

CII Summaries of Key Academic Literature on Multi-Class Structures and Firm Value

Title	The Life Cycle of Dual-Class Firms	
Authors	Martijn Cremers, Beni Lauterbach, and Anete Pajuste	
Date Published	August 2022 (working paper)	
Sample	The full sample includes 7,582 single-class firms and 695 multi-class firms. The matched sample matches 563 unique multi-class firms with 563 unique single-class firms based on similar features including firm industry, IPO date, firm size, and return on assets. All firms in both samples are listed on NYSE, AMEX, or NASDAQ.	
Sample Source	Ritter dataset; Gompers, Ishii, and Metrick dataset; CRSP/Compustat.	
Period Covered	The samples include firms that held IPOs with multi-class structures between 1980 and 2019.	
Key Variables	The dependent variable is firm value as measured by Tobin's Q . The independent dual-class variable is a dummy variable coded 1 for firms with multi-class structures and 0 for single-class firms. " Wedge " in this study refers to the difference between the super-voting class's percent of total voting power and their percent of total equity.	
Key Hypotheses:	Methodology:	Results:
<ol style="list-style-type: none"> 1) The stake of controlling shareholders in multi-class firms' equity tends to decrease with firms' age, and the wedge tends to increase. 2) The valuation of multi-class firms compared to single-class firms decreases with a firm's age. 	<ol style="list-style-type: none"> 1) Observed increases and mean equality tests for multi-class firms' wedge in each of the nine years following IPO. 2) Mean equality tests for differences between multi- and single-class firm value in each of the nine years following IPO. Regressions of firm value, measured by Tobin's Q, on dual-class status using the full and then matched samples, plus controls, to determine the multi-class premium and discount over the life cycle. 	<ol style="list-style-type: none"> 1) The mean wedge in multi-class firms that survived at least 5 years after IPO increased from 17.84% one year after IPO to 20.35% four years after IPO. 2) In the full sample, multi-class firms have a 20% premium in the first 5 years after IPO, a 10% premium in year 6, and a discount beginning in year 7 stabilizing at around 15% in later years. In the matched sample, there is a 30% premium at the IPO year end, 10% to 20% premium at the end of years 2 through 4, and a 10% premium at the end of years 5 and 6. An average discount emerges in years 7 and 8, stabilizing around 20% in later years.

Key Conclusions	On average, at the time of the IPO, multi-class firms tend to have valuation premiums over single-class firms, which dissipate over time and turn into discounts seven years after the IPO. The increasing wedge and decreasing probability of voluntarily unification over time point to the potential for increased agency problems at mature multi-class firms that may be mitigated by a mandatory sunset provision for multi-class structures.
CII Notes	These results support a 7-year time-based sunset for firms that IPO with multi-class structures. The methodology also underscores how studies that do not take into account the “life cycle”; that is, the years since IPO, will generally not yield statistically significant results about multi-class structures’ impact on firm value.

For a non-empirical analysis of the life cycle dynamics of multi-class structures and firm value that preceded this paper, see: Bebchuk, Lucian A. and Kastiel, Kobi, The Untenable Case for Perpetual Dual-Class Stock (April 18, 2017). Virginia Law Review, Volume 103, pp. 585-631, June 2017; Harvard Law School John M. Olin Center Discussion Paper No. 905; Harvard Law School Program on Corporate Governance Discussion Paper 2017-6. Available at SSRN: <https://ssrn.com/abstract=2954630>.

The authors of this paper consider a multi-class structure “an extreme example of anti-takeover provisions.” For an empirical analysis of other takeover defenses, see: Johnson, William C. and Karpoff, Jonathan M. and Yi, Sangho, The Lifecycle Effects of Firm Takeover Defenses (April 2, 2018). Available at SSRN: <https://ssrn.com/abstract=2808208>.

Title	Dual Class Share Structure and Innovation	
Authors	Lindsay Baran, Arno Forst, and M. Tony Via	
Date Published	May 2018	
Sample	The matched sample includes 2,218 dual-class and 2,218 single-class companies adapted from the matching model used by Gompers, Ishii, and Metrick.	
Sample Source	Gompers, Ishii, and Metrick dataset; CRSP/Compustat; SEC Filings.	
Period Covered	The sample includes companies that had or held IPOs with multi-class structures between 2000 and 2008.	
Key Variables	The dependent variables include innovation output as measured by patents and citations, as well as firm value measured by Tobin’s Q . The independent dual-class variable is a dummy variable coded 1 for firms with multi-class structures and 0 for single-class companies. “ Wedge ” in this study refers to the difference between the super-voting class’s percent of total voting power and their percent of total equity.	
Key Hypotheses:	Methodology:	Results:
1) Insider control at multi-class firms has a positive impact on innovation that offsets its negative impact on company	1) Regressions of innovation, including patents and citations, as well as on company value,	1) The wedge has a significant positive impact on innovation and negative impact on firm value compared to single-class firms, but the combined impact is positive, supporting the hypothesis that

value relative to single-class firms.	measured by Tobin's Q on multi-class firm wedges.	more innovation offsets the costs of insider control on firm value.
2) The positive impact on innovation decreases in the years following IPO.	2) Regressions of multi-class company wedges split by firm age—0-5, 6-10, and 11 and more years after IPO—on innovation and firm value.	2) The wedge has a significant positive impact on innovation in 0-5 years, but not 6-10 or 11 and more years, after IPO. In 6-10 and 11 and more years after IPO, the wedge exhibits a progressively stronger and more significant negative impact on firm value.
Key Conclusions	Overall, insider control at multi-class companies exhibits a positive association with innovation output that exceeds the costs of the voting misalignment, but this effect changes over time. "Our finding of diminishing positive effects of disproportionate insider control post-IPO supports the call for 'sunset provisions' to convert dual class shares to single class within a certain period of time post-IPO. Phasing out disproportionate ownership could avoid the predominance of value-destroying agency costs over value enhancing innovativeness as the firm matures."	
CII Notes	This analysis potentially provides an explanation for the value premium that Cremers et al. find in young multi-class structures: stronger innovation output. But like Cremers, this analysis finds that the benefits succumb to increasing costs beginning six years after IPO. Addressing criticisms of Tobin's Q as a measure of firm value, the authors also use an alternative valuation measure which yields a similar and significant result.	

Title	Perpetual Dual-Class Stock: The Case Against Corporate Royalty	
Authors	Robert Jackson	
Date Published	February 2018 (data prepared for speech, non-peer reviewed)	
Sample	157 multi-class firms, 71 of which have sunset provisions. All firms are incorporated in the United States.	
Sample Source	Ritter dataset, SEC filings, CRSP/Compustat.	
Period Covered	The samples include firms that held IPOs with multi-class structures between 2001 and 2016.	
Key Variables	For the principal analysis, the dependent variable is firm value as measured by Tobin's Q . [*] The independent dual-class variable is a dummy variable called " Perpetual " coded 1 for multi-class firms with no sunset provision at IPO and 0 for multi-class firms that provided for a sunset provision at IPO.	
Key Hypothesis:	Methodology:	Result:
1) The lack of a sunset provision in multi-class firms	2) Regressions of firm value, measured by Tobin's Q, on perpetual multi-class	3) In the IPO year and 1-2 years after, perpetual multi-class firms do not have significantly different

decreases firm value compared to other multi-class firms with sunset provisions.	firms on in four periods after IPO, plus controls.*	valuations from multi-class firms with sunset provisions. Beginning 3-6 years and continuing 7 and more years after IPO, perpetual multi-class firms have a 37% discount compared to multi-class firms with sunset provisions.
Key Conclusions	Over the life cycle of multi-class firms, those without sunset provisions tend to underperform those with sunset provisions. By 7 years after IPO, perpetual multi-class firms exhibit valuations that are significantly lower than firms with sunset provisions.	
CII Notes	This analysis is the only one that compares perpetual multi-class firms to those that signal from the time of IPO with a sunset provision that they will collapse the capital structure into one share, one vote. The life cycle results support a time-based sunset in particular, no later than 7 years after IPO.	

*Note: Commissioner Jackson and his staff also ran the analysis using **monthly equal-weighted portfolio returns** for the perpetual sample versus the sunset sample, with what the authors describe as results “very consistent” with the principal analysis using Tobin’s Q.

Title	<u>Sticking Around Too Long? Dynamics of the Benefits of Dual-Class Structures</u>		
Authors	Hyunseob Kim and Roni Michaely		
Date Published	March 2018		
Sample	An unspecified number of single-class firms and 921 multi-class firms with outstanding super-voting shares totaling 142,576 single-class firm years and 8,445 multi-class firm years.		
Sample Source	Ritter dataset; Gompers, Ishii, and Metrick dataset; CRSP/Compustat; Analysis of 10-K and DEF 14A filings.		
Period Covered	The sample includes firms with multi-class structures between 1971 and 2015.		
Key Variables	The dependent variable is firm value as measured by Tobin’s Q and return on assets (ROA) . The independent dual-class variable is comprised of two dummy variables, one coded 1 all firms with multi-class structures and the other coded 1 for multi-class firms older than 11 years since IPO to isolate “ mature ” multi-class firms. “ Voting Premium ” refers to the difference in market price between superior and inferior-voting shares.		
Key Hypotheses:	Methodology:	Results:	
1) Multi-class structures negatively impact firm value as they “mature” (i.e., pass 11	1) Regression of firm value, measured by Tobin’s Q and then ROA, on multi-class firms	1) In general, multi-class firms have a 7% premium over single-class firms, a result significant at the 5% level. “Mature” multi-class firms have an 8.8%	

years since IPO) compared to single-class firms.	and maturity (>11 years from IPO) on plus controls, to determine the multi-class premium and discount compared to single-class firms.	discount compared to single-class firms. Multi-class structures and maturity have small and insignificant impacts on ROA.
2) The premium for super-voting shares in multi-class firms, a measure of the private benefits of control, increases with firm age (i.e., after 11 years compared to before 11 years from IPO).	2) Regression the premium for super-voting shares on mature multi-class firms, plus controls.	2) After 11 years from IPO, multi-class firms have a 2.99 percentage point premium for super-voting shares over the average premium of 4.32% for all multi-class firms.
Key Conclusions	As firms become more mature, adopting a multi-class structure is associated with an increasingly larger valuation discount than offering only single-class shares. Private benefits of control, as measured by the voting premium, are greater for mature multi-class firms, driving the discount in firm value.	
CII Notes	The results provide two snapshots in time of multi-class firms showing that those 11 years or less from the IPO have premiums and those 11 years or more from the IPO have discounts, compared to single-class firms. Although it does not trace exactly when the premium dissipates and becomes negative, it reinforces the case for time-based sunset provisions substantially before 11 years from the IPO.	

Title	Extreme Governance: An Analysis of Dual-Class Firms in the United States
Authors	Paul Gompers, Joy Ishii, and Andrew Metrick
Date Published	May 2009 (Working Paper)
Sample	The full sample includes 6345-7619 single-class firms and 362-504 multi-class firms with outstanding super-voting shares, excluding financial and “regulated” firms. The separation sample is a subset of the full sample that includes multi-class firms in which insiders control at least 50% total voting power and own less than 50% equity. All firms are listed on NYSE, NASDAQ, or AMEX.
Sample Source	SEC Filings, Ritter dataset, IRRRC dataset, CRSP/Compustat.
Period Covered	The sample includes firms that had or held IPOs with multi-class structures between 1995 and 2002.
Key Variables	The dependent variable is firm value as measured by industry-adjusted Tobin’s Q . The independent dual-class variable is a dummy variable coded 1 for firms with multi-class structures and 0 for single-class firms. “Wedge” in this study refers to the difference between the super-voting class’s percent of total voting power and their percent of total equity, both of which are also used as independent variables.

<p>Key Hypothesis:</p> <p>In firms with multi-class structures, greater voting power controlled by the super-voting class and less equity owned by the super-voting class (i.e., a widening wedge) decrease firm value.</p>	<p>Methodology:</p> <ol style="list-style-type: none"> 1) Regressions of firm value, measured by industry-adjusted Tobin's Q, on multi-class firms and the wedge, plus controls, using the full sample. 2) Two-stage regressions of firm value on the super-voting class's equity ownership, plus controls, using the separation sample. 	<p>Result:</p> <ol style="list-style-type: none"> 1) In general, multi-class structures have a negative but insignificant impact on firm value compared to single-class firms. But a widening wedge has a stronger negative impact on firm value. 2) In multi-class firms where the super-voting class holds minority equity ownership and majority voting power, increased equity ownership has a strong and significantly positive impact on firm value.
<p>Key Conclusions</p>	<p>Firm value is positively associated with the super-voting class's equity ownership, negatively associated with its voting rights, and negatively associated with a widening wedge between the two.</p>	
<p>CII Notes</p>	<p>This paper was one of the first to construct a sample of multi-class firms and test the structure's impact on firm value. It finds that while insider control does not itself significantly reduce firm value, a wedge or separation between insiders' equity ownership and voting rights—which the multi-class structure exists to create—does. These results indicate that firm value would be enhanced if insiders' equity ownership increased to match their voting power.</p>	

<p>Title</p>	<p>What's in a Vote? The Short- and Long-Run Impact of Dual-Class Equity on IPO Firm Values</p>	
<p>Authors</p>	<p>Scott Smart, Ramabhadran Thirumalai, and Chad Zutter</p>	
<p>Date Published</p>	<p>March 2008</p>	
<p>Sample</p>	<p>Firm-commitment IPOs of 253 dual-class and 2,369 single-class firms.</p>	
<p>Sample Source</p>	<p>Disclosure, Inc. records of SEC filings.</p>	
<p>Period Covered</p>	<p>1990 to 1998.</p>	
<p>Key Variables</p>	<p>Dependent variables used in the regression models include earnings-to-price ratio, measured by industry-adjusted Tobin's Q, the inverse of Tobin's Q (replacement cost over market value, 1/Q), and a dummy variable for CEO turnover within 5 years of the IPO. The independent dual-class variable is a dummy variable coded 1 for firms with multi-class structures and 0 for single-class firms.</p>	
<p>Key Hypotheses:</p>	<p>Methodology:</p>	<p>Results:</p>

<p>1) Investors discount the shares of dual-class IPOs relative to newly public single-class firms.</p> <p>2) CEO turnover is lower for dual-class companies compared to single-class companies.</p> <p>3) Unification of dual-class stock into a single-class stock is associated with positive stock returns.</p>	<p>1) Regression of earnings-to-price ratio and the inverse of Tobin's Q on dual-class status on dual-class status.</p> <p>2) Regression of CEO turnover on dual-class status.</p> <p>3) Statistical modeling of stock returns around the time of dual-stock unification.</p>	<p>1) Dual-class firms trade at lower prices relative to earnings and replacement cost than do single-class firms.</p> <p>2) CEO turnover is slightly higher for single-class firms than for duals, though that difference is not large. However, for single-class firms, negative abnormal returns precede instances of internal CEO turnover, but not external turnover. This pattern is reversed for dual-class firms.</p> <p>3) The small number of dual-class firms in the sample that unified their share classes experience positive abnormal returns around the effective date of unification.</p> <p>4) Collectively, these results suggest that investors discount dual-class shares because the superior voting rights held by insiders makes it difficult for outsiders to replace incumbent.</p>
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Title	Dual-class share structure on the dividend payout policy: Evidence from China Concepts Stocks
Authors	Hamid Beladi, May Hu, Silei Li, and JingJing Yang
Date Published	July 2022
Sample	Chinese companies listed on the NASDAQ or NYSE, excluding financial and public utility firms. The sample includes 137 companies and 1031 company-year observations.
Sample Source	Center for Research in Security Prices (CRSP), Compustat, and the Wharton Research Data Services (WRDS).
Period Covered	2005 to 2018.
Key Variables	This study focuses on dividend payout , as measured by dividend per share and dividend yield. The independent variable is a dummy variable for dual-class , coded 1 for dual-class structures and 0 for single-class companies. Wedge is the variable for measuring the separation of control and cash flow rights (calculated as 1-(Voting Rights/Cash Flow Rights)) bounded between 0 and 1. Tunneling (receipt of personal loans through the corporate balance sheet, and whose interest and principal are usually not paid back) is measured through "other receivables" as a percentage of total assets.

Key Hypotheses:	Methodology:	Results:
<ol style="list-style-type: none"> 1) Companies with a dual-class share structure pay less in dividends than firms with a single-class share structure. 2) Dual-class companies pay less in dividends when the divergence between insider voting power and cash flow rights is wider. 3) Tunneling provided to controlling shareholders is more in dual-class than in single-class firms. 	<ol style="list-style-type: none"> 1) Regression of dividend pay out policy on dual-class structure. 2) Regression of dividend pay out policy on the divergence between insider voting power and cash flow rights (as measured by the Wedge). 3) Regression of tunneling on dual-class structure. 	<ol style="list-style-type: none"> 1) U.S.-listed Chinese dual-class companies pay less in dividends to their shareholders than single-class firms. 2) For these companies, dividend payouts decrease with the divergence between insider voting rights and cash flow rights. 3) Among these companies, dual-class firms conduct more tunneling to their controlling shareholders.

Title	Dual-class stock structure and firm investment
Authors	Hamid Beladi, May Hu, JingJing Yang, and Ruicheng Zhu
Date Published	June 2022
Sample	U.S.-listed China concept stocks (companies that operate in mainland China), excluding financial and public utility companies. The sample includes 685 single-class companies and 101 dual-class companies.
Sample Source	Wind database.
Period Covered	2005 to 2018.
Key Variables	The study focuses on overinvestment (inefficient use of capital in activities with suboptimal expected returns), measured by the magnitude that a company's ratio of the total capital expenditure to the total assets of the company for a one-period lag exceeded the company's expected investment level, controlling for other variables. Capital expenditures include net investment in property, plant, and equipment, intangible assets, and other long-term assets as reported in the company's statement of cash flow. The independent dual-class variable is a dummy

variable coded 1 for companies with a dual-class structure and 0 for single-class; a dummy variable coded 1 if the growth rate of operating revenue is negative and 0 otherwise; the growth rate of a company's operating revenue; **Wedge** is the variable for measuring the separation of control and cash flow rights (calculated as 1-(Voting Rights/Cash Flow Rights)) bounded between 0 and 1.

<p>Key Hypotheses:</p> <p>1) Agency conflict in dual-class companies induces more abusive free cash flow behavior and overinvestment than in single-class companies.</p>	<p>Methodology:</p> <p>1) Regression to determine expected investment levels on dual class stock, measure of the separation of control and cash flow rights (the Wedge), plus other control variables. This expected value is used in a second regression to calculate overinvestment levels.</p>	<p>Results:</p> <p>1) Dual-class stock structures result in higher agency costs, which in turn leads to overinvestment.</p>
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