Comments on Zhonglan Dai, Li Jin and Weining Zhang's

"Litigation Risk and Executive Compensation"

Justin Wolfers
Wharton School, University of Pennsylvania
Brookings, CEPR, CESifo, IZA and NBER

NBER Law and Economics Summer Institute, Cambridge, July 22, 2009.

Authors' Motivation

<u>Principal-agent problem</u>

- Agents actions are unobservable
- But a noisy indicator of effort is observable
- Solution: Link pay to noisy indicator of effort

<u>Optimal compensation contract</u>

- Base pay: Keep CEO's utility equal to outside option
- Performance pay, trading off:
  - Incentives for effort
  - Cost of imposing risk on managers

Litigation = "increase in risk"
$\Rightarrow \downarrow$pay-for-performance

Exogenous Risk

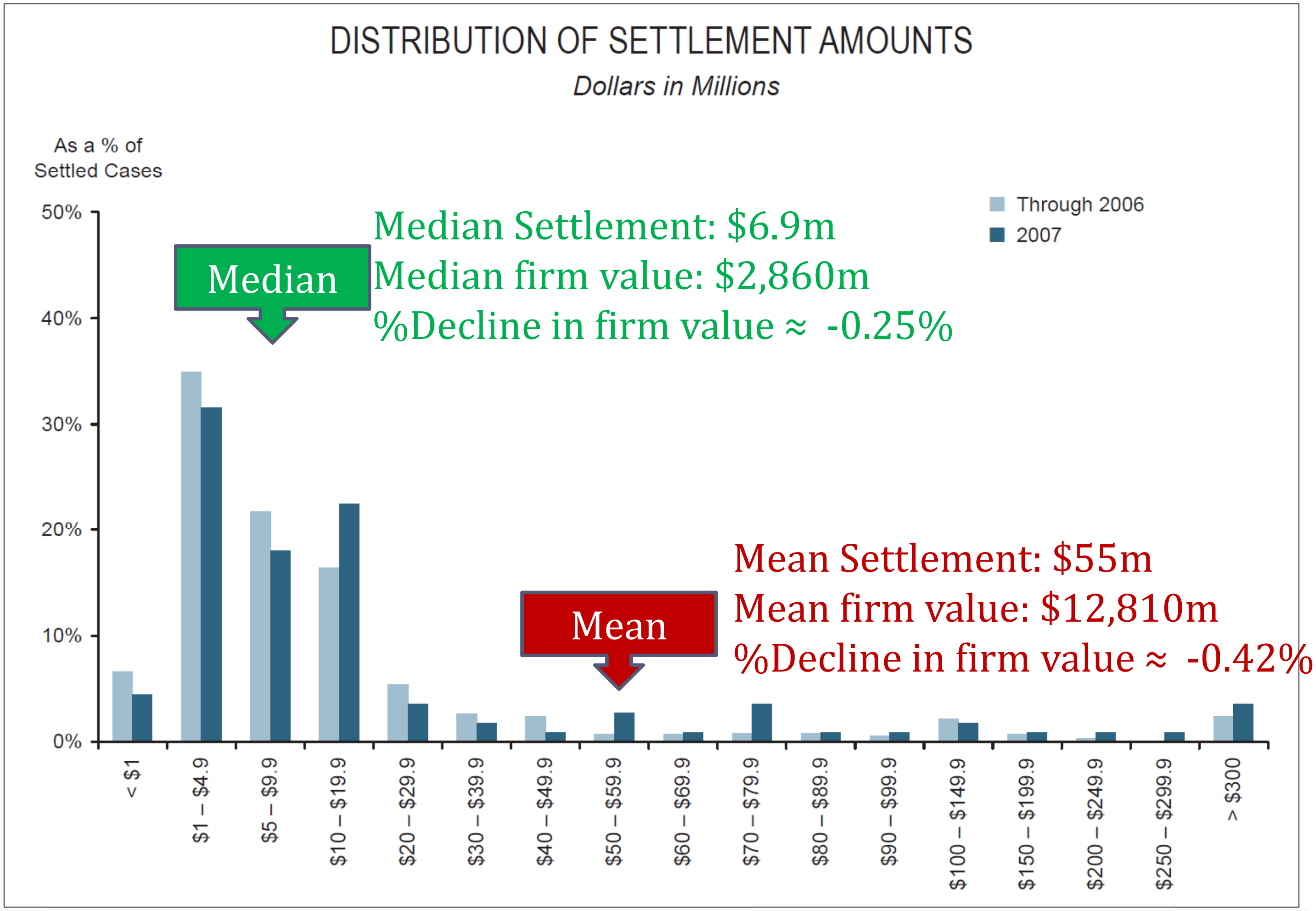
- Carefully pick litigation events for which
  - firms/CEOs are likely not responsible
  - firm risk should increase materially
- Additionally address remaining concern about risk change endogeneity using a “matched sample” approach

This is Not a Paper about the Principal-Agent Model

Key comment: The principal-agent model is the wrong lens through which to interpret these results

1. Litigation is not a quantitatively important shock to risk
2. Why federal securities cases change CEO compensation

Distribution of Federal Securities Settlements



Source: Simmons, Laura E., and Ellen M. Ryan, "Securities Class Action Settlements: 2007 Review and Analysis," *Cornerstone Research Report*.

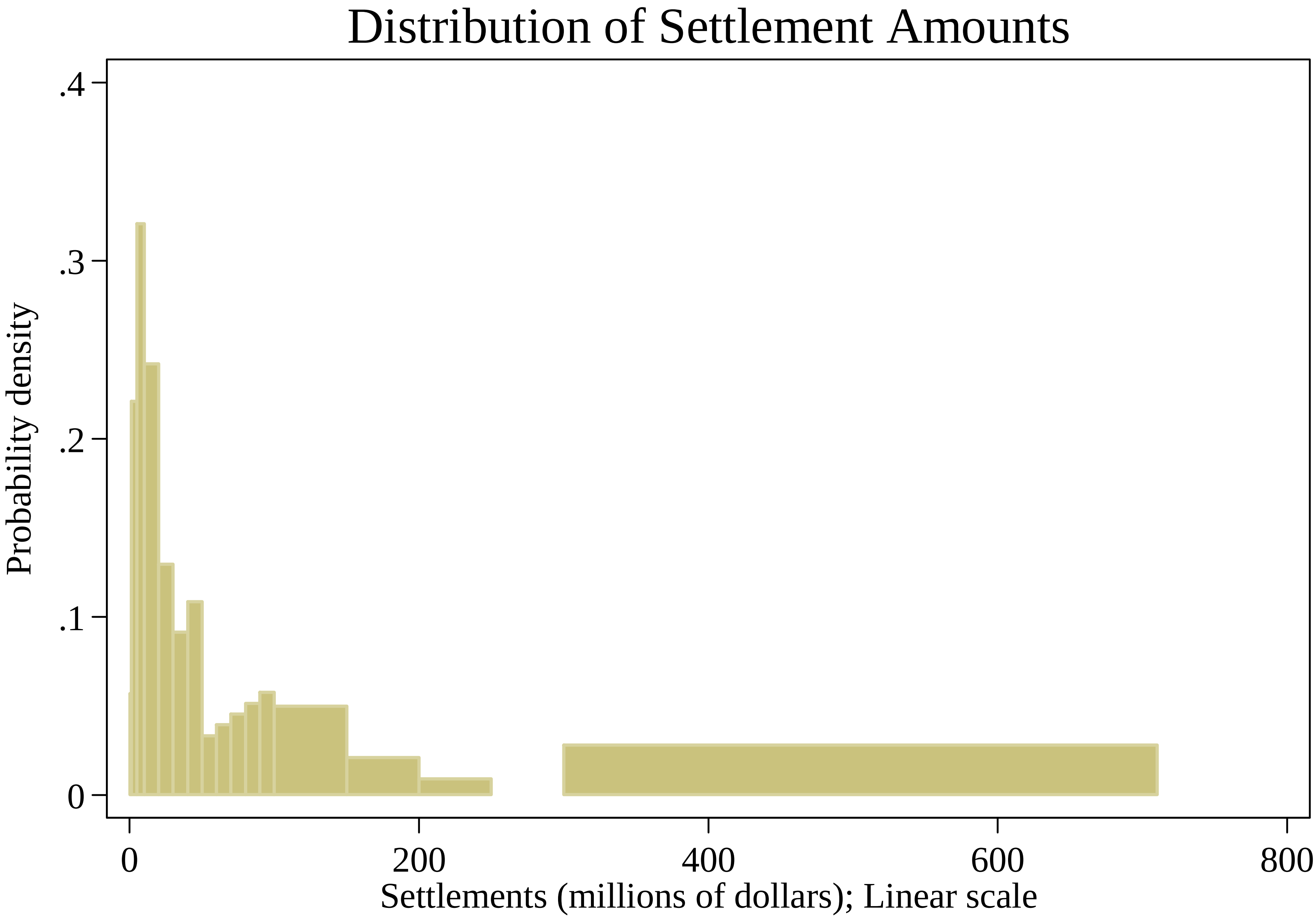
Logic of the Principal-Agent Model

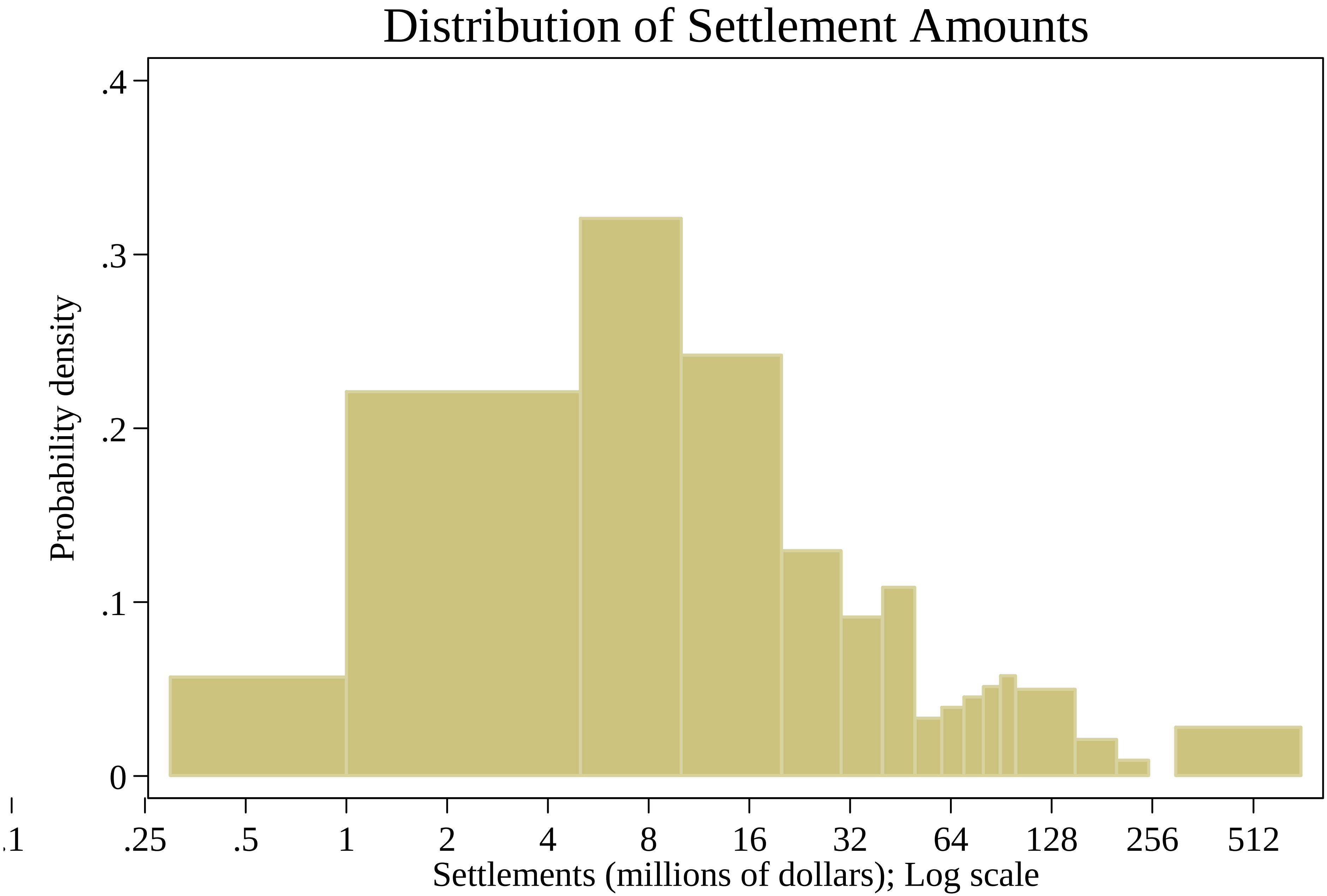
Two components to CEO pay:

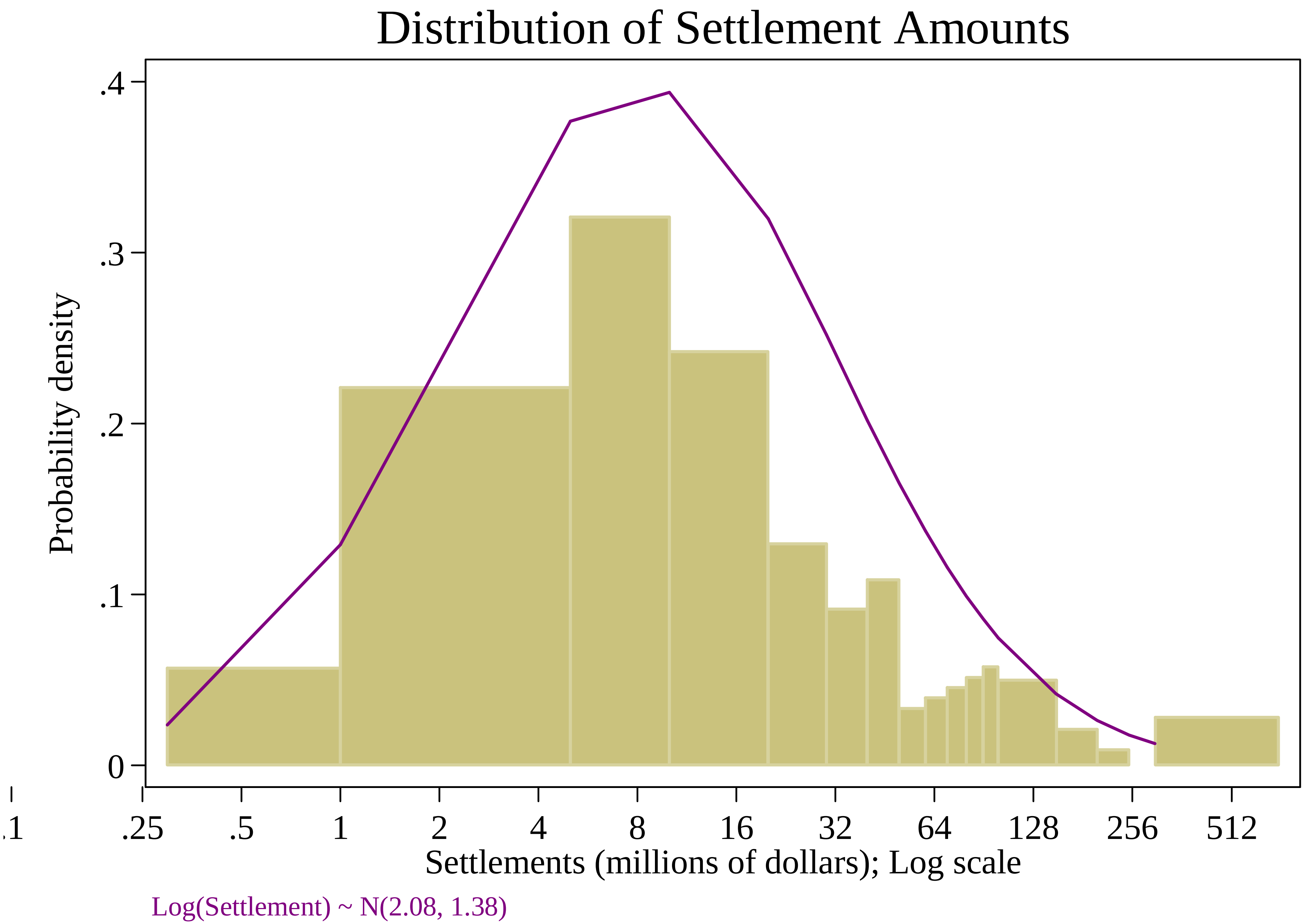
- Base pay ("cash"): Keep CEO's utility equal to outside option
- Performance pay: Balance
  - Greater CEO incentives
  - Higher risk premium for CEO

What does a lawsuit do?

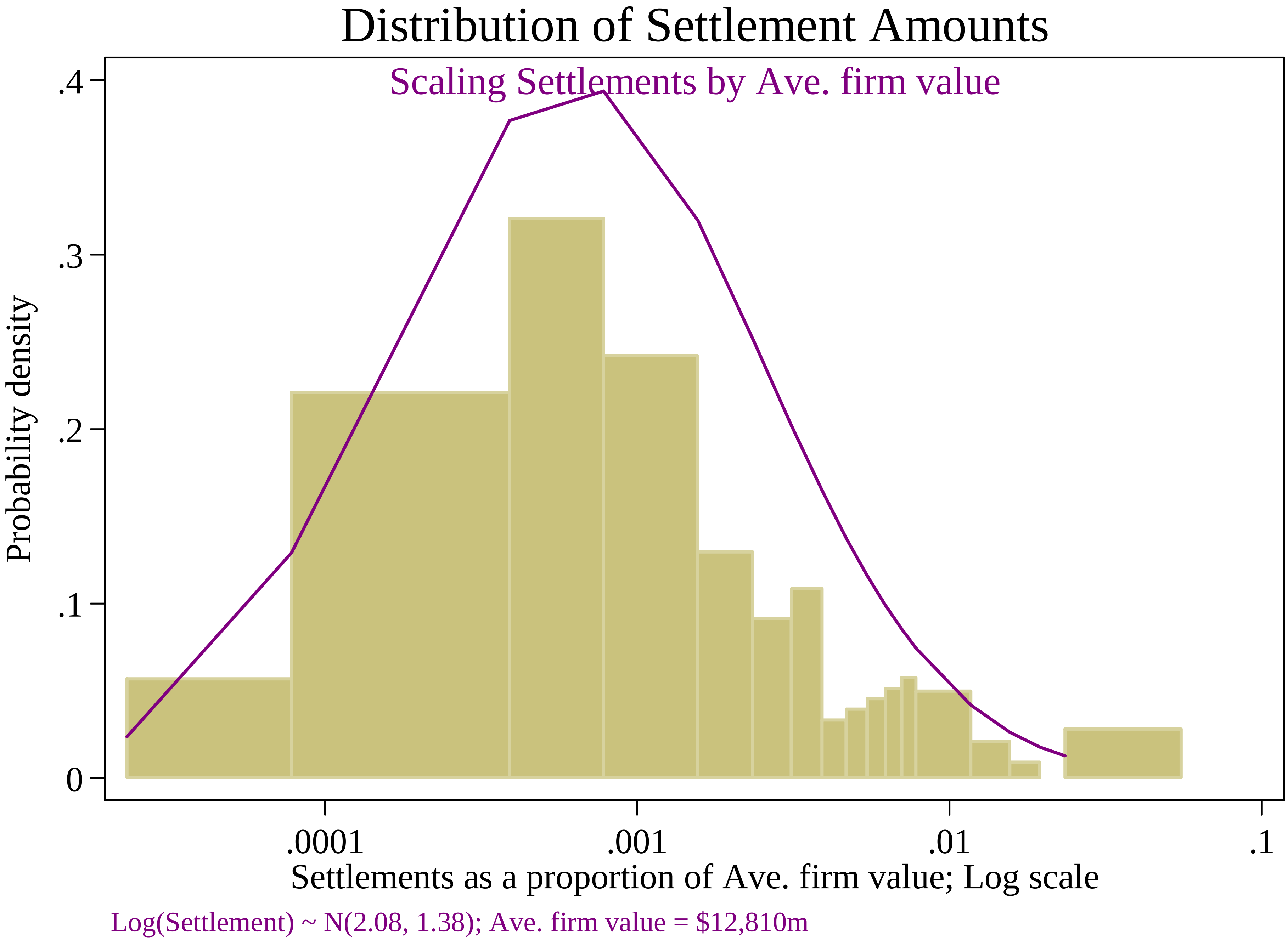
- Lowers CEO pay
  - Optimal response: Raise CEO pay to offset this
- Increases riskiness of CEO pay
  - Optimal response:
Rather than pay this risk premium, reduce pay-for-performance
  - But does litigation raise the riskiness of CEO pay?

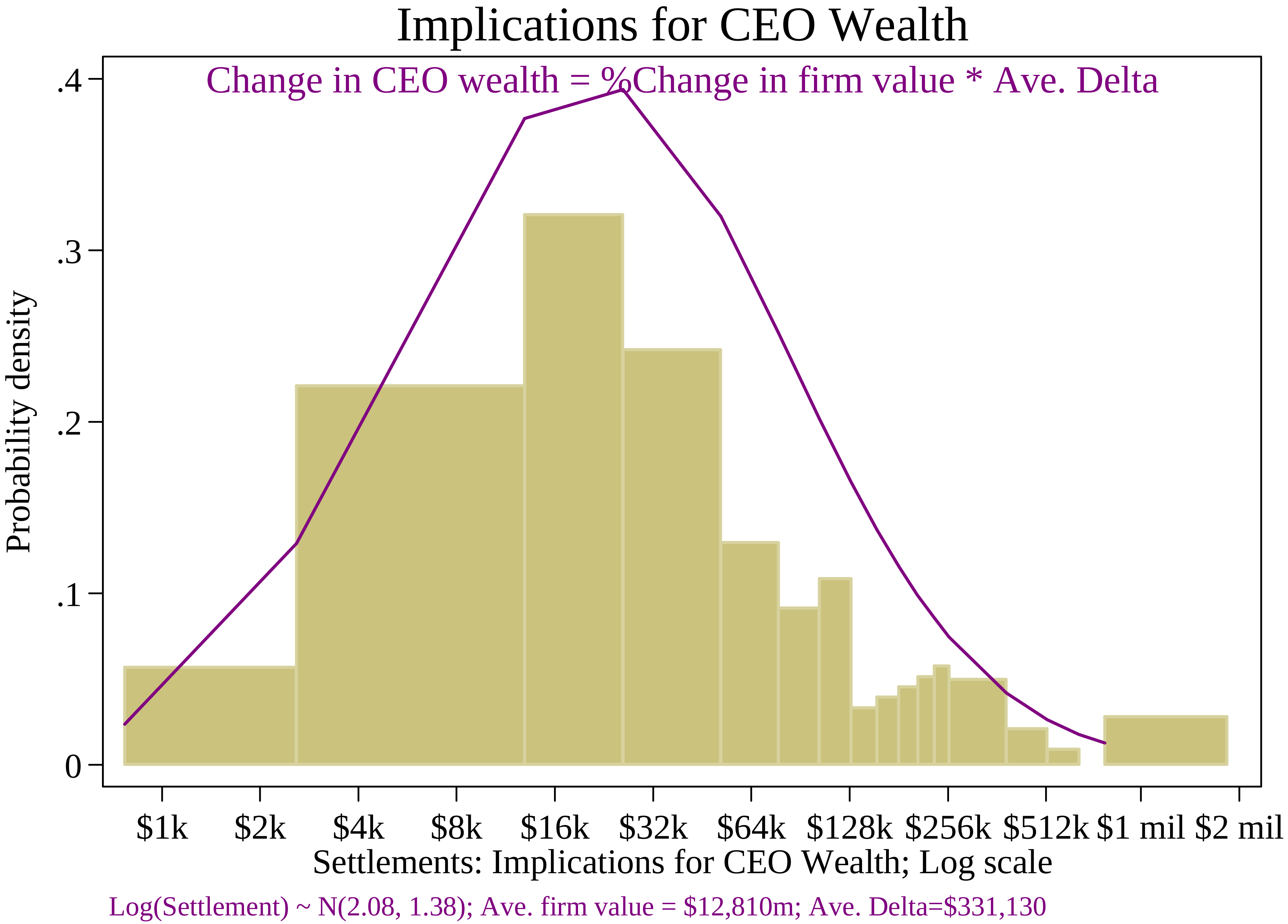

Distribution of Settlement Amounts
Probability density
.4
.3
.2
.1
0
0
200
400
600
800
Settlements (millions of dollars); Linear scale


Distribution of Settlement Amounts
Probability density
0
.1
.2
.3
.4
.1
.25
.5
1
2
4
8
16
32
64
128
256
512
Settlements (millions of dollars); Log scale

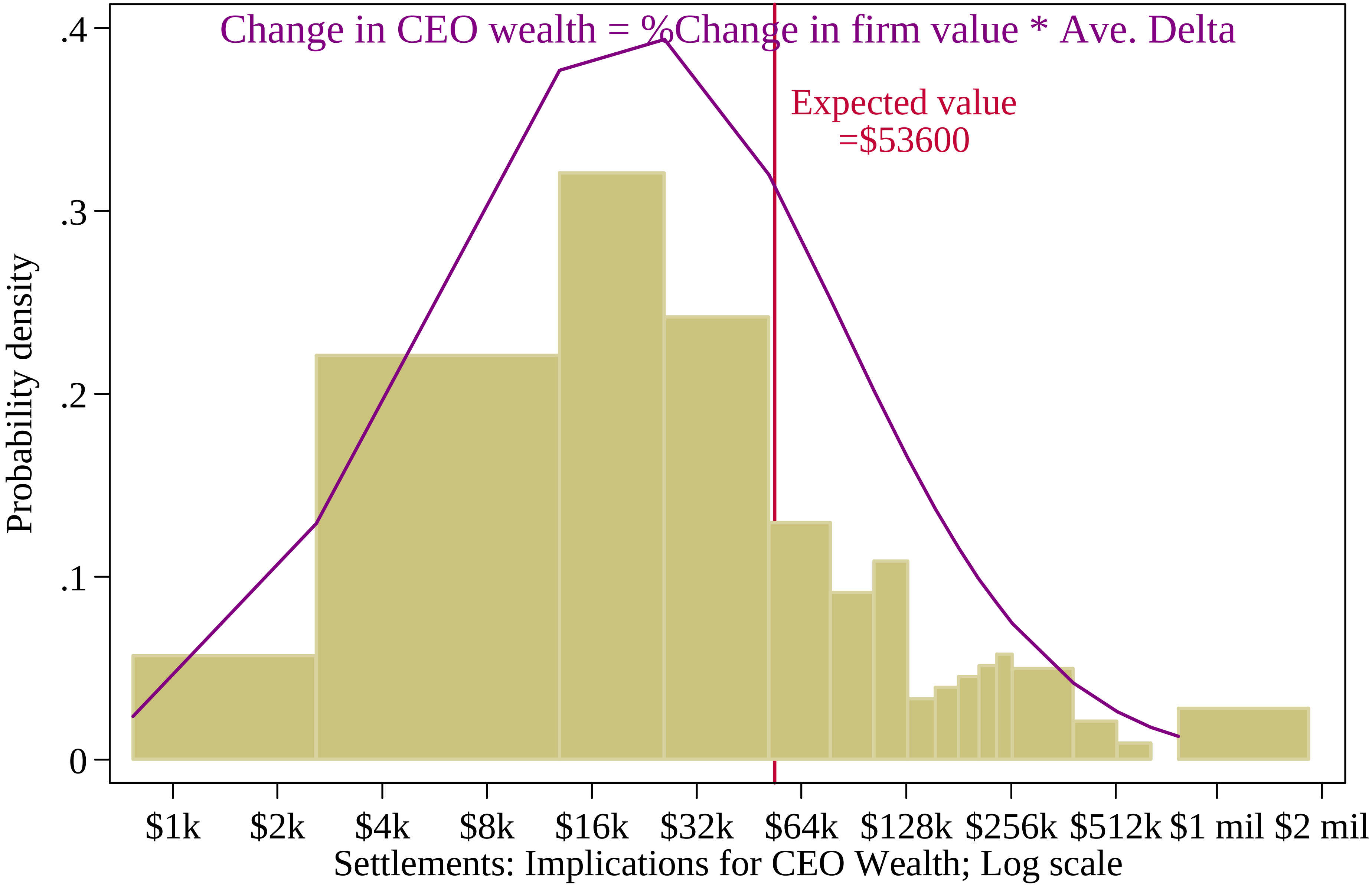


Distribution of Settlement Amounts
Probability density
0
.1
.2
.3
.4
.1
.25
.5
1
2
4
8
16
32
64
128
256
512
Settlements (millions of dollars); Log scale
Log(Settlement) ~ N(2.08, 1.38)


Distribution of Settlement Amounts
Scaling Settlements by Ave. firm value
Probability density
0
.1
.2
.3
.4
.0001
.001
.01
.1
Settlements as a proportion of Ave. firm value; Log scale
Log(Settlement) ~ N(2.08, 1.38); Ave. firm value = $12,810m


Implications for CEO Wealth
Change in CEO wealth = %Change in firm value * Ave. Delta
Probability density
0
.1
.2
.3
.4
$1k
$2k
$4k
$8k
$16k
$32k
$64k
$128k
$256k
$512k
$1 mil
$2 mil
Settlements: Implications for CEO Wealth; Log scale
Log(Settlement) ~ N(2.08, 1.38); Ave. firm value = $12,810m; Ave. Delta=$331,130

Effects of Lawsuit on CEO Wealth



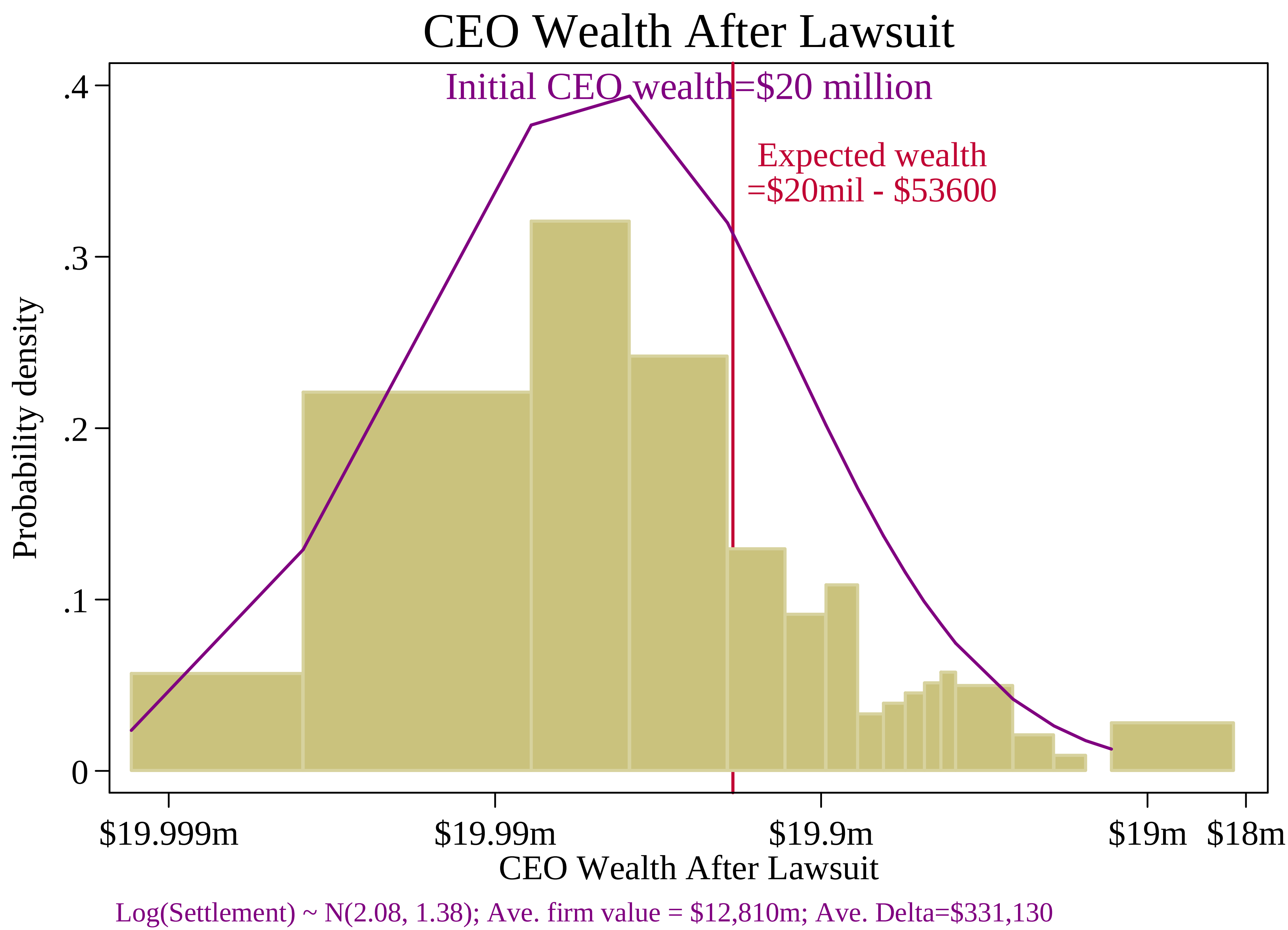
Log(Settlement) ~ N(2.08, 1.38); Ave. firm value = $12,810m; Ave. Delta=$331,130

Adjusting Optimal Compensation

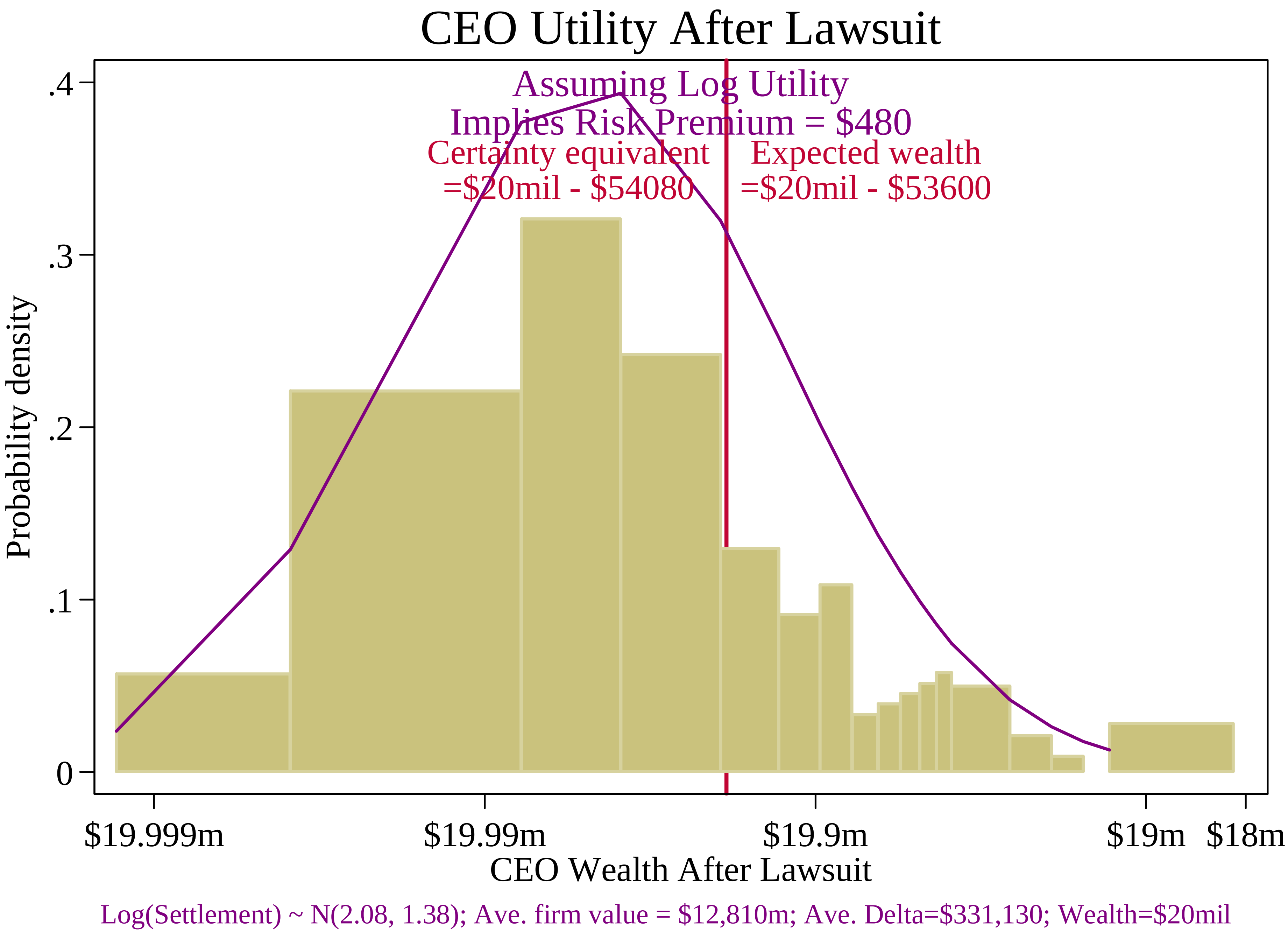
Optimal compensation contract after a lawsuit

- Base pay: Keep CEO's utility equal to outside option: ↑$53.6k
- Performance pay, trading off:
  - Incentives for effort
  - Cost of imposing risk on managers

Trade-off depends on risk premium



CEO Wealth After Lawsuit
Initial CEO wealth=$20 million
Expected wealth
=$20mil - $53600
Probability density
.4
.3
.2
.1
0
$19.999m
$19.99m
$19.9m
$19m
$18m
CEO Wealth After Lawsuit
Log(Settlement) ~ N(2.08, 1.38); Ave. firm value = $12,810m; Ave. Delta=$331,130


CEO Utility After Lawsuit
Assuming Log Utility
Implies Risk Premium = $480
Certainty equivalent
=$20mil - $54080
Expected wealth
=$20mil - $53600
Probability density
0
.1
.2
.3
.4
$19.999m
$19.99m
$19.9m
$19m
$18m
CEO Wealth After Lawsuit
Log(Settlement) ~ N(2.08, 1.38); Ave. firm value = $12,810m; Ave. Delta=$331,130; Wealth=$20mil

Adjusting Optimal Compensation

Optimal compensation contract after a lawsuit

- Base pay: Keep CEO's utility equal to outside option: ↑$53.6k
- Performance pay, trading off:
  - Incentives for effort
  - Cost of imposing risk on managers

Trade-off depends on risk premium

- Analytic result:
  - Reduce risk to reduce CEO's income volatility
  - But the cost of this increased risk is small! (Risk premium = $480)

This is Not a Paper about the Principal-Agent Model

Key comment: The principal-agent model is the wrong lens through which to interpret these results

1. Litigation is not a quantitatively important shock to risk
2. Why federal securities cases change CEO compensation
3. Where to look for changes in pay-for-performance

Why Do The Authors Find Any Effects?

- “Litigation” = Federal securities class actions
  - From: Stanford Class Action Clearinghouse
- Some examples:
  - ING Groep N.V.: False or misleading prospectus
    - Mortgage-related securities were more impaired than revealed
  - Quest Resource Corp: False or misleading prospectus
    - Failed to disclose questionable transactions with former CEO
  - Deutsche Bank: Deceived investors about auctioned securities
    - DB was manipulating the market in corporate bonds
  - Micrus Endovascular: Misleading statements
    - Failed to disclose slowing sales; regulatory issues
  - WaMu: False and misleading info in mutual fund prospectus
  - Earlier: Earnings misstatements dominate the data

Where does pay-for-performance come from?

- Authors examine: ΔCompensation / Δ Firm value
- Sources of incentive for senior executives:
  - ΔCash pay
  - ΔEquity holdings
  - ΔEmployment status
  - Equity holdings * ΔEquity price