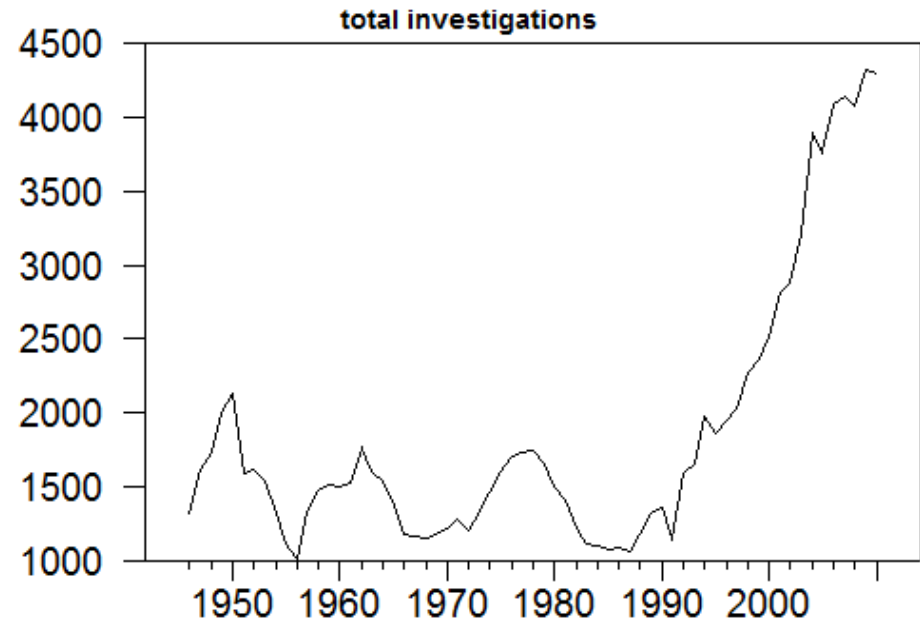
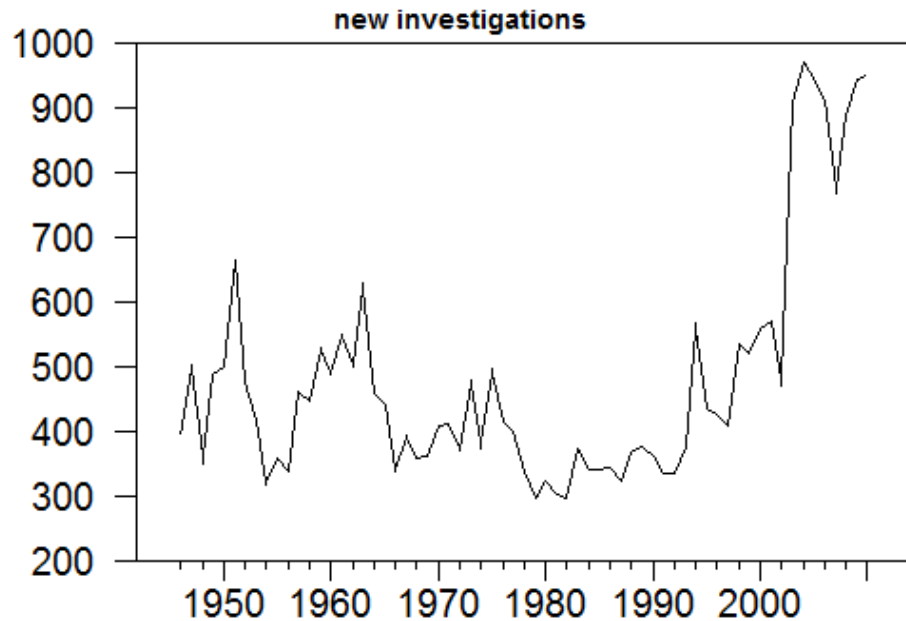
Data: Budget and Injunctions

SEC Budget and Injunctions



Data: Investigations

New Investigations and Total Investigations





Deterrence hypothesis: Central prediction

Increase in sec's budget for year t will result in better compliance in t

Problem 1: Cannot measure *compliance in t* directly.

Problem 2: SEC can use its budget in t to check compliance in $t, t-1, t-2 \dots$

Solution: use injunctions to proxy compliance in t —*injunctions are used to deal with matters requiring prompt action*

Vector Autoregression

We formulate the following model

$$sec^*_t = \gamma_1 + \sum_{i=1}^n \alpha_{1i} sec^*_{t-i} + \sum_{i=1}^n \beta_{1i} d_inj_{t-i} + \varepsilon_{1t}$$

$$d_inj_t = \gamma_2 + \sum_{i=1}^n \alpha_{2i} sec^*_{t-i} + \sum_{i=1}^n \beta_{2i} d_inj_{t-i} + \varepsilon_{2t}$$

where:

γ_1 and γ_2 constants,

ε_{1t} (ε_{2t}) are the shocks to individual series

β_{1i} and α_{2i} capture the interrelation between the two series

sec^* : log (sec budget) (detrended),

d_inj : log(injunctions) in first differences

Results from VAR estimation

Granger Causality Test

Percent Variance Explained
by Explanatory Variable (10
years)

Explanatory

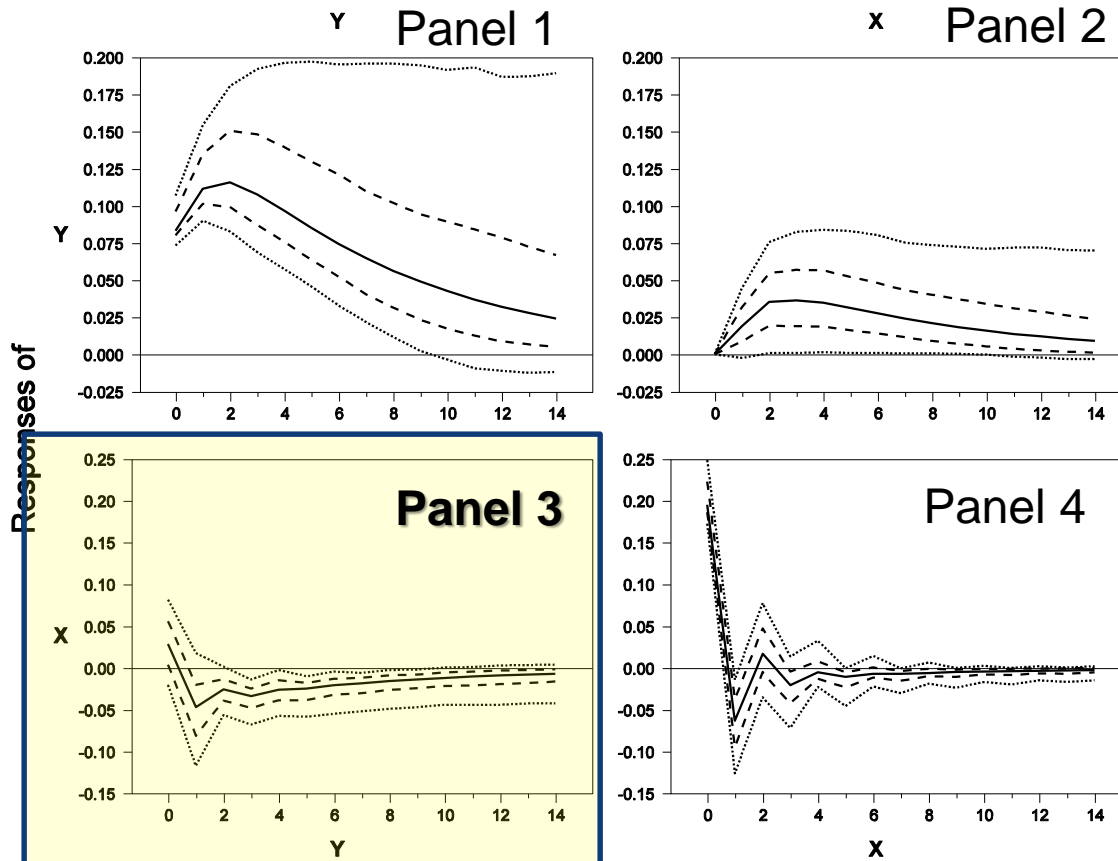
Variable

(in rows)

Dependent Variable (in columns)

	<i>sec*</i>	<i>d_inj</i>	<i>sec*</i>	<i>d_inj</i>
<i>sec*</i>	Yes	<u>Yes</u>	93%	15%
<i>d_inj</i>	No	Yes	7%	85%

Impulse Response Functions



Pointwise 68 and 95% Posterior Bands, SEC Budget (Y) and Injunctive Actions (X)

Figure shows
 1 SD shock of ___ to ___:
 P1: $sec^* \rightarrow sec^*$
 P2: $d_inj \rightarrow sec^*$
P3: $sec^* \rightarrow d_inj$
 P4: $d_inj \rightarrow d_inj$

Aggregated Effect of shock to sec^* on d_inj

5 years: -10%
 10 years: -18%



New research

Del Guercio, Odders-White & Ready (2017): The Deterrent Effect of the Securities and Exchange Commission's Enforcement Intensity on Illegal Insider Trading: Evidence from Run-up before News Events, *The Journal of Law and Economics*

Christensen, Hail, Leuz, C. (2016). Capital-market effects of securities regulation: Prior conditions, implementation, and enforcement. *The Review of Financial Studies*



Regulatory cycle

Investigate regulatory cycle hypothesis question using time series analysis

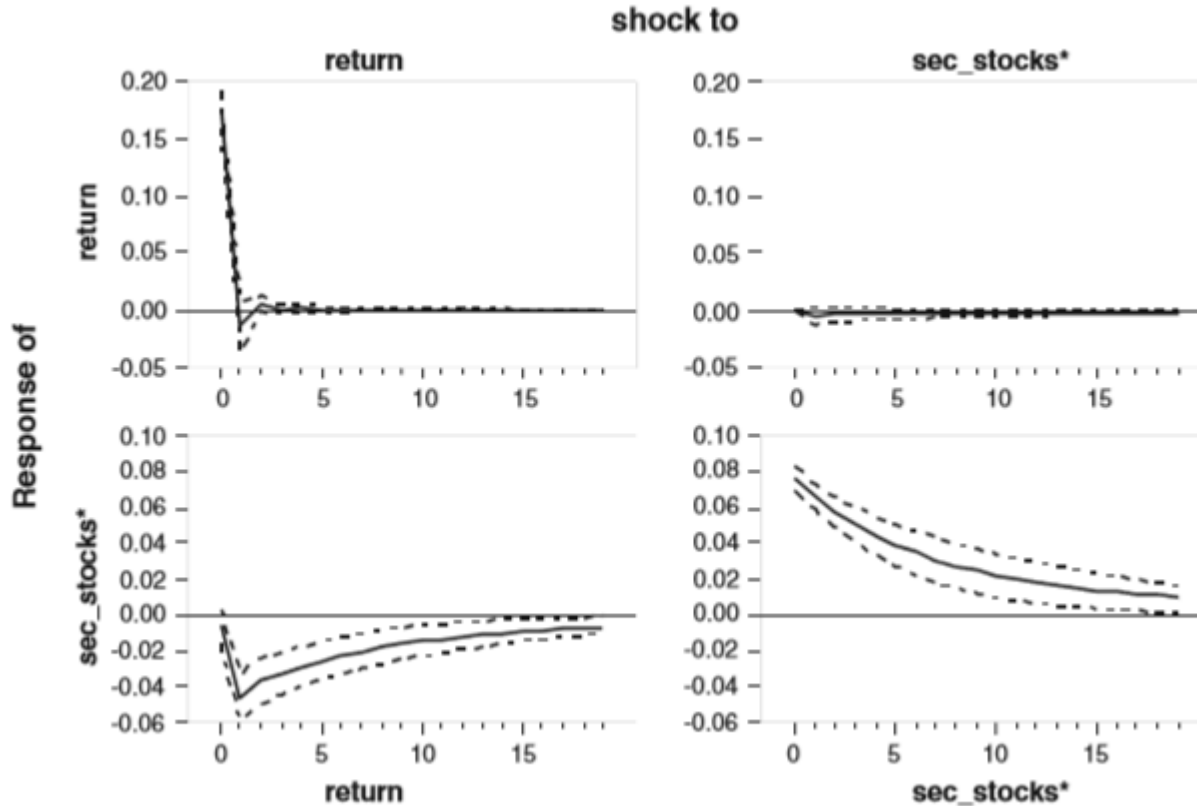
SEC budget data (both without normalizing and even relative to number stocks on NYSE and)

CRSP returns

1945-2007

Lohse, T. & Thomann, C. (2015) Are bad times good news for the Securities and Exchange Commission? European Journal of Law and Economics (2015)

Impulse responses: Regulatory Cycle





Result: Regulatory Cycle

Find that 1 sd shock to returns leads to a reduction of SEC budget/stock by 2.5 %

Results are robust for alternative measures of SEC budget and returns

→find evidence for existence of a regulatory cycle.



Conclusion

VAR estimation shows that there is a *deterrence effect* associated with financial market regulation

Today's investors can expect to benefit from a financial market that is better policed than the one of 2007/8

Can we expect that regulation will be lighter in the future?

Yes, if we look at the SP500.



Thank you

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Thank you



Background and Research Question

SEC's budget in 2017 is 68 percent higher in real terms than budget 2007

Can today's investors expect to invest in a better policed financial market?

Is there a *deterrence effect* in financial market regulation?

And what happens next?