DEADLOCK ON THE BOARD

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THREE MONTH DEADLOCK AT UBER

One director deadlocking board blocking appointment of CEO

> *Benchmark is holding the company hostage and not allowing it to move forward in its critical executive search.... It has threatened to block any funding deals until Kalanick [former CEO] relinquished the board seats*

Board failed to act despite consensus on urgency of new CEO

> *Despite deep fractures...all sides have agreed on the importance of appointing a new CEO as soon as possible*

Candidate CEO even declined job, citing deadlock on board

> *It was clear that the board was still too fractured to make progress*

DEADLOCK ON THE BOARD IS PERVASIVE

Deadlock at Uber is example of what lawyers define as

> *A division among the directors [which] may render the board unable to take effective management action [and lead directors to] vote wholly in disregard of the interests of the corporation*

Individual boards try to keep these things secret

But in responses to surveys, directors say deadlock is pervasive

> 67% of respondents experienced unresolved issues
>
> 30% encountered boardroom dispute affecting firm survival

Deadlock clauses in shareholder agreements; deadlock statutes

QUESTIONS

Can deadlock be avoided?

E.g. by appointing the right mix of directors?

By requiring director diversity/independence/long tenure?

If so, how should directors be appointed?

E.g. should shareholders, CEO, or directors choose board?

THIS PAPER

Dynamic model of board decision making

Multiple directors make strategic decisions over time

LITERATURE

Little on strategic decision making by multiple board directors

E.g. Warther 98; Harris–Raviv 08; Malenko 14;
Levit–Malenko 16; Chemmanur–Fedaseyeu 17

Only one other paper on dynamic decision making of directors

Garlappi–Giammarino–Lazrak 17

(But no strategic decision making)

Models of collective choice with endogenous status quo

Dziuda–Loeper 16, 17; Austen–Smith et al 16;
Duggan–Kalandrakis 12; Zápal 12

MAIN RESULTS

1. Entrenchment: Directors knowingly retain CEO all agree is worst

   Want to keep easily-replaceable CEO to get way in future

   Block others' preferred CEO, even if preferred to incumbent

2. Board composition: Diversity/Long tenure exacerbate deadlock

   More strategic blocking

3. Director appointments: Shareholders may prefer biased directors

   To avoid strategic blocking

4. Director power to appoint: Shareholders optimally cede power

   To avoid strategic blocking

MODEL

MODEL OVERVIEW

Three Dates $t \in \{0, 1, 2\}$ and two directors

NB: robust to $t > 2$ and to $N > 2$ directors

At Date 0, "incumbent policy" x_0 in place (e.g. incumbent CEO)

At Date $t > 0$, random "alternative policy" x_t becomes available

Board votes on whether to replace incumbent with alternative

Incumbent policy stays in place unless (strict) majority

If incumbent replaced, alternative becomes new incumbent

NB: Only voting, no transfers among directors

POLICIES AND DIRECTORS

Policies have qualities, h and ℓ, and types, α and β

Director can be "biased" toward policies of some types

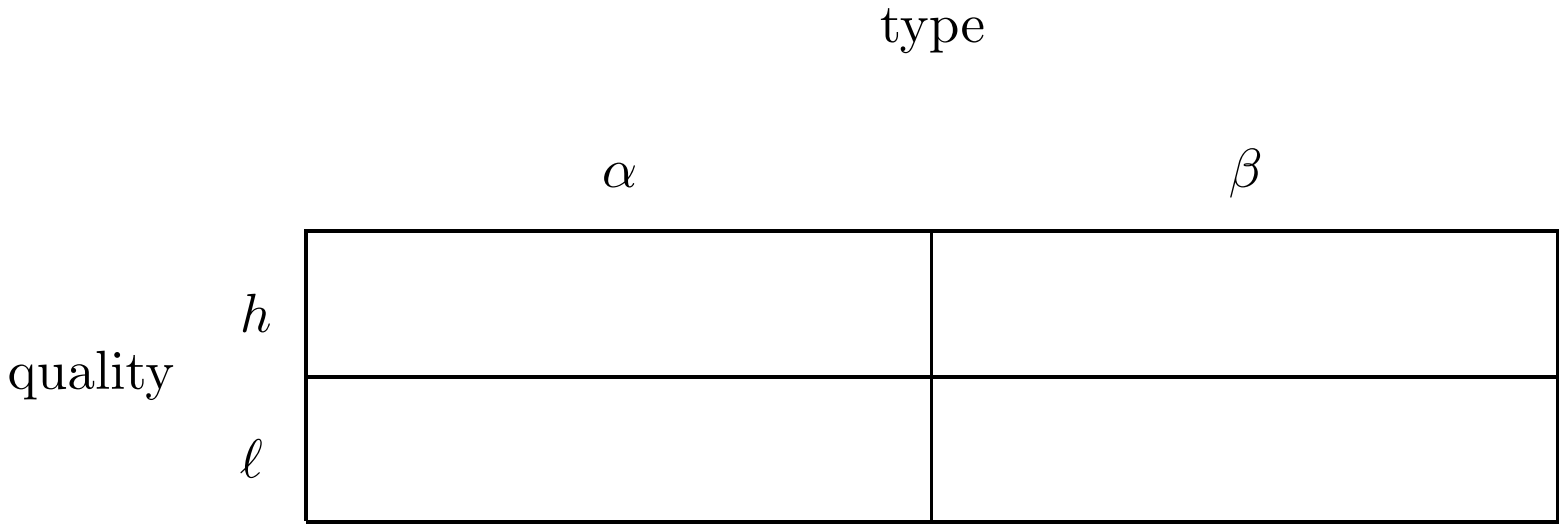
Director gets "benefit" b if x_t is her preferred type

b captures that directors have diverse preferences (or beliefs)

Represent diverse stakeholders: founders, VCs, CEOs...

And have diverse experience, expertise, backgrounds...

A POLICY x_t HAS TWO DIMENSIONS



EVERYONE PREFERS HIGH QUALITY TO LOW

		type	
		α	β
quality	h	v_h	v_h
	ℓ	v_ℓ	v_ℓ

α-BIASED DIRECTOR PREFERS α- TO β-TYPES

quality	type α	type β
h	$v_h + b$	v_h
ℓ	$v_\ell + b$	v_ℓ

β-BIASED DIRECTOR PREFERS β- TO α-TYPES

		type α	type β
quality	h	v_h	$v_h + b$
	ℓ	v_ℓ	$v_\ell + b$

β-BIASED DIRECTOR PREFERS β- TO α-TYPES

quality	type α	type β
h	v_h	$v_h + b$
ℓ	v_ℓ	$v_\ell + b$

director i's payoff $= v(x_1) + b_i(x_1) + \delta\big(v(x_2) + b_i(x_2)\big)$

where $b_i(x_t) = b$ if x_t is i's preferred type and zero otherwise

WAYS THE BOARD CAN BE COMPOSED

Diverse board has an α-biased and a β-biased director

Biased board has two α-biased or two β-biased directors

Partially biased board has one biased and one unbiased

Unbiased board has two unbiased directors

ASSUMPTION 1

Biased directors are sufficiently biased—b large

Captures realistic heterogeneity among directors

VC vs. founder, blockholder vs. minority shareholders

shareholders vs. creditor or employee representative

According to practitioners

In the boardroom, disagreements are often unavoidable—especially when the board is composed of independent-minded, skilled, and outspoken directors. This is not a bad thing. There should be a debate in the boardroom

ASSUMPTION 2

Incumbent policy x_0 is very bad, directors prefer any alternative

I.e. $v(x_0) \equiv v_0 < v_\ell$ and $b_i(x_0) = 0$ for all i

SOLUTION CONCEPT

Subgame perfect equilibrium

Sequentially rational strategy for each Director i

To vote "for"/"against" alternatives for $t \in \{1, 2\}$

Given consistent beliefs

Tie-breaking rule if indifferent

Don't vote against strictly Pareto-dominant policies

RESULTS

ONE-SHOT BENCHMARK

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With no dynamic interaction, never retain x_0

Both directors prefer any alternative to x_0:

$$h\alpha, \ell\alpha, h\beta, \ell\beta \succ x_0$$

Alternatives have higher qualities: $v_h > v_\ell > v_0$

And give benefits b to some director

So no director ever blocks

BENCHMARK: EXOGENOUS DATE-2 ALTERNATIVES

EXOGENOUS DATE-2 ALTERNATIVES

Recall baseline: Date-2 incumbent determined by Date-1 choice

Here suppose Date-2 decision doesn't depend on Date-1 choice

Directors vote on two exogenous alternatives at Date 2

So no link between dates: effectively one shot at each t

Then, never retain x_0 at Date 1

Follows from one-shot benchmark that x_0 is replaced

RESULT 1: ENTRENCHMENT

ENTRENCHMENT

Diverse (α-β) board always retains incumbent policy x_0 at Date 1

I.e. retains Pareto-dominated policy

Incumbent policy is entrenched

NB: Complete opposite of what happens in benchmarks

INTUITION FOR ENTRENCHMENT

One director really likes the Date-1 alternative

If implemented, will make it hard to replace in future

Other director likes it less (the board is diverse)

Worry won't be able to implement preferred policy at Date 2

Blocks the alternative even though prefers it to incumbent x_0

TRADEOFF OF BLOCKING

E.g. does a β-biased director block a high-quality α-alternative?

If block, get $v_0 + \delta\big(\mathbb{E}[v] + \mathbb{P}[\beta]\, b\big)$

If don't, get $v_h + \delta v_h$

Blocking has the cost of low value v_0 at Date 1

But the benefit of the option to get b at Date 2

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But the benefit of the option to get b at Date 2

Block $\succ$ don't if $\mathbb{P}[\beta]\, b > \dfrac{v_h - v_0}{\delta} + \big(v_h - \mathbb{E}[v]\big)$

By assumption

COMPLETE DEADLOCK

Strategically block alternatives of other director's preferred type

α-biased director blocks β-alternatives

β-biased director blocks α-alternatives

So board is deadlocked at Date 1: x_0 stays in place

A deadlocked board leads to an entrenched CEO

Fear of future entrenchment begets entrenchment

DEADLOCK IS ROBUST

Deadlock only because of two directors and 50–50 split?

No! Deadlock with multiple directors and majority voting

E.g. deadlock arises if uncertainty about where majority lies

Deadlock only because of the finite horizon?

No! Deadlock also with an infinite horizon

All ℓ-policies are blocked (even though Pareto-superior)

You hold out to get your preferred h-policy in the future

REAL OPTIONS INTUITION

Can be optimal to delay irreversible decisions

Unlike in the standard case, no explicit costs of reversing decision

- Irreversible only because it is made by a group
- I.e. other director blocks reversing it in the future

Don't exercise today only to incentive other to exercise in future

EXTENDS RESULTS IN POLITICAL ECONOMY

Dziuda–Loeper 16 on dynamic legislative choices

- Agents want to keep preferred policy in place at all cost
- Worried that they won't get it back in the long term

We show directors also keep policies don't like themselves

- Easier to implement preferred policy in long term
- Even though never get access to forgone alternatives again

CEO ENTRENCHMENT

If policies represent CEOs, model explains CEO entrenchment

- Only 2% of firms fire their CEO each year
- One-sixth of firing rate without entrenchment (Taylor 10)

Our result due only to dynamic consistency of multiple directors

- CEOs entrenched even without opportunistic behavior
- And without any director disutility from firing

MECHANISM RESONATES WITH PRACTICE

Back at Uber, director pushing for weak, easily replaceable CEO

> *The company hopes to lock in a CEO by early September. The big question is whether the board can get on the same page. Getting a majority of the eight-person group to support a single candidate is looking to be difficult.... Some...have argued...that Kalanick would prefer a weak CEO just to increase his chance of making a comeback*

And Uber's board was deadlocked for months

RESULT 2: TENURE

DIRECTOR TENURE

Interpret discount factor δ as directors' future tenure

- Directors with long tenure care more about future (Date 2)

Suppose a diverse board

- With long tenure x_0 always retained—entrenched
- With short tenure x_0 never retained

Intuition: with short tenure, don't care about future

- So don't vote strategically

PUSH FOR SHORTER TENURE

Institutional investors say tenure "next board room battle"

E.g. term limits adopted in Hong Kong, Singapore, and EU

Institutional investors have advocated shorter director tenure

Long tenure lets directors get too chummy with CEOs etc.

Causing CEO entrenchment

Our new perspective yields same conclusion, but different reason

Long tenure makes directors behave strategically

Causing CEO entrenchment

BOARD COMPOSITION

RESULT 3: COSTS AND BENEFITS OF DIVERSITY

COST OF DIVERSITY: RETAINING BAD POLICY

Opposing biases lead to strategic voting, hence deadlock

Biases do not cancel out—counterpoint to blanket view that

> *boards should reflect a diversity of thought, backgrounds, skills, experiences and expertise*

With diverse board, some high-quality policies don't get through

Diversity can be bad for shareholders

WHAT CAN PREVENT DEADLOCK?

Diversity leads to deadlock, but what can prevent it?

Of course, fully unbiased board would—but theoretical ideal

Even independent directors have own opinions/conflicts

- E.g. diverse backgrounds and expertise
- Or connections to CEO (Coles-Daniel-Naveen 14; Hallock 97)
- Or career concerns (Fos–Li–Tsoutsoura 17)

FULLY BIASED BOARD IS ONE SOLUTION

No deadlock on a fully biased board

- Fully-biased boards always agree—effectively single director
- Decisions no longer irreversible
- Always have option to replace incumbent—no blocking
- Hence replace x_0 with any alternative at Date 1

But fully biased boards have a cost

- May retain ℓ-policy even if h-policy is available
- E.g. β-β board doesn't replace $\ell\beta$-policy with $h\alpha$-alternative
- Can't get rid of ℓ-policies—tyranny of fully biased board

BENEFIT OF DIVERSITY

Diversity prevents ℓ-policies from staying in place in long term

Block ℓ-alternatives at Date 1 (inefficiently)

But thus can implement h-policies at Date 2 (if available)

Avoiding being stuck with ℓ-policy forever

This captures standard argument in favor of diversity

So there is such a thing as <u>good deadlock</u>

DIVERSITY TRADEOFF

Shareholders are better off with a diverse board only if

cost of Date-1 entrenchment of x_0 < benefit of Date-2 h-policy

otherwise prefer a fully biased board

EVIDENCE OF DEADLOCK ON DIVERSE BOARDS

Diversity in directors'

professional backgrounds/expertise/incentives/block holders

decreases

strategic change/investment/firm value/acquisitions

according to

Adams–Akyol–Verwijmeren 17/Bernile–Bhagwat–Yonker 17/ Goodstein–Gautam–Boeker 94/ Knyazeva–Knyazeva–Raheja 13/Volkova 17

TRADEOFF ON PARTIALLY BIASED BOARD

Strategic blocking even with one completely unbiased director

Biased director strategically blocks not-preferred type

Unbiased strategically blocks other's preferred policies

PARTIALLY BIASED BOARD: PROOF

Consider board with an α-biased and an unbiased director

α-director strategically blocks high-quality β-policies (cost)

Unbiased director won't replace $h\beta$-policies with $\ell\alpha$-policies

Unbiased director may block $\ell\alpha$-policies (benefit)

Prevents low-quality policies from becoming entrenched

Unbiased director seems passive, even biased, in short-term

"UNBIASED" DIRECTORS ACT BIASED AT CSX

Activist Paul Hilal wanted to replace CEO at CSX

Demanded railroad vet Hunter Harrison and six board seats

Harrison perfect for job, but directors reluctant to meet demands

Likely worried hard to replace, given new directors' support

Directors seemed biased, blocking good short-term alternative

But preventing long-term entrenchment

APPOINTING DIRECTORS

RESULT 4: SHAREHOLDERS APPOINTING DIRECTORS

SHAREHOLDERS APPOINTING DIRECTORS

Suppose empty seat on board with α-biased incumbent director

Which director do shareholders optimally appoint?

Always unbiased director, who acts purely in their interest?

No! If costs of diversity high, appoint α-biased director

SHAREHOLDERS APPOINT BIASED DIRECTORS

Unbiased director acts purely in shareholders' interest

But incumbent director responds strategically if she joins board

- α-incumbent blocks shareholder-optimal β-policies
- She anticipates they will be hard to replace

If high cost of deadlock, shareholders try to avoid blocking

- May choose to keep board aligned to avoid deadlock

RESULT 5: WHO SHOULD APPOINT DIRECTORS?

WHO SHOULD APPOINT DIRECTORS?

According to Adrian Cadbury

> *The classical theory of the board is that shareholders elect the directors.... In practice, however, the shareholders of most public companies have little say in the appointment of directors, other than to nod through the nominations presented by the current board..... The legitimacy of the board as the appointee of the shareholders is something of a fiction.*

And CEO often has the power to appoint directors

> Shivadasani–Yermack 99; Coles–Daniel–Naveen 14; Hermalin–Weisbach 98

Is this ever optimal for shareholders? Yes, to prevent deadlock

TO ASK WHO SHOULD APPOINT, TWIST SETUP

Director 1 stays for two periods (as above)

Director 2 retires after Date 1 (twist)

Her replacement appointed by Director 1 with prob. π

Otherwise appointed by shareholders

π measures directors' power relative to shareholders

RESULT: NOT ALL POWER TO SHAREHOLDERS

Optimal power $\pi^* > 0$ as long as incumbent policy bad enough

Shareholders want to prevent strategic blocking at Date 1

To do so, need to commit not to block in future

NB: Director 1 could be executive: thus also explains CEO power

END OF DATE 1: APPOINTMENTS

Suppose Director 1 is β-biased

Whoever has power will appoint sincerely (one-shot left)

- Shareholders appoint unbiased directors
- Director 1 appoints β-biased director

Board will be

- Partially biased with probability $1 - \pi$
- Fully β-biased with probability π

How does Director 1 vote at Date 1 as function of π?

BEGINNING OF DATE 1: VOTING

E.g. does β-biased Director 1 block $h\alpha$ alternative?

If block, she gets

$$v_0 + \delta\Big(\mathbb{E}[v] + \mathbb{P}[\beta]b\Big)$$

Independent of π

If not block, she gets

$$v_h + \delta\Big[(1-\pi)v_h + \pi\Big(\mathbb{P}[\alpha]v_h + \mathbb{P}[\beta](\mathbb{E}[v]+b)\Big)\Big]$$

Increasing in π (b large)

Not Block $\succeq$ Block if $\pi \geq \pi^*$: <u>give power to prevent blocking</u>

BUT NOT ALL POWER TO DIRECTORS EITHER

- Don't give all the power to director
  - Give just enough to induce her not to block at Date 1
  - $\pi^* < 1$ mitigates potential for tyranny of fully biased board
- Rationalizes real-world institution
  - Directors and shareholders share power to appoint
  - Directors make nominations, shareholders vote on them
- Result points to downside of proxy access
  - Shareholders can appoint directly nominee on board

RESULT 6: STAGGERED BOARDS

STAGGERED BOARDS

Only fraction of directors up for election at a time

Empirical literature is mixed about staggered boards

- Bebchuck–Cohen 05: staggered boards reduce firm value
- Cremers et al 17: staggered boards increase firm value

Theoretically hard to assess costs/benefits of staggered boards

- Need dynamic model of multiple directors' interactions

STAGGERED BOARDS: TWIST MODEL

Use our model to capture director elections in stylized way

- One director stays till Date 2, other replaced after Date 1
- New director's bias is α with prob. ρ and β with prob. $1 - \rho$
- Captures that only part of a board is replaced at a time

Want to ask: should director elections be staggered?

- It depends!

STAGGERED BOARDS RESULT

Staggered elections affect directors' strategic voting across dates

Staggered elections mitigate deadlock on diverse board

Director anticipates being joined by someone with same bias

Staggered elections exacerbate deadlock on fully biased board

Director anticipates being joined by someone with other bias

Maybe reconciles conflicting evidence on staggered boards?

PROXIES TO TEST FOR DEADLOCK

PROXIES FOR DEADLOCK

Deadlock is hard to observe directly, except in extreme cases

- Director resignations, court battles
- Or with Chinese data on directors voting in dissent

But deadlock has indirect proxies

- Long CEO tenure
- Long period to appoint new CEO upon termination
- Slow changes in strategy

Proxies make our predictions testable more generally

EMPIRICAL IMPLICATIONS

FIRM-LEVEL IMPLICATIONS

Deadlock is more likely on diverse boards

Goodstein et al. 94; Bernile et al. 18; Knyazeva et al. 13; Adams et al. 17, Volkova 2017

Deadlock is more likely if directors' remaining tenures are longer

Contrasts with literature which focuses on past tenure

Deadlock less likely if directors leaving soon

Reducing diversity most beneficial when cost of deadlock is high

E.g., less diversity should lead to large positive price reaction

Cai et al 17: show this when competition is high

DIRECTOR-LEVEL IMPLICATIONS

Director is more likely to vote against a policy if

- Other directors especially favor this policy
- These other directors have long remaining tenure
- Director herself has long remaining tenure

E.g. more likely to block activist's demands if he also asks for seat

VOTES VS. TRANSFERS

VOTES VS. TRANSFERS

Decisions made by vote, no contracts, bargaining, or vote trading

- Approx. of real-world protocol, explains real-world outcomes
- Deadlock arises because Coase theorem does not apply

Transfer of control could help restore Coase theorem

Partial transfers could be possible—e.g. trading shares

Indeed, trading equity stakes helped to resolve deadlock at Uber

- Softbank bought 15%; Kalanick sold 29%, Benchmark 15%

ROBUSTNESS

HETEROGENOUS BELIEFS

PRIVATE BENEFITS VS. BELIEFS

Policy x succeeds and pays off V with prob. $p(x)$, else pays off 0

Directors agree to disagree about probability of V

Biased director believes probability is $p(x) + B$

Her expected value is $\big(p(x) + B\big)V = p(x)V + BV$

Equivalent to baseline model if $p(x)V = v(x)$ and $BV = b$:

True expected value is $p(x)V \equiv v(x)$

Biased expected value if $\big(p(x) + B\big)V = v + b$

Heterogenous beliefs equivalent to private benefits

N POLICIES AND N DIRECTORS

N POLICIES AND N DIRECTORS

Suppose N policy types: $\tau_1, ..., \tau_N$

Suppose a diverse board with N director types

$b_i(x) = b$ if x is type τ_i, $b(x) = 0$ otherwise

Alternative is implemented if at least T directors vote "for"

N POLICIES AND N DIRECTORS: DEADLOCK

Suppose $h\tau_1$-policy in place at Date 2 and $\ell\tau_2$-policy comes along

$\ell\tau_2$-alternative never implemented; $N-1$ strictly prefer $h\tau_1$

Suppose x_0 in place at Date 2 and $\ell\tau_2$-policy comes along

$\ell\tau_2$-alternative always implemented; $N-1$ strictly prefer it

τ_2 director strategically blocks τ_1-policy at Date 1

And so does everyone else except τ_1

So x_0 is entrenched

NB: Deadlock with strict preference, indep. of decision rule

TWO POLICIES AND N DIRECTORS

TWO POLICIES AND N DIRECTORS

As baseline, two types of policy, α and β

But now N directors, and majority voting

Suppose uncertainty about future board composition/preferences

$$q_\alpha = \mathbb{P}\Big[\text{ majority of directors are } \alpha\text{-biased at Date 2 }\Big]$$

If $q_\alpha = 1$, α-directors know they are in majority

No strategic blocking: effectively single director board

TWO POLICIES & N DIRECTORS: DEADLOCK

Date 2: Suppose α-policy in place, β-alternative arrives

β-policy is blocked with probability q_a

Date 1: β-directors block α-policies if q_α is high enough

Deadlock if q_α is large enough

INFINITE HORIZON

INFINITE HORIZON

If biases are not too small or too large

All ℓ-policies are blocked (although Pareto superior to x_0)

All h-policies are implemented

INFINITE HORIZON: INTUITION

By retaining bad incumbent x_0 and blocking a $\ell\alpha$-alternative

β-director increases her chances of appointing $h\beta$-alternative

DEADLOCK IS SERIOUS

BACK TO UBER (AGAIN)

Kalanick reneged on his agreement to let go of his board seat and the two others he controlled.... Benchmark's Cohler started contacting his board members from a safari in Africa to alert them: Benchmark was suing Kalanick in Delaware court.

CONCLUSION

CONCLUSION

Deadlock on the board due to directors' dynamic group decisions

Deadlock on the board causes entrenchment

Deadlock on the board makes diversity costly

Deadlock on the board makes unbiased directors act biased

Deadlock on the board explains director/CEO power to appoint

DEADLOCK ON THE BOARD