

The Internal Governance of Firms

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(lead article)

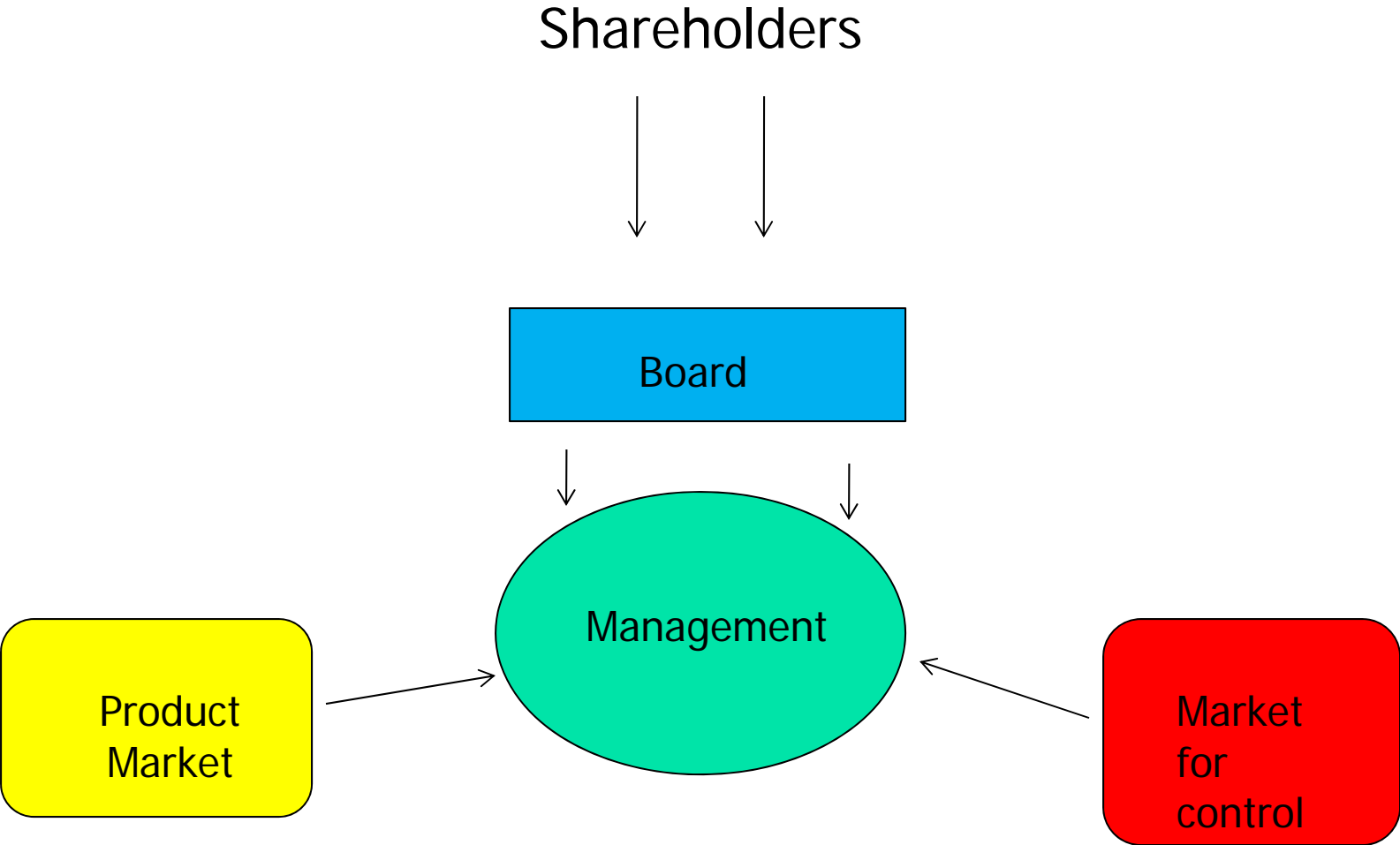


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Traditional View of Governance

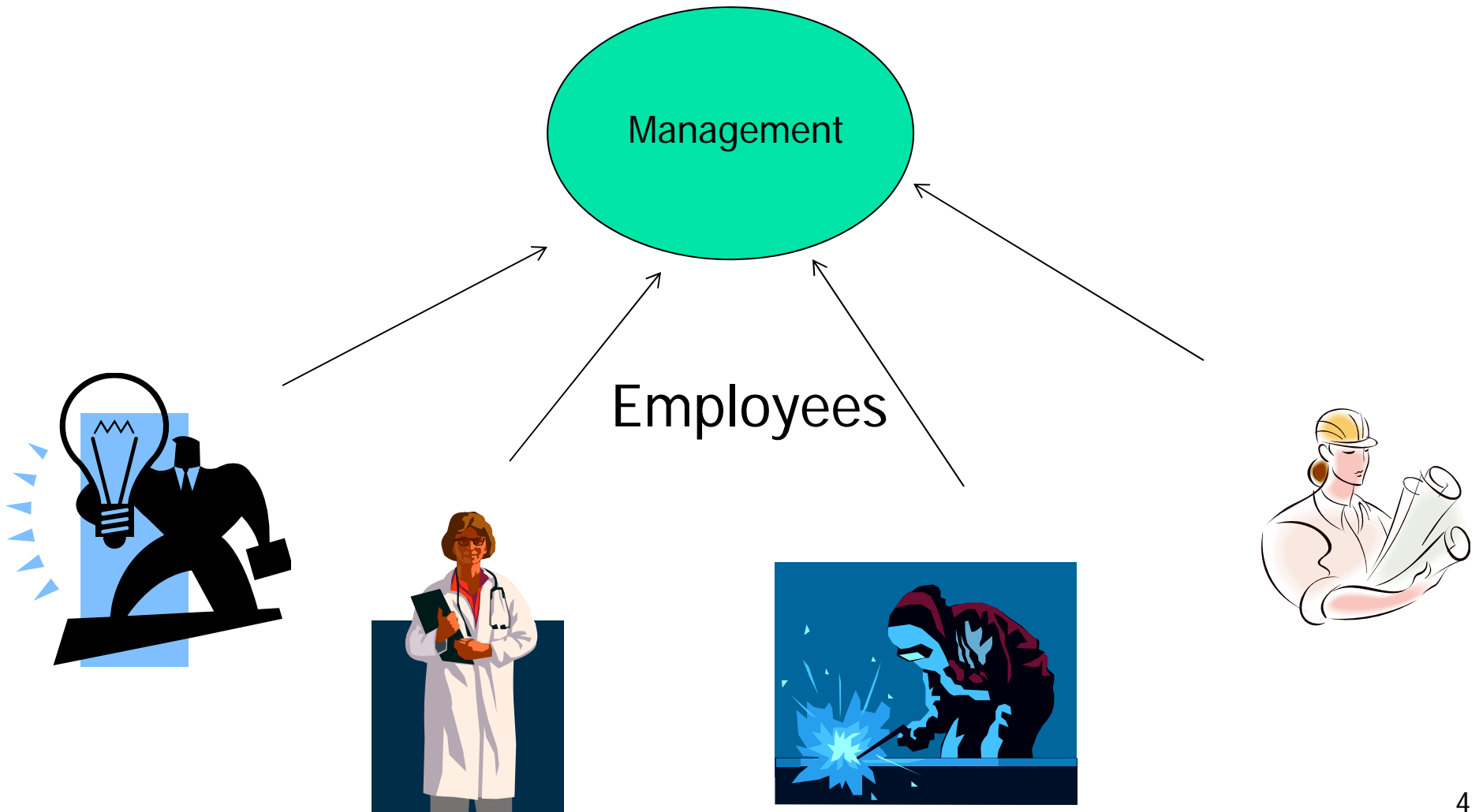




Traditional view

- How coordinated are each of these forces?
- How informed are they?
- How strong are their incentives?
- Do they act continuously or sporadically?

Internal Governance





Basic model

- Partnership
- Myopic self-interested old CEO – retires next period
- Hyperopic self interested young manager(s) – CEO next period
- Work together to produce:

$$C_t(k_{t-1}, s^{CEO}, s_t) = \theta_t (k_{t-1})^\gamma [f(s^{CEO}) + g(s_t)]$$



The CEO

- At beginning of period, CEO chooses fraction of assets and cash flow that will be verifiable to managers. Commits to end-of-period capital stock at beginning of current period.
- The CEO appropriates everything else:

$$C_t + k_{t-1} - k_t = C_t - (k_t - k_{t-1}) = \text{Cash flow} - \text{investment}$$

- “Everything else” can include over-market pay, perks, leisure



The Manager

- Manager chooses learning/effort
- Effort today will determine her capabilities as CEO next period



Timeline

Period t

Period t+1...

CEO hires manager.	CEO commits to end-of-period capital stock k_t	Manager engages in learning effort s_t	Cash generated. Investment made. CEO gets residual.	CEO retires. Manager becomes CEO.
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CEO's maximization problem

$$\max_{k_t} \theta_t (k_{t-1})^\gamma [f(s^{CEO}) + g(s_t)] - (k_t - k_{t-1})$$

First order condition

$$\theta_t (k_{t-1})^\gamma g' \frac{ds_t}{dk_t} - 1 = 0$$

Investment driven by contemporaneous business conditions θ_t .



Manager's maximization problem

$$\max_{s_t} \frac{1}{1+r} \left[\theta_{t+1} (k_t)^\gamma [f(s_t) + g(s_{t+1})] - (k_{t+1} - k_t) \right] - s_t$$

First order condition

$$\frac{\theta_{t+1}}{1+r} (k_t)^\gamma f'(s_t) = 1$$



The link

- Totally differentiating manager's FOC

$$\frac{ds_t}{dk_t} = \frac{-\gamma f'}{k_t f''} > 0$$

- Myopic CEO invests for future due to internal governance



Specializing functions

$$\alpha g = f$$

$$f(s_t) = \frac{1}{b-1} (a + bs_t)^{\frac{b-1}{b}}$$



Internal governance works better

- When both CEO and manager contribute to cash flows.
- When business conditions do not turn temporarily down.
 - Persistent effect of recessions
 - Measured productivity procyclical



Implications

- Think of this as a partnership, say a law or consulting firm
- Firm is valuable even with rapacious CEO
- Limits on pay or perks do not increase value
 - Players have different horizons, keep each other in check
- Cash flow investment correlations
 - Current business conditions matter because they affect payoff to CEO from manager's current effort
 - Conditions affect both cash flow and investment



Related literature

- Fama and Jensen (1983 a, b)
- Allen and Gale (2000)
- Landier, Sraer, and Thesmar (2006, 2008)
 - Subordinates are chosen with different preferences to prevent boss from straying from fundamentals.
 - But different preferences of subordinates prevents adequate exercise of effort.
 - Optimal degree of dissent



Rolling partnership with “sale” to manager

- So far we have fixed manager's current wage at $w = 0$. But suppose manager can pay for future rents by negative wage or sweat equity.
- CEO sells firm to manager after determining investment, extracting all future rents.
- CEO makes value-maximizing investment *given* manager's effort (similar to Kreps, 1990).
- Caveat: Does it make sense to assume young manager has enough wealth or sweat equity to buy out the CEO?



Outside Equity

- So far we assume a partnership that can be financed from current cash flow.
- Introduce outside equity (OE) with property rights to capital stock k_t .
 - OE can intervene at start of period if announced (net) payout is inadequate.
 - Payoff to intervention is βk_t . $\beta < 1$ because of costs of collective action. Think of β as a governance parameter.
 - If investment = 0, equilibrium payout is $d_t = r\beta k_t$.
- If investment > 0 , OE contributes $\beta (k_t - k_{t-1})$. CEO co-invests $(1 - \beta) (k_t - k_{t-1})$.
 - Partnership case assumes $\beta = 0$.



Timeline with outside equity

Period t

Period t+1...

(1) CEO hires manager.	(2) CEO commits to end-of-period capital stock k_t , and payout d_t	(3) Manager engages in learning effort s_t	(4) Cash generated. Dividend paid. Investment made. CEO gets residual.	(5) CEO retires. Manager becomes CEO.
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Dividend $d_t < 0 \rightarrow$ sale of shares



Implications

- Net payout constraint, where $d_t =$ cash payout. $d_t < 0$ means share issue.

$$\beta (k_t - k_{t-1}) + d_t \geq r \beta k_{t-1}$$

- CEO can “pay” equity through capital investment, not cash dividends
 - Boosts manager’s effort in the process



Implications

- CEO maximizes

$$\theta_t (k_{t-1})^\gamma [f(s^{CEO}) + g(s_t)] - (1-\beta) (k_t - k_{t-1})$$

$$\theta_t (k_{t-1})^\gamma g' \frac{ds_t}{dk_t} = 1-\beta$$

- Manager's effort increases with investment

$$\frac{ds_t}{dk_t} = \frac{-\gamma f'}{k_t f''} > 0$$

Unless she hits at her participation constraint.



Implications

Manager's NPV

$$\frac{1}{1+r} [\theta_{t+1} (k_t)^\gamma [f(s_t) + g(s_{t+1})] - (1-\beta)(k_{t+1} - k_t) - \beta r k_t] - s_t$$

First-order condition doesn't depend on β :

$$\frac{\theta_{t+1}}{1+r} (k_t)^\gamma f'(s_t) = 1$$

s_{t+1} and k_{t+1} depend on k_t , but manager takes k_t as fixed.



Implications

- CEO's investment increases with outside equity because he bears less of the cost of investment
- More investment encourages manager to put in more effort
- As returns to investment fall, more capital investment squeezes manager's future rents
- Manager's participation constraint can limit investment. More likely with good governance ($\beta \rightarrow 1$)
- Cash dividends stabilize when k_t reaches steady state

Figure 5b: Investment with and without equity, high governance case (IPO at t=10)

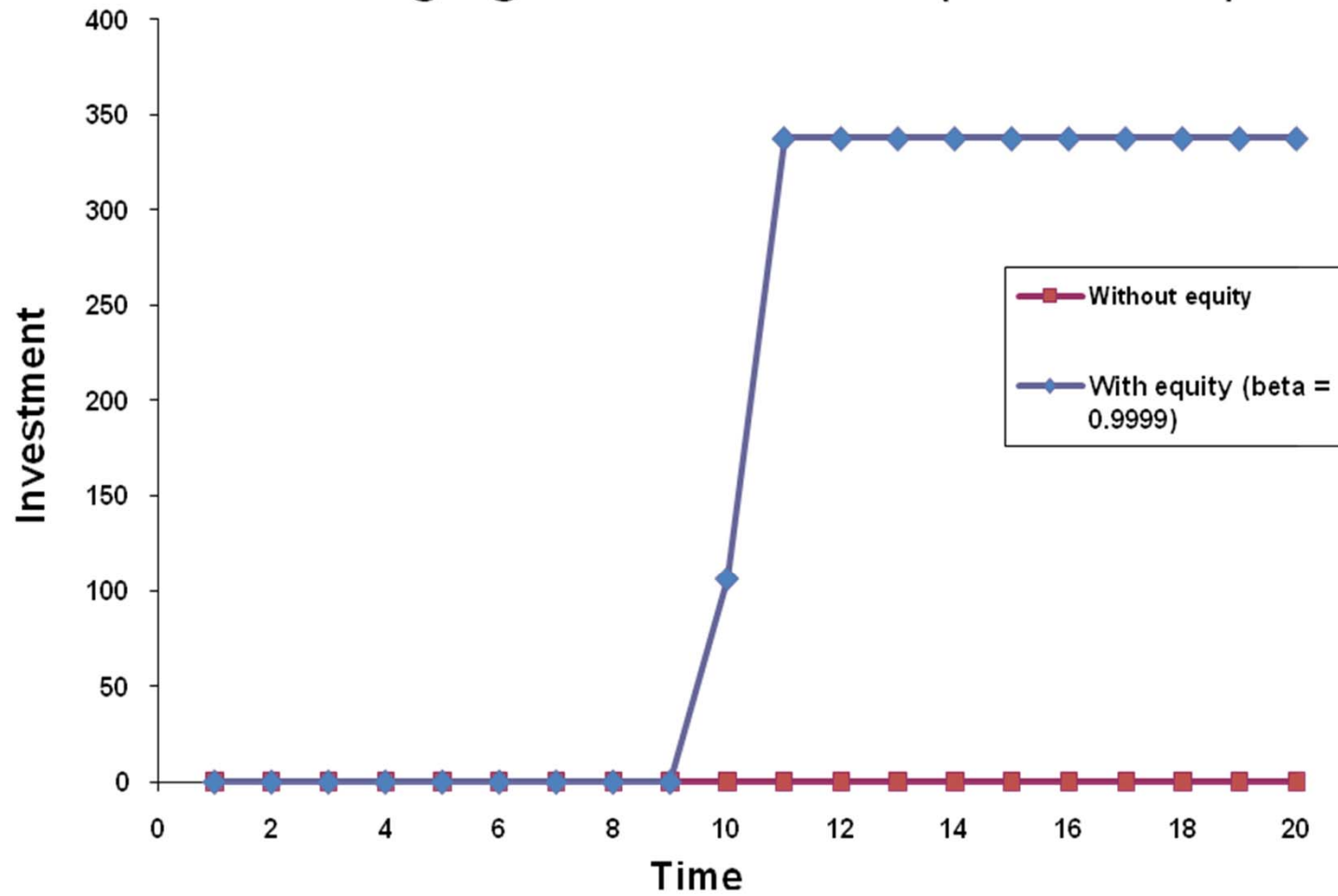


Figure 5c: Net dividends and equity issues, low governance case (IPO at t=10)

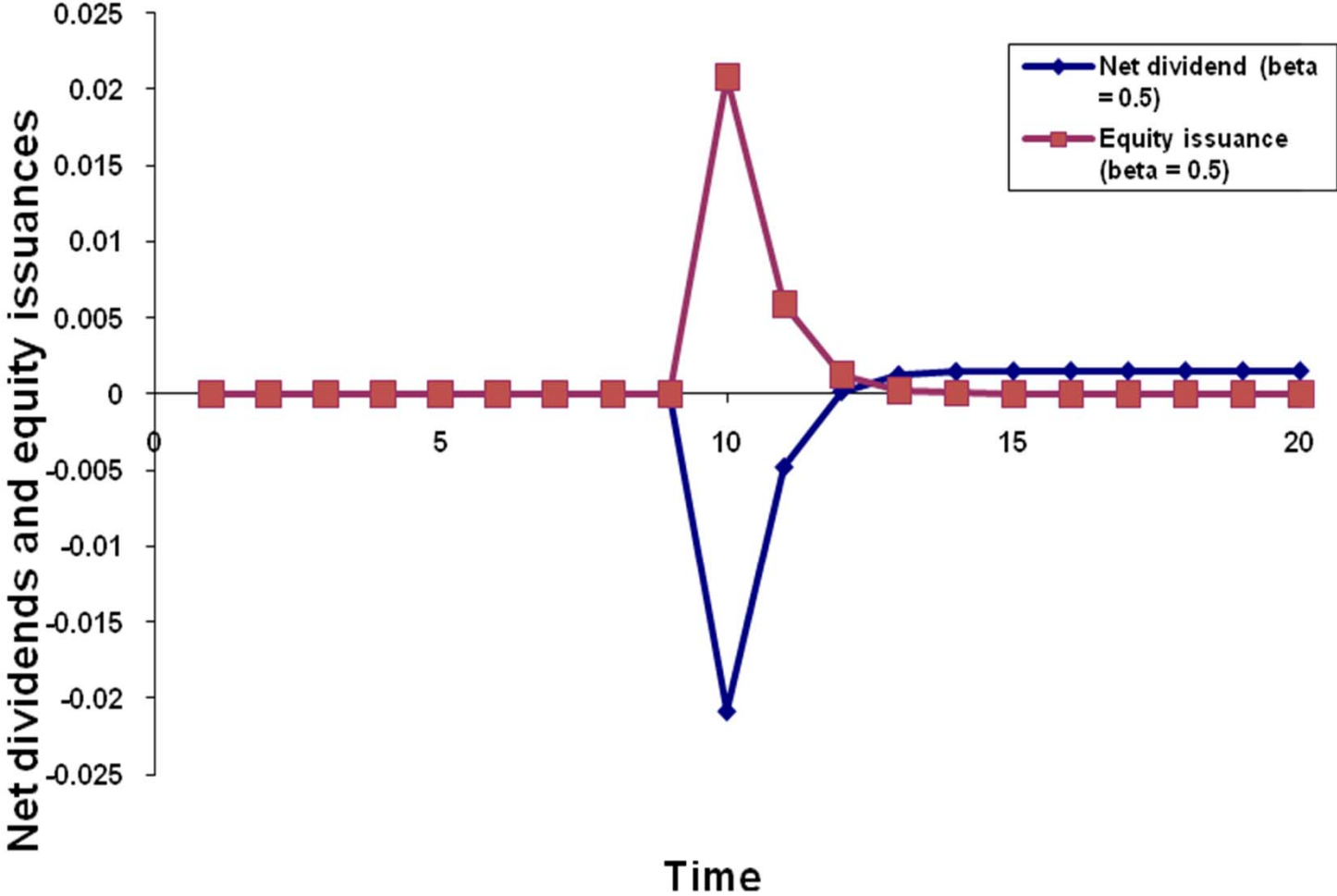


Figure 5d: Net dividends and equity issues, high governance case (IPO at t=10)

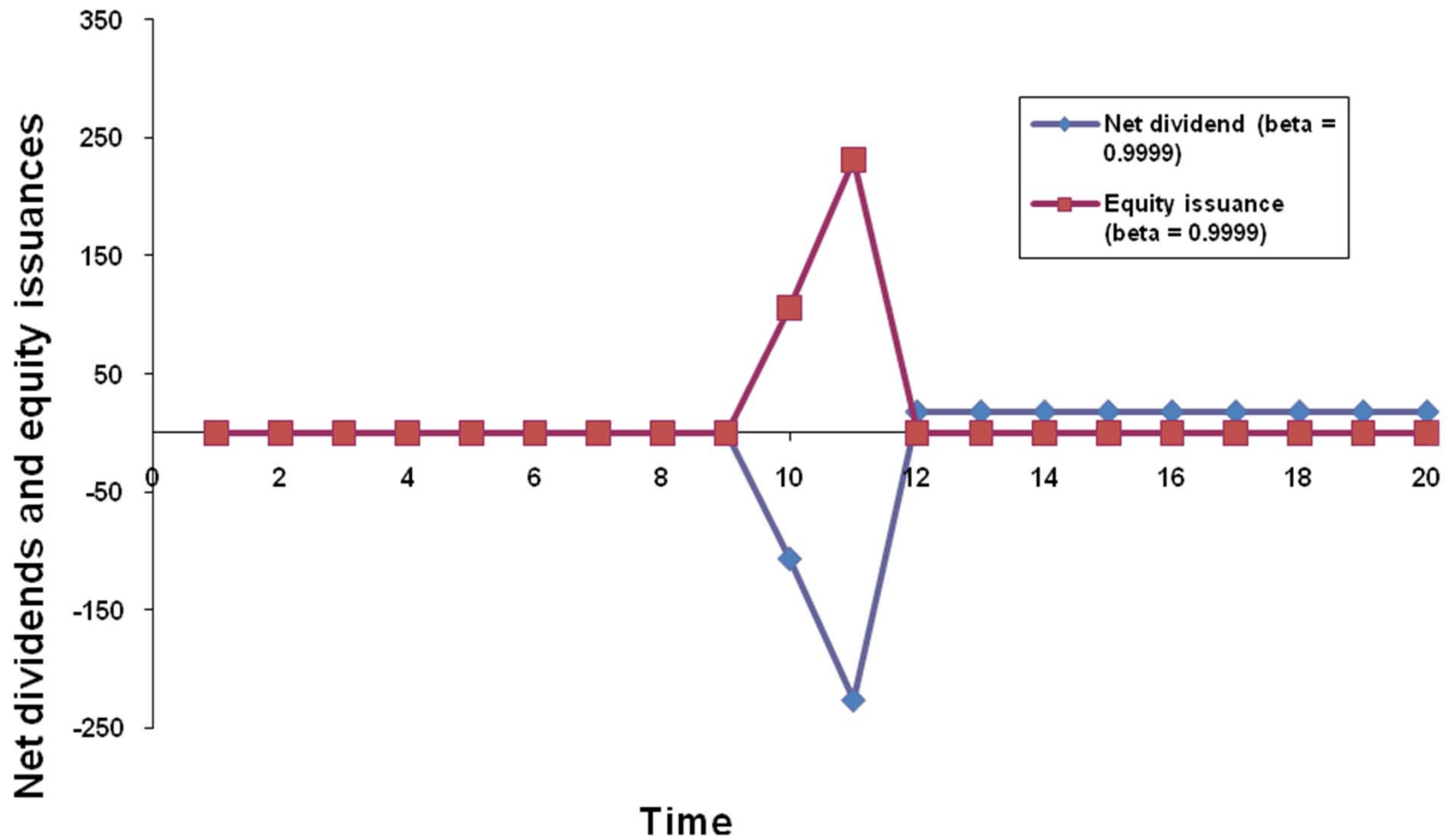
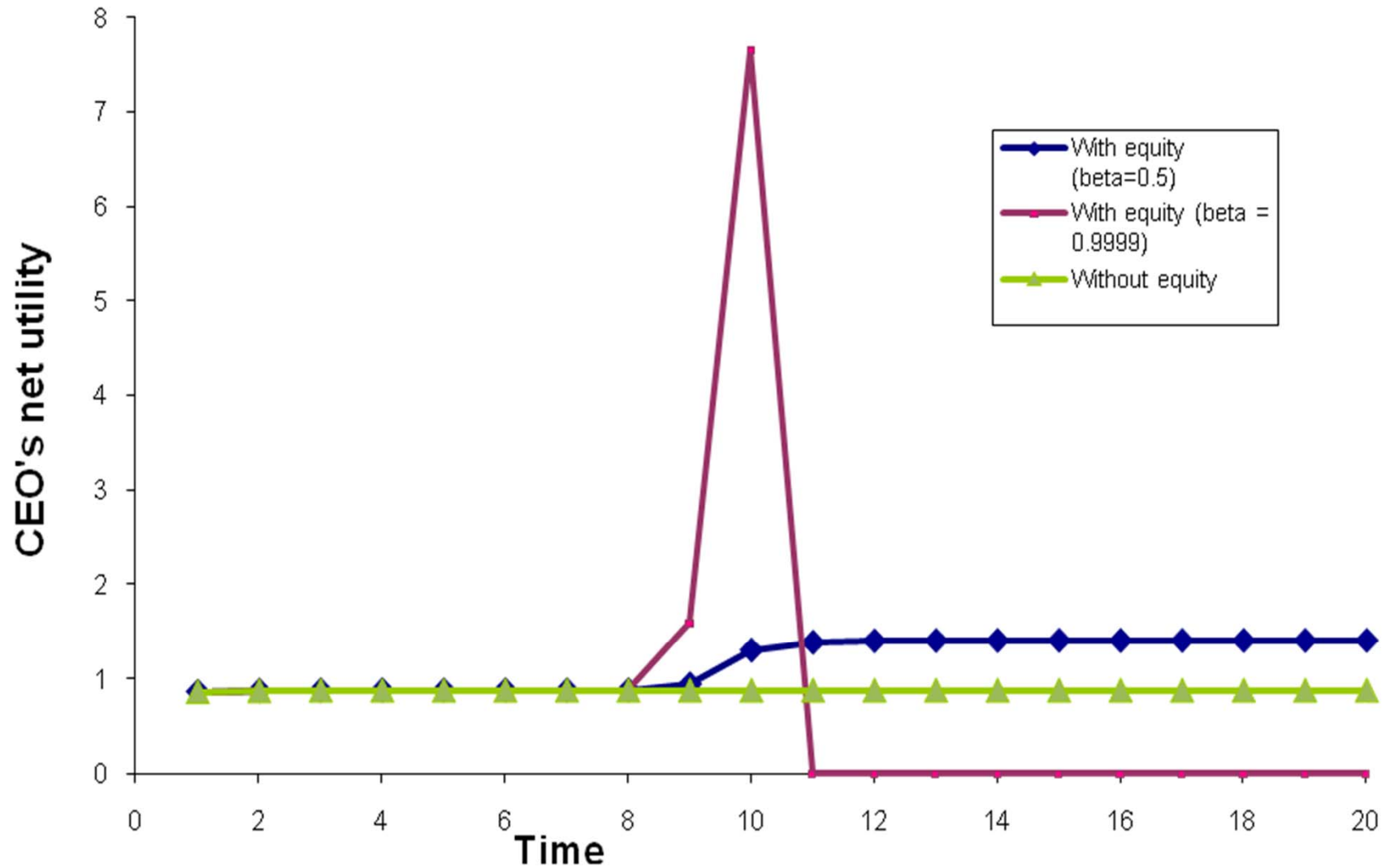


Figure 5e: Manager's net utility for different levels of equity governance (IPO at t=10)





Implications

Rolling “partnership” with outside equity.

If wage is endogenous and not constrained ($w < 0$)

- CEO sells firm to manager, extracting all future rents
- CEO makes value-maximizing investment
- Governance is irrelevant. β drops out



More implications

- Private vs public firms
 - Private firms can be efficient if capital requirements are small and managers can accept $w < 0$ or put in sweat equity. Plausible for firms that depend on human capital
 - Cost of investment to CEO of public firm can be greatly reduced by good governance ($\beta \rightarrow 1$)
- Founder incentives when well governed
 - Founder appropriates substantial value in IPO
 - With poor governance, future managers grab rents, reducing founder's incentives to innovate



A current application?

- Financial firms benefit tremendously from internal governance
- Problem when capital is too easily available and employees can switch easily.
 - Internal governance breaks down.
 - Overinvestment? Remember Chuck Prince.



Conclusion

- Internal governance is a largely overlooked force. See Landier, Sraer, and Thesmar (2006), Fama and Jensen (1983 a,b) and Hansmann (1996).
- Interesting explanations for behavior of firms
 - Why firms/departments rarely shrink on their own – distinct from empire building
- Interesting interactions with external finance
- More research
 - Internal organization
 - Introduce uncertainty, maybe risk aversion
 - Debt vs. equity