Are CEOs paid extra for riskier pay packages?

Albuquerque-Albuquerque-Carter-Dong

Kevin J. Murphy
December 2019

Compensating Differentials for Risk

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Authors consider 3 approaches

Simulations based on performance metrics in incentive plans (Incentive Lab)

E[Pay]=Mean[TDC1], Var[Pay]=Var[TDC1]

E[Pay] and Var[Pay] based ARCH estimates using TDC1

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Apparently, our theories need updating . . .

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This paper shows that we've taken the risk-aversion story too seriously

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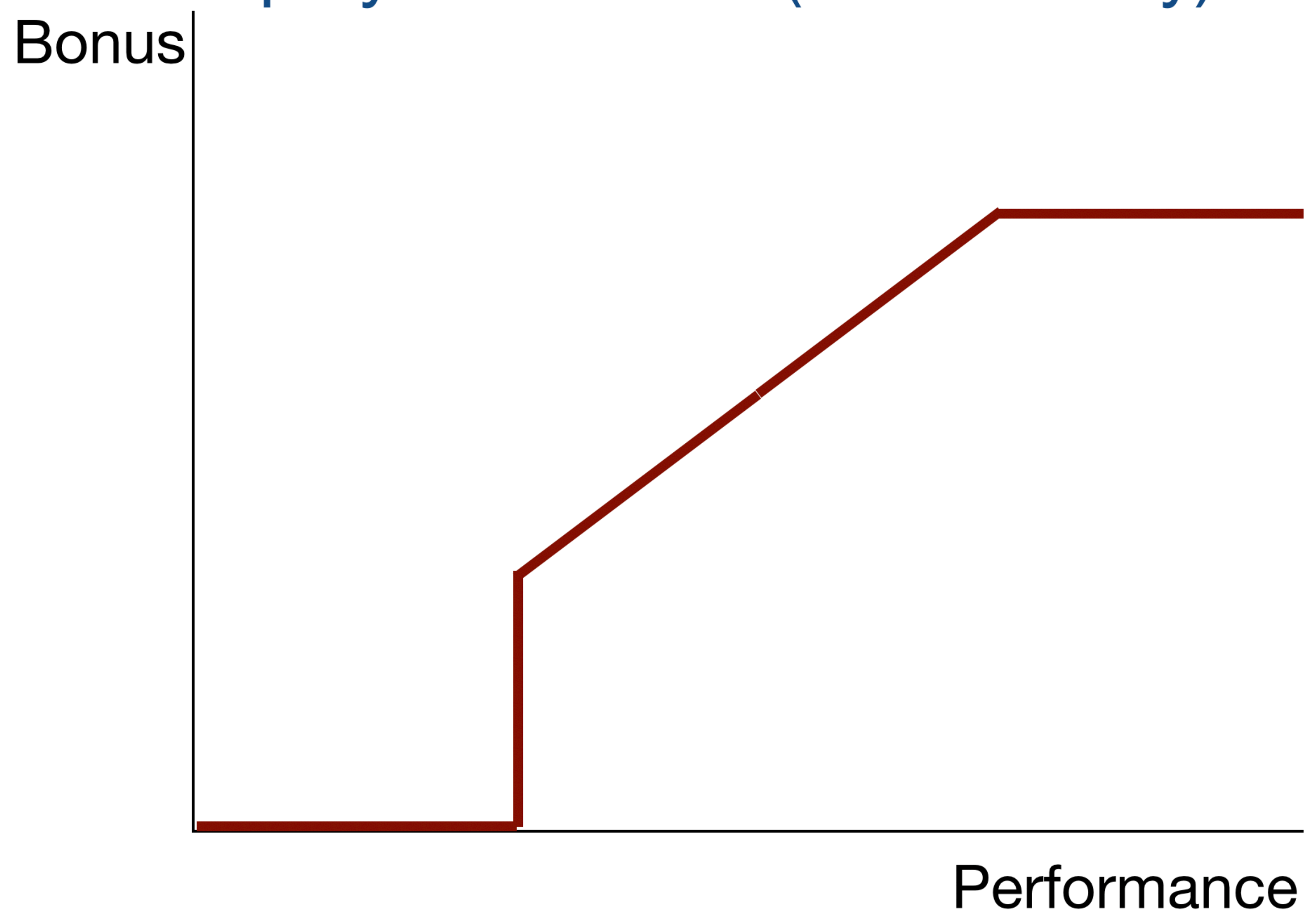

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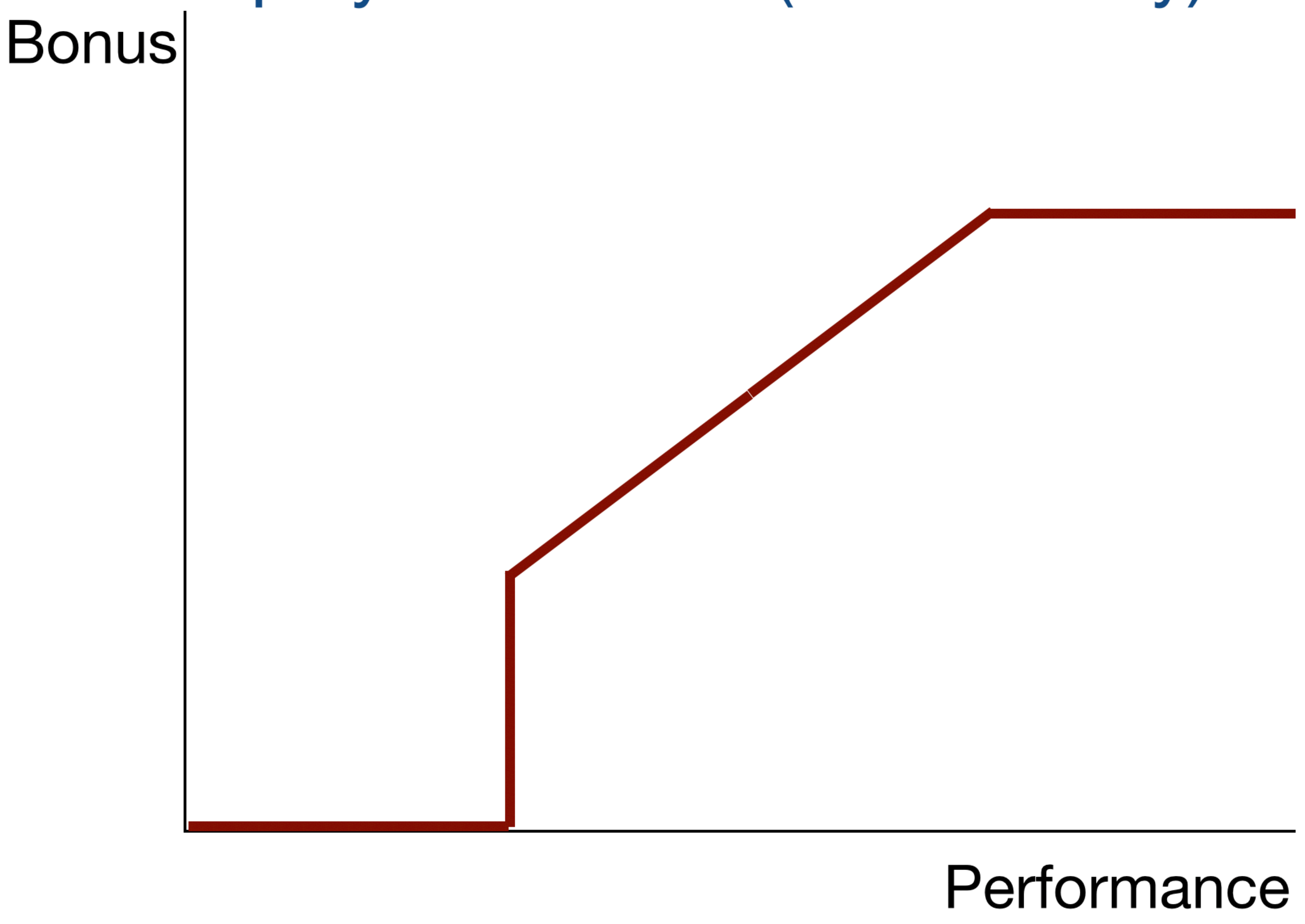

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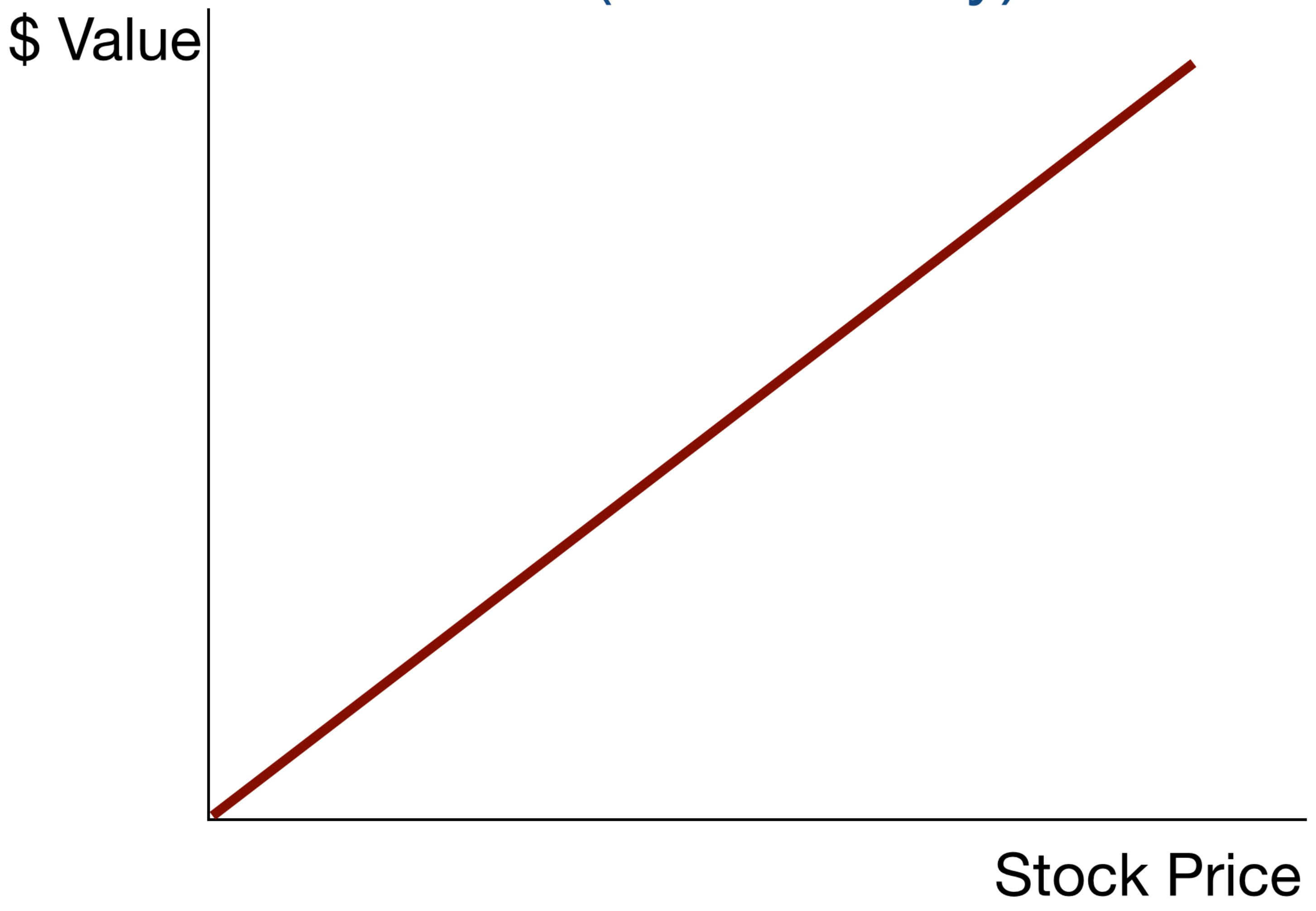

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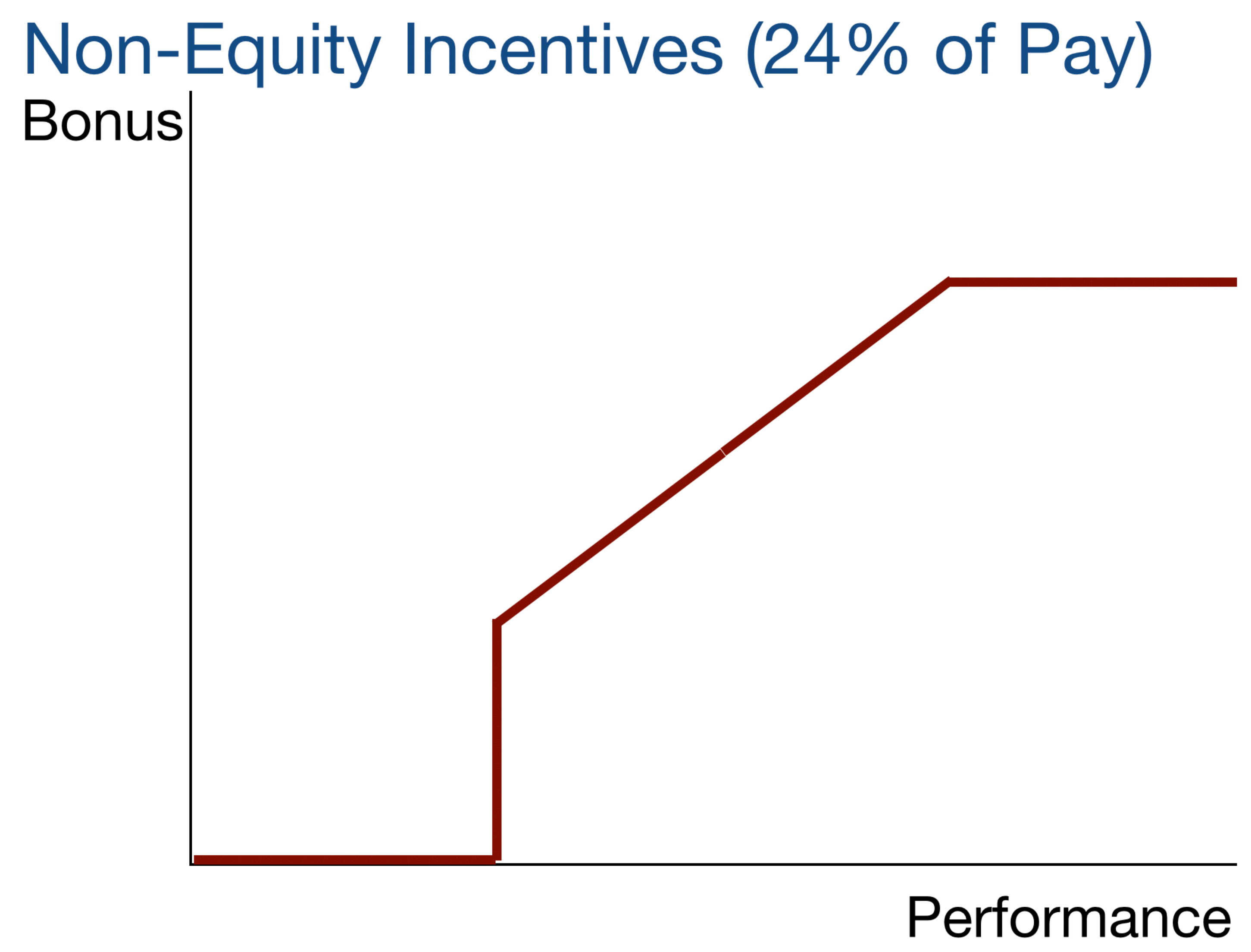

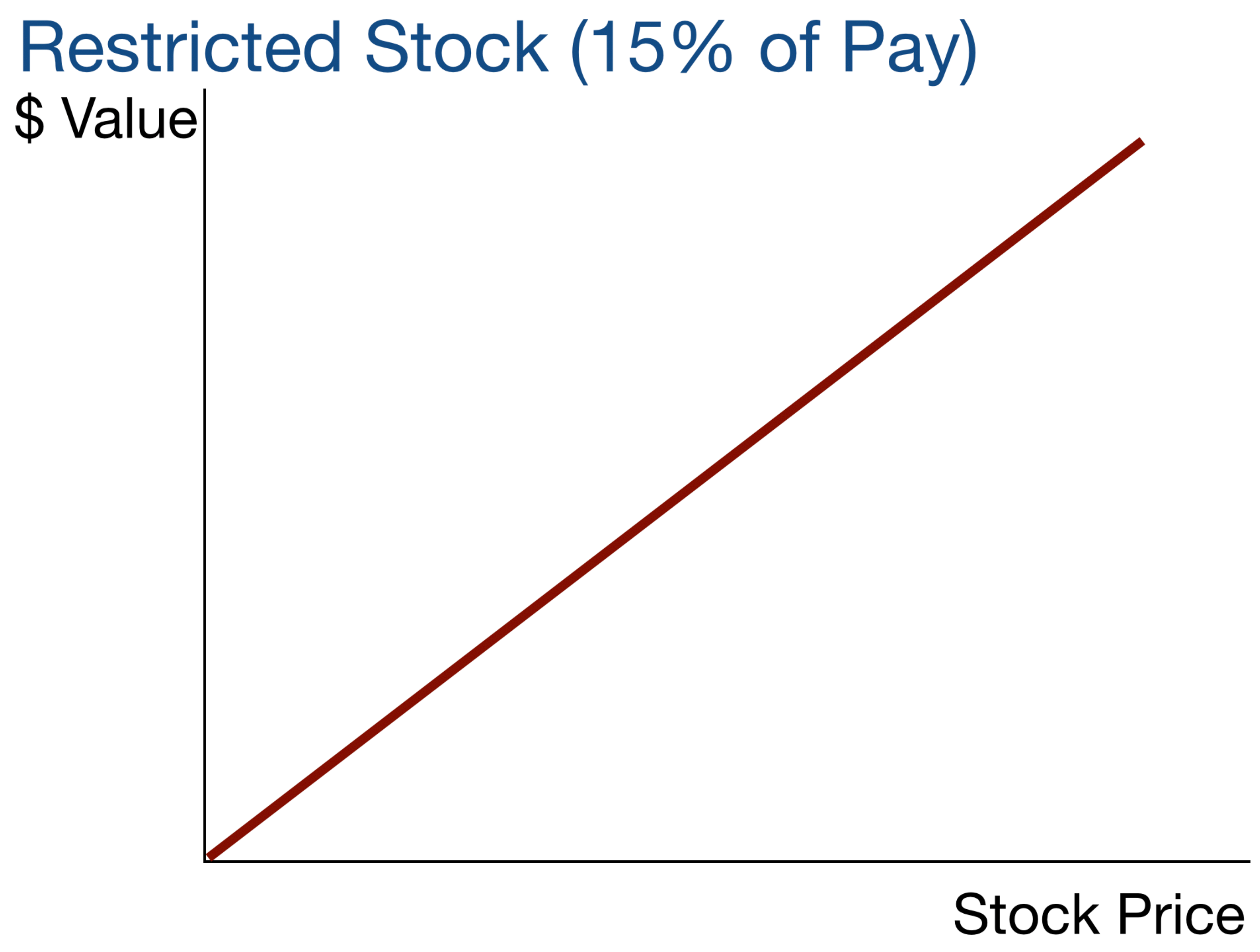

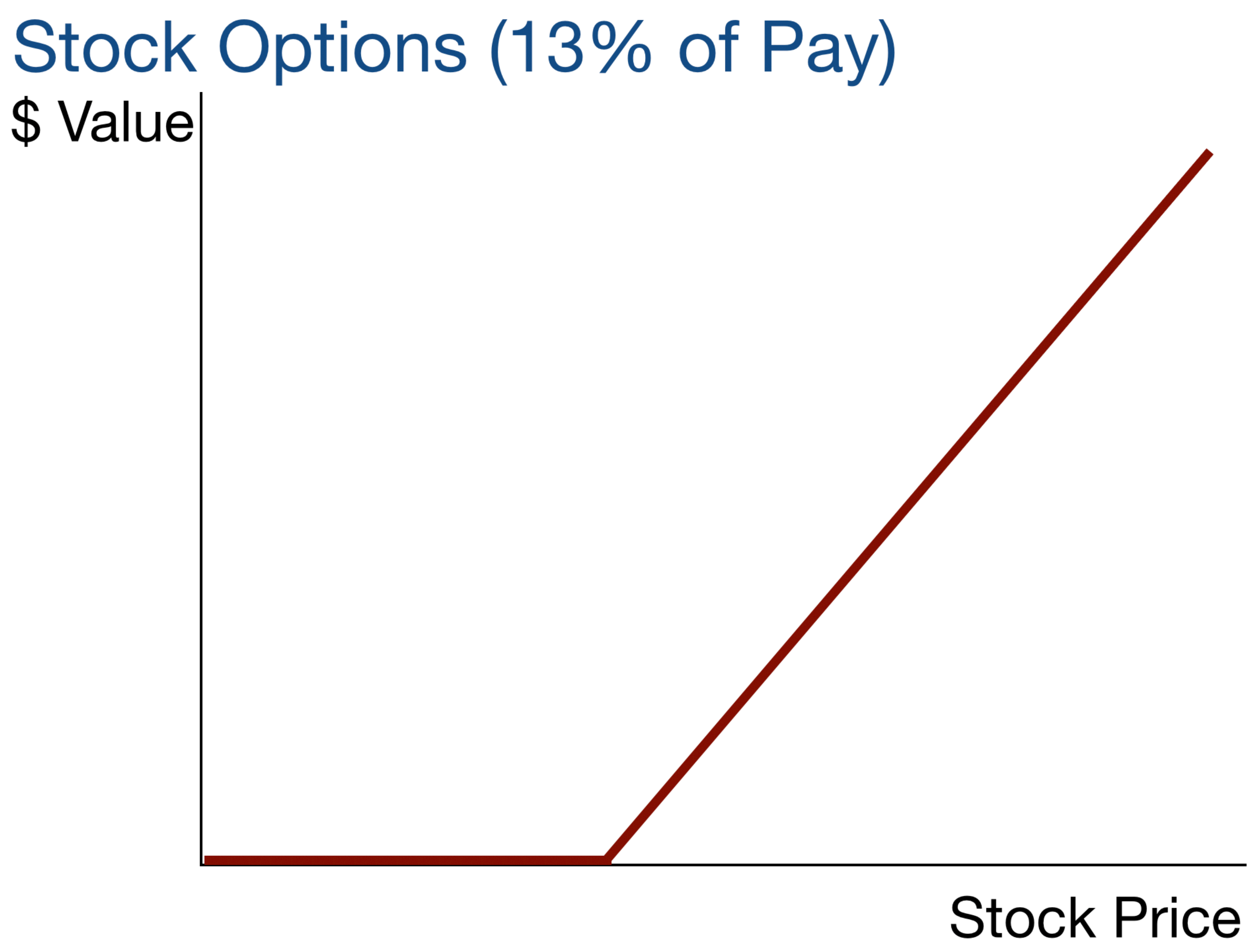

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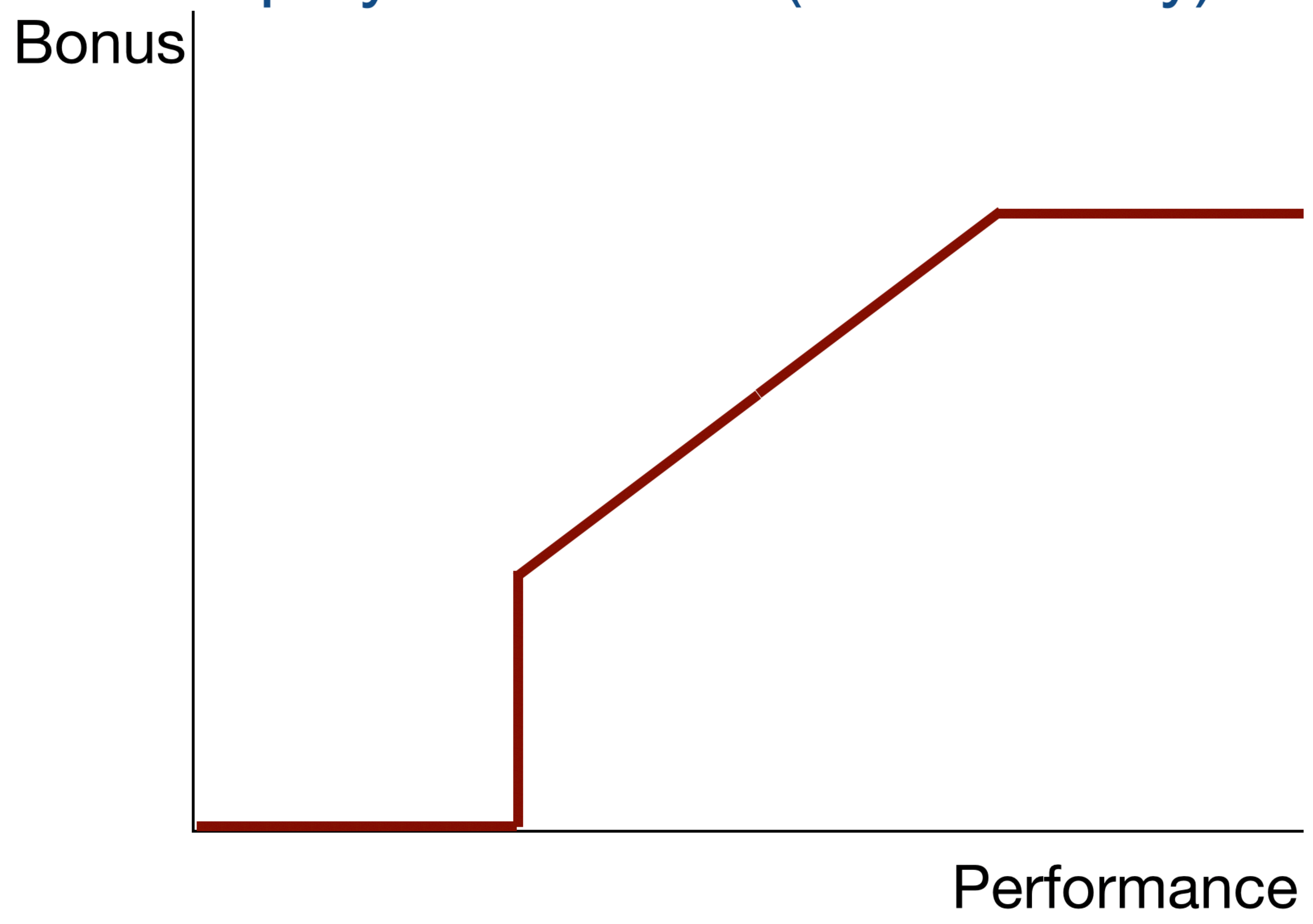

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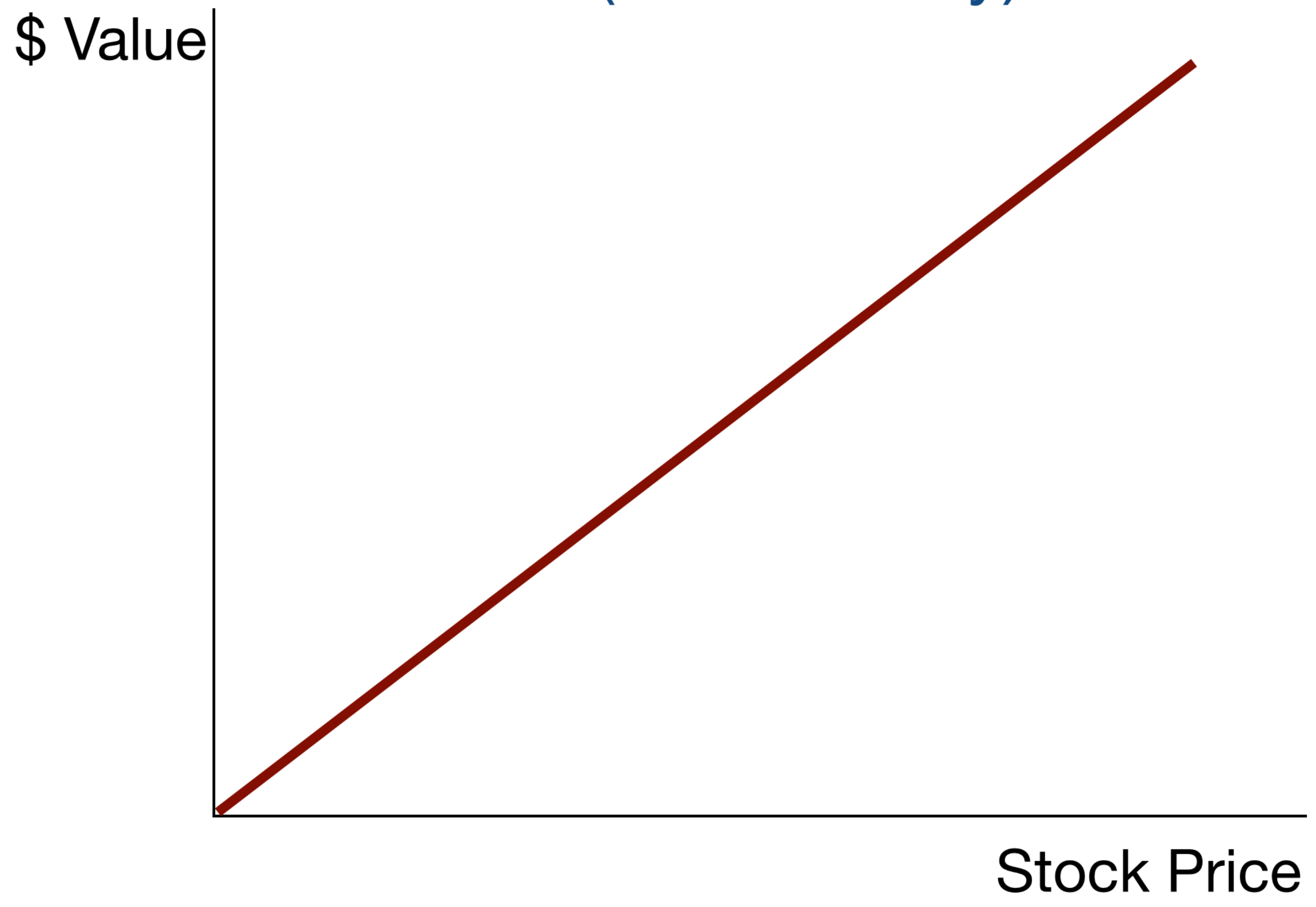

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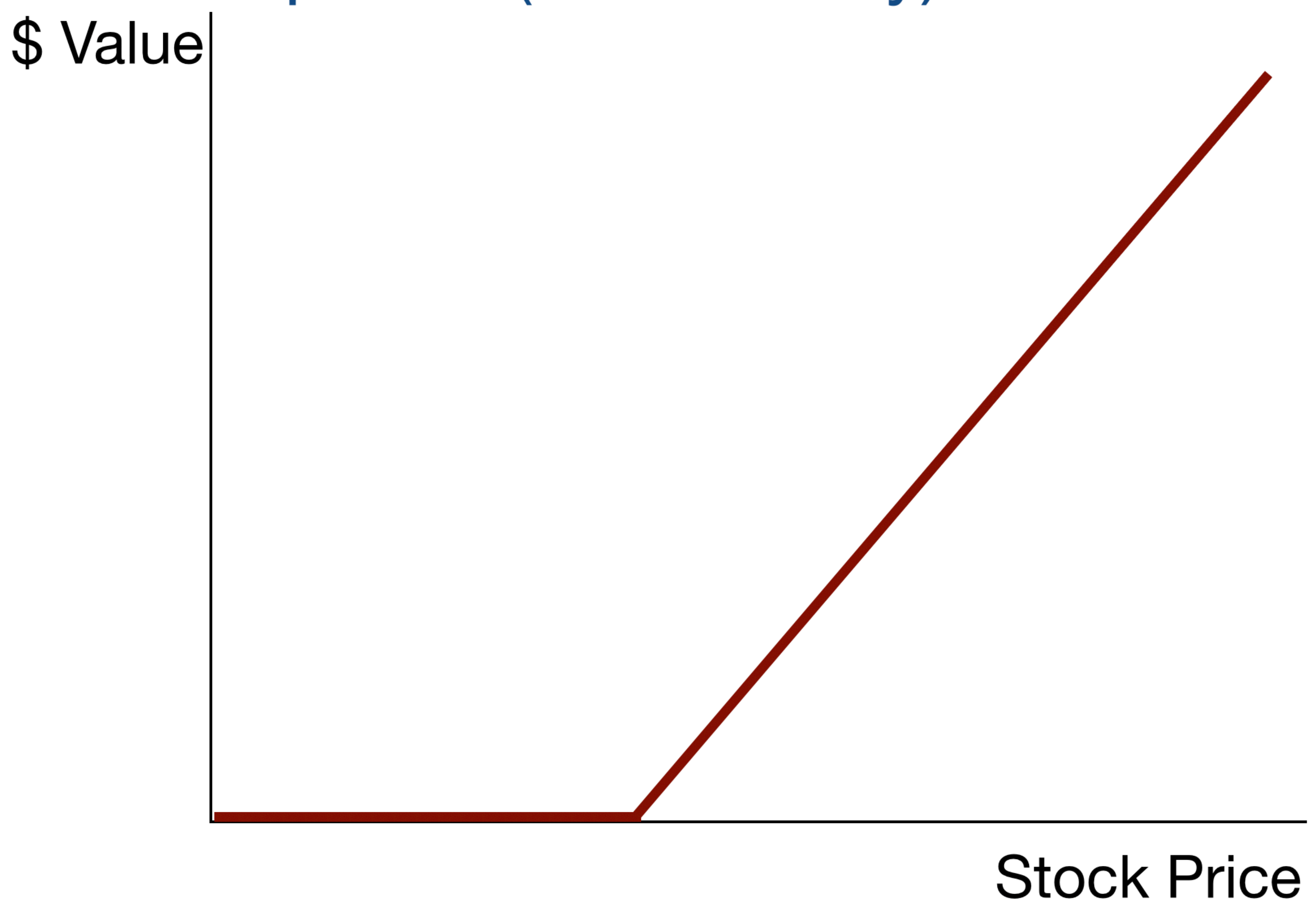

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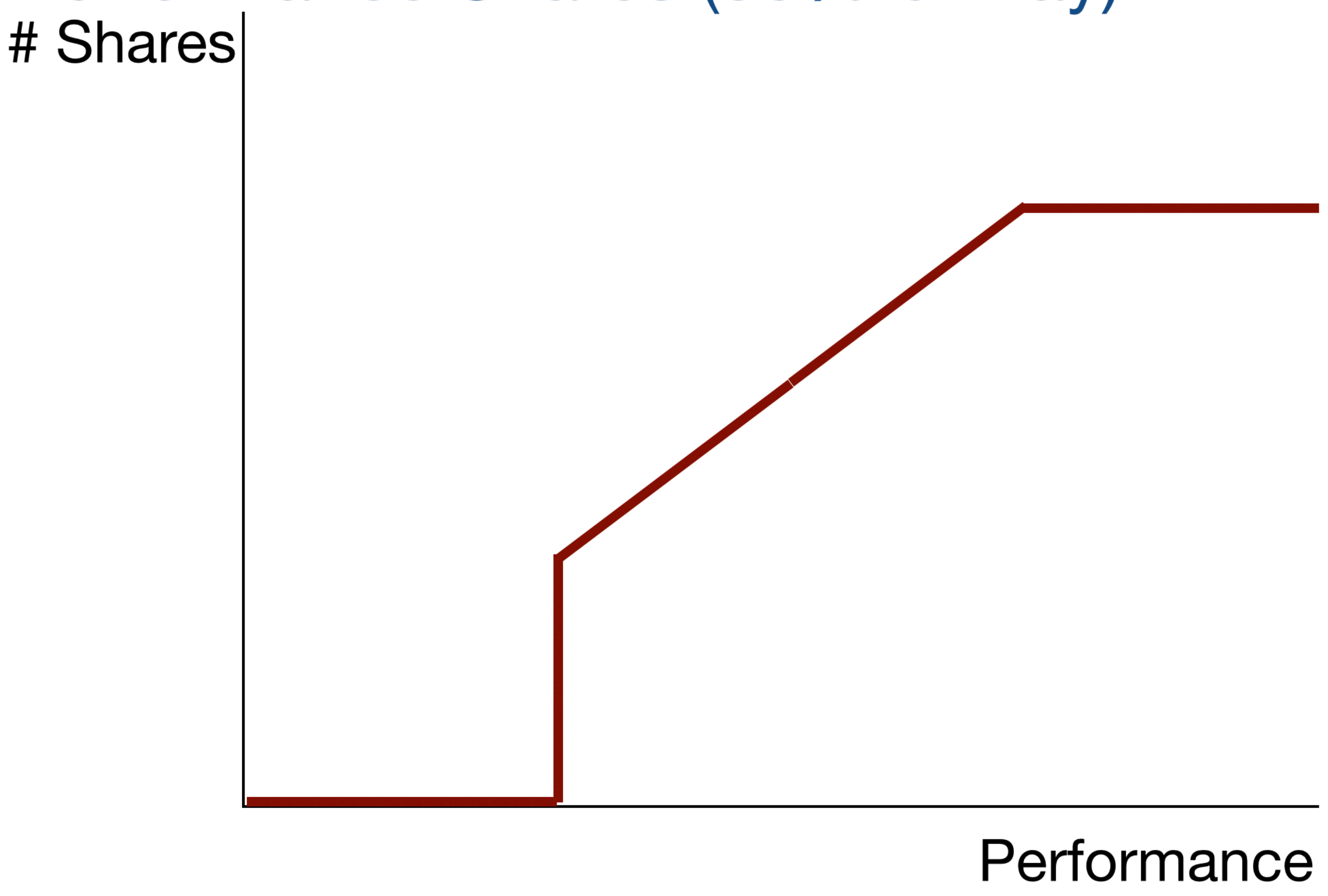

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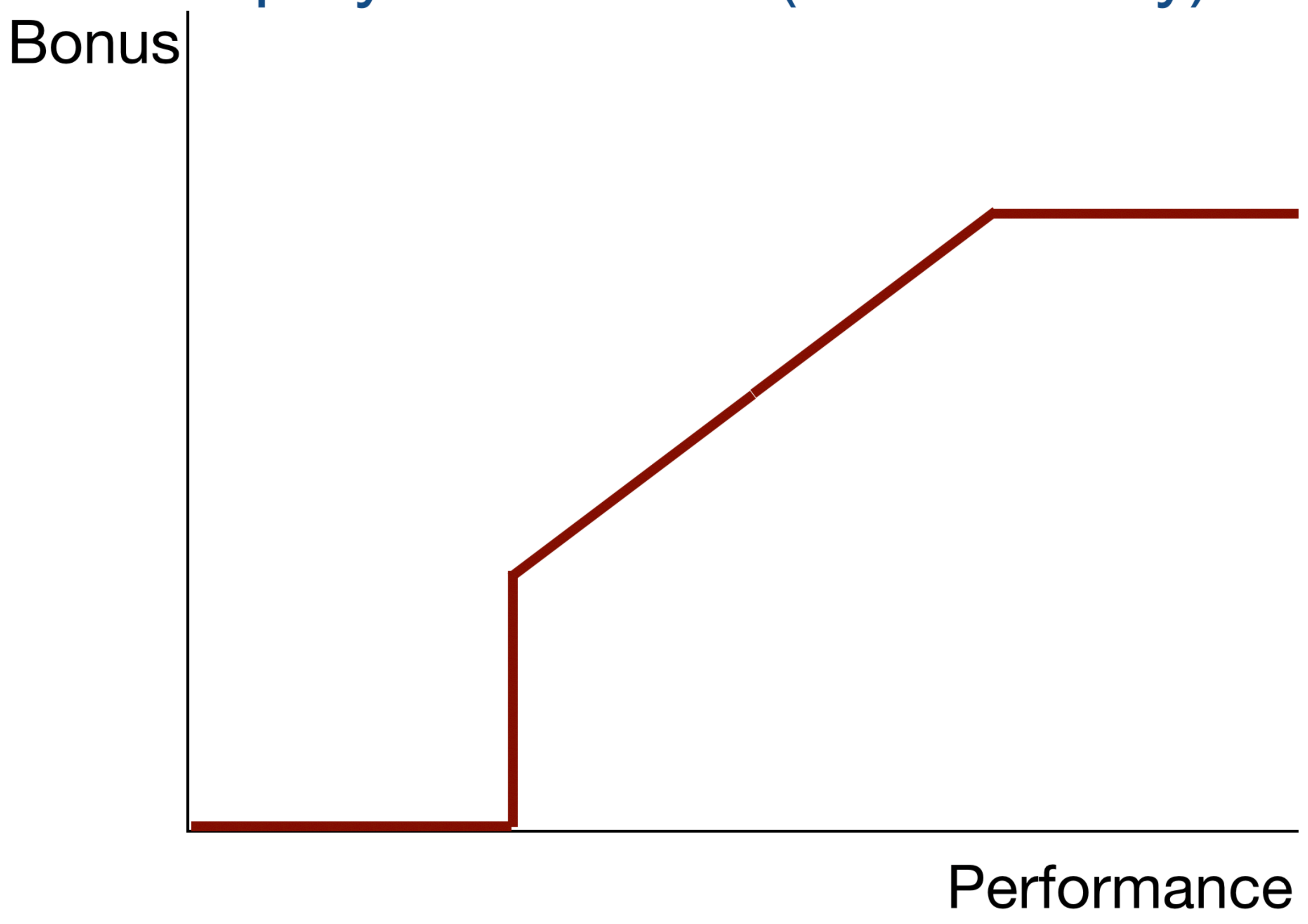

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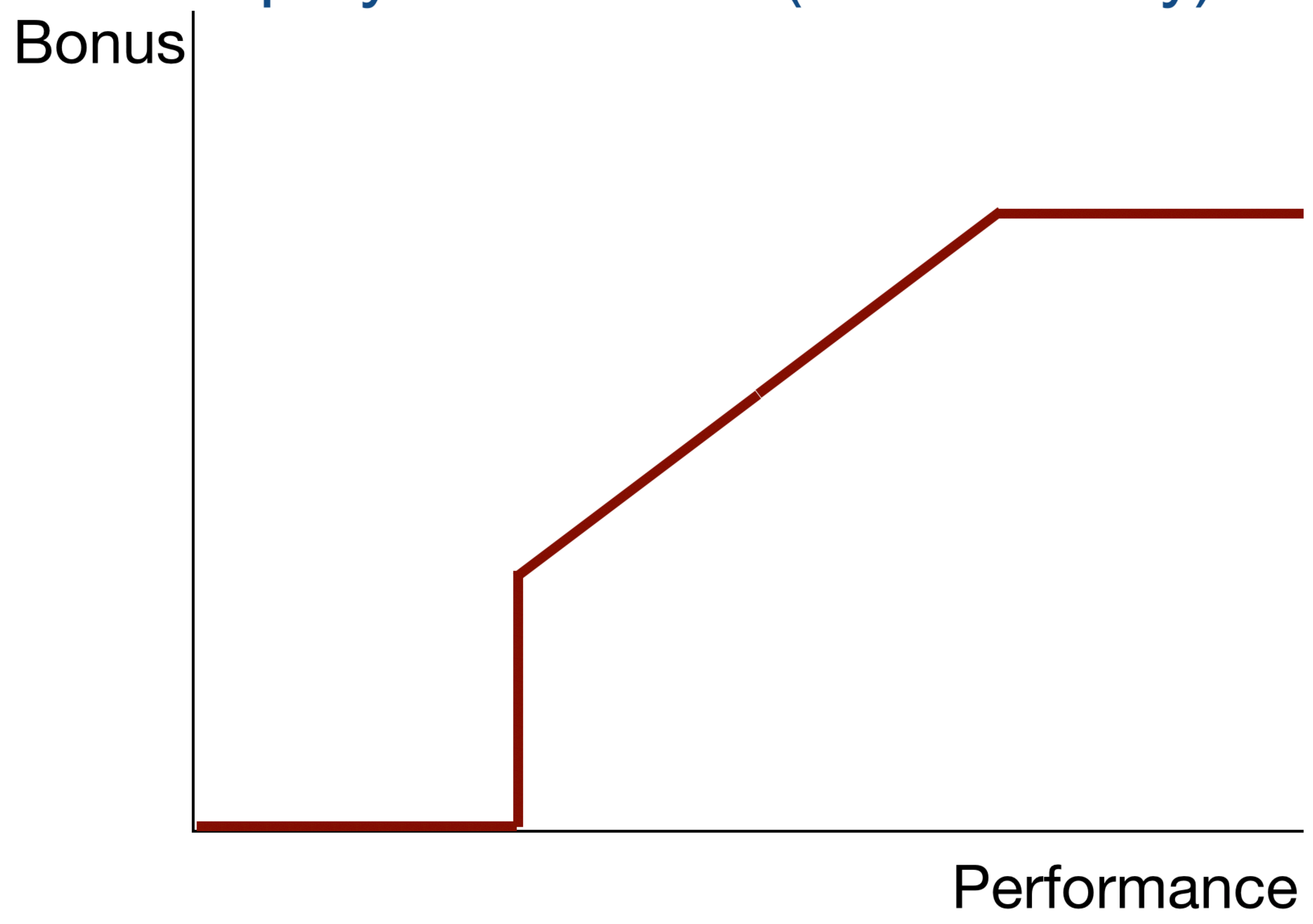

Over 90% of firms use non-GAAP or adjusted measures. How does this affect Var(Bonus)?

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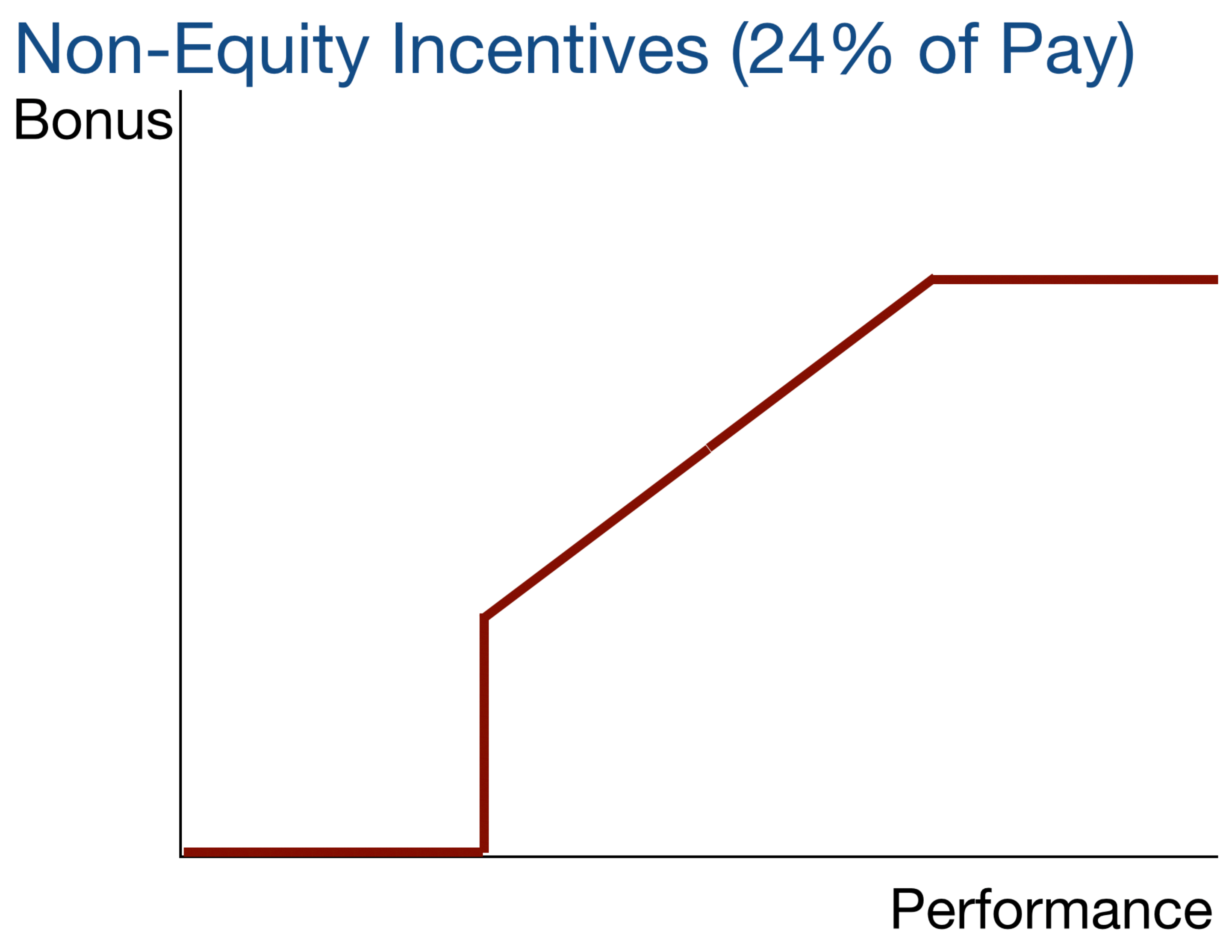

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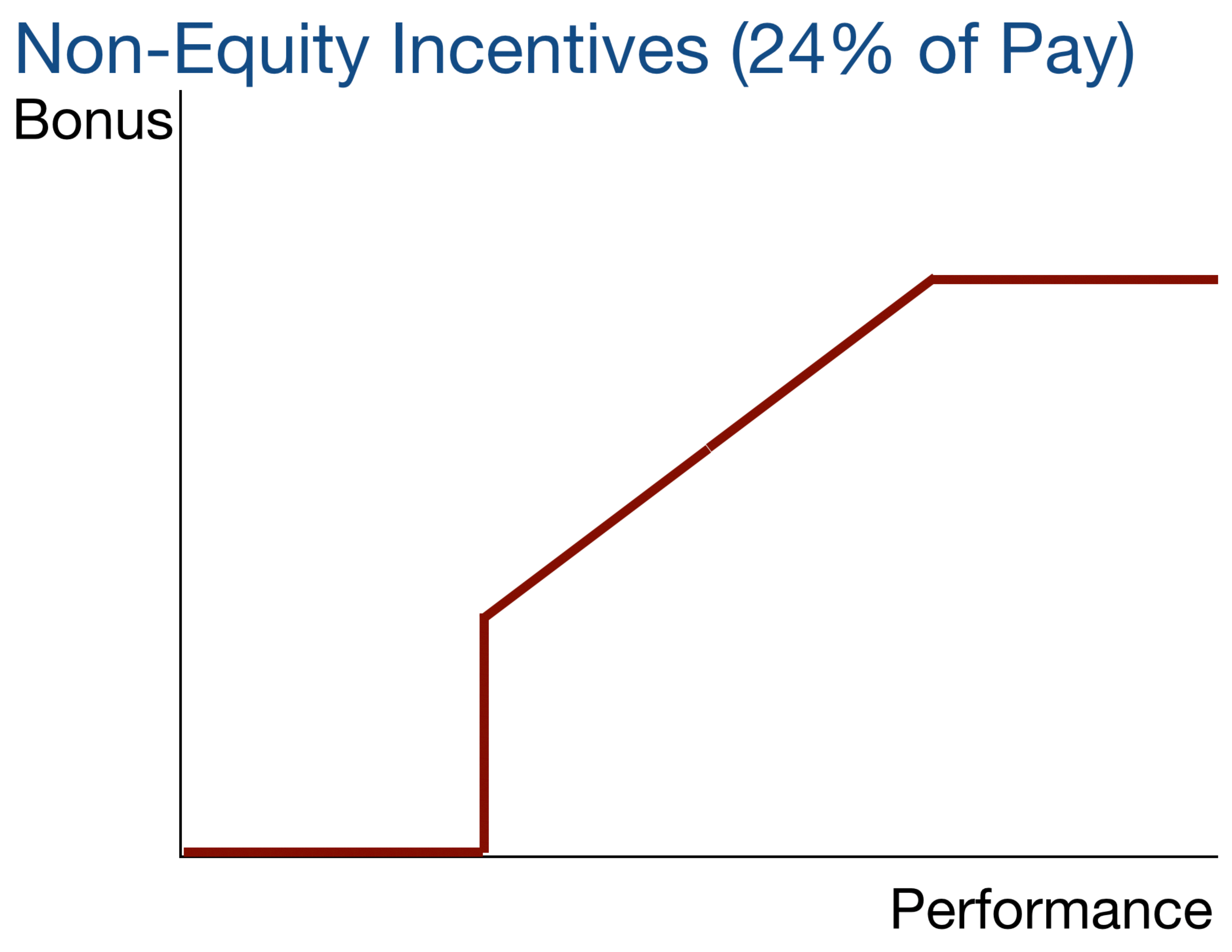

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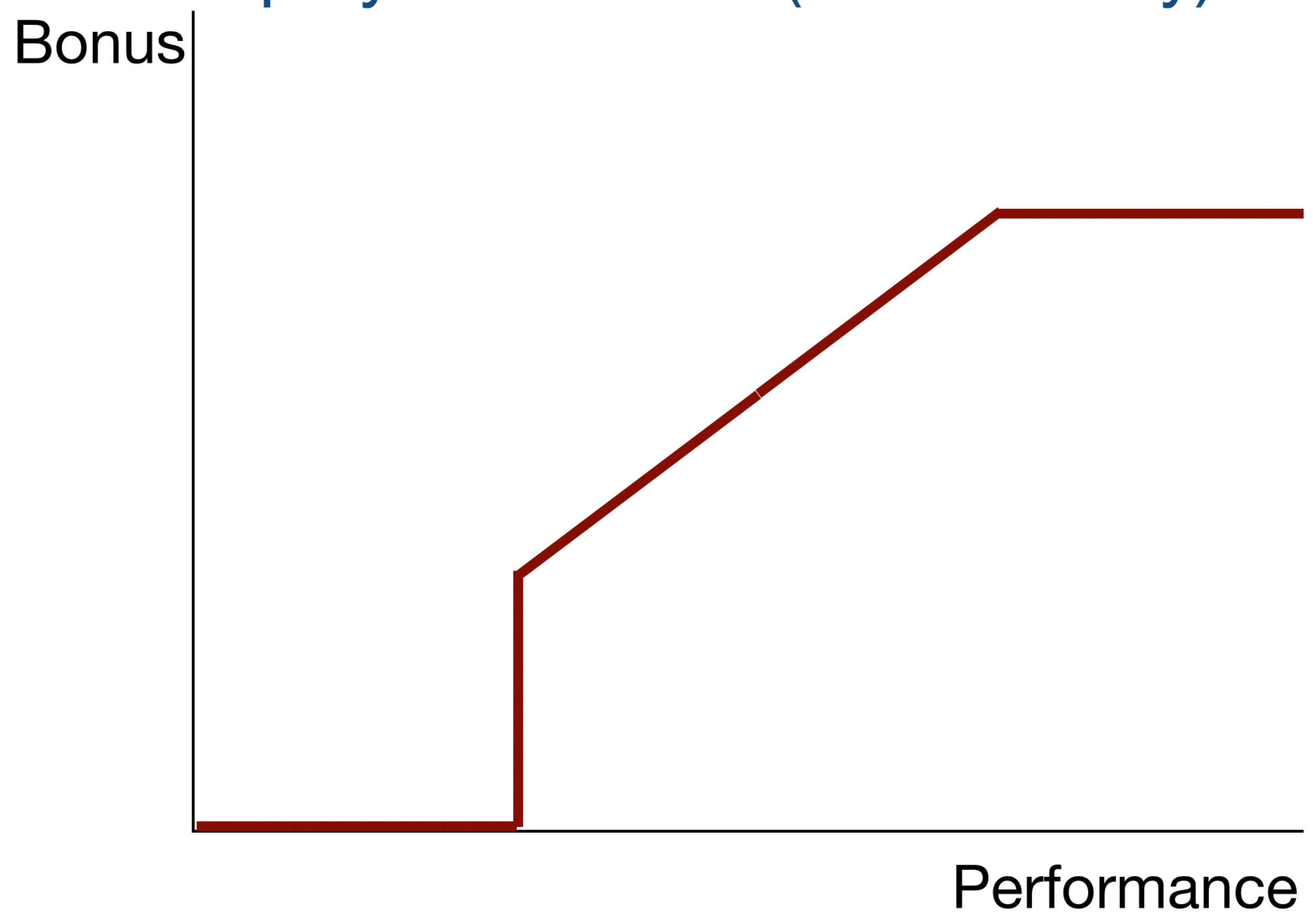

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Missing values for goals may not be random

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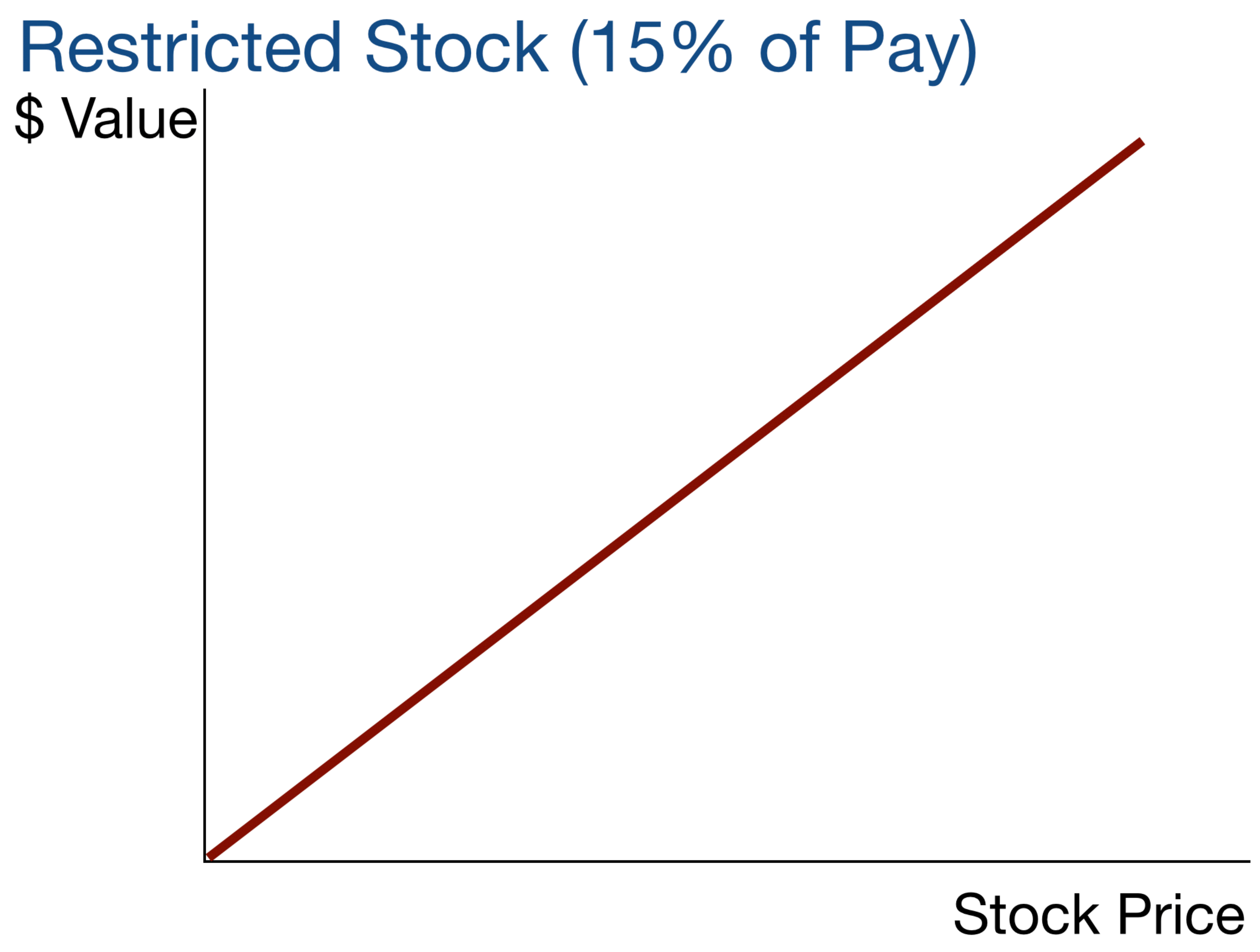
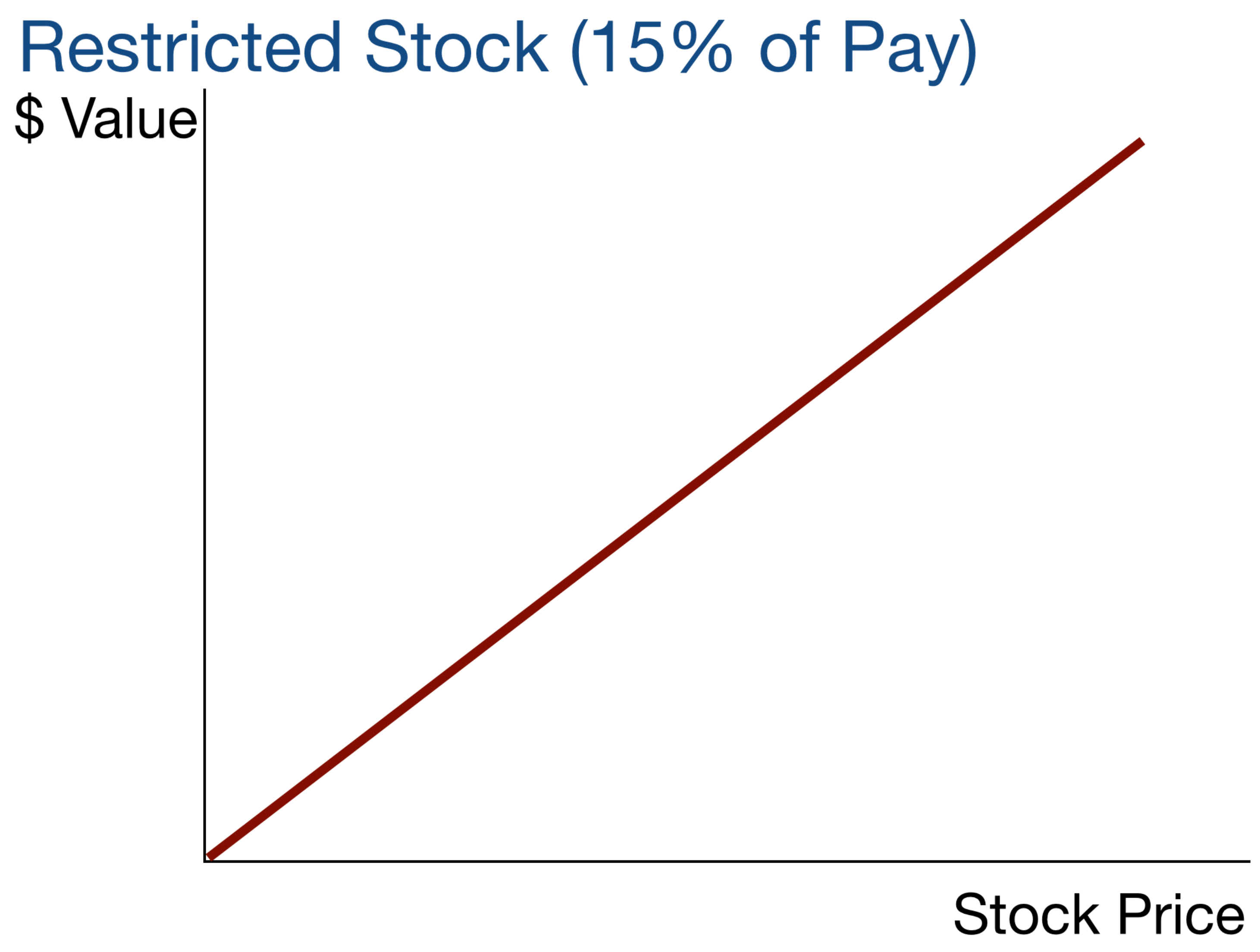


Approach 1: Simulations

Easiest to model how Var(Stock Price) translates to Var(RSUs) . . . but you seem to ignore time-lapse restricted shares



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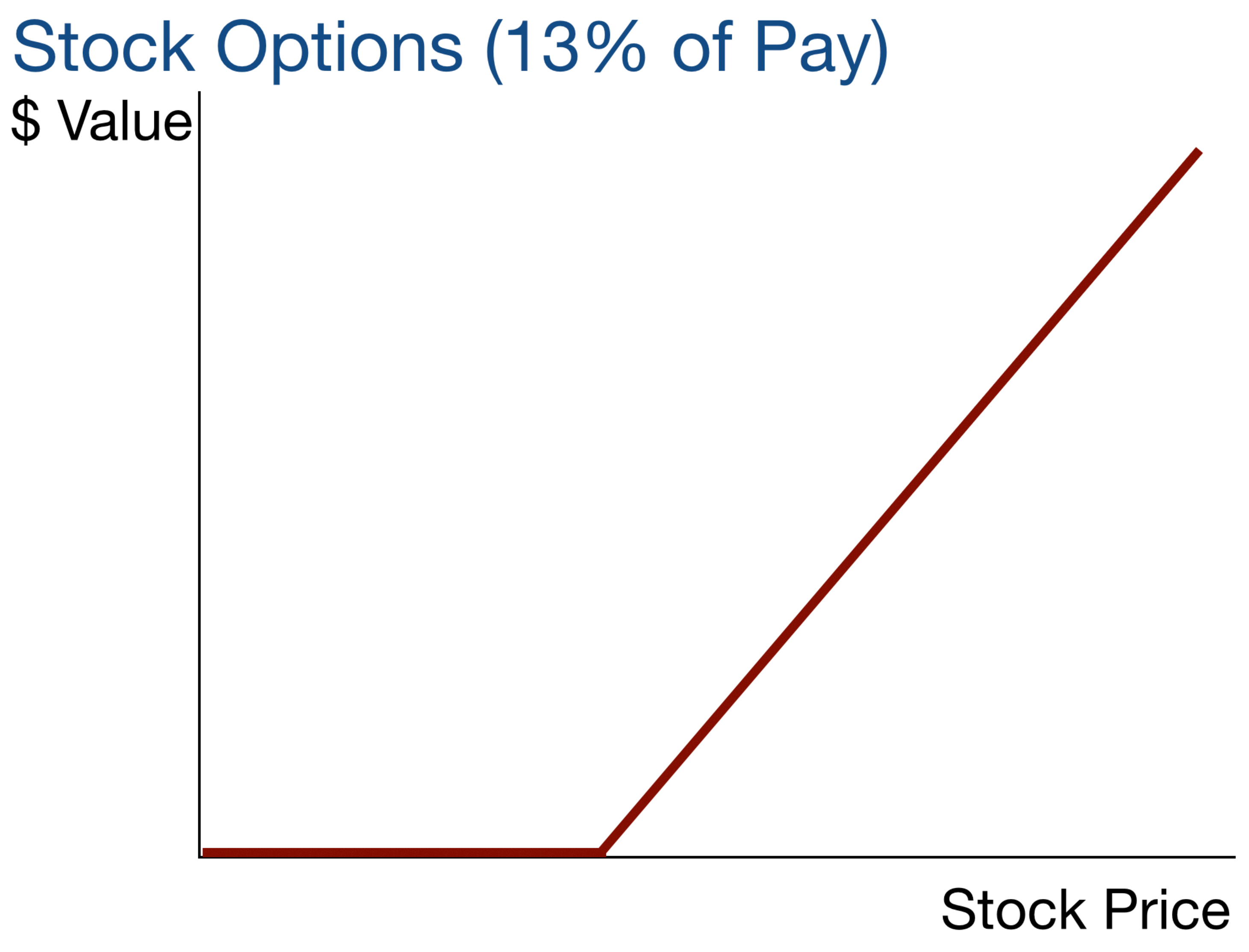

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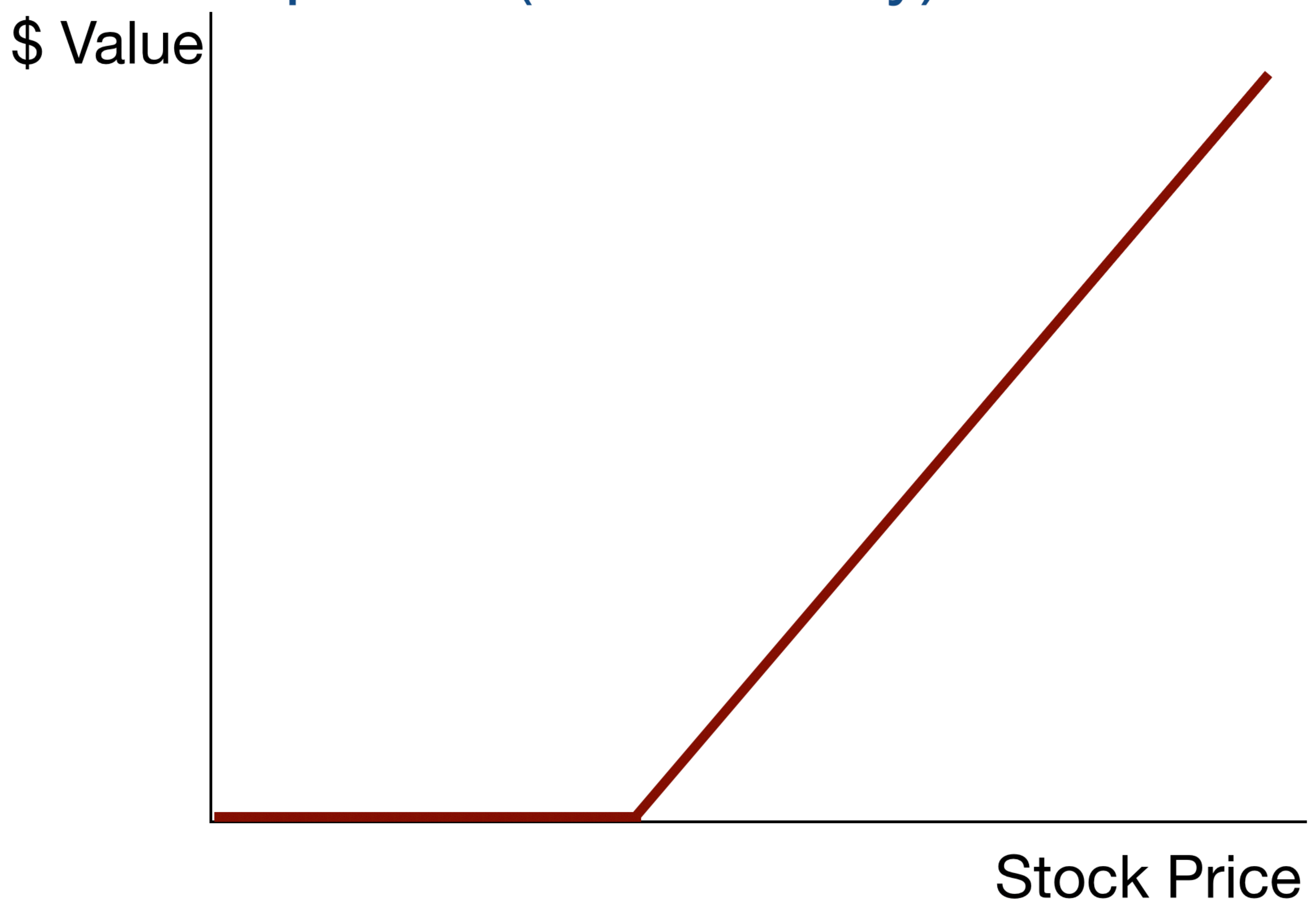
Straightforward to model how Var(Stock Price) translates to Var(Options) … but is this what you are doing?

Stock Options (13% of Pay)



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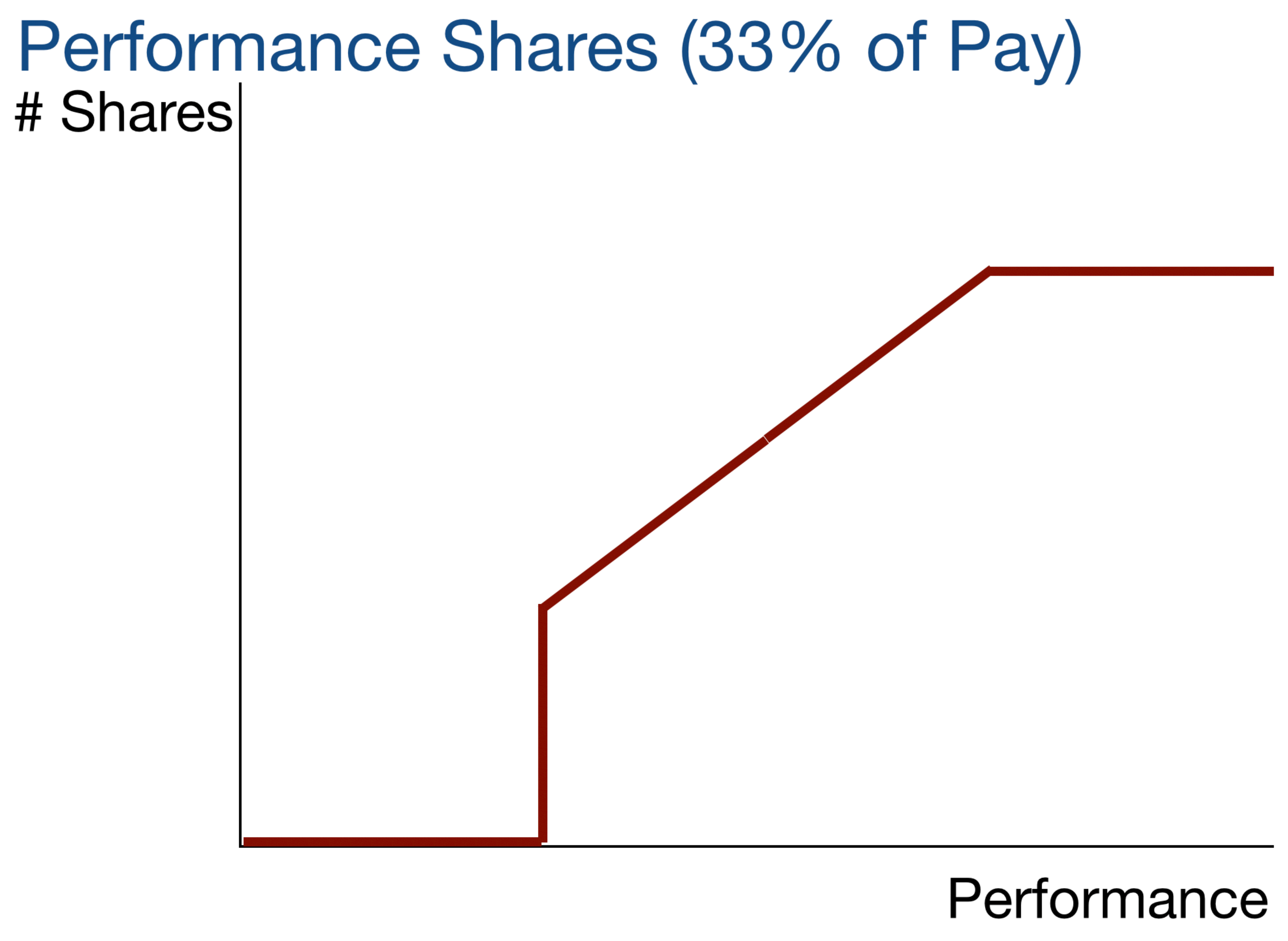

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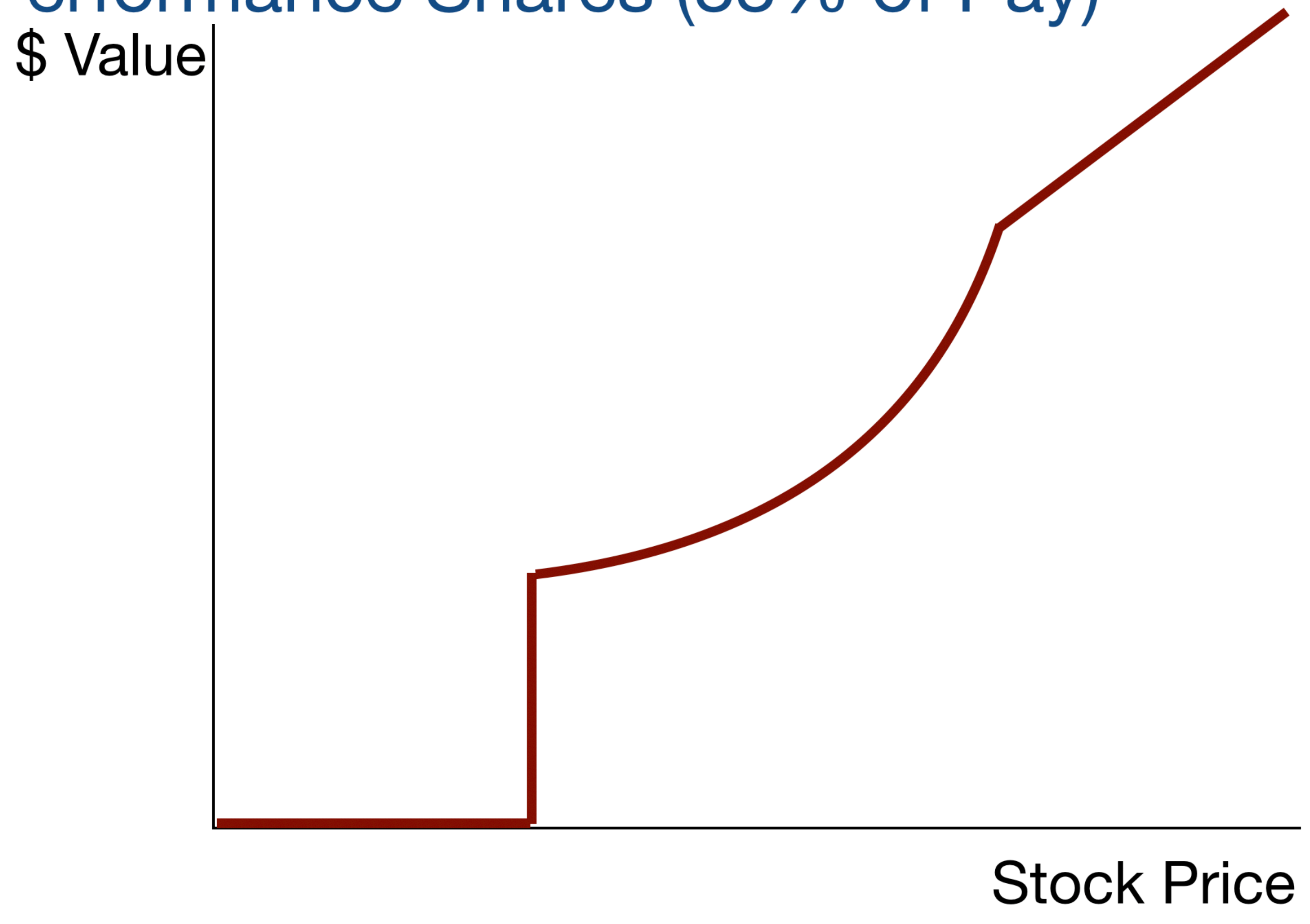

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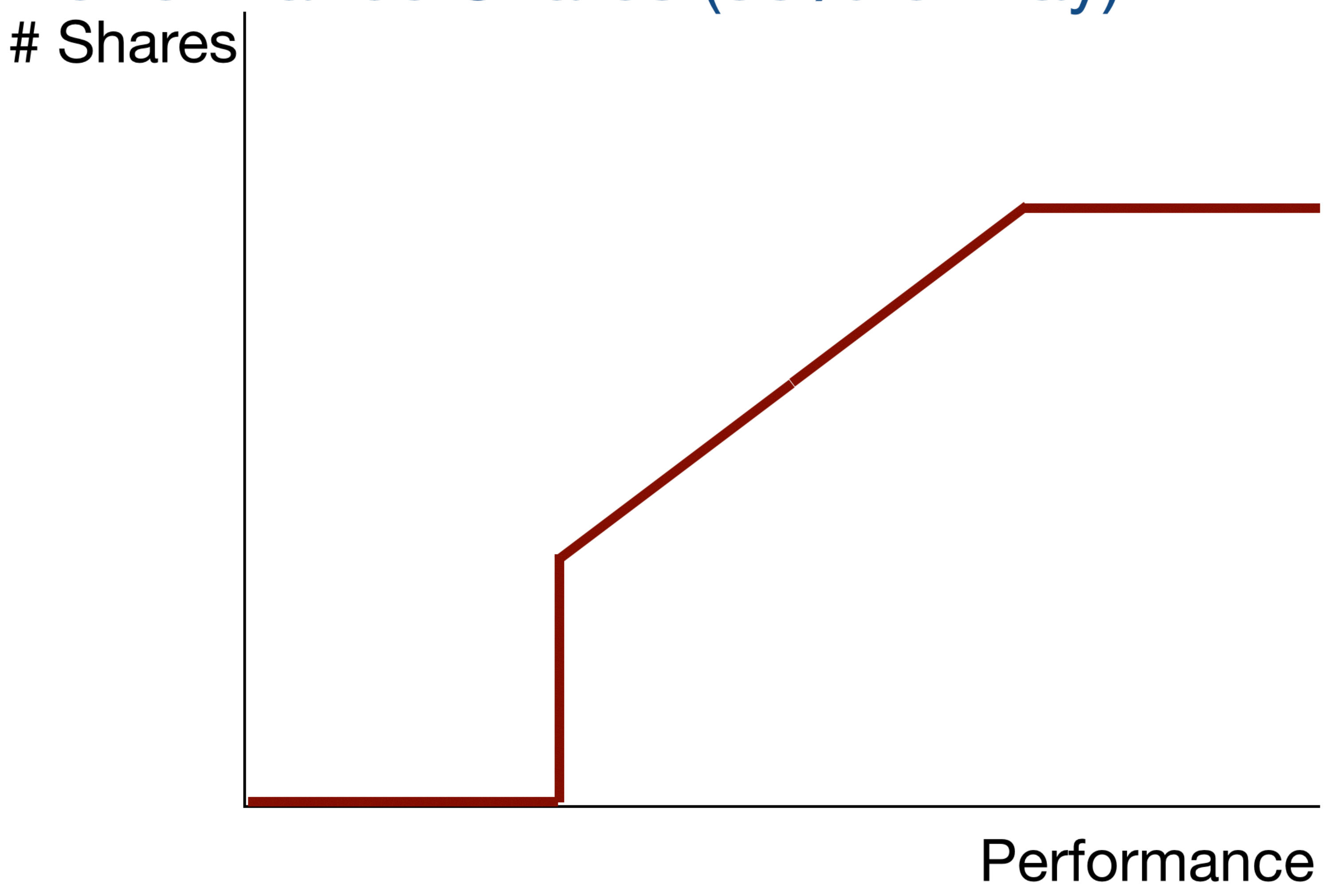

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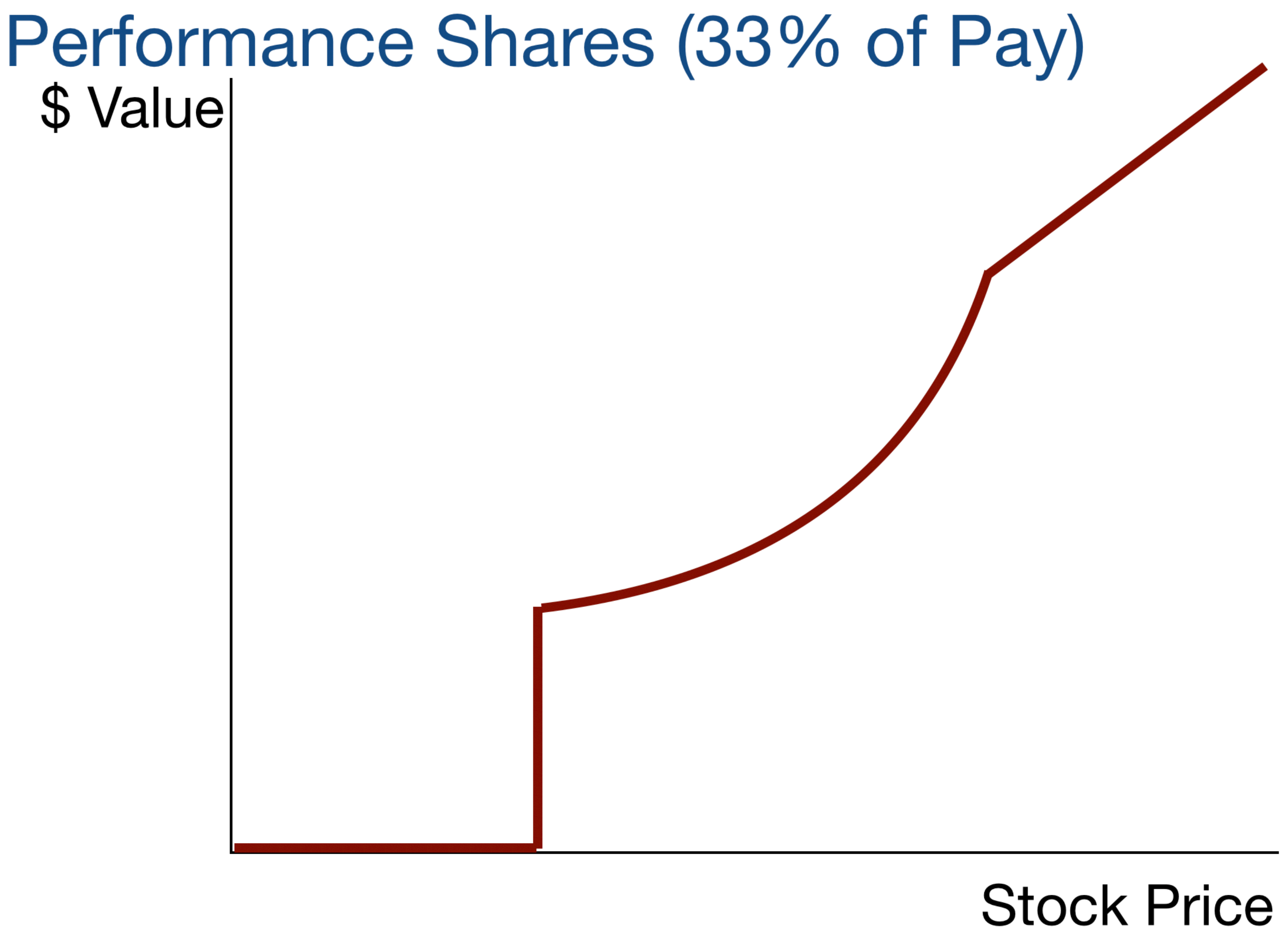
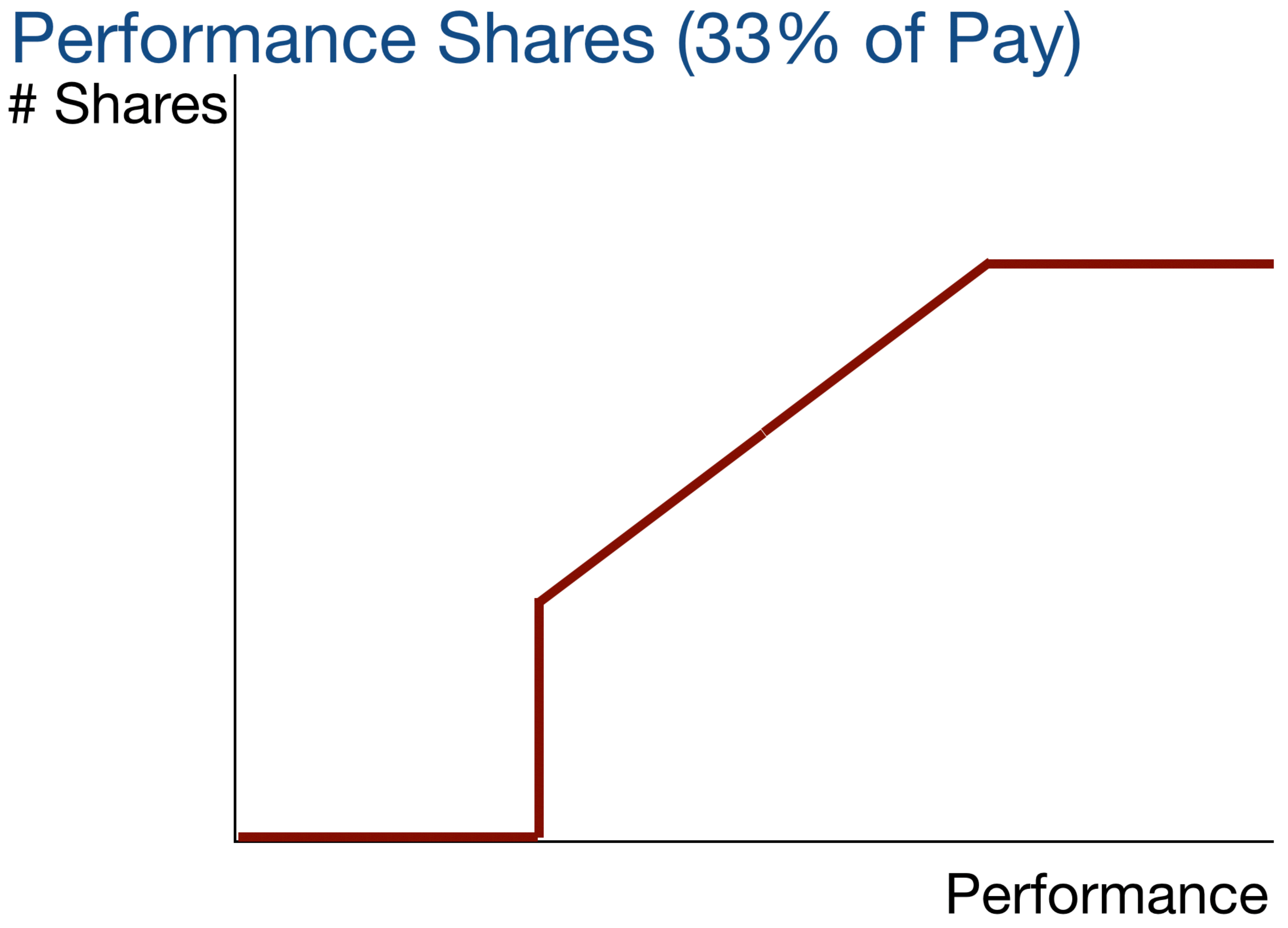
Most of the action is in the stock price and not in the metric that determines # of shares





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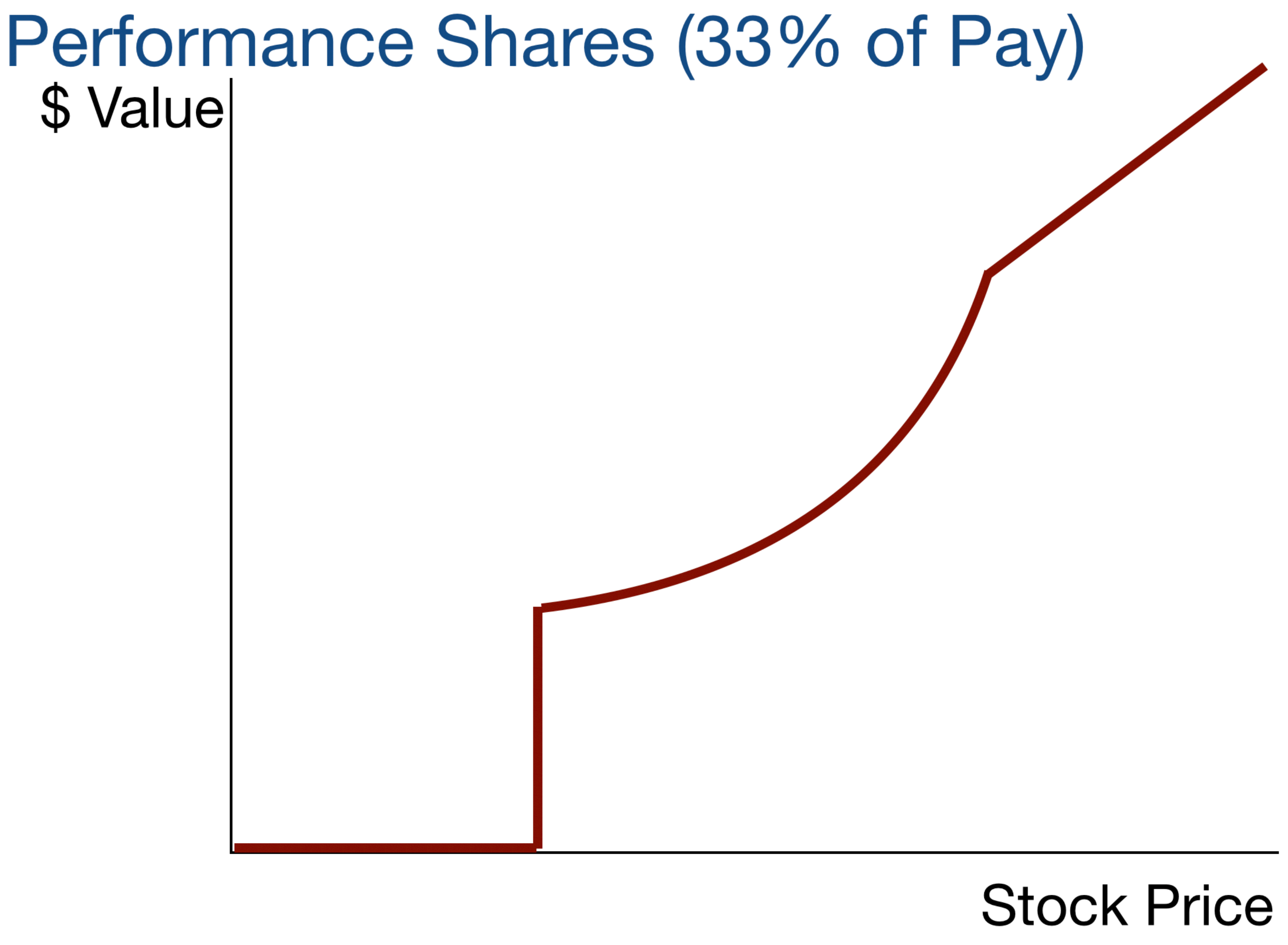
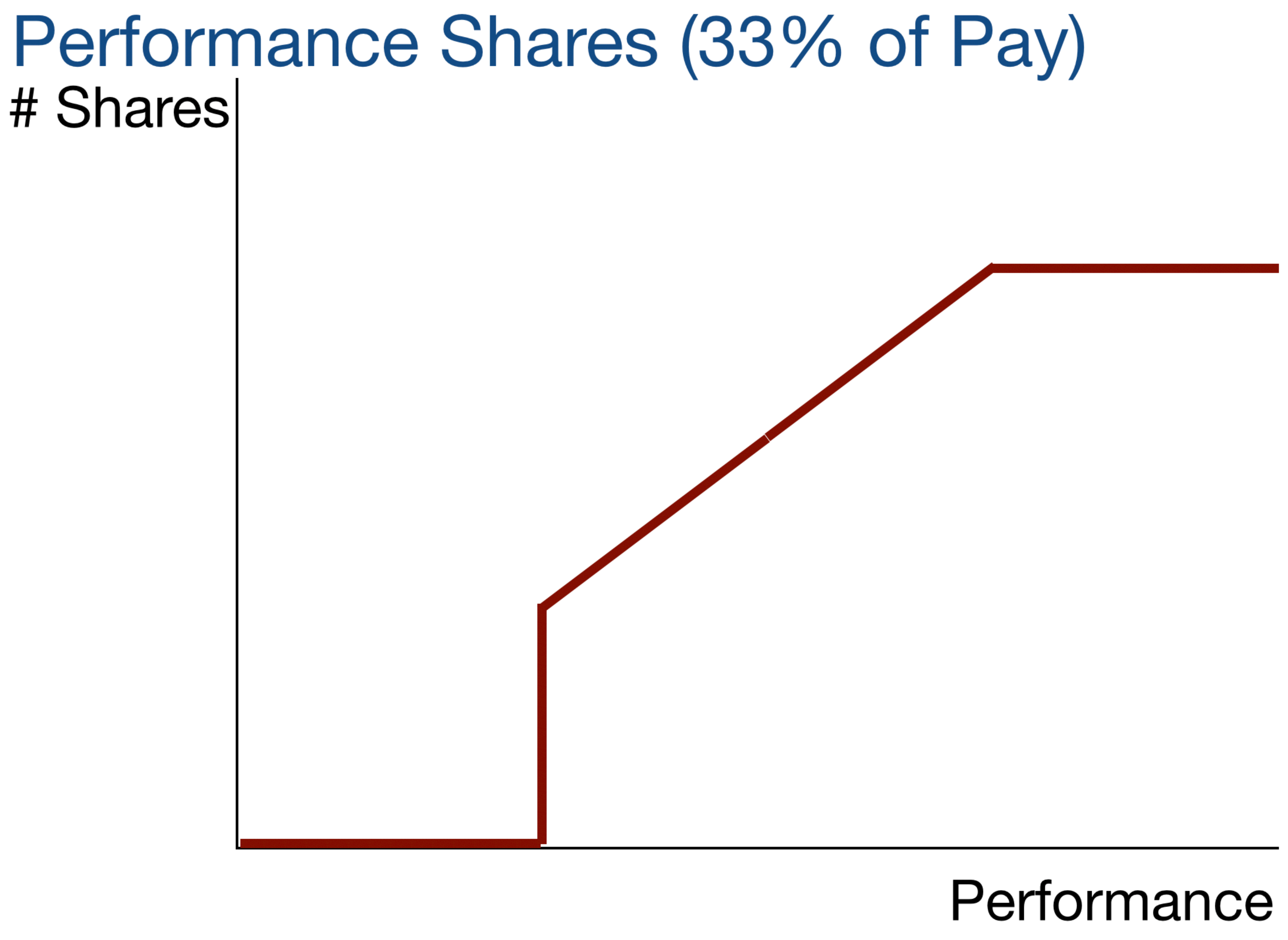
Why aren't you simulating stock prices directly (rather through a multiple of sales)?





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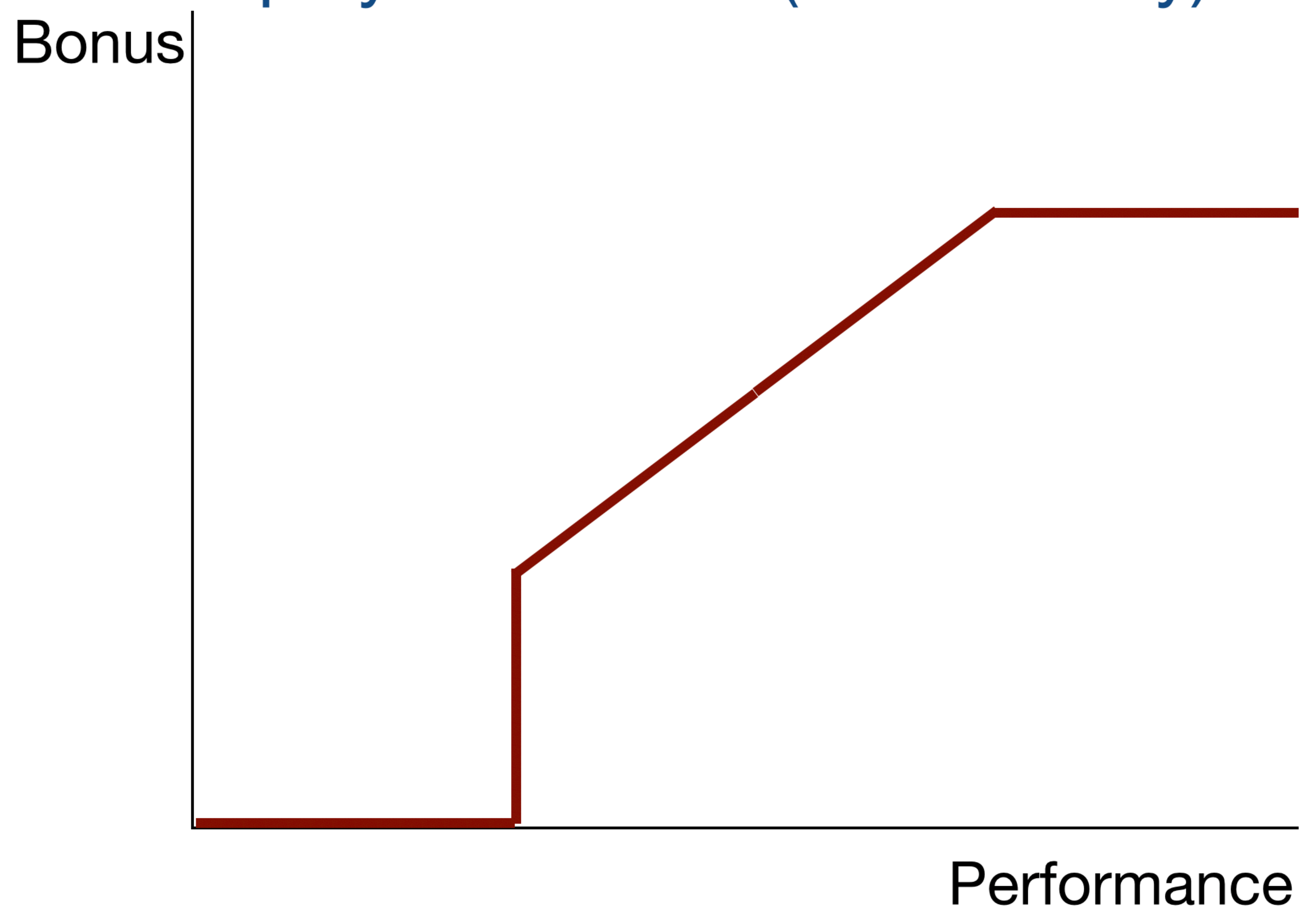

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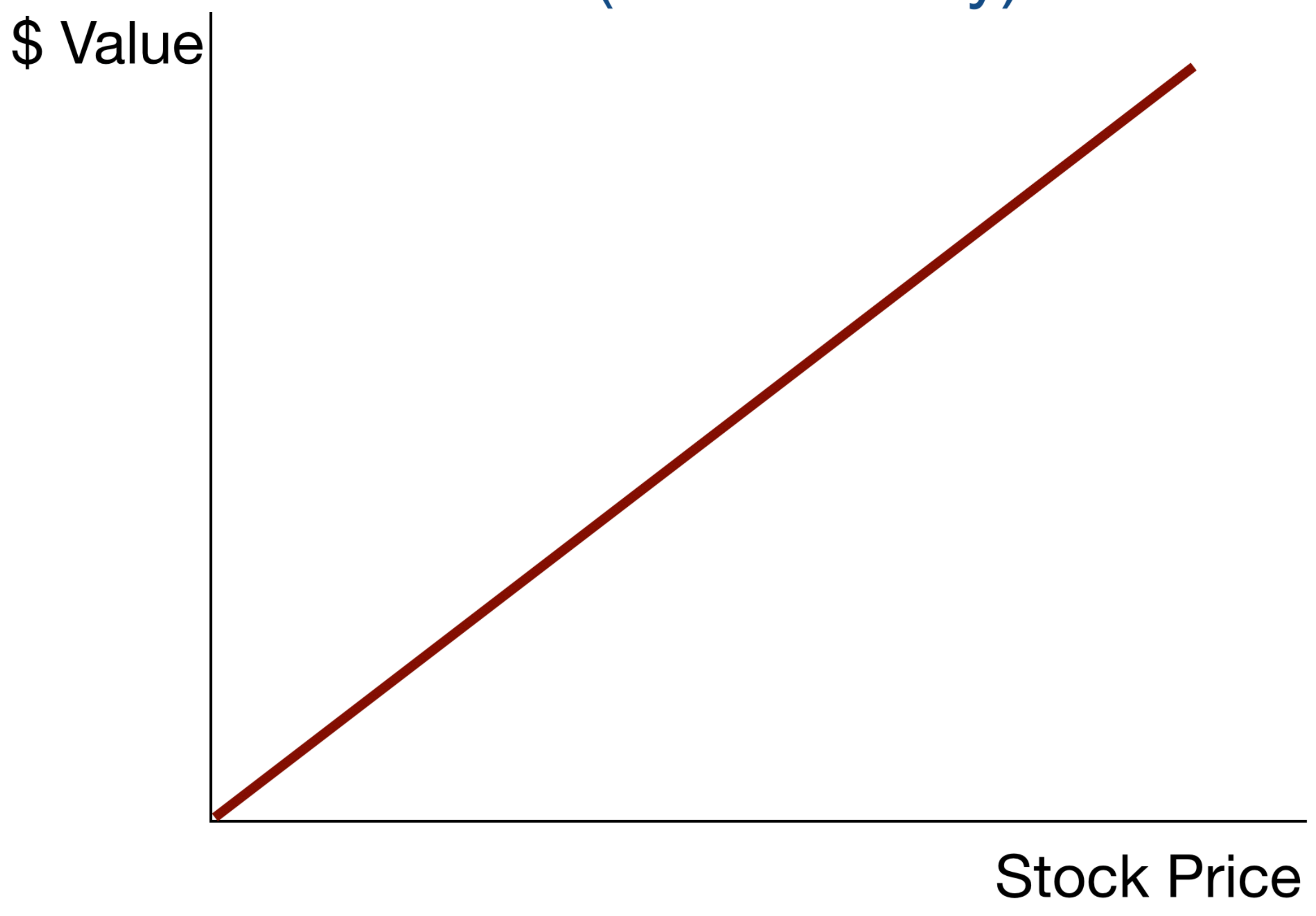

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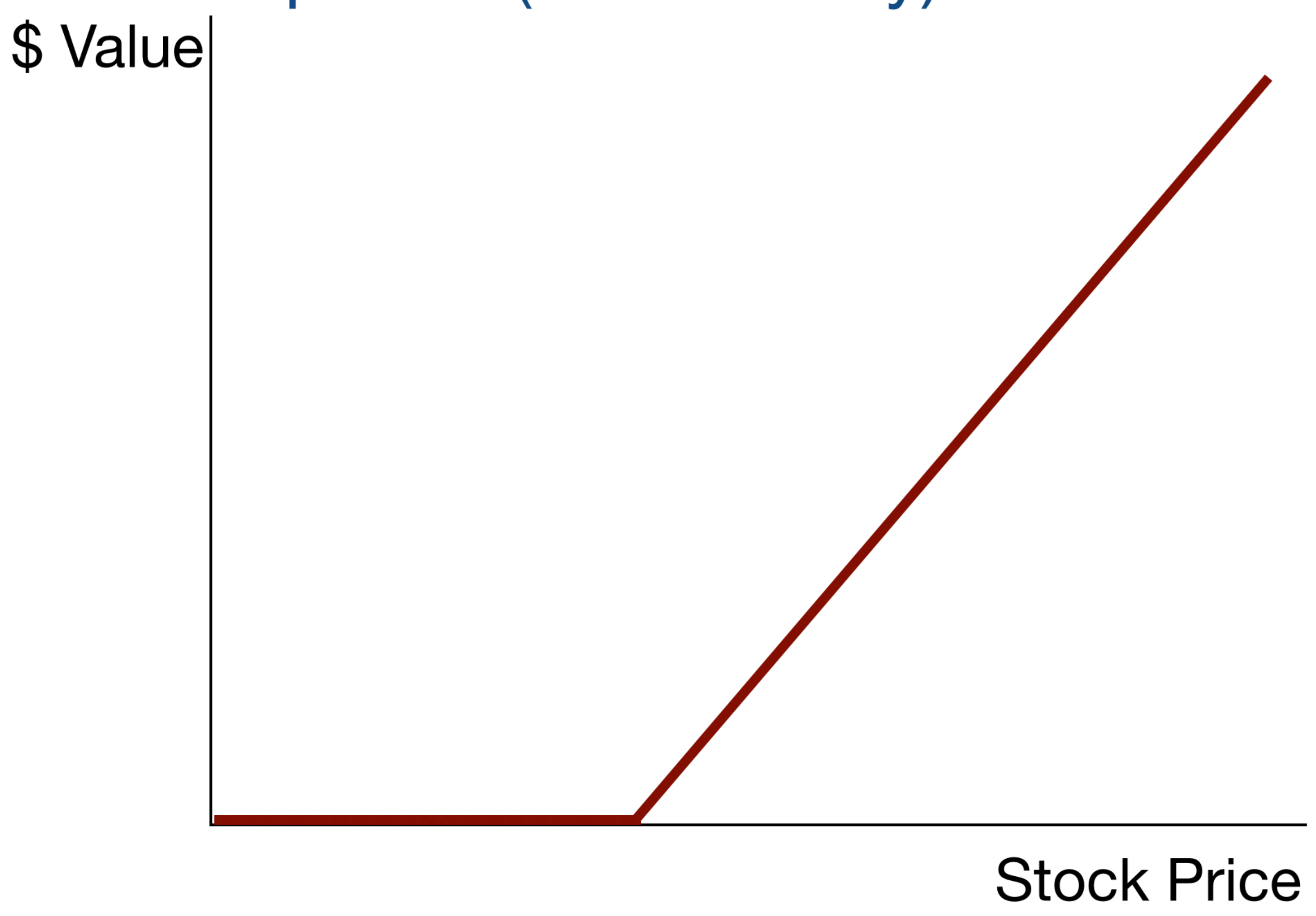

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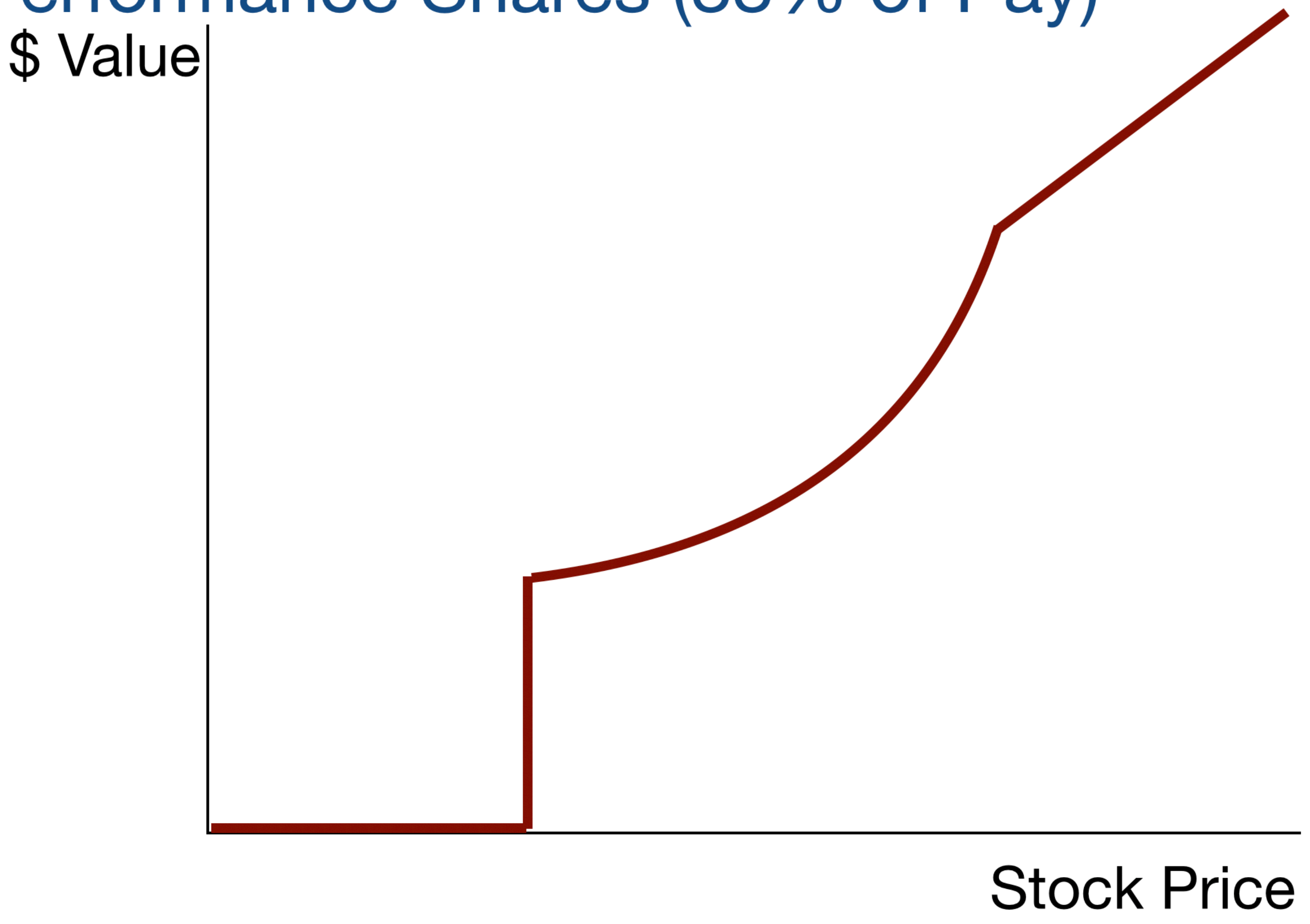

Approach 2: Realized Var(TDC1)

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- Actual bonus rather than expected or target bonus
- Black-Scholes is not the "expected value" of options, etc.

Approach 3: ARCH

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Approach new to CEO pay, but not well described

Like approach #2, seems tied to TDC1 which is problematic

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What is γ?

I suspect you have underestimated Var[Pay]

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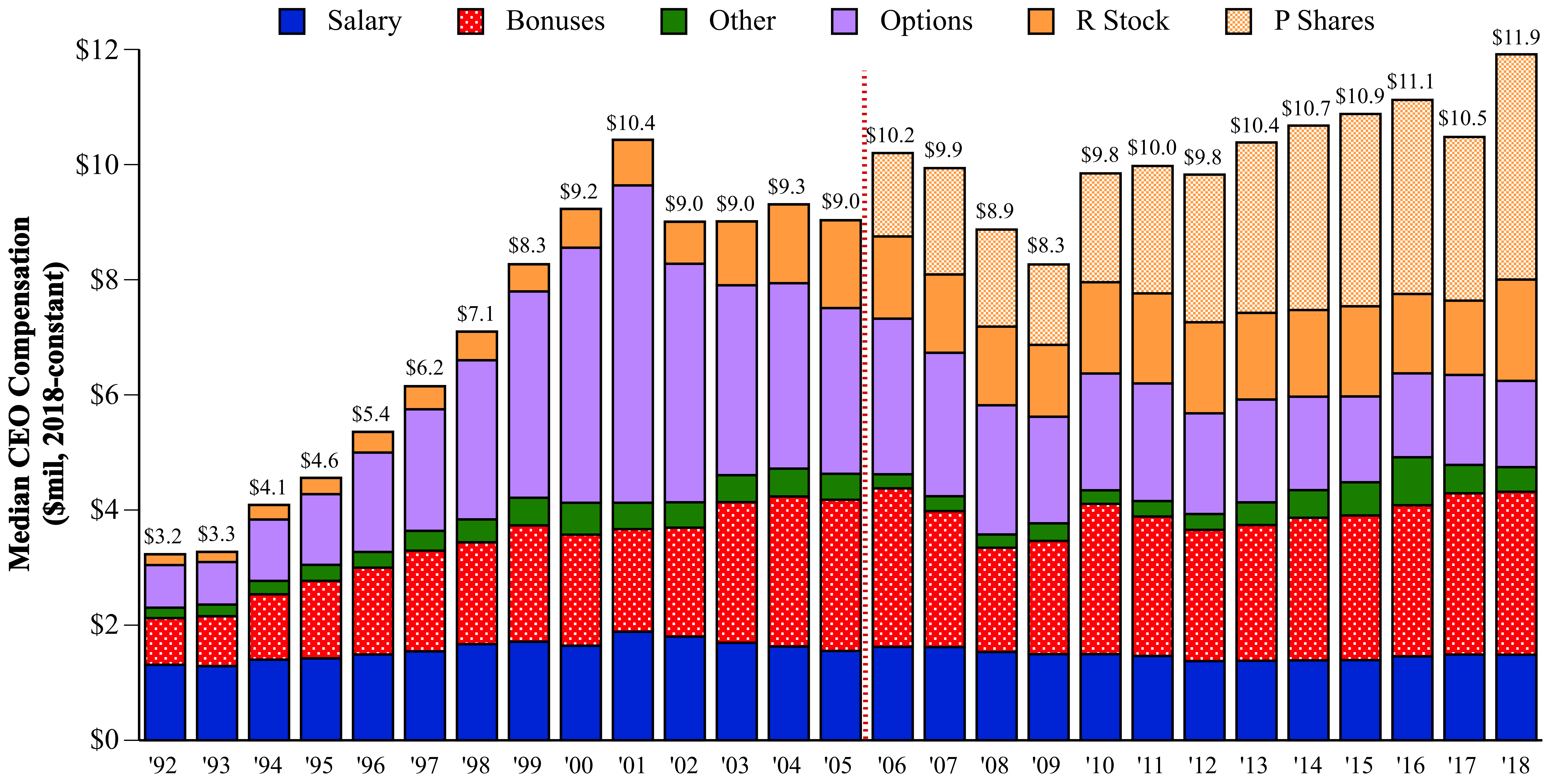
- Which implies even lower elasticities than reported?
- But, would a higher elasticity "confirm" the fundamental hypothesis?

Would a higher elasticity confirm theory?



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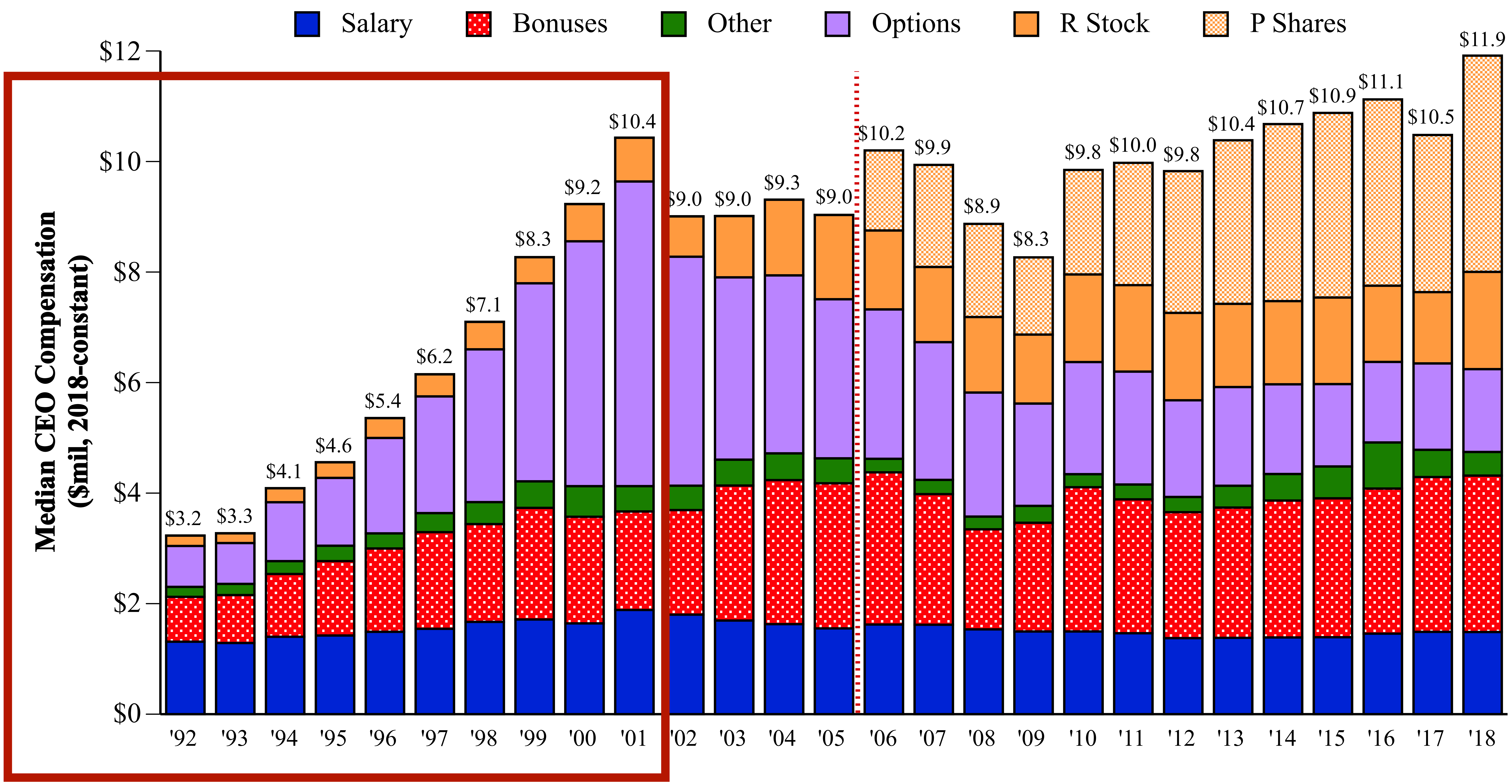

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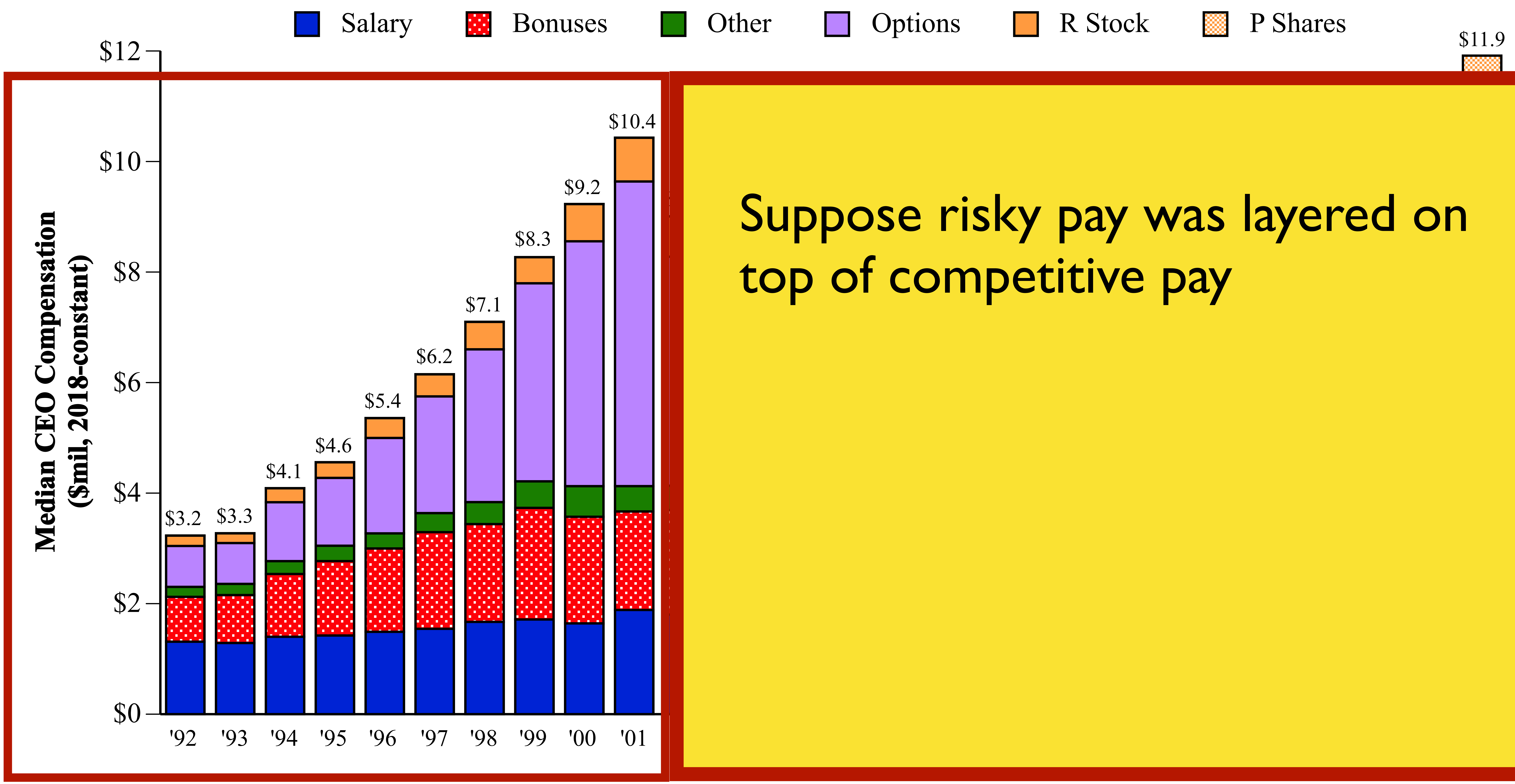

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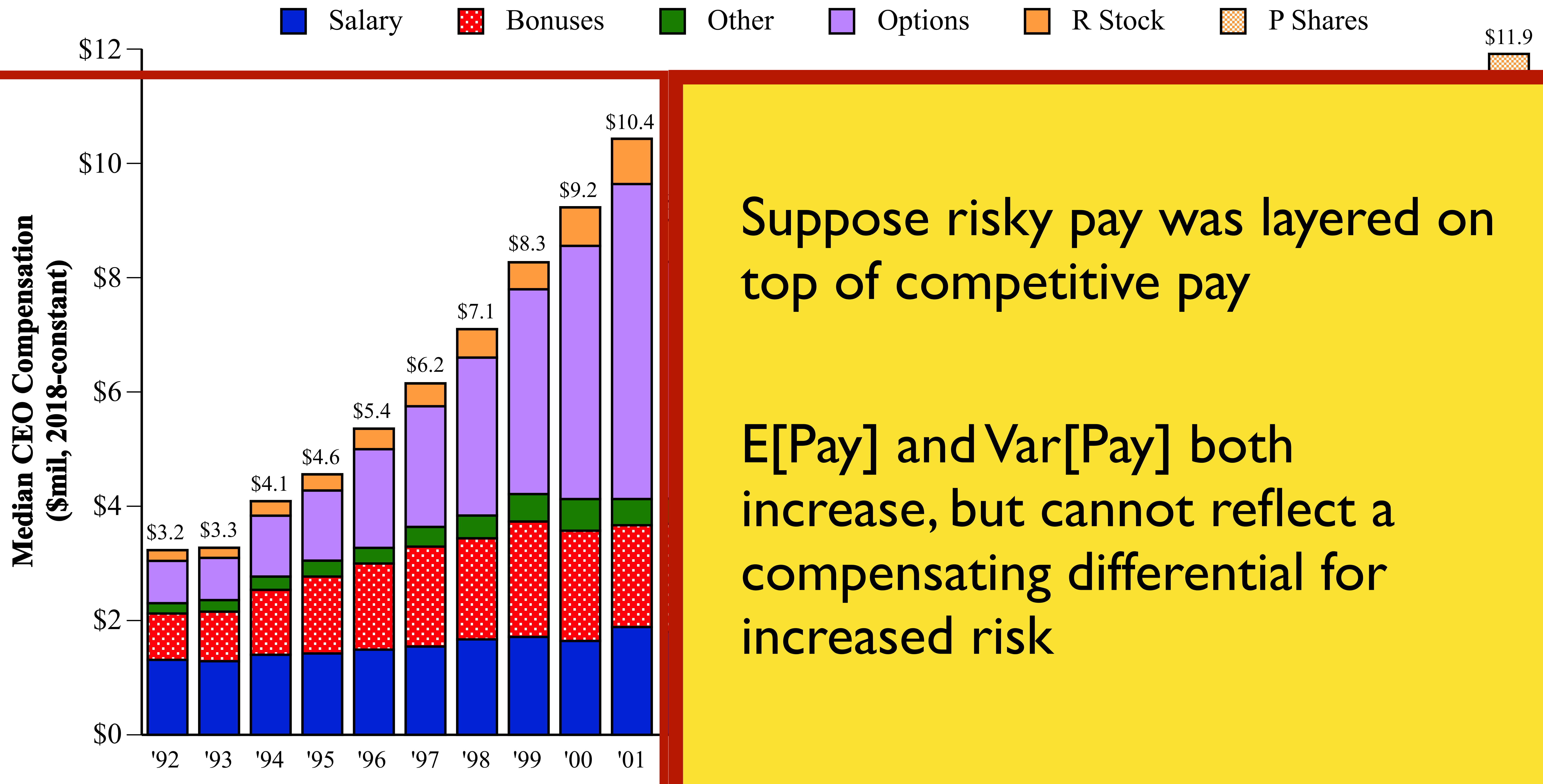

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E[Pay] and Var[Pay] both increase, but cannot reflect a compensating differential for increased risk

Evidence of Layering (Murphy-Sandino 2020)

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Time-Lapse RSUs	$\beta = 1.476$
Stock Options	$\beta = 0.965$
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E[Pay] increases, but this cannot logically be a differential for increased risk

Conclusion: Debunking Risk Aversion

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I've suggested some "cleaning up", but I believe the results will hold and will be compelling