

**SMJ Manuscript 20-22646:**

**Do tenure-based voting rights help mitigate the family firm control-growth dilemma?**

**Claudia Imperatore and Peter F. Pope**

**Online Appendix**

This document includes the results for the various tests we discuss in the *Supplementary tests* section or those mentioned in the footnotes of the manuscript.

All variables are as defined in the paper with the following additions:

<i>Other CEM</i>	Count variable ranging from 0 to 2 capturing the number of CEMs implemented by the firm in addition to TVRs (i.e. presence of non-voting preferred shares and shareholder agreement)
<i>Firstborn</i>	Indicator variable equal to 1 if family owner has a male firstborn child, and 0 otherwise
<i>Proceeds from equity issuance</i>	Net proceeds from sale of common and preferred stock, as reported in firms' cash flow statements, deflated by lagged total assets
<i>Median Tobin's Q</i>	Industry-year median value of Tobin's Q
<i>Tobin's Q</i>	Ratio of the market value of assets to total assets. The market value of assets is defined as the book value of total assets plus market equity minus common equity. Market equity is defined as shares outstanding times the fiscal year closing price
<i>Cash dividends/Sales</i>	Cash dividends paid scaled by total sales
<i>% Minority directors</i>	Number of minority directors sitting on the board of directors over board size
<i>Log(Free float)</i>	Natural logarithm of firm's free float (as reported in Refinitiv Eikon)
<i>Financial constraints</i>	Financial constraints computed according to Whited and Wu (2006) as $[(-0.091 \times CF) - (0.062 \times \text{Positive dividends}) + (0.021 \times \text{TLTD}) - (0.044 \times \log(\text{Total Assets})) + (0.102 \times \text{Industry Sales Growth}) - (0.035 \times \text{Sales Growth})]$ , where CF is cash from operations divided by total assets, Positive dividends is a dummy that equals 1 if the firm pays cash dividends and zero otherwise, TLTD is long-term debt over total assets, and Industry Sales Growth is 2 digits ICB industry sales growth average
<i>PPE</i>	Property, plant, and, equipment (net) divided by total assets
<i>Cash holdings</i>	Cash and cash equivalents divided by total assets
<i>TVR unvested</i>	Indicator variable equal to 1 if the firm introduced TVR but double-voting rights are not effective yet, and 0 otherwise
<i>TVR vested</i>	Indicator variable equal to 1 if the firm introduced TVR and double-voting rights are effective (i.e. two years elapsed from the TVR adoption), and 0 otherwise

**Table OA1** Impact of vested and unvested TVR on family firms' investment

Sample:	(1)
Dependent variable	All firms <i>Investment</i>
<i>Leverage</i>	-0.006 (0.010)
<i>Log(Market value of equity)</i>	0.002 (0.001)
<i>Market-to-book ratio</i>	0.002 (0.001)
<i>Sales growth</i>	0.011 (0.004)
<i>ROE</i>	0.004 (0.003)
<i>Cash flow from operations</i>	0.082 (0.021)
<i>Log(Age)</i>	-0.002 (0.002)
<i>Capacity overhang</i>	0.002 (0.000)
<i>Family board presence</i>	0.062 (0.018)
<i>Family CEO</i>	0.002 (0.005)
<i>Family Chairperson</i>	0.003 (0.005)
<i>TVR unvested</i>	-0.067 (0.045)
<i>TVR vested</i>	-0.044 (0.016)
<i>Family firm</i>	-0.014 (0.005)
<i>Family firm x TVR unvested</i>	0.036 (0.015)
<i>Family firm x TVR vested</i>	0.052 (0.019)
Observations	964
Industry dummies	Yes
Region x Year dummies	Yes
Wald chi-squared	166.98

This table presents the results from examining the impact of TVR adoption on family firms' investment depending on whether TVRs are vested or not. The sample consists of Italian-listed non-financial firms for the period 2015-2019. A constant term is included, but not reported. All

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variables are defined in this Appendix or the manuscript. Robust standard errors are reported in parentheses.

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**Table OA2** First step instrumental variable estimation using the endogenous treatment model

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Dependent variable:	<i>TVR</i>
<i>Family board presence</i>	1.607 (0.571)
<i>Family CEO</i>	0.019 (0.146)
<i>Family ownership</i>	-0.003 (0.003)
<i>Other CEM</i>	0.484 (0.129)
<i>Firstborn</i>	0.381 (0.138)
Observations	964
Year dummies	Yes

This table presents the results from the first step instrumental variable estimate from the Stata `etregress` command. The TVR adoption indicator is regressed on *Firstborn* and a set of control variables. The sample consists of Italian-listed non-financial firms for the period 2015-2019. A constant term is included, but not reported. All variables are defined in this Appendix or the manuscript. Robust standard errors are reported in parentheses.

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**Table OA3** Determinants of TVR adoption

Dependent variable:	(1)	(2)	(3)
	<i>TVR</i>	<i>TVR</i>	<i>TVR</i>
<i>Financial constraints</i>	0.010 (0.125)	-0.039 (0.207)	0.012 (0.125)
<i>Market-to-book ratio</i>	0.028 (0.015)	0.028 (0.015)	-0.077 (0.036)
<i>Family board presence</i>	1.183 (0.594)	1.167 (0.580)	1.542 (0.616)
<i>Family CEO</i>	0.077 (0.143)	0.104 (0.142)	0.055 (0.147)
<i>Family Chairperson</i>	0.402 (0.193)	0.345 (0.190)	0.442 (0.200)
<i>PPE</i>	-1.250 (0.387)	-1.326 (0.384)	-1.258 (0.398)
<i>Size</i>	0.134 (0.035)	0.142 (0.034)	0.144 (0.035)
<i>ROA</i>	1.116 (0.683)	1.111 (0.698)	1.175 (0.683)
<i>Leverage</i>	0.651 (0.318)	0.490 (0.313)	0.904 (0.321)
<i>Cash holdings</i>	-0.818 (0.487)	-0.832 (0.487)	-0.644 (0.486)
<i>Log(Age)</i>	-0.057 (0.067)	-0.053 (0.065)	-0.062 (0.066)
<i>Famown</i>	0.035 (0.008)	0.022 (0.010)	0.014 (0.009)
<i>Famown_squared</i>	-0.001 (0.000)	-0.000 (0.000)	-0.000 (0.000)
<i>Famown x Financial constraints</i>		0.032 (0.015)	
<i>Famown_squared x Financial constraints</i>		-0.001 (0.000)	
<i>Famown x Market-to-book ratio</i>			0.007 (0.002)
<i>Famown_squared x Market-to-book ratio</i>			-0.000 (0.000)
Observations	918	918	918
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Pseudo R2	0.172	0.179	0.187

This table examines the determinants of TVR adoption using probit models. The sample consists of Italian-listed non-financial firms for the period 2015-2019. All variables are defined in this Appendix or the manuscript. Robust standard errors are reported in parentheses.

**Table OA4** The moderating role of family influence on the board of directors

Sample:	(1) Powerful No	(2) Powerful Yes	(3) Low family board presence	(4) High family board presence
Dependent variable:	<i>Investment</i>	<i>Investment</i>	<i>Investment</i>	<i>Investment</i>
<i>Leverage</i>	-0.048 (0.013)	0.036 (0.014)	-0.035 (0.010)	0.093 (0.019)
<i>Log(Market value of equity)</i>	0.003 (0.001)	0.001 (0.001)	0.004 (0.001)	-0.006 (0.002)
<i>Market-to-book ratio</i>	0.002 (0.001)	0.001 (0.001)	0.001 (0.001)	0.003 (0.001)
<i>Sales growth</i>	0.005 (0.006)	0.011 (0.005)	0.008 (0.005)	-0.002 (0.007)
<i>ROE</i>	0.001 (0.004)	0.005 (0.005)	0.000 (0.004)	0.016 (0.006)
<i>Cash flow from operations</i>	0.019 (0.031)	0.168 (0.030)	0.022 (0.023)	0.350 (0.046)
<i>Log(Age)</i>	-0.002 (0.003)	-0.006 (0.003)	-0.005 (0.002)	0.003 (0.004)
<i>Capacity overhang</i>	0.004 (0.001)	-0.001 (0.001)	0.002 (0.000)	-0.005 (0.004)
<i>Family board presence</i>	0.122 (0.048)	0.032 (0.018)		
<i>Family CEO</i>			0.003 (0.006)	-0.001 (0.007)
<i>Family Chairperson</i>			0.010 (0.006)	-0.011 (0.008)
<i>TVR</i>	-0.044 (0.029)	0.001 (0.042)	-0.037 (0.031)	-0.055 (0.060)
<i>Family firm</i>	-0.015 (0.007)	-0.019 (0.023)	-0.016 (0.006)	-0.037 (0.030)
<i>Family firm x TVR</i>	0.086 (0.026)	-0.011 (0.038)	0.030 (0.014)	0.020 (0.053)
Chow test p-value	0.02		0.43	
Observations	417	547	645	319
Industry dummies	Yes	Yes	Yes	Yes
Region x Year dummies	Yes	Yes	Yes	Yes
Wald chi2	184.77	155.81	153.25	192.39

This table examines the moderating role of family board influence on the relation between TVR adoption and investment in family firms. Column 1 reports the findings when neither the CEO nor the Chairperson belong to the family, while Column 2 shows the results when the CEO and/or the Chairperson belong to the family. Columns 3 and 4 present the results when the percentage of board members (excluding the CEO and Chairperson) who belong to the family is below and above the sample mean, respectively. The sample consists of Italian-listed non-financial firms for the period 2015-2019. A constant term is included, but not reported. All variables are defined in this Appendix or the manuscript. Robust standard errors are reported in parentheses

<b>Table OA5</b> Impact of TVR on family firms' investment accounting for pre-trends		
Matching procedure:	(1) Entropy balance in 2013	(2) Entropy balance 2 years before TVR adoption
Dependent variable:	<i>Investment</i>	<i>Investment</i>
<i>Leverage</i>	0.044 (0.015)	0.025 (0.017)
<i>Log(Market value of equity)</i>	0.001 (0.002)	-0.002 (0.002)
<i>Market-to-book ratio</i>	0.001 (0.001)	0.003 (0.001)
<i>Sales growth</i>	-0.007 (0.010)	0.003 (0.008)
<i>ROE</i>	0.008 (0.004)	0.006 (0.006)
<i>Cash flow from operations</i>	0.311 (0.048)	0.287 (0.051)
<i>Log(Age)</i>	-0.007 (0.003)	-0.004 (0.003)
<i>Capacity overhang</i>	-0.003 (0.002)	0.001 (0.001)
<i>Family board presence</i>	0.049 (0.020)	0.035 (0.021)
<i>Family CEO</i>	-0.005 (0.004)	0.002 (0.005)
<i>Family Chairman</i>	0.007 (0.007)	0.001 (0.007)
<i>TVR</i>	-0.012 (0.009)	-0.017 (0.009)
<i>Family firm</i>	-0.013 (0.008)	-0.005 (0.009)
<i>Family firm x TVR</i>	0.024 (0.010)	0.024 (0.010)
Observations	760	965
Industry dummies	Yes	Yes
Region x Year dummies	Yes	Yes
R-squared	0.316	0.277

This table presents the results from examining the impact of TVR adoption on family firms' investment after applying an entropy balance procedure to match family firms with TVRs with other firms before the actual TVR adoption. The sample consists of Italian-listed non-financial firms for the period 2015-2019. A constant term is included, but not reported. All variables are defined in this Appendix or the manuscript. Robust standard errors are reported in parentheses.

<b>Table OA6</b> Impact of TVR on family firms' investment using matching procedures		
	(1)	(2)
Matching procedure:	PSM	Entropy balance
Dependent variable:	<i>Investment</i>	<i>Investment</i>
<i>Leverage</i>	-0.019 (0.036)	0.011 (0.019)
<i>Log(Market value of equity)</i>	0.005 (0.002)	0.002 (0.002)
<i>Market-to-book ratio</i>	0.002 (0.001)	0.002 (0.001)
<i>Sales growth</i>	-0.007 (0.008)	-0.010 (0.005)
<i>ROE</i>	0.006 (0.007)	-0.007 (0.004)
<i>Cash flow from operations</i>	-0.043 (0.115)	0.094 (0.036)
<i>Log(Age)</i>	-0.002 (0.004)	-0.001 (0.003)
<i>Capacity overhang</i>	-0.000 (0.001)	-0.001 (0.000)
<i>Family board presence</i>	0.072 (0.031)	0.087 (0.027)
<i>Family CEO</i>	0.004 (0.007)	0.002 (0.004)
<i>Family Chairman</i>	-0.008 (0.011)	-0.005 (0.007)
<i>TVR</i>	-0.037 (0.016)	-0.019 (0.007)
<i>Family firm</i>	-0.007 (0.020)	0.010 (0.008)
<i>Family firm x TVR</i>	0.040 (0.017)	0.015 (0.008)
Observations	298	959
Industry dummies	Yes	Yes
Region x Year dummies	Yes	Yes
R-squared	0.197	0.274

This table presents the results from examining the impact of TVR adoption on family firms' investment after applying a propensity score matching (PSM) and entropy balance procedure to match family firms with TVRs with other firms. The sample consists of Italian-listed non-financial firms for the period 2015-2019. A constant term is included, but not reported. All variables are defined in this Appendix or the manuscript. Robust standard errors are reported in parentheses.

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**Table OA7** Impact of TVR adoption on family firm equity financing

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<i>Dependent variable:</i>	<i>Proceeds from equity issuance</i>
<i>Leverage</i>	-0.033 (0.011)
<i>Log(Market value of equity)</i>	0.001 (0.001)
<i>Market-to-book ratio</i>	0.002 (0.001)
<i>Sales growth</i>	0.034 (0.005)
<i>ROE</i>	-0.006 (0.004)
<i>Cash flow from operations</i>	-0.248 (0.023)
<i>Log(Age)</i>	-0.004 (0.002)
<i>Capacity overhang</i>	0.003 (0.000)
<i>Family board presence</i>	-0.037 (0.020)
<i>Family CEO</i>	0.005 (0.005)
<i>Family Chairperson</i>	0.009 (0.005)
<i>TVR</i>	-0.015 (0.031)
<i>Family firm</i>	-0.016 (0.006)
<i>Family firm x TVR</i>	0.037 (0.013)
Observations	964
Industry dummies	Yes
Region x Year dummies	Yes
Wald chi2	475.02

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This table presents the results from examining the impact of TVR adoption on family firms' equity financing. The sample consists of Italian-listed non-financial firms for the period 2015-2019. A constant term is included, but not reported. All variables are defined in this Appendix or the manuscript. Robust standard errors are reported in parentheses.

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**Table OA8** Impact of TVR adoption on family firm performance

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Dependent variable:	<i>Tobin's Q</i>
<i>Median Tobin's Q</i>	0.582 (0.049)
<i>Leverage</i>	0.319 (0.199)
<i>Log(Market value of equity)</i>	0.036 (0.018)
<i>Log(Age)</i>	-0.075 (0.040)
<i>Sales growth</i>	-0.077 (0.082)
<i>Family board presence</i>	-1.693 (0.400)
<i>Family CEO</i>	0.010 (0.096)
<i>Family Chairperson</i>	0.247 (0.097)
<i>TVR</i>	1.158 (0.598)
<i>Family firm</i>	-0.273 (0.116)
<i>Family firm x TVR</i>	0.602 (0.213)
Observations	964
Industry dummies	Yes
Region x Year dummies	Yes
Wald chi2	360.03

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This table presents the results from examining the impact of TVR adoption on family firms' financial performance. The sample consists of Italian-listed non-financial firms for the period 2015-2019. A constant term is included, but not reported. All variables are defined in this Appendix or the manuscript. Robust standard errors are reported in parentheses.

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**Table OA9** Impact of TVR adoption on family firm dividend payout

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Dependent variable:	<i>Cash dividends/Sales</i>
<i>Leverage</i>	0.007 (0.009)
<i>Log(Market value of equity)</i>	0.007 (0.001)
<i>Market-to-book ratio</i>	0.002 (0.000)
<i>Sales growth</i>	-0.006 (0.004)
<i>ROE</i>	0.006 (0.003)
<i>Cash flow from operations</i>	0.136 (0.019)
<i>Log(Age)</i>	-0.005 (0.002)
<i>Capacity overhang</i>	0.003 (0.000)
<i>Family board presence</i>	0.025 (0.017)
<i>Family CEO</i>	0.000 (0.004)
<i>Family Chairperson</i>	-0.014 (0.004)
<i>TVR</i>	-0.072 (0.025)
<i>Family firm</i>	0.008 (0.005)
<i>Family firm x TVR</i>	0.030 (0.010)
Observations	964
Industry dummies	Yes
Region x Year dummies	Yes
Wald chi2	445.10

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This table presents the results from examining the impact of TVR adoption on family firms' dividend payout. The sample consists of Italian-listed non-financial firms for the period 2015-2019. A constant term is included, but not reported. All variables are defined in this Appendix or the manuscript. Robust standard errors are reported in parentheses.

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**Table OA10** Impact of TVR adoption on family firm minority board representation

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<i>Dependent variable:</i>	<i>% Minority directors</i>
<i>Log(Free float)</i>	-0.009 (0.011)
<i>Leverage</i>	0.029 (0.028)
<i>Log(Market value of equity)</i>	0.014 (0.003)
<i>Market-to-book ratio</i>	-0.002 (0.001)
<i>Sales growth</i>	0.008 (0.014)
<i>ROE</i>	-0.003 (0.010)
<i>Cash flow from operations</i>	-0.048 (0.071)
<i>Log(Age)</i>	0.006 (0.005)
<i>Capacity overhang</i>	0.001 (0.001)
<i>Family CEO</i>	-0.000 (0.012)
<i>Family Chairperson</i>	-0.034 (0.012)
<i>TVR</i>	0.128 (0.115)
<i>Family firm</i>	-0.015 (0.015)
<i>Family firm x TVR</i>	0.047 (0.025)
Observations	580
Industry dummies	Yes
Region x Year dummies	Yes
Wald chi2	207.83

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This table presents the results from examining the impact of TVR adoption on family firms' minority board representation. The sample consists of Italian-listed non-financial firms for the period 2015-2019. A constant term is included, but not reported. All variables are defined in this Appendix or the manuscript. Robust standard errors are reported in parentheses.

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