Large controlling shareholders and stock price synchronicity[1]

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- Stock prices move together depends on the relative amounts of firm-specific and market-level information impounded into stock prices. [Roll (1988)]
- Morck et al. (2000) show that R-squared is lower in countries that properly protect investors' property rights

Stock price synchronicity

- Efficient capital allocation (Pindyck and Rotemberg, 1993; Wurgler, 2000)
- Analyst activity (Piotroski and Roulstone, 2004; Chan and Hameed, 2006)
- Earnings informativeness (Durnev et al., 2003)
- Corporate transparency (Jin and Myers, 2006)
- Voluntary disclosure (Haggard et al., 2008)
- Earnings management (Hutton et al., 2009)
- audit quality (Gul et al., 2010)
- The adoption of International Financial Reporting Standards (Kim and Shi, 2012)

Ownership structure

- the distribution of cash flow and voting rights shapes the outcome of financial reporting procedures.(Ball et al., 2003)
- Earnings management (Warfield et al., 1995)
- Earnings informativeness (Fan and Wong, 2002)
- Analyst following (Lang et al., 2004; Boubaker and Labégorre, 2008)
- Accounting conservatism (Lafond and Roychowdhury, 2008)
- The cost of corporate borrowing (Boubakri and Ghouma, 2010; Lin et al., 2011)

This Paper

- Brings together these two strands of literature

Question

Does ownership structure matters in explaining the synchronicity of stock price movements?

- Two important corporate governance characteristics
  - Ultimate cash flow rights of controlling shareholders
  - The separation of voting and cash flow rights

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Excess control and stock price synchronicity

- Grossman and Hart (1988) demonstrate that deviation from the one share–one vote rule maximizes the benefits of control for the controlling party relative to security holders and thus may not be socially optimal.
- Shleifer and Vishny (1997) argue that as ownership increases beyond a certain level, insiders gain almost full control of the firm and may prefer to extract private benefits of control that do not accrue to minority shareholders. This problem is more pronounced when control rights exceed cash flow claims (Claessens et al., 2002).
- Bebchuk (1999) demonstrates that when the private benefits of control are sizable, controlling shareholders strive to maintain a lock on the firm to maximize rent extraction.

Hypothesis 1

Stock price synchronicity increases with the excess control of the ultimate controlling shareholder

Ownership concentration and stock price synchronicity

- The literature suggests that ownership concentration helps mitigate the conflict of interests between controlling and minority shareholders
- Large shareholders are less inclined to conceal information when they hold large ownership stakes in a firm. Rather, they have incentives to disseminate more and better firm-specific information

Hypothesis 2

Stock price synchronicity decreases with the cash flow rights of the ultimate controlling shareholder

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Data and variable construction

- Data
  - French listed firms during 1998 – 2007
  - Non-financial firms
- Ownership structure variables
  - Ultimate Owner: A shareholder who maintains at least 10% of a firm's voting rights without being controlled by anyone else.
  - Ultimate cash flow rights of the largest controlling shareholder (UCF) as the sum of the products of direct cash flow rights along the different ownership chains and its ultimate control rights as the sum of the weakest links across all these chains.
  - Excess control (Excess) is defined as the difference between the ultimate control and cash flow rights of the largest controlling shareholder, scaled by ultimate control rights (UCO UCF)/UCO).

Stock price synchronicity

- Estimating the following modified market model for each firm–year

$$RET_{i,w} = \alpha + \beta_1 MKRET_{w-1} + \beta_2 MKRET_w + \beta_3 INDRET_{i,w-1} + \beta_4 INDRET_{i,w}$$

- R-squared value obtained from the above regression

$$SYNCH = log(\frac{R^2_{i,t}}{1 - R^2_{i,t}})$$

Summary statistics

Variables	Mean	S.D.	5th percentile	25th percentile	Median	75th percentile	95th percentile
R-squared	0.2648	0.2203	0.0501	0.1144	0.1929	0.3346	0.8138
SYNCH	−1.2273	1.1697	−2.9290	−2.0404	−1.4236	−0.6633	1.6924
Excess	0.2113	0.2157	0.0000	0.0165	0.1772	0.3200	0.6550
UCO	0.5105	0.2502	0.0950	0.3086	0.5288	0.7094	0.8883
UCF	0.4122	0.2489	0.0510	0.2058	0.4021	0.6007	0.8480
LEV	0.2231	0.2416	0.0048	0.0772	0.1973	0.3200	0.5154
STDRET	0.0310	0.0179	0.0124	0.0188	0.0259	0.0376	0.0670
AMIHUD	0.0224	0.0355	0.00002	0.0013	0.0117	0.0349	0.0736
ROACORR	0.2290	0.7092	−0.9733	−0.4296	0.4581	0.9031	0.9974
LOG (NIND)	3.3292	1.0485	1.7917	2.5941	3.0667	4.2637	5.0350
DIVERS	4.0228	1.9421	1	3	3	5	8
XLIST	0.0695	0.2543	0	0	0	0	1
SIZE	11.6030	2.1621	8.6128	10.0530	11.3222	12.8557	15.7754

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Model

- Regression model

$$\text{SYNCH}_{i,t} = \beta_0 + \beta_1 \text{Excess}_{i,t} + \beta_2 \text{UCF}_{i,t} + \sum_k \beta_k \text{Control}^k_{i,t} + \text{IndustryDummies} + \text{YearDummies} + \varepsilon_{i,t}$$

  - $\text{Excess} = (\text{cr} - \text{cfr})/\text{cr}$
  - $\text{ExcessDiff} = \text{cr} - \text{cfr}$
  - $\text{ExcessDummy} = \begin{cases} 1 & \text{cr} - \text{cfr} > 0 \\ 0 & \text{cr} - \text{cfr} \leq 0 \end{cases}$
  - $\text{ExcessHigh} = \begin{cases} 1 & \text{Excess} > \text{Median(Excess)} \\ 0 & \text{Excess} \leq \text{Median(Excess)} \end{cases}$

- Pooled OLS regression with industry and year fixed effects.
- Standard errors are corrected for firm-level clustering

Independent variable	Expected sign	Baseline model	Full model				Economic impact (Eq. (2))
		Eq. (1)	Eq. (2)	Eq. (3)	Eq. (4)	Eq. (5)	
Excess	+	0.4340[a]	0.4619[a]				0.100
		(2.7801)	(3.4131)				
ExcessDiff	+			0.9153[a]			
				(3.4351)			
ExcessDummy	+				0.0995[b]		
					(2.1971)		
ExcessHigh	+					0.1433[a]	
						(3.1382)	
UCF	–	−0.6642[a]	−0.6052[a]	−0.7275[a]	−0.7255[a]	−0.6740[a]	−0.151
		(−5.7162)	(−5.6130)	(−7.5125)	(−6.4477)	(−6.0187)	
LEV	+/–		−0.0874	−0.1043	−0.0931	−0.0878	−0.021
			(−0.6386)	(−0.7636)	(−0.6794)	(−0.6414)	
STDRET	–		−0.3878[a]	−0.3824[a]	−0.3960[a]	−0.3952[a]	−0.007
			(−2.7929)	(−2.7977)	(−2.8127)	(−2.8034)	
AMIHUD	+		1.5637[a]	1.5733[a]	1.5941[a]	1.5788[a]	0.056
			(3.4752)	(3.4656)	(3.5632)	(3.5080)	
ROACORR	+		0.0536[b]	0.0526[b]	0.0557[b]	0.0565[b]	0.038
			(2.2553)	(2.2252)	(2.3335)	(2.3727)	
LOG (NIND)	?		−0.2101[a]	−0.2110[a]	−0.2100[a]	−0.2094[a]	−0.220
			(−5.7570)	(−5.6911)	(−5.6905)	(−5.6542)	
DIVERS	+/–		0.0217	0.0225	0.0235[c]	0.0226	0.042
			(1.5799)	(1.6409)	(1.6984)	(1.6275)	
XLIST	+/–		0.4402[a]	0.4291[a]	0.4210[a]	0.4288[a]	0.112
			(3.3607)	(3.3980)	(3.3282)	(3.3806)	
SIZE	+	0.3213[a]	0.2955[a]	0.2934[a]	0.2953[a]	0.2946[a]	0.639
		(21.4299)	(18.9320)	(18.7762)	(18.8792)	(18.8705)	
Intercept		−1.1752[a]	−1.0364[a]	−0.9710[a]	−0.9792[a]	−1.0010[a]	
		(−3.8217)	(−3.6233)	(−3.4784)	(−3.5666)	(−3.5848)	
Industry dummies		Yes	Yes	Yes	Yes	Yes	
Year dummies		Yes	Yes	Yes	Yes	Yes	
N		4561	4561	4561	4561	4561	
Adjusted R^2		0.4167	0.4491	0.4494	0.4451	0.4464	
F		41.12[a]	37.72[a]	36.74[a]	36.69[a]	37.34[a]	

Cash Risk

- Jin and Myers (2006) demonstrate that stockpiling bad news is not everlasting but, instead, continues only up to a certain threshold, above which all bad news is suddenly released, resulting in a significant downward stock price revision, that is, a stock price crash.
- Regression model

$$\begin{aligned}\text{CrashRiski}_{i,t} = \beta_0 + \beta_1 \text{Excess}_{i,t} + \beta_2 \text{UCF}_{i,t} \\ + \sum_k \beta_k \text{Control}^k_{i,t} + \text{IndustryDummies} + \text{YearDummies} + \varepsilon_{i,t}\end{aligned}$$

- Cash Risk: an dummy variable that equals to one if the firm exhibits within its fiscal year a weekly residual return below k-standard deviations of the mean weekly residual returns; zero otherwise

Independent variable	Expected sign	Cutoff level				Marginal effects (1% cutoff)
		1%	2%	3%	5%	
Excess	+	0.8122[a]	0.6779[a]	0.7026[a]	0.4775[b]	0.0314
		(3.1165)	(2.6960)	(2.7393)	(2.0083)	
UCF	–	−0.9979[a]	−0.9437[a]	−0.8603[a]	−0.7005[a]	−0.0516
		(−4.3682)	(−4.1100)	(−3.9528)	(−3.5887)	
LEV	?	0.8806[a]	0.6309[b]	0.5275[b]	0.3436[c]	0.0365
		(3.1854)	(2.5563)	(2.2767)	(1.6594)	
STDRET	?	42.3243[a]	45.1077[a]	47.3382[a]	54.7160[a]	0.7406
		(8.8969)	(8.0255)	(7.3198)	(6.8346)	
AMIHUD	?	7.2639	7.8870	7.5115	5.5503	0.0497
		(1.6296)	(1.6157)	(1.5401)	(1.3428)	
ROACORR	?	0.2008[a]	0.1826[a]	0.1981[a]	0.1505[a]	0.0245
		(2.9253)	(2.9111)	(3.2718)	(2.6857)	
LOG (NIND)	?	0.1276[c]	0.1203[c]	0.0975	0.0943	0.0230
		(1.7383)	(1.8019)	(1.4417)	(1.5761)	
DIVERS	?	−0.0803[b]	−0.1095[a]	−0.0905[a]	−0.0652[b]	−0.0286
		(−2.1969)	(−3.2664)	(−2.8607)	(−2.1841)	
XLIST	?	0.0152	−0.0246	0.0812	0.0146	0.0007
		(0.0642)	(−0.1055)	(0.3650)	(0.0680)	
SIZE	?	−0.1174[b]	−0.1000[b]	−0.1456[a]	−0.1569[a]	−0.0414
		(−2.5503)	(−2.2406)	(−3.3904)	(−4.1811)	
Intercept		−1.7772[a]	−1.5312[b]	−1.5557[b]	−0.9734	
		(−2.8243)	(−2.4026)	(−2.5121)	(−1.2814)	
Industry dummies		Yes	Yes	Yes	Yes	
Year dummies		Yes	Yes	Yes	Yes	
N		4561	4561	4561	4561	
Pseudo R^2		0.2204	0.2227	0.2252	0.2224	

The impact of the FSL of August 1, 2003

Independent variable	
Excess	0.4823[a]
	(3.5399)
FSL	−0.1527[a]
	(−2.8749)
Excess × *FSL*	−0.0443[a]
	(−3.7373)
UCF	−0.6078[a]
	(−5.6364)
LEV	−0.0883
	(−0.6451)
STDRET	−0.3870[a]
	(−2.7840)
AMIHUD	1.5560[a]
	(3.4601)
ROACORR	0.0541[b]
	(2.2753)
LOG (NIND)	−0.2099[a]
	(−5.7528)
DIVERS	0.0216
	(1.5703)
XLIST	0.4403[a]
	(3.3579)
SIZE	0.2955[a]
	(18.8825)
Intercept	−1.0404[a]
	(−3.6337)
Industry dummies	Yes
Year dummies	Yes
N	4561
Adjusted R^2	0.4494
F	36.52[a]

Product market competition

Independent variable	Product market competition	
	Low	High
Excess	0.2802[c]	0.6072[a]
	(1.7409)	(3.2626)
UCF	−0.5921[a]	−0.5780[a]
	(−3.9067)	(−3.9297)
LEV	−0.3065	0.0927
	(−1.4047)	(0.5792)
STDRET	−0.4906[a]	−0.3368[a]
	(−2.8700)	(−3.0997)
AMIHUD	1.6330[b]	1.3251
	(2.3329)	(0.9507)
ROACORR	0.0157	0.0937[a]
	(0.4768)	(2.7403)
LOG (NIND)	−0.2040[a]	−0.2122[a]
	(−4.4438)	(−4.4322)
DIVERS	0.0045	0.0346[c]
	(0.2479)	(1.8049)
XLIST	0.3207[c]	0.6104[a]
	(1.8532)	(3.5305)
SIZE	0.3549[a]	0.2427[a]
	(15.7672)	(12.0667)
Intercept	−0.9837[a]	−0.6054[a]
	(−3.4521)	(−2.8350)
Industry dummies	Yes	Yes
Year dummies	Yes	Yes
N	2211	2350
Adjusted R^2	0.5111	0.4063
F	24.38[a]	24.00[a]
Subsample comparison of coefficients on *Excess*	$\chi^2 = 3.29^{c}$ (*p*-value = 0.0697)	

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Conclusion

- The separation of control and cash flow rights is positively associated with the amount of industry- and market-level information incorporated into stock prices
- Firm with substantial control–ownership wedge is more prone to crashes, which is consistent with the notion that controlling shareholders are able to hide information only up to a certain threshold, upon which all bad news is suddenly disclosed
- Stock prices are less synchronous and less likely to crash when controlling shareholders own a large fraction of cash flow rights

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	Synchronicity							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Excess		-0.899**	-0.557*					
		[-3.22]	[-2.10]					
ExcessDiff				-0.512				
				[-1.61]				
ExcessDummy					-0.0900			
					[-0.66]			
ExcessHigh						-0.175		
						[-1.34]		
position							-0.0959*	
							[-2.53]	
$\ln(\frac{\text{centrality}}{1-\text{centrality}})$								0.124*
								[2.51]
cfr		-0.421	-0.173	0.0838	0.244	0.102	0.119	-0.205
		[-1.17]	[-0.53]	[0.31]	[0.96]	[0.38]	[0.50]	[-0.44]
volatility	-0.00453		-0.0184	-0.0168	-0.0137	-0.0171	-0.0182	0.809***
	[-0.27]		[-0.95]	[-0.87]	[-0.69]	[-0.86]	[-0.92]	[3.57]
Liquidity	-0.206***		-0.191***	-0.192***	-0.196***	-0.195***	-0.195***	-0.235***
	[-9.33]		[-6.17]	[-6.29]	[-6.29]	[-6.31]	[-6.30]	[-3.59]
Size	-0.0873**		-0.0952*	-0.0917*	-0.0853*	-0.0879*	-0.101*	-0.197
	[-3.03]		[-2.17]	[-2.09]	[-2.01]	[-2.06]	[-2.25]	[-1.80]
leverage	-0.104		-0.281*	-0.291*	-0.286*	-0.273*	-0.334**	-0.420
	[-1.79]		[-2.38]	[-2.50]	[-2.47]	[-2.35]	[-2.77]	[-1.68]
$\ln(NIND)$	-0.138		-0.522	-0.526	-0.567	-0.585	-0.602	-0.931
	[-0.36]		[-0.55]	[-0.55]	[-0.59]	[-0.61]	[-0.64]	[-0.46]
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2550	1116	978	978	978	978	978	333
R^2	0.357	0.444	0.479	0.478	0.477	0.477	0.479	0.420

t statistics in brackets

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$