



Is Myopia Contagious? The Effect of Investor Culture on Corporate Disclosure Time Orientation

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Motivation

 A growing literature shows that culture affects a wide range of economic outcomes, including reporting decisions (e.g., Kim et al., 2017; Brochet et al., 2019)

> "a set of beliefs and values widely shared by a group of people, that shape the behavior of and have a lasting effect on individuals" (Guiso, Sapienza and Zingales 2006)

Motivation

- A growing literature shows that culture affects a wide range of economic outcomes, including reporting decisions (e.g., Kim et al., 2017; Brochet et al., 2019)
- Capital investments increasingly flows across geographic borders and cultural time orientation of foreign institutional investors may play an important role in shaping firm disclosure (Cadman, Heinle, and Macciocchi 2019)
- Little evidence on whether cultural roots of foreign investors shape the disclosure narrative of their investees

Research question

Does the cultural background of foreign investors shape the disclosure narrative of their investees?

- Setting: Annual reports from 37 countries.
- Cultural background of institutional investor based on country of origin from Factset

Cultural dimension: Time Orientation

What do we find?

- Firms located in countries that are culturally more longterm oriented disclose more long-term and less forwardlooking disclosures
- 2. An increase in the cultural time orientation of the firm's investor base results in more long-term and less forward-looking disclosures
- 3. Investor induced long-term orientation decreases liquidity and increases the cost of capital

The Effect of Investor Cultural Time Orientation on Disclosure Horizon

- Exogenous changes in institutional ownership on U.S. firms
 - Increase management forecasts, analyst following, and liquidity (Boone and White 2005)
 - Lead to greater financial statement comparability across foreign firms (Fang et al. 2015)
- Firms provide more frequent and informative forecasts when firms are added to the MSCI All-Country World Index (Tsang et al. 2019).

Does the demand of short-term and forward-looking information varies with the time orientation of capital market participants?

Time Orientation

- Horizon: Individual from more long-term orientated (LTO) cultures put more emphasis in the future than in the present or past.
- Time Reference: In linguistics, languages with strong future time reference (FTR) decrease the psychological importance of the future (Dahl 2000; Thieroff 2000). Speakers disassociate the future from the present.

Short-term	Long-term
+	-
English/French	Mandarin/German
Low-LTO/strong-FTR	High-LTO/weak-FTR

The Effect of Investor Cultural Time Orientation on Disclosure Horizon

- Differences across cultures likely influence investor time orientation preferences
 - Individuals from low-LTO countries are more likely to expect immediate gratification
 - Individuals from weak-FTR countries save more and retire with more wealth (Chen 2013)
- Investors may endogenously gravitate towards firms whose time orientation suites their preferences
- Investors cultural time orientation may influence the time orientating of the firms' disclosures

H1: Increases in ownership from relatively more long-(short-) term oriented foreign investors lead firms to disclose more long-(short-) term oriented words and use fewer (more) forward looking statements.

Measuring the cultural time orientation

- 1. LTO: Hosftede's country-level long-term orientation index
- 2. WVS_LTO: Replicate LTO using data from the World Values Survey following Minkov and Hosftede (2012)
- 3. Strong_FTR: We separate countries based on the future time reference of their dominant language, a higher Strong_FTR imply a strong future time reference and lower long term orientation (Chen 2013)
- We combine the above three measures into a single proxy Culture_time, this measure is increasing in long term orientation.

Firm and Investor Culture and Disclosure Time Orientation

Disclosure_time_{i,t}

 $= \alpha_0 + \beta_1 Culture_time_i + \beta_2 Culture_time_investors_{i,t} + \sum \beta_j control_{i,t} + Fixed effects + \varepsilon_{i,t}.$

- Unit of analysis: firm *i* in year *t*
- Disclosure time based on textual analysis.
 - Short_long_Horizon = # of short-term oriented words / # of long-term oriented words
 - Future = # future-oriented words (#FLS statements)/# of words (#sentences) in a given annual reports
 - Past = # past-oriented words/# of words in a given annual reports
 - Present = # present-oriented words/# of words in a given annual reports

> Long-term orientated investor base: $\beta_2 > 0$

The Sample

- Annual reports for 37 countries spanning 2000-2015
 - U.S. 10-K filings from SEC EDGAR
 - Non-U.S. annual reports from Global Reports database in Bureau van Dijk's Osiris 2000 to 2015

Firm-Years in Worldscope with text files	203,708
Less: Incomplete financials, industry classification	33,826
Less: Missing information in Factset	78,671
Less: Countries with fewer than 10 observations	22
Less: Missing MSCI coverage	895
Less: Missing Country level attributes	4,398
Less: Missing text variables	1,698
Total number of observations	84,198

Measure by country

Country	# Firms	# Funds	Cultural Time Orientation	Disclosure Time	Portfolio
				Orientation	Turnover
PHILIPPINES	116	3	-3.50	0.91	0.31
PAKISTAN	58	64	-2.59	1.48	0.26
IRELAND	70	297	-2.44	1.19	0.2
SOUTH AFRICA	173	465	-2.21	0.98	0.21
UNITED STATES	4,858	13,173	-2.10	-1.84	0.19
MEXICO	62	9	-1.85	1.22	0.25
ARGENTINA	18	8	-1.72	0.90	0.23
PORTUGAL	31	241	-1.25	1.28	0.2
CANADA	1,522	2,560	-1.15	0.54	0.18
CHILE	20	6	-1.10	1.06	0.23
CZECH REPUBLIC	14	57	2.95	1.46	0.19
SWEDEN	202	799	3.54	1.23	0.2
SOUTH KOREA	58	8	3.60	1.24	0.23
AUSTRIA	67	483	3.67	1.45	0.16
SWITZERLAND	175	1,909	4.15	1.49	0.16
BELGIUM	100	577	4.44	1.14	0.18
NETHERLANDS	149	627	4.61	1.07	0.18
CHINA	166	359	5.70	1.35	0.17
GERMANY	482	6,444	5.82	1.29	0.16
TAIWAN	135	368	6.37	0.88	0.13
JAPAN	733	281	6.49	1.38	0.2
			Above-median	1.25	0.17
			Culture_time		
			Below-median	-0.51	0.18
			Culture_time		
			T-stat for difference (p-	16.03	3.01
			value)	(<0.001)	(0.003)

Table 4: Culture and Disclosure Time Orientation

Variables	Short_Lon g_Horizon				
Culture_time	-0.028***				
	(-9.458)				
Culture_time	-0.011***				
Investors	(-6.712)				
#	84,198				
R-square	0.3819				
Cluster	Firm-Year				
Year FE	Yes				

Country FE	No				
• • ••					
ndustry FE	Yes				
Tearre	res				

Ownership from more long-term oriented foreign investors is associated with less (more) short (long)-term oriented words

Table 4: Culture and Disclosure Time Orientation

Variables	Short_Lon g_Horizon	Henry_ FLS	Li_ FLS	BRV_FLS	Future_ LIWC	Past_ LIWC	Present_ LIWC
Culture_time	-0.028***	-0.007***	-0.023***	-0.002***	-0.021***	-0.003	-0.000
	(-9.458)	(-6.533)	(-12.192)	(-12.580)	(-8.247)	(-1.113)	(-0.086)
Culture_time	-0.011***	-0.006***	-0.009***	-0.001***	-0.010***	0.005***	0.010***
Investors	(-6.712)	(-6.135)	(-6.119)	(-7.666)	(-6.424)	(4.243)	(3.689)
#	84,198	84,198	84,198	84,198	84,198	84,198	84,198
R-square	0.3819	0.3347	0.6230	0.2638	0.4088	0.1207	0.3845
Cluster	Firm-Year	Firm-Year	Firm-Year	Firm-Year	Firm-Year	Firm-Year	Firm-Year
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	No	No	No	No	No	No	No

Ownership from more long-term oriented foreign investors is associated with fewer forward looking statements and more statements from the present and past.

Table 4: Culture and Disclosure Time Orientation

Variables	Disclosure_time _{I,t}	Disclosure_time _{i,t}
Culture_time	0.144***	
	(10.432)	
Culture_time_manager		0.012***
		(3.791)
Culture_time_investors	0.071***	0.013***
	(8.286)	(4.086)
# of observations	84,198	84,198
R-square	0.6176	0.7660
Cluster	Firm-Year	Firm-Year
Year FE	Yes	Yes
Industry FE	Yes	Yes
Country FE	No	Yes

Ownership from more long-term oriented foreign investors is associated with more long-term oriented disclosures.

Causal Effect of Investor Base on Disclosure Time Orientation

Difference-in-difference test:

$$\begin{aligned} \text{Disclosure_time}_{i,t} \\ &= \alpha_0 + \beta_1 \text{MSCI}_i + \beta_2 \text{MSCI} \times \text{Dm_Culture_time}_{i,t} \\ &+ \sum \beta_j \text{ control}_{i,t} + \text{Fixed effects} + \varepsilon_{i,t.} \end{aligned}$$

– MSCI: an indicator for firms included in the MSCI Index

- Culturally more short-term oriented countries to use fewer short-term and forward oriented words in their annual reports after included in the MSCI Index: β₁>0
- Culturally more *long-term* oriented countries to use *more* short-term and forward oriented words in their annual reports after included in the MSCI Index: β₂<0 and β₁ + β₂<0</p>

Table 5: Investor Base on Disclosure Time Orientation (Difference in Difference)

Variables	Disclosure_time _{I,t}	Disclosure_time _{i,t}
MSCI× Dm Culture_time	-0.249***	-0.233***
	(-4.624)	(-3.953)
MSCI	0.163***	0.141***
	(5.299)	(4.083)
MSCI x Dm Culture_time+MSCI p-	0.009	0.012
value		
# of observations	84,198	21,279
R-square	0.8772	0.8527
Sample	All Firms	Matched Sample
Cluster	Firm	Firm
Firm FE	Yes	Yes
Year FE	Yes	Yes

Causal Effect of Investor Base on Disclosure Time Orientation

Two-stage instrumental variable (Aggarwal et al. 2011):

Culture_time_investors_{i,t}

 $= \alpha_0 + \beta_1 MSCI_i + \beta_2 MSCI \times Dm_Culture_time_{i,t} \\ + \sum \beta_j control_{i,t} + Fixed effects + \varepsilon_{i,t.}$

Disclosure_time_{i,t}
=
$$\alpha_0 + \beta_1$$
Culture_time_investors_IV_i
+ $\sum \beta_j$ control_{i,t} + Fixed effects + $\varepsilon_{i,t}$.

- MSCI: an indicator for firms included in the MSCI Index

Inclusion of culturally long-term oriented investors results in more longterm and less forward-looking disclosure from investees: β₁>0

Table 5: Investor Base on Disclosure Time Orientation (Instrumental Variable)

Variables	Eirct Stago	Second Stage
Valiables	First Stage	Second Stage
	Culture_Time_Investor	Disclosure_Time
MSCI× Dm Culture_time	-0.557***	
	(-4.437)	
MSCI	0.354***	
	(4.705)	
MSCI x Dm Culture_time+MSCI p-value	0.003	
Culture_Time_Investors_IV		0.459***
		(4.102)
# of observations	84,198	82,000
R-square	0.8984	-0.4142
Cluster	Firm	Firm
Firm FE	Yes	Yes
Year FE	Yes	Yes

H2: Capital Market Consequences of Investor and Disclosure Time Orientation



- More transparent \rightarrow decrease information asymmetry
- Advantage of long-term investors in analyzing information → increase information asymmetry

H2: Changes in the time orientation of firm disclosures driven by changes in the cultural time orientation of the investor base do not affect the firm's liquidity or cost of capital

H2: Capital Market Consequences of Investor and Disclosure Time Orientation

Path analysis with structural equation model:

Disclosure_time_{*i*,*t*} = $\alpha_0 + \delta_1$ Culture_time_investors_{*i*,*t*} + δ_2 Culture_time_manager_{*i*,*t*} + $\sum \delta_i$ control_{*i*,*t*} + Fixed effects + $\varepsilon_{i,t}$.

 $\begin{aligned} \text{IA or Cost of Capital}_{i,t} \\ &= \alpha_0 + \overbrace{\gamma_1} \text{Disclosure_time}_{i,t} + \gamma_2 \text{ Culture_time_investors}_{i,t} \\ &+ \gamma_3 \text{ Culture_time_manager}_{i,t} \\ &+ \sum \gamma_j \text{ control}_{i,t} + \text{Fixed effects} + \varepsilon_{i,t.} \end{aligned}$

Whether an indirect effect of Culture_time_investors exists on cost of capital via Disclosure_time: γ₁ x δ₁

Table 6: Information Asymmetry

VARIABLES	Disclosure_ time	Spread	Zero_Ret	Amihud	Information_ Asymmetry
Culture_time_investors	0.00855*** (3.16081)	-0.00010 (-0.90264)	-0.00100 (-1.45733)	-0.04180 (-1.37233)	-0.01077 (-1.42377)
Culture_time_manager	0.01302***	0.00012**	0.00053	0.02066*	0.00723**
Disclosure_time	(0.02011)	(2.10001) 0.00096*** (7.48193)	0.00285*** (3.60444)	0.18737*** (5.90790)	(2.00200) 0.05518*** (6.53245)
Indirect_Effect		0.00001*** (2.88962)	0.00002** (2.37111)	0.00160*** (2.77283)	0.00047*** (2.82879)
Total_Effect		-0.00010 (-0.83029)	-0.00097 (-1.42148)	-0.04020 (-1.31827)	-0.01030 (-1.35994)
Observations	63,591	63,591	63,591	63,591	63,591
Cluster FE	Firm C. Y. I	Firm C. Y. I	Firm C. Y. I	Firm C. Y. I	Firm C. Y. I
Controls	Yes	Yes	Yes	Yes	Yes

Table 6: Cost of Capital

VARIABLES	Disclosure	r_ct	r_gls	r_oj	r_peg	Cost of Capital
	time					
Culture_time_investors	0.01234***	0.00022	-0.00016	-0.00020	-0.00045	0.00061
	(3.42752)	(0.57325)	(-0.19242)	(-0.44679)	(-0.93604)	(1.29807)
Culture time manager	0.00977***	0.00018	-0.00040	0.00044*	0.00042	0.00026
0	(2.77456)	(0.84694)	(-0.60947)	(1.72630)	(1.49900)	(0.91416)
Disclosure_time		0.00085**	-0.00011	0.00468***	0.00451***	0.00168***
		(2.04409)	(-0.08361)	(9.04538)	(8.13556)	(3.00695)
Indirect_Effect		0.00001*	-0.00000	0.00006***	0.00006***	0.00002**
		(1.76813)	(-0.08360)	(3.18648)	(3.13149)	(2.24267)
Total_Effect		0.00023	-0.00016	-0.00015	-0.00039	0.00063
		(0.60073)	(-0.19415)	(-0.31972)	(-0.81942)	(1.34303)
Observations	59,574	59,574	59,574	59,574	59,574	59,574
Cluster	Firm	Firm	Firm	Firm	Firm	Firm
FE	C, Y, I	C, Y, I	C, Y, I	C, Y, I	C, Y, I	FE
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Additional tests

- Partition based on cultural distance
- <u>Active versus passive investors</u>
- Investor conference participation as a mechanism
- Other disclosure attributes
- Controlling for religion
- Controlling for Isidro et al. 2019 factors
- Excluding the U.S.

Contributions

- Add to the literature examining the effects of foreign institutional ownership on firm outcomes
 - We provide evidence on a specific channel through which foreign investors affect disclosure: Cultural time orientation
 - We find that long-term oriented foreign investors can lead unintended consequences, such as lower liquidity and higher cost of capital
- Add to the finance and accounting literature on culture
 - We provide evidence that not only the cultural background of the supply side affects disclosure but also investor's culture
- Provide additional evidence on the textual properties of annual reports in a cross-country setting.
 - Firms located in countries that are culturally more long-term oriented disclose more long-term and less forward-oriented disclosure.



Table 7: Partition by Cultural Misalignment

		aldistance		al distance		
	Low cultur	ai uistance		nigh cultur	ai uistaile	
VARIABLES	Disclosure_ time	Information Asymmetry	Cost of Capital	Disclosure_ time	Information Asymmetry	Cost of Capital
Culture_time_Investor	0.00424	-0.09064***	0.00149*	0.01409***	-0.00253	0.00062
	(0.85736)	(-8.37060)	(1.64741)	(3.79409)	(-0.24525)	(1.00204)
Culture_time_manager	0.01210***	0.00336	0.00029	0.01136**	0.01521***	0.00029
	(2.95582)	(1.03391)	(0.82870)	(2.53382)	(2.76137)	(0.70407)
Disclosure_time		0.03175***	0.00135*		0.07407***	0.00207**
		(3.86194)	(1.89886)		(5.56973)	(2.56484)
Indirect_Effect		0.00013	0.00001		0.00104***	0.00003**
		(0.83989)	(0.77492)		(3.12798)	(2.12051)
Total_Effect		-0.09051***	0.00150*		-0.00148	0.00065
		(-8.34758)	(1.65371)		(-0.14380)	(1.04974)
Observations	42,919	32,861	32,357	41,279	30,730	27,217
Cluster	Firm	Firm	Firm	Firm	Firm	Firm
FE	Year, Industry,	Year, Industry,	Year, Industry,	Year, Industry,	Year, Industry,	Year, Industry,
	Country	Country	Country	Country	Country	Country
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Table 8: Active versus Passive Investors

VARIABLES	First Stage Culture_time Active investors	First Stage Culture_time Passive investors	Second Stage Disclosure_time Active investors	Second Stage Disclosure_time Passive investors
Culture_time_active_investors_IV			0.358***	
			(4.094)	
Culture_time_passive_investors_IV				0.000
				(0.033)
MSCI x Dm Cult_time	-0.311**	-3.248***		
	(-1.977)	(-11.198)		
MSCI	0.349***	0.832***		
	(4.340)	(11.092)		
		. ,		
Observations	81,664	59,549	79,564	57,910
R-squared	0.8546	0.7671	-0.3356	0.0224
Cluster	Firm	Firm	Firm	Firm
Year FE	Yes	Yes	Yes	Yes
Ind FE	No	No	No	No
Country FE	No	No	No	No
Firm FE	Yes	Yes	Yes	Yes

Table 8: Active versus Passive Investors

VARIABLES	Disclosure_time	Disclosure_time	Information	Cost of Capital
			Asymmetry	
Culture_time_active_investors	0.00964***		-0.01389**	0.00009
	(3.65815)		(-2.26507)	(0.23371)
Culture_time_passive_investors		0.00257	-0.02874***	-0.00019
		(1.25819)	(-9.54392)	(-0.67093)
Culture_time_manager	0.01303***	0.01303***	0.00830**	0.00027
	(3.51995)	(3.52935)	(2.40478)	(0.96539)
Disclosure_time	· · ·		0.04963***	0.00167***
			(6.12417)	(2.97723)
Indirect_Effect_Active			0.00047***	0.00002**
			(3.12909)	(2.08161)
Indirect_Effect_Passive			0.00009	-0.00000
			(0.83678)	(-0.04352)
Total_Effect_Active			-0.01342**	0.00011
			(-2.18577)	(0.27250)
Total_Effect_Passive			-0.02865***	-0.00019
			(-9.50561)	(-0.67137)
Observations	61,813	62,186	61,813	58,634
Cluster	Firm	Firm	Firm	Firm
FE	Year, Industry,	Year, Industry,	Year, Industry,	Year, Industry, Country
	Country	Country	Country	
Controls	Yes	Yes	Yes	Yes

Table 9: Investor Conference Participation as a Mechanism

	Attends Investor Conferences Abroad	Does not Attend Investor Conferences Abroad	
VARIABLES	Disclosure_time	Disclosure_time	
Cult_time_manager	0.012	0.014***	
	(1.465)	(3.919)	
Cult_time_investors	0.017**	0.007	
	(2.316)	(1.105)	
F-test Difference in Coefficient	0.310		
Observations	7,790	31,672	
R-squared	0.7432	0.7648	
Cluster	Firm-Year	Firm-Year	
Year FE	Yes	Yes	
Ind FE	Yes	Yes	
Country FE	Yes	Yes	
Firm FE	No	No	

Table 10: Other Disclosure Attributes

VARIABLES	FOG	Numbers per	Log(words)	Disclosure_ readability	Disclosure_ readability	Disclosure
		sentence				readability
Culture_time_investors	-0.036***	1.643***	-0.009***	0.030***	0.005*	
	(-3.859)	(2.668)	(-3.582)	(4.961)	(1.905)	
Culture_time	-0.135***	4.807***	-0.059***	0.123***	, ,	
	(-11.541)	(10.386)	(-8.757)	(12.170)		
Culture_time_manager					-0.001	
					(-0.621)	
Culture_time_investors_IV						0.241***
						(3.134)
Observations	84,198	84,198	84,198	84,198	84,660	82,000
R-squared	0.1529	0.2893	0.4473	0.4454	0.6429	0.0204
Cluster	Firm-Year	Firm-Year	Firm-Year	Firm-Year	Firm-Year	Firm
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Ind FE	Yes	Yes	Yes	Yes	Yes	No
Country FE	No	No	No	No	Yes	No
Firm FE	No	No	No	No	No	Yes

Table 10: Other Disclosure Attributes

VARIABLES	Information_Asymmetry	Cost of Capital
Indirect Effect Disclosure_time	0.00041***	0.00002***
	(3.44958)	(2.76765)
Indirect Effect Disclosure_readability	0.00008	-0.00001
	(0.89484)	(-1.50760)
	-0.01030***	0.00063*
Total Effect	(-3.09151)	(1.73868)
	0.00041***	0.00002***
Observations	63,591	59,574
Cluster	Firm	Firm
FE	Year, Industry, Country	Year, Industry, Country
Controls	Yes	Yes