The Life Cycle of Dual Class Firm Valuation

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Dual Class Shares

- A considerable proportion of publicly traded firms around the world have a dual class share structure, that is offer low-vote and high-vote shares.

- In dual class firms, controlling shareholders concentrate their holdings in the high-vote shares, because it's the cheapest way to maintain control. This creates disproportionality – a gap or wedge between their (high) vote and (lower) equity holdings in the firm.

- The wedge aggravates the potential agency problem (private benefits).

- Bebchuk (1999) claims that wedge structures are the worst form of corporate governance and Bennedsen and Nielsen (2010) show that the dual class structure discounts firm market value by 20% on average.

- However, advantages exist. Primarily, the dual class structure isolates firm's successful entrepreneurs from market pressures, affording them to continue their momentum towards accomplishing firm vision and long-term goals.

The Recent Debate

- IPOs of dual class shares have become increasingly popular in the recent decade, following the lead of some technological "superstars", e.g. Google and Facebook. About 15% of U.S. IPOs in recent years had a dual class structure.

- Bebchuk and Kastiel (2017) went against the perpetual nature of dual class structures. They argue that any special value a dual class structure may offer on its IPO, dissipates over time.

- This is because as firm matures the benefits of founders' leadership diminish (founders vision is materialized or dissolves; firm nature changes) while the costs of dual class structures increase – agency problems aggravate as founders dilute holdings in post-IPO years.

The Recent Debate (Cont..)

- Thus, BK propose dual class structures become less efficient with time from IPO, and an age-based sunset provision becomes optimal.

- X years after the dual class IPO, public shareholders would vote to decide whether to extend it. If the extension proposal is declined, firms would unify the low- and high-vote shares, i.e., convert all shares into a single class of shares with "one share one vote".

Outline of Results

Examining all dual- and single-class IPOs in the U.S. in 1980-2017, our central findings are:

1. Dual class firms exhibit a valuation (Tobin's Q) premium over comparable ("matched") single class firms at the IPO.

2. However, on average, this valuation premium gradually dissipates with firm's listing age (= time from IPO). Depending on the measure and methodology used, within 6 to 9 years after the IPO, dual class firms drop into lower valuations (lower Tobin's Qs) than comparable single-class firm.

Outline of Results (continued)

3. Cross-sectional variation exists. Dual class firms with a valuation premium over matched single-class firms at the IPO gradually lose this premium and become similarly valued to single class firms within 6-9 years. Dual class firms with a valuation discount relative to single class firms remain there and show little progress.

4. Time-series learning exists: 21st century dual class firms appear to have larger premiums at the IPO and smaller discounts later on when they age.

Outline of Results (continued)

5. The difference between the voting and equity stakes of the controlling shareholders of dual class firms (the "wedge") tends to increase as the firm ages. The widening of the wedge is typically associated with more severe valuation reducing agency problems.

6. About 20% of the firms eliminate the dual class structure voluntarily. However, this "self correct" phenomena decays a few years after the IPO.

7. Main contribution: First evidence on how the relative valuation of dual versus single class firms varies with firm listing age (i.e., time since the IPO)

Life Cycle of Dual Class Firms: Valuation

- Dual class firm basic valuation

  $Q_{dual} = Q_{single} + \Delta Q_{LV} + \Delta Q_{Agency}$

  ΔQ_{LV} is positive, while ΔQ_{Agency} is negative.

- Bebchuk and Kastiel (2017) propose that $\partial \Delta Q_{LV}/\partial T < 0$, (vision accomplished, founders' marginal contribution diminishes);

- $\partial \Delta Q_{Agency}/\partial T < 0$, (controlling shareholders dilute holdings and are more prone to agency behavior).

Previous Evidence on Dual Class Firms

- Evidence is relatively scarce; yet some new studies.

- Classics: Gompers, Ishii and Metrick, 2010; Masulis, Wang and Xie, 2009; Smart, Thirumalai and Zutter, 2008 find lower valuations and lower multiples for dual class firms.

- New: Jordan, Kim and Liu, 2016 find that dual class structures increase the valuation of high-growth firms; Kim and Michaely, 2018, valuation premium to young dual class firms. Banerjee and Masulis (2018) and Anderson, Ottolenghi Reeb and Savor (2018) will be presented...

Data

- U.S. dual class companies
  - Basic dual-class IPO list is from Jay Ritter's website for years 1980-2017.
  - We complement it based on Gompers, Ishii, Metrick (2010) comprehensive set of dual-class firms for years 1995-2002.
  - Total sample of 714 dual- and 8700 single-class companies.
  - IPO dates for 1975-2017 from Jay Ritter's website, or the earliest CRSP price entry.

Data

- Delisting
  - Delisting date: date of the latest CRSP price data
  - Delisting method: delisting code (from CRSP) and SEC disclosures
- Financial data (e.g. Total assets, Leverage) from Compustat/CRSP merged (CCM) database (through WRDS)
- Mergers & Acquisitions data from SDC (1980-2017)
- Ownership data – Edgar (1995-2017).

Full Sample

- The "full sample" comprises of 9,414 U.S. companies, listed on the NYSE, NYSE MKT or NASDAQ, that had an initial public offering (IPO) during 1980-2017.

- On average, at the IPO, dual class firms are older, have higher total assets and are more levered (similar to Jordan et al.). However, single class firms have higher R&D expenditures.

- Dual class firm valuations, as reflected by Tobin's Q, tend to be lower than those of single class firms.

Matched Sample

- A subset of the full sample, the <u>matched sample</u> includes 538 dual- and 538 single-class firms that are matched in the IPO year according to several key characteristics:

  ➢ Same Fama-French 48 industry

  ➢ IPO date (+/- 24 months)

  ➢ Size (total assets of the control must be between 50% and 200% of the dual class firm)

  ➢ Closest ROA

- On the IPO date, there are insignificant differences in key characteristics between the matched single- and dual-class firms.

Survival

Panel A. Cumulative number of total dropouts									
	IPO+1	IPO+2	IPO+3	IPO+4	IPO+5	IPO+6	IPO+7	IPO+8	IPO+9
Dual class firms (N)	8	38	78	110	135	154	173	194	211
Single class firms (N)	23	66	115	154	180	211	229	246	268
Dual class firms (% of total)	1.8%	8.4%	17.3%	24.4%	30.0%	34.2%	38.4%	43.1%	**46.9%**
Single class firms (% of total)	5.1%	14.7%	25.6%	34.2%	40.0%	46.9%	50.9%	54.7%	**59.6%**
p-value of difference	*0.006*	*0.003*	*0.003*	*0.001*	*0.002*	*0.000*	*0.000*	*0.001*	*0.000*

Takeovers

Panel B: Cumulative number of mergers

	IPO+1	IPO+2	IPO+3	IPO+4	IPO+5	IPO+6	IPO+7	IPO+8	IPO+9
Dual class firms (N)	7	25	46	64	77	86	99	113	121
Single class firms (N)	15	42	73	97	116	132	143	149	162
Dual class firms (% of total)	1.6%	5.6%	10.2%	14.2%	17.1%	19.1%	22.0%	25.1%	**26.9%**
Single class firms (% of total)	3.3%	9.3%	16.2%	21.6%	25.8%	29.3%	31.8%	33.1%	**36.0%**
p-value of difference	*0.084*	*0.031*	*0.008*	*0.004*	*0.002*	*0.000*	*0.001*	*0.008*	*0.003*

Control Group Holdings

	IPO+1	IPO+2	IPO+3	IPO+4	IPO+5	IPO+6	IPO+7	IPO+8	IPO+9	IPO+1 vs. IPO+5 (p-value)
Panel A. Dual-class firms										
Controlling shareholders' equity share, %	49.93	45.25	41.48	40.02	37.13	36.98	37.49	38.37	38.12	*0.000*
Vote minus equity (wedge), %	16.22	17.38	19.81	20.97	22.01	22.40	23.68	24.91	26.38	*0.005*
Number of observations	358	326	281	243	208	196	172	163	151	

Tobin's Q Classic Result

Full sample										
Variable	IPO	IPO+1	IPO+2	IPO+3	IPO+4	IPO+5	IPO+6	IPO+7	IPO+8	9+ (average)
Dual Tobin's Q (mean)	3.00	2.44	2.22	2.01	1.90	1.82	1.65	1.63	1.69	1.70
Single Tobin's Q (mean)	3.21	2.59	2.42	2.41	2.33	2.26	2.26	2.23	2.22	2.11
Dual class premium (in terms of Tobin's Q)	**-0.21**	**-0.14**	**-0.20**	**-0.40**	**-0.42**	**-0.44**	**-0.60**	**-0.60**	**-0.52**	**-0.41**
p-value of difference	*0.056*	*0.130*	*0.044*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*

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Tobin's Q Matched Sample Results

Matched sample										
Variable	IPO	IPO+1	IPO+2	IPO+3	IPO+4	IPO+5	IPO+6	IPO+7	IPO+8	9+ (average)
Dual Tobin's Q (mean)	3.12	2.51	2.28	2.03	1.90	1.82	1.64	1.61	1.69	1.68
Single Tobin's Q (mean)	2.76	2.34	2.16	1.99	1.90	1.83	1.95	1.94	2.05	1.86
Dual class premium (in terms of Tobin's Q)	**0.36**	**0.17**	**0.12**	**0.04**	**0.00**	**-0.01**	**-0.31**	**-0.33**	**-0.36**	**-0.18**
p-value of difference	*0.017*	*0.199*	*0.355*	*0.742*	*0.982*	*0.937*	*0.030*	*0.027*	*0.039*	*0.165*

Tobin's Q Matched Sample Results
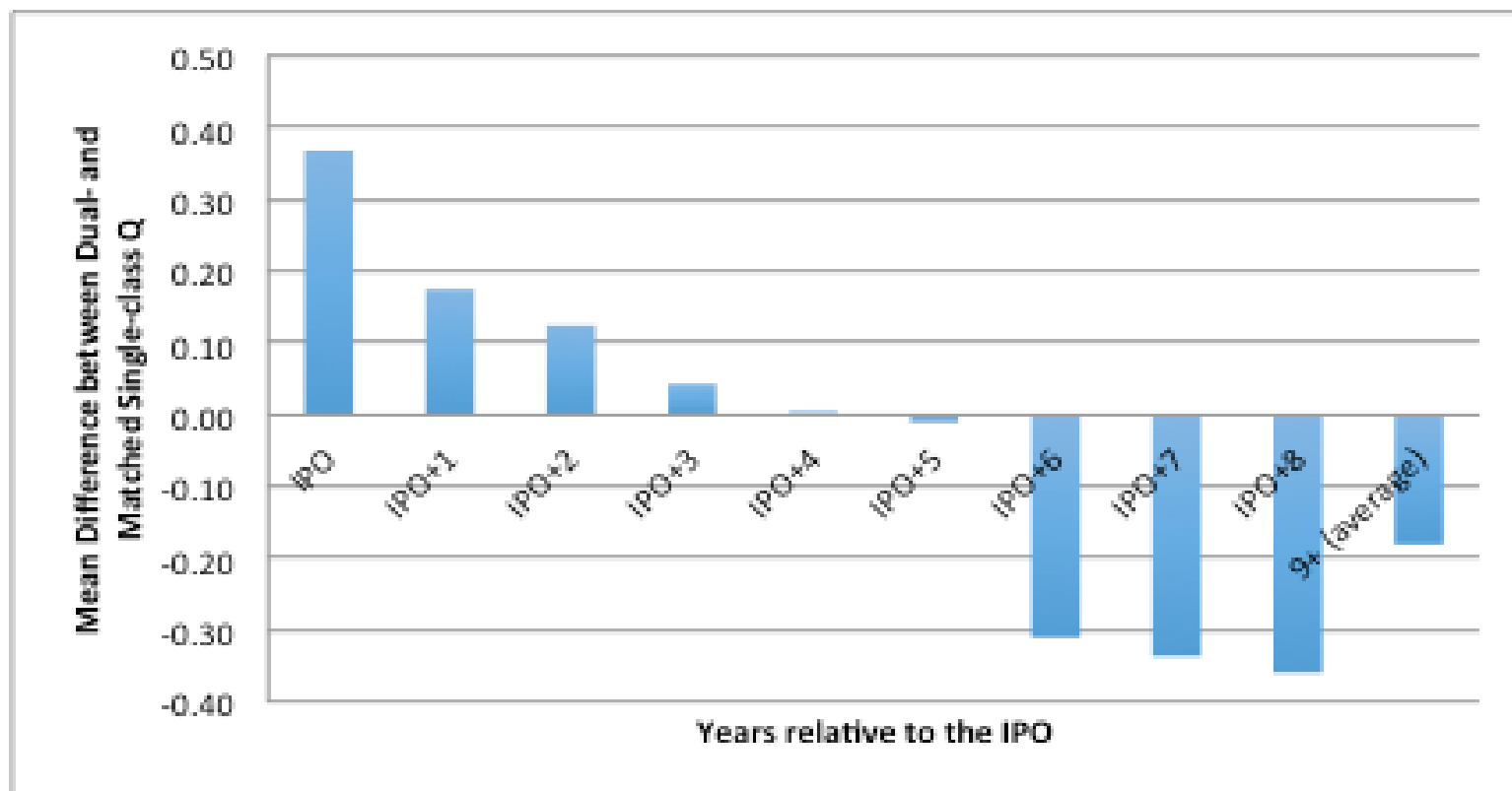
Tobin's Q Regressions

Matched Sample	Years relative to the IPO				
	All	1-3	4-5	6-8	9+
Dual dummy	**-0.012**	**0.22****	**0.21**	**-0.15**	**-0.17***
	(-0.18)	**(2.08)**	**(1.60)**	**(-1.18)**	**(-1.67)**
Size	-0.044	-0.066	-0.012	-0.066	-0.010
	(-1.54)	(-1.27)	(-0.24)	(-0.90)	(-0.25)
ROA	0.33*	0.59**	0.43	-0.005	0.30
	(1.76)	(2.39)	(1.14)	(-0.006)	(0.84)
Capital Expenditures	0.037***	0.020***	0.024*	0.030***	0.039***
	(6.44)	(2.89)	(1.90)	(3.00)	(3.97)
Research and Development	0.053***	0.035***	0.028*	0.051	0.075***
	(5.08)	(3.31)	(1.69)	(1.65)	(4.71)
PPE	-0.67***	-0.16	-0.12	-0.47	-0.84***
	(-3.05)	(-0.50)	(-0.38)	(-1.58)	(-2.81)
Cash Balance	0.024***	0.029***	0.022***	0.022**	0.015***
	(9.28)	(5.87)	(4.24)	(2.23)	(4.21)
Leverage	0.52*	-0.18	0.003	0.90*	1.14***
	(1.92)	(-0.62)	(0.009)	(1.85)	(2.77)
Constant	1.51***	1.77***	1.25***	1.49***	1.23***
	(8.12)	(5.21)	(3.62)	(3.78)	(4.87)
Industry-Year effects	Yes	Yes	Yes	Yes	Yes
Observations	9,151	2,544	1,146	1,304	3,114
Adjusted R-squared	0.309	0.263	0.325	0.405	0.416

Tobin's Q Regressions (cont..)

FULL SAMPLE	Years relative to the IPO				
	All	1-3	4-5	6-8	9+
Dual dummy	**0.004**	**0.24*****	**0.068**	**-0.16****	**-0.22*****
	(0.08)	**(3.58)**	**(0.82)**	**(-2.30)**	**(-2.90)**
Size	-0.041***	-0.092***	-0.077***	-0.079***	0.017
	(-3.42)	(-5.61)	(-3.76)	(-3.74)	(0.98)
ROA	-0.38***	-0.29***	-0.61***	-0.50***	-0.21
	(-5.68)	(-3.59)	(-4.67)	(-3.36)	(-1.28)
Capital Expenditures	0.042***	0.029***	0.041***	0.047***	0.059***
	(20.46)	(11.69)	(9.68)	(9.26)	(11.08)
Research and Development	0.027***	0.025***	0.021***	0.025***	0.038***
	(12.60)	(9.99)	(5.58)	(5.52)	(8.91)
PPE	-0.95***	-0.66***	-0.90***	-0.79***	-1.17***
	(-10.73)	(-5.72)	(-5.84)	(-4.56)	(-7.59)
Cash Balance	0.018***	0.015***	0.020***	0.015***	0.014***
	(22.12)	(12.59)	(11.20)	(7.66)	(8.70)
Leverage	0.21**	-0.17	0.10	0.39**	0.50***
	(2.21)	(-1.47)	(0.65)	(2.40)	(3.13)
Constant	1.77***	2.11***	1.84***	1.85***	1.34***
	(27.04)	(23.74)	(15.95)	(15.70)	(12.39)
Industry-Year effects	Yes	Yes	Yes	Yes	Yes
Observations	68,681	19,000	8,862	9,859	23,267
Adjusted R-squared	0.266	0.233	0.252	0.241	0.281

Dual Class Firm Tobin's Q Life Cycle

- Dual class firms trade at a premium, relative to comparable single class firms, in the first five years following the IPO.

- This premium dissipates with time from IPO and turns into a discount 6 years after the IPO.

- Supports vision and leadership decaying value and/or agency problems aggravation over time.

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Robustness Tests

Different Cohorts	Years relative to the IPO					
	All	0-2	3-5	6-8	9-11	12+
Dual dummy	-0.012	0.26**	0.24**	-0.15	-0.19	-0.19
	(-0.18)	(2.42)	(2.12)	(-1.18)	(-1.27)	(-1.54)

Total Q	Years relative to the IPO				
	All	1-3	4-5	6-8	9+
Dual dummy	0.13	0.59***	0.48**	0.071	-0.19
	(1.12)	(2.86)	(2.35)	(0.38)	(-1.41)

Tighter Matching of IPO date (+- 12 months)	Years relative to the IPO				
	All	1-3	4-5	6-8	9+
Dual dummy	0.10	0.24*	0.36*	0.10	-0.073
	(1.10)	(1.74)	(1.95)	(0.65)	(-0.53)

Alternative Interpretation

- Private firms with particularly strong growth opportunities are more likely to choose a dual class structure when they first sell shares in public markets. In other words, causality is reversed : high growth and Q facilitate dual class financing. Single class IPOs of the same firms would have led to even higher Qs.

- Our matched sample is designed to minimize initial differences. However, we cannot rule it out.

Positive Initial Premium

Matched single- and dual-class firms with a positive initial dual class Tobin's Q premium

	Years relative to the IPO				
	All	1-3	4-5	6-8	9+
Dual dummy	**0.52*****	**0.96*****	**0.26**	**0.027**	**0.061**
	(5.56)	(6.43)	(1.30)	(0.17)	(0.47)

Negative Initial Premium

Matched single- and dual-class firms with a negative initial dual class Tobin's Q premium

	Years relative to the IPO				
	All	1-3	4-5	6-8	9+
Dual dummy	**-0.56*****	**-0.51*****	**0.17**	**-0.23**	**-0.37***
	(-5.32)	(-3.19)	(0.62)	(-1.09)	(-1.97)

Intertemporal Progress

20th Century	Years relative to the IPO				
	All	1-3	4-5	6-8	9+
Dual dummy	**-0.005**	**0.19**	**0.24**	**-0.19**	**-0.38**
	(-0.05)	(1.59)	(1.51)	(-0.85)	(-1.56)

21st Century	Years relative to the IPO				
	All	1-3	4-5	6-8	9+
Dual dummy	**0.022**	**0.28**	**0.19**	**-0.06**	**-0.12**
	(0.25)	(1.50)	(0.93)	(-0.40)	(-1.14)

Cross-sectional and Intertemporal Variations

- Only positive initial premium dual class firms manifest the life cycle behavior.

- Negative initial premium dual class firms stay in negative territory as they mature.

- With time, dual class IPOs have improved (market learnt). In the 21st century the mean initial premium is higher than in the 20th century, and the mean eventual discount is milder.

Self Correction - Unifications
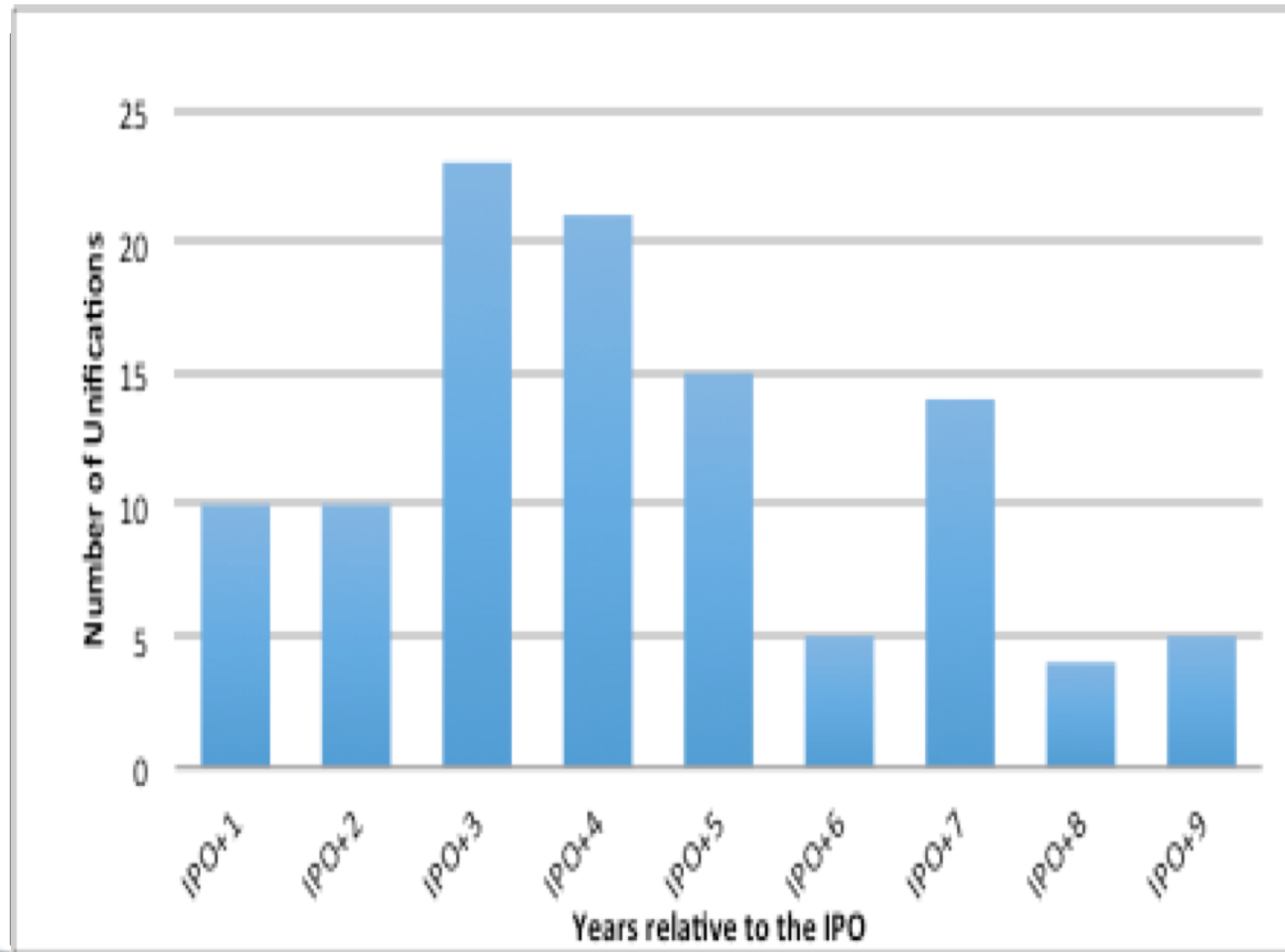
Unifications

- There is a self-correct mechanism – dual class firms can unify all share class (convert all shares to "one share one vote").

- However, by year IPO+9 only 20% of firms unify.

- Most of the dual class firms elect to retain a dual class structure, perhaps because it is not in the interest of their controlling shareholders to unify. Upon unification, controlling shareholders lose significant voting control and nontrivial amounts of private benefits, and gain in return a fraction (equal to their equity stake) of the market valuation increase.

Unifications (cont..)

- Given that controlling shareholders' equity holdings are diluted over time, their gain upon unification decreases, and unifications become even more rare..

- **If stale, inefficient and old dual class structures persist, don't we need some regulatory intervention?**

Regulatory Implications

- Dual class financing <u>should not be banned</u>. They offer the public a share in firm growth when founders' leadership and vision are still crucial. It also helps firms like Google and Facebook to grow and implement their vision more rapidly. Win-Win situation.

- Dual class firms should not be excluded from indices as their stock returns appear normal. It could be argued that they should be monitored more closely, as potential agency problems are more severe.

Regulatory Implications(cont..)

- Sunset? The potentially severe agency problems and discount at mature dual class firms may be mitigated by a mandatory sunset provision for dual class structures, as advocated by Bebchuk and Kastiel (2017). Such a provision would mandate a shareholders' vote beyond a certain listing age, say X years after the IPO, on whether the dual class structure should be abolished. According to our estimates X could be 6-9 years.

- Any regulation has unintended consequences: less dual class IPOs; agency behavior just prior to sunset date; pre-mature unifications; other?

Summary

- We employ an extensive dataset of single- and dual-class U.S. firms in the 1980-2017 period to examine life cycle effects in dual class firms.

- We find that in properly controlled tests dual class firms exhibit a valuation premium over comparable single class firms at the IPO, which is maintained for 6 to 9 years afterwards.

Summary (cont..)

- We find that dual class firms that trade with a valuation premium at the IPO do not deteriorate on average into a discount. Likewise, dual class issues in the 21st century achieve higher premia.

- Regulatory implications: dual class financing should not be banned and dual class shares should probably not be excluded from indices. Yet, a mandatory age-based sunset provision could be useful and is actually considered.

Summary (cont..)

- Johnson, Karpoff and Yi (2017) find that anti-takeover defenses contribute positively to firm market value in the first years after the IPO, yet later on they begin to be negatively associated with firm value.

- The analogy to our results is striking. The implication is that sunset provisions should be debated for other takeover defenses as well.

Thank you