

## The timing and consequences of seasoned equity offerings: A regression discontinuity approach Online Appendix

**Table A.1**

Stock price manipulation.

This table reports the analyses of stock price manipulation. In columns 1–6, we restrict the sample to observations with *Price ratio* between 0.9 and 1.1. In column 1, the dependent variable is *Discretionary accruals*, measured in the previous quarter. We follow Kothari, Leone, and Wasley (2005) and estimate the following model for each industry-quarter:

$$\frac{TA_{i,t}}{Asset_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{Asset_{i,t-1}} + \beta_2 \frac{\Delta SALE_{i,t} - \Delta AR_{i,t}}{Asset_{i,t-1}} + \beta_3 \frac{PPE_{i,t}}{Asset_{i,t-1}} + \mu_{i,t},$$

where *TA* is total accruals (the change in current assets minus the change in cash minus the change in current liabilities plus the change in debt in current liabilities minus depreciation and amortization), *Asset* is total assets,  $\Delta SALE$  is the change in sales,  $\Delta AR$  is the change in accounts receivable, and *PPE* is net property, plant, and equipment. *Discretionary accruals* is performance-matched discretionary accruals, defined as the difference in residuals between the focal firm and another firm with the closest ROA in the same industry-quarter. In column 2, the dependent variable is *Earnings surprises*, measured in the following quarter. *Earnings surprises* is the difference between realized earnings per share and the most recent analyst consensus forecast prior to the earnings announcement, scaled by the stock price at the beginning of the quarter. Data on analyst forecasts are from the Institutional Brokers' Estimate System (I/B/E/S). In columns 3–6, the dependent variable is one of four measures of dividend policy changes in the prior quarter. We obtain similar results when we extend the period of analysis to the prior four quarters. Data on dividend announcements are from CRSP. In column 3, the dependent variable *Rate of dividend change* is the difference in the dividend per share between the current quarter and the previous quarter, scaled by the dividend in the previous quarter. In column 4, the dependent variable *Price-scaled dividend change* is the difference in the dividend per share between the current quarter and the previous quarter, scaled by the stock price in the previous quarter. In column 5, the dependent variable *Dividend cut indicator* is an indicator equal to one if the dividend per share in the current quarter is lower than the dividend per share in the previous quarter and zero otherwise. In column 6, the dependent variable *Dividend omission indicator* is an indicator equal to one if the firm fails to pay a dividend in the current quarter but the firm has made consecutive dividend payments in the prior eight quarters and zero otherwise. In columns 7–8, we focus on firms whose stock price variation is determined by market-wide price movements. Among the original *Above one* firms (*Price ratio* between 1 and 1.1), we keep those firms whose market-implied *Price ratio* is also between 1 and 1.1. Among the original *Below one* firms (*Price ratio* between 0.9 and 1), we keep those firms whose market-implied *Price ratio* is also between 0.9 and 1. We construct the market-implied *Price ratio* as follows. First, we calculate the market-implied stock price as the closing stock price at the end of the month of the last SEO multiplied by the stock's beta times the market return since the last SEO. We estimate betas from the market model using monthly stock returns in the three years preceding the firm's last SEO. We use the estimated beta in column 7 and assume a beta of one in column 8. Second, we calculate the market-implied *Price ratio* as the ratio of the market-implied stock price to the last SEO price. In columns 9–10, we estimate the LPM of SEOs in symmetric small bandwidths of  $\pm 0.1$  around alternative cutoff points of *Price ratio* at 1.5 and 2. The baseline sample includes Compustat firms that have done an SEO in the past five years and are trading on the NYSE, Nasdaq, or Amex. We exclude regulated utilities (SIC 4900–4999) and financial firms (SIC 6000–6999). The sample period is from 1983 to 2015. The standard errors (in parentheses) are heteroskedasticity consistent and are clustered at the firm level. The asterisks \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		(9)	(10)
Dependent variable	<i>Discretionary accruals</i>	<i>Earnings surprises</i>	<i>Rate of dividend change</i>	<i>Price-scaled dividend change</i>	<i>Dividend cut indicator</i>	<i>Dividend omission indicator</i>	<i>SEO dummy</i>			<i>SEO dummy</i>	
							Market-implied <i>Price ratio: [0.9, 1.1]</i>	Small bandwidth: <i>c=</i>		[1.4, 1.6] 1.5	[1.9, 2.1] 2
<i>Above one</i>	-0.001 (0.003)	-0.002 (0.004)	-0.001 (0.001)	0.001 (0.001)	0.001 (0.003)	0.001 (0.001)	0.032** (0.014)	0.033* (0.018)	<i>Above c</i>	0.028 (0.024)	-0.007 (0.030)
<i>Price ratio-I</i>	0.016 (0.043)	0.051 (0.037)	0.008 (0.009)	0.001 (0.001)	0.017 (0.035)	-0.011 (0.014)	0.513** (0.222)	0.670*** (0.102)	<i>Price ratio-c</i>	0.218 (0.141)	0.202 (0.194)
<i>Price ratio-I*Above one</i>	-0.021 (0.059)	-0.028 (0.048)	0.008 (0.012)	-0.001 (0.001)	-0.007 (0.051)	0.029 (0.025)	-0.867*** (0.300)	-0.859*** (0.126)	<i>Price ratio-c*Above c</i>	-0.200 (0.340)	0.176 (0.330)
<i>Log mktcap</i>							0.006 (0.007)	0.001 (0.006)	<i>Log mktcap</i>	-0.004 (0.003)	-0.009** (0.004)
<i>Leverage</i>							0.187*** (0.049)	0.199*** (0.041)	<i>Leverage</i>	0.043** (0.019)	0.012 (0.028)
<i>ROA</i>							-0.040 (0.199)	-0.040 (0.121)	<i>ROA</i>	-0.197** (0.080)	-0.172 (0.114)
Year-quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Year-quarter FE	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Industry FE	Yes	Yes
Obs.	18,857	17,638	18,857	18,857	18,857	18,857	1,964	2,588	Obs.	4,939	1,499
Adj. <i>R</i> <sup>2</sup>	0.010	0.010	0.036	0.060	0.032	0.014	0.074	0.094	Adj. <i>R</i> <sup>2</sup>	0.063	0.066

**Table A.2**

The size of SEOs.

This table reports the analyses of SEO size. We estimate the same 2SLS regressions as in Tables 7–9 except that we replace the *SEO dummy* with the *Large SEO dummy* in Panel A or the *SEO amount* in Panel B. The *Large SEO dummy* is equal to one if the firm announces an SEO with offer size greater than the sample median offer size and zero otherwise. We obtain similar results when we define large SEOs based on the median offer size scaled by the firm's market capitalization. The *SEO amount* is the natural logarithm of one plus the SEO amount. Control variables, year-quarter fixed effects, and firm fixed effects are included but not reported for brevity. The baseline sample includes Compustat firms that have done an SEO in the past five years and are trading on the NYSE, Nasdaq, or Amex. We exclude regulated utilities (SIC 4900–4999) and financial firms (SIC 6000–6999). The sample period is from 1983 to 2015. The standard errors (in parentheses) are heteroskedasticity consistent and are clustered at the firm level. The asterisks \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% level, respectively.

Panel A: Large SEOs							
Dependent variable	<i>Cash<sub>t</sub></i>		<i>Cash<sub>t+1</sub></i>		<i>Cash<sub>t,t+3</sub></i>		
<i>Large SEO dummy (instrumented)</i>	0.123***		0.116***		0.068**		
	(0.044)		(0.041)		(0.033)		
Dependent variable	<i>Acquisition dummy<sub>t</sub></i>	<i>Acquisition dummy<sub>t+1</sub></i>	<i>Acquisition dummy<sub>t,t+3</sub></i>	<i>Acquisition amount<sub>t</sub></i>	<i>Acquisition amount<sub>t+1</sub></i>	<i>Acquisition amount<sub>t,t+3</sub></i>	
<i>Large SEO dummy (instrumented)</i>	0.029**	0.024*	0.043**	0.116**	0.099*	0.131**	
	(0.014)	(0.014)	(0.021)	(0.058)	(0.059)	(0.062)	
Dependent variable	<i>Capex<sub>t</sub></i>	<i>Capex<sub>t+1</sub></i>	<i>Capex<sub>t,t+3</sub></i>	<i>Rnd<sub>t</sub></i>	<i>Rnd<sub>t+1</sub></i>	<i>Rnd<sub>t,t+3</sub></i>	<i>Employment</i>
<i>Large SEO dummy (instrumented)</i>	0.018	0.038	0.001	-0.028	-0.008	-0.017	0.002
	(0.040)	(0.043)	(0.014)	(0.018)	(0.016)	(0.012)	(0.004)
Panel B: SEO amount							
Dependent variable	<i>Cash<sub>t</sub></i>		<i>Cash<sub>t+1</sub></i>		<i>Cash<sub>t,t+3</sub></i>		
<i>SEO amount (instrumented)</i>	0.029***		0.027***		0.015**		
	(0.009)		(0.009)		(0.007)		
Dependent variable	<i>Acquisition dummy<sub>t</sub></i>	<i>Acquisition dummy<sub>t+1</sub></i>	<i>Acquisition dummy<sub>t,t+3</sub></i>	<i>Acquisition amount<sub>t</sub></i>	<i>Acquisition amount<sub>t+1</sub></i>	<i>Acquisition amount<sub>t,t+3</sub></i>	
<i>SEO amount (instrumented)</i>	0.008**	0.006*	0.010**	0.028**	0.023*	0.032**	
	(0.004)	(0.003)	(0.005)	(0.014)	(0.014)	(0.015)	
Dependent variable	<i>Capex<sub>t</sub></i>	<i>Capex<sub>t+1</sub></i>	<i>Capex<sub>t,t+3</sub></i>	<i>Rnd<sub>t</sub></i>	<i>Rnd<sub>t+1</sub></i>	<i>Rnd<sub>t,t+3</sub></i>	<i>Employment</i>
<i>SEO amount (instrumented)</i>	0.003	0.007	0.001	-0.005	-0.001	-0.003	0.001
	(0.007)	(0.007)	(0.003)	(0.003)	(0.003)	(0.002)	(0.001)