Mutual Funds and Information Diffusion: The Role of Country-Level Governance

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In t s ont t, fo o u t n su s a t a rt a nts a s a a t on t a re t: on o a n , t ountr t s to r e e ffi n ou n g n nfor t on nto sto re ; on ote r a n , t e s sto q u t n a s n g nfor t on a s tr a n e for s ou gng a rt a t on of ss a e ne stors (u e to ro ss nfor t on).

W a rg t a t q t of ountr goe r n a ff ts s nfor t on- g n t n g ro ss. Pu nfor t on s t of o e q t n ounte s oor goe r n : fir s' u e a fin n a orts e ss u (D For , Hun g a n Te a nt 2007), fir e ss t ns a nt (Mor , Y un g, a n Yu 2000; J n a n Me rs 2006; H e t . 2012; B rt , Bro n, a n Stu z 2012), a n fir e or e stor te t a t o ro r a t on te s (.g., O 2012). For a e , n O toe r 2008, *People's Daily* n C n te ountr orst ro t on of roe rt r g ts or : Lo o t a ns su s o a n or out t o r unt te o e t on of O G s to o a t n g t e nfl ne on so t . In s ont t, a ne of a e u nfor t on ne nt s a re t a rt a nts to g t o u nfor t on t n t o n ounte s goo goe r n . T e nsu n g t n g, o q nt , ot n a s (ot r o) nfor t e ss of sto re s a e s sto re t q u t .

T us, our n ntu t on, e t nfor t on a s tr a u g n t on ote s s, a ss gns a fun n ro to (oor) ountr goe r n n n g fin n a re ts e us ts (g t e) a t on u nfor t on a nnot e offs t out urt n g ote r roe rt s of t re t. Se fi a , n roe nt n r nfor t e ss o s a t re of n a s nfor t on a s tr (on ff nt t e s of ne stors) a n nsu n g s sto q u t .

W a n o a s ntu t on na t r t e nfor t on a s tr u t on ote s s t t fo us s on nfor t on a s tr e t ee n fir a n re t a s o os to t e t ee n or a n ss re t a rt a nts fro ous ote s s. B us ursu t of u nfor t on ne stors s e su a s tr , n ou g s a rt a t on a n n a s s q u t ; n g to e te g t e a t of oor ountr goe r n no furte r g t e t ons on sto re t.

W st e s ote s us n g on t r t on utu fun g rs our ro for ne stors a n t r t on sto s oe r t 2000– 2009 r . W fo o A o g u a n J nson (2005) a n fo us on t o e n t e t e s of ountr e e goe r n (ne fort , goe r n): on t t su orts r t ont ts t t s, ont t n g nst tut ons or zon

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s o t t s gn fi nt ort on of ort e rs' rofi t a t o s fro t r s s n z n g u nfor t on.

governance) and one that constrains governments and elites from expropriation by the elite, that is, property rights institutions (vertical governance). Both types of governance affect the diffusion of information throughout the market. For instance, the threat of expropriation is a major motivation for firms to hide information (e.g., Morck, Yeung, and Yu 2000; Jin and Myers 2006). Property rights institutions are also known to be linked to firm value (Doidge, Karolyi, and Stulz 2004, 2007). Contracting institutions, on the other hand, directly affect the boundary and scope of firms (e.g., Williamson 1975, 1985; Acemoglu, Johnson, and Mitton 2009), and it is well known that public information for more complex firms is less accurate (e.g., Cohen and Lou 2012).

Relying on Kim and Verrecchia (1994) and on the accumulated evidence in the literature that better-informed investors, such as institutional investors, are able to process information, particularly in the global market (e.g., Chang, Khanna, and Palepu 2001; Jin and Myers 2006; Bae, Stulz, and Tan 2008; Xu et al. 2013), we use changes in analyst recommendations as a proxy for less public information. We further proxy for the use of less public information of a fund by the sensitivity of its semiannual changes in stock holdings to the contemporaneous changes in analyst recommendations for a specific stock. We find strong evidence that this sensitivity is affected by governance: the increase of a one-standard-deviation increase in analyst recommendations that induces funds to increase their stock holdings is 1.03% and 6.23% for stocks in countries with the best horizontal and vertical governance, respectively. The effect in countries with the worst governance is 17.2% and 17.8%, or five times higher, which suggests that mutual fund managers use more less public information in countries with poor governance.

To address managers' incentives in pursuing less public information, we examine how fund managers use less public information sold-side compared with raw (e.g., unprocessed) public information and how the use of information affects fund performance. We use Dow Jones news releases as a proxy for raw public information because they contain less professional judgments than analyst reports. We first verify that there is a negative (positive) correlation between fund managers' use of less (raw) public information and the quality of country governance. More importantly, relying on less public information enhances risk-adjusted performance. A one-standard-deviation increase in the use of less public information due to poor horizontal (vertical) governance is associated to a higher annual risk-adjusted performance of 38 (39) basis points. By contrast, relying on raw public information does not lead to superior performance. This test confirms both the usefulness of our proxy of less public information and the benefits for funds to pursue less public information when country governance is poor.

Building on these findings, we further investigate how governance impacts liquidity and stock price informativeness affecting the use of less public information. For example, a one-standard-deviation increase in the use of less public information due to poor horizontal (vertical) governance is associated

to n 11% (15%) r A u q u t , 3.4% (2.9%) r ort on of ro er turns, 2.5% (2.2%) r o g of os n t o t t . , oor goe r ne - ue us g of nfor t on n s q u t sto nfor te ss se r Mor , Y ung Yu (2000) J Me rs (2006), s ons st nt nfor t on s tr ugu n t on o s s. On s t os n t o t t note n ro for nfor te ss.[2] To furt re r f on us on out sto nfor te ss, e e re r s ons s to s fir t us of u nfor t on fi s sto t on to s t s, sto turns e e ne r os te (te) t on to goo ( ) s. s t rn onfir s t re nfor te ss n s s us of u nfor t on. I ort nt , e so fir t oor-goe r ne ue us of u nfor t on s t to sto s o r t ons, su s o r re t-to- oo t o or To n's q , su st ng t ost of n nfor t on s tr oute s e fit of roe nfor te ss.

Infor t on roe ss n so s ort nt t ons ur ng r s s. nfor t on s tr u n t on o s s os ts t n re ts oor goe r ne e os to jor te o r s s u nfor t on t s furt r s ou g q u t t ng ng to ro s q u t run s t re e e ne sto s n ounte s strong nst tut ons. roug s ne , re ts oor r ountr goe r ne e s nt u e to r s. B ont st, or ng to nfor t on s tr u t on o s s, u nfor t on t s s re t ur ng r s s. Our sts ur ng 2008–2009 o fin n r s se strong su ort to for o s s. t on q u t s rt u r s gn fi nt su s nt n t o re ur ng nor e r s: o - s t on n n (r s s) fur us of u nfor t on ue oor or zon e rt goe r ne sso t 31% 27% r A u q u t for n ge n sto ur ng r s s e r se t e .

F , e ss nt e oe t ssu s ro st of ro ust ss s. A ong , e o t us of t r t goe r ne e s for e , s osur (Bus n, P otros , S , 2004), oor goe r ne (o ut fro K ro , Le , V n D j 2012), nt f n g (D n o e t . 2008), ount ng t ns n (Dur , Errun , Mo no 2009) e to s r su ts. W so fir t ort- ng onst nts e ne t of goe r ne - ue us of nfor t on ur ng r s s.

2 os n t r s e ountr r s , ne stor rot t on, fin n e o nts oe ne ss, s osur no t ng gro o ortun e s. B rt , Bro n, Stu z (2012) ro e su r t on e ne s.

Oe a , oura na s s onstat so ountr goe rna ne a ff ts te a nfor a t on s roe ss a n n or oat nto sto a re ts. D ff er nta roe ss n g of nfor a t on(.g., K a n V er a 1994) s no n to a ff t nfor a t ona s a tr a n a re t on t ons fo o n g te a nnoune a nt of a ro a s (Gee n 2004) a n or oat a s(.g., Lee , Mu o , a n Ra 1993; Kr ns a n Lee 1996; M ur a a n Un r oo 2008; S r a r a n S a rtz 2009). Its a t a e e n e e et n to te e ff t e a ss of er gua t ons (B e , L , a n M o 2003). Our u q e ontr ut on s to g g t te o roe a e fun a a g rs o n g e at e a u nfor a t on e n u nfor a t on se ssr a e e us of oor goe rna ne . Ho e e r, oor ountr e e goe rna ne ro es sa fun a na a e n g to te fina n a a re t e e n n te er s ne of nfor a a a g rs: te o - nfor a t on ro e a of oor ountr goe rna ne a n e so e on er a t ng ote r ro e a s, su a s q u t , a oute g te os t e e ff ts of ar nfor a t on a n s a er te a re t ur ng r s s.

T s ntu t on not on e nr e s te et a ture e a a n n g te roe of ountr - e e goe rna ne on fina n a a re ts(.g., D a r gu -Kunt a n M s o 1999; Wurg r 2000; Mor , Y un g a n Yu 2000; J n a n Me rs 2006; B rt a , Bro n, a n Stu z 2012; K ro , Lee , a n V n D j 2012; O 2012) ut a so a s a or a nt nor a t e a a t ons. Our er su ts sugg st t a t, for ountr s t oor goe rna ne , a a ne s n nst tut ons ne te r roe rt r g ts or ont a t ng a t a er a e e s a r or t on to furte r a roe te r fina n a a re ts. W t out a roe r ro gr ss n nst tut ons, o e s fo us n g soe on te e o a nt of fina n a nt r a a ss su a s a utua furs a a e s a ff t te a re t. Oe a , ountr e e goe rna ne ee a s to a e te a re t n a ar rofour a t a n t a t on a ur rstoo a ff t n g te er a t on a n t a nsf r of e a u nfor a t on.

Gr ffin, H rs e , a n K (2011) o t a t ns rt a n g er ue s te r e er a t on to te er e a e of u nfor a t on. Our er su ts a er o a e a n a r n t a t e fo us on oe t e of a e er a ne stors o a n roe ss nfor a t on: a utua furs. Un e ns rs, os t a n g r j ts nfor a t on nto te a re t r or to te er e a e of u a s(.g., K e 1985), a utua furs roe ss u nfor a t on ur n g te a ser e a e e r o a n, te er fore , e n a ne r e nfor a t e a ss oe r te e r o .

W a so ontr ut to e e a ote r st a ns of te et a tur . W a er te first to o o ountr e e goe rna ne a ff ts a ss t r n g a a t n g a utua furs' e a rn n g roe ss a n nfor a t on s oe r n te nt rna t ona ont t. In so o n g e ontr ut to te et a tur er g a n g o ountr e e goe rna ne a ff ts a utua furs' g o a ne st a nts(.g., C a re t a . 2005; F er a a n M tos 2008) a n to te et a tur on te a a t of ountr e e goe rna ne on fir a s(.g., Do e g , K ro , a n Stu z 2004, 2007; A gg r a e t a . 2009). In a t on, e e et n te et a tur on te us of nfor a t on a utua furs(.g., K e r z a n S ru 2007) to te nt rna t ona ont t.

We also show that the information content of mutual fund trading and its market implications are different in weak governance countries compared with the United States.

1. Testable Hypotheses and Empirical Specifications

We now lay out our hypotheses. We provide the main intuition here and report the model in detail in Appendix A. The key assumption of both our model and that of Kim and Verrecchia (1994) is that a noisy public signal released about a firm (e.g., an earnings announcement) can be better processed by certain market participants who are able to use their informed judgment to gain an informational advantage over the market. Informed experts who follow a firm closely (e.g., financial traders and analysts) are capable of making informed judgments about the public signal that allow them to improve its precision. We refer to the superior information coming from informed judgments or better processing of public information as semi-public information to differentiate it from the truly private information that corporate insiders may directly observe.

The incentive to generate semi-public information is stronger when public information is less reliable and uncertainty is higher, that is, when the public information in the market is noisier. We argue that this is the case for firms located in countries with poor country-level governance because the risk of expropriation makes the cash flows of these firms riskier (e.g., O[illegible] 2012) and makes it more advantageous (if not easier) for these firms to hide information (Morck, Yeung, and Yu 2000; Jin and Myers 2006; DeFond et al. 2007; H[illegible] et al. 2012; Bartram, Brown, and Stulz 2012). In addition, firms invest less in corporate governance in countries with poor institutions (Doidge, Karolyi, and Stulz 2007). These effects reduce the quality of firm disclosure and make public information less trustable, which effectively incentivizes institutional investors to use more semi-public information and less public information in their trading. Thus, the incentive to generate semi-public information is stronger when the quality of country-level governance is lower.

In Kim and Verrecchia (1994), the use of semi-public information allows professional investors (fund managers) to generate superior performance. This intuition also [illegible]: poor governance-induced use of semi-public (public) information leads (does not lead) to better risk-adjusted performance. The gain to performance not only completes the logic of the argument—superior performance gives funds an incentive to pursue semi-public information—but also serves as a primary differentiator and validates the proxies we use for semi-public and public information.

The impact of country-level governance on fund managers' behavior has implications for the financial market. In general, trading on semi-public information is not only profitable but also partially revealing (e.g., Kyle 1985)

e a us t u ours nfor t on nto te re te ff t e a o t ng ts nfor t on e ffi e n . Mea n e , o e e r, te nfor t on a a ne g e njoe te ne stors t ng on s u nfor t on n e a s s nfor t on s tr e tee n te s ne stors n ote re ss- nfor t re t a rt a nts, su a s s s- r t on r q u t t rs, s s- s our g s te t ng of su e ss- nfor t rs. In ote r ors, te a t of so t rs to roe ss s u nfor t on s u a ous n e a s sto- re nfor t e n sse n ne nfor t on s tr , n e ue q u t . Poor ountr e e goe rn ne , e u ng te r s on of u nfor t on a n n ng te ne nt e for fun g rs to us s u nfor t on, str ng te ns te s a ss t- r ng e ff ts, s s su g sts t a t oor ountr - e e goe rn ne a n a e a n n e n ne u a t on te nfor t e n ss a n q u t of te a ss ts n te re t n u ng su e a or n fun g rs. T s ote s s t us os ts t a t te us of s u nfor t on n ue oor ountr e e goe rn ne roe s te g n nfor t e n ss of te sto re ut e ue s sto q u t .

Te s ons t ons a n e su g r s te nfor t on s tr a u g n t on ote s s. T s ote s s s art u a t n t o arts. F rst, oor ountr e e goe rn ne n ue s a e fun g rs to s oe ra n us s u nfor t on. S ond, te us of s u nfor t on n ue oor ountr e e goe rn ne roe s te g n nfor t e n ss of te sto re a t te ost of o e e e s of q u t .

An a t rn t e ote s s (te nfor t on s tr e u t on ote s s) os ts t a t te ursu t of s u nfor t on n e a s s sto nfor t e - n ss a n e ue s te nfor t on s tr e tee n te fir a n te e st of te re t. R u ng t s t e of nfor t on s tr s ou n e a s te re t a rt a t on of e t rn ne stors a n, te e for , sto q u t . In t s a s , te a t t of a ne stors a n a o t e a nflu ne of oor ountr e e goe rn ne a t no t on ost. Oe a , t s ote s s os ts t a t te us of s u nfor t on n ue oor ountr e e goe rn ne roe s te g n nfor t e n ss of te sto re a n roe s q u t .

On oro a r for ot ote s s one rns e a or ur ng e r ors of jor re t s o s. Te nfor t on s tr a u g n t on ote s s os ts t a t e n re ts t oor ountr e e goe rn ne a e os to a jor n a te s o , su a s a r s s, fun g rs' t s furte r s our g q u t t ng, ea ng to re ro s a n q u t run e s t a t e ee t os e e ne sto s n ountr s t strong nst tut ons. B ont st, te nfor t on s tr e u t on ote s s os ts t a t e n re ts t oor goe rn ne a e os to a jor n a te s o , fun g rs' t s n e a s q u t t ng e a ng to o e r re ro s a n e tr q u t ont ons. In ote r ors, te oro a r e a t s te q u t of ountr e e goe rn ne to a re t's u n t to r s s.

2. Data and Variable Construction

We now describe the sources of our data and the construction of our main variables.

2.1 Data sample and sources

Our sample covers the 2000–2009 period. We focus on open-end equity mutual funds. We obtain the data on international mutual funds from Morningstar International, which has complete coverage of open-end mutual funds worldwide beginning in the early 1990s. The database is survivorship-bias-free and includes data on both active and index funds. The initial sample includes 65,336 equity funds and share classes (both active and index funds). Different share classes are reported for each fund. They represent claims to the same portfolio of assets, but have different fees. We consolidate multiple fund share classes into portfolios and focus on portfolio-level information.[3] The resulting sample contains 27,992 equity fund portfolios (both active and index funds), which we use as funds.

We match the funds with holdings data from FactSet/LionShares. This dataset provides portfolio holdings for institutional investors worldwide.[4] We consider all types of stock holdings of open-end funds (common shares, American Depositary Receipts [ADR], global depositary receipts [GDR], and dual listings). The reporting frequency of mutual fund holdings data is quarterly (34% of the cases), semiannual (58%), or annual (8%). We choose the semiannual frequency to include the majority of funds. We require that the funds are fully invested in equity (the total amount invested in equity should not be less than 95% of the total net assets at the end of the semiannual period, and the total amount of foreign equity must be more than 50%). We also exclude funds that hold fewer than 10 foreign stocks. This filter allows us to have a reasonable cross-section to estimate the fund-level use of semi-public information in different countries.[5]

In terms of assets, we start with the universe of stocks covered by Worldscope for which we have accounting and stock market information

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[3] The primary fund share class is the class with the highest total net assets (TNA). In general, the primary class represents more than 80% of the total assets across all share classes.

[4] The database contains institutional holdings at the investor stock level in over thirty countries, with positions totaling US$18.29 trillion as of December 2008. FactSet/LionShares compiles institutional ownership from public filings by investors (such as 13-F filings in the United States), company annual reports, stock exchanges, and regulators around the world. Institutions are defined as professional money managers, including mutual fund companies, pensions funds, bank trusts, and insurance companies. Overall, institutional ownership represents more than 40% of the total world stock market capitalization in our sample period. In our analyses, we focus on open-end mutual fund ownership, whereas we control for the global institutional ownership in our regressions.

[5] We get consistent results using a filter of 30% or 80% foreign assets. The results for these different sample sizes are in the Internet Appendix. Although the foreign holdings requirement introduces sample selection, it increases the relative precision in proxying for the reliance of investors on semi-public information that is influenced by country-level governance.

from Datastream/WorldScope and CRSP/Compustat. For each country, we consider only common stocks. This sample is then matched with institutional investors' stock holdings from FactSet/LionShares, information on analyst recommendations from I/B/E/S, and information on Dow Jones News reports from RavenPack (discussed below).[6] We then manually match Morningstar and FactSet/LionShares and match mutual fund holdings with Datastream/WorldScope and CRSP.

The starting sample from Datastream/WorldScope and CRSP covers 45,343 firms over the period. After the match with FactSet/LionShares and Morningstar, the sample is reduced to 23,045 firms over the period. We further require that stocks have analyst recommendations from I/B/E/S and country-level governance information based on Acemoglu and Johnson (2005), which reduces the number of stocks to 21,329. We also apply screening procedures for Datastream data errors in monthly returns, as suggested by Ince and Porter (2006) and others, and drop penny stocks (stocks priced less than $1/share) and stocks with fewer than 12 months of returns or trading information.

Our final sample includes 12,300 mutual funds from 44 countries investing in 16,313 stocks in 50 countries. Most funds are from developed countries. Among these funds, U.S. funds represent 69% of the sample in terms of TNA but only 22% of the number of funds. A further discussion of the data is provided in the Appendix along with the summary statistics.

2.2 Information and governance proxies

We use two proxies for information. To proxy for public information, we use data on analyst recommendations. This choice follows Kim and Verrecchia (1994) and is supported by the empirical literature that shows that analysts help markets process better information, particularly in the global markets (e.g., Chang, Khanna, and Palepu 2001; Jin and Myers 2006; Bae, Stulz, and Tan 2008; Xu et al. 2013). In the same spirit, we use media reports as a proxy for public information because media reports typically involve less subjective judgments, as we discuss shortly. The original I/B/E/S data base assigns 1 for strong buy and 5 for strong sell. To simplify the interpretation of our results, we reverse the I/B/E/S ranking by subtracting the rating from 6. Thus, an increase in the analyst recommendation in our analysis is good news for the stock. To make the data homogenous across countries, we standardize the distribution of consensus recommendations within each country by removing the country average and scaling the difference by the standard deviation of consensus recommendations in the country. Our results are robust if we do not scale the recommendations.

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6 We compile Datastream data with the institutional holdings data from FactSet using SEDOL codes (or CUSIP for non-U.S. firms) and ISIN codes. We use CUSIP to merge institutional holdings data with U.S. security data from CRSP. We then match every stock holding in the fund portfolio with the respective analyst recommendation data available from I/B/E/S.

The proxy for investor sentiment is the Composite Sentiment Score (CSS), which is provided by RavenPack, a leading global news database that collects real-time firm-level news from Dow Jones Newswires, regional editions of the *Wall Street Journal*, and *Barron's*. It begins in 2000 and covers more than 170,000 entities over 100 countries. RavenPack conducts linguistic analysis and assigns scores (CSS) to the news stories, ranging from 0 (extremely negative news) to 100 (extremely positive news), with 50 being neutral. The CSS score covers more than 330 different types of news events, including product recalls, earnings announcements, layoffs, mergers and acquisitions (M&A) activity, and so on. We use this information to construct a proxy for investor sentiment: News sentiment (*NS*), which is defined as the average CSS of all news reports about a firm over the six-month period. Similar to the case of analyst reports, we standardize the distribution of the news sentiment index within each country.

Our main proxies for country-level governance come from Acemoglu and Johnson (2005). Contracting institutions (horizontal governance) refer to the rules and regulations governing contracting between two parties of similar power, such as those between a creditor and a debtor. Property rights institutions (vertical governance) refer to the rules and regulations protecting individuals against the power of the government (or the elite). The three contracting indices are legal formalism (the index of formalism in the legal procedures for collecting on a bounced check), procedural complexity (the index of complexity in collecting a commercial debt), and the number of procedures (the number of procedures in collecting a commercial debt). The three property rights indices are constraints on the executive (whether there are regulatory limitations on the executive's actions and authority), average protection against expropriation (protection against the risks of expropriation of private foreign investment), and private property protection. Acemoglu and Johnson (2005) provide a more detailed discussion on the different roles of the two institutions.[7]

Given that the original indices have different distributions, we standardize them to be distributed between 0 (perfect governance) and 1 (weakest governance). Then, we take the average of the three horizontal and vertical governance measures to obtain two aggregate indices. We report graphical views of these indices in Figure 1 (these governance indices are static in nature). In terms of horizontal governance, Australia is ranked as the best and Peru the worst. In terms of vertical governance, Luxembourg and the United States are among the best, and China and Peru are among the worst. We also use a series of alternative measures of governance. These are disclosure (Bushman, Piotroski, and Smith 2004), the poor governance index (computed as the inverse of the good government index of Karolyi, Lee, and Van Dijk 2012), anti-self-dealing (Djankov, La Porta, Lopez-de-Silanes, and Shleifer 2008), accounting

7 Acemoglu and Johnson (2005) do not have Germany in their data sample [illegible].

Table 1
Descriptive statistics

Panel A: Distributions

	Whole Sample Distribution						Quintile Distribution on Horizontal (H) and Vertical (V) Governance Indices									
	N	Mean	Std Dev	MIN	Median	MAX	H1	H2	H3	H4	H5	V1	V2	V3	V4	V5
Asset-Pricing Characteristics of Stocks																
A[illegible] I[illegible] t	135,611	−0.066	0.208	−0.964	−0.006	0.64	−0.031	−0.034	−0.015	−0.11	−0.113	−0.022	−0.036	−0.015	−0.038	−0.131
Zero Return	135,629	0.058	0.105	0	0.016	0.581	0.018	0.049	0.091	0.038	0.118	0.018	0.027	0.107	0.073	0.096
[illegible] Vol (from [illegible] -factor model)	135,621	0.022	0.011	0.008	0.020	0.065	0.019	0.019	0.021	0.017	0.02	0.02	0.018	0.019	0.019	0.02
[illegible] Vol (from market and industry factor model)	135,642	0.021	0.011	0.004	0.019	0.066	0.018	0.019	0.020	0.017	0.018	0.020	0.018	0.019	0.018	0.018
RET	135,641	0.011	0.059	−1	0.012	1.278	0.014	0.014	0.018	0.009	0.016	0.01	0.009	0.013	0.016	0.024
DGTW	135,641	0.001	0.042	−0.151	0.001	0.115	0.004	0.007	0.008	−0.004	0.008	0.002	0.002	0.003	0.008	0.013
M/B	118,854	2.31	1.65	0.36	1.8	11.22	2.009	1.809	1.985	2.188	2.207	2.063	1.925	1.745	1.967	2.429
To[illegible]	135,642	1.39	0.79	0.58	1	7.82	1.539	1.337	1.506	1.532	1.559	1.365	1.403	1.358	1.383	1.79
Pu[illegible] and S[illegible] Information for Stocks																
# Analyst Per Stock	167,269	8.74	7.97	1.00	6.00	74.00	13	16	16	14	12	21	18	18	10	8
% Analyst Coverage	50	64%	20%	13%	66%	100%	0.70	0.76	0.67	0.61	0.61	0.77	0.69	0.67	0.70	0.55
R	167,269	3.63	0.70	1.00	3.67	5.00	3.59	3.49	3.57	3.39	3.44	3.58	3.46	3.47	3.51	3.52
ΔR	165,162	−0.03	0.50	−4.00	0.00	4.00	−0.03	−0.03	−0.01	−0.02	−0.03	−0.04	−0.04	−0.02	−0.03	−0.01
Standardized ΔR	165,162	−0.05	0.60	−6.46	−0.03	6.05	−0.02	−0.03	−0.03	−0.04	−0.02	−0.02	−0.03	−0.03	−0.02	−0.04
# News Per Stock	119,499	76.52	219.60	1	37	12322	21.21	19.53	17.63	14.78	14.43	31.88	21.97	18.30	15.18	14.28
% News Coverage	119,499	49.55	3.14	4.00	50.00	100.00	68%	59%	61%	59%	60%	64%	75%	67%	50%	52%
NS	115,727	−0.10	3.52	−56.00	−0.01	66.50	50.3	49.8	49.6	49.0	50.1	49.7	49.9	49.6	49.8	50.4
ΔNS	115,723	−0.06	4.30	−58	0	66.5	−0.04	−0.10	−0.09	−0.32	0.46	0.18	−0.01	−0.26	−0.14	0.66
Standardized ΔNS	115,723	−0.01	0.78	−10.18	0.00	14.28	0.003	0.001	−0.005	−0.009	−0.002	0.009	−0.025	0.008	0.015	−0.032
Use of Information																
$\%\Delta Hold_{i,k,t}$	26,670,717	−2.21	73	−100	−3.13	100	−2.66	−2.74	1.32	−7.70	1.09	−2.68	−2.30	−1.98	−0.83	−1.73
Fund Horizontal S[illegible]Pu _Poor	93,388	0.033	0.078	0.000	0.008	0.966	0.045	0.028	0.024	0.067	0.045	0.029	0.042	0.025	0.038	0.016
Fund Vertical S[illegible]Pu _Poor	92,899	0.033	0.077	0.000	0.008	0.962	0.045	0.029	0.036	0.062	0.045	0.030	0.040	0.026	0.058	0.027
Fund S[illegible]Pu _Good	104,579	0.038	0.085	0.000	0.012	0.979	0.051	0.043	0.045	0.046	0.045	0.036	0.047	0.044	0.049	0.033
Horizontal S[illegible]Pu _Poor	128,922	0.011	0.022	0	0.005	0.512	0.0068	0.0095	0.0081	0.0118	0.0078	0.0086	0.0085	0.0096	0.0069	0.0096
Vertical S[illegible]Pu _Poor	128,904	0.011	0.023	0	0.005	0.525	0.0069	0.0098	0.0086	0.0118	0.0085	0.0090	0.0086	0.0100	0.0078	0.0104
S[illegible]Pu _Good	134,618	0.017	0.023	0	0.011	0.426	0.0105	0.0137	0.0125	0.0236	0.0108	0.0133	0.0133	0.0159	0.0103	0.0132

(*continued*)

Table 1
Continued

Panel B: Correlation matrix for *Semi_Pub* measures and stock characteristics

	Amihud Illiquidity	Zero Return	Idiosyn Vol (from market and industry model)	Idiosyn Vol (from 6-factor model)	RET	DGTW Return	M/B	Tobin's q	Horizontal Semi_Pub_Poor	Vertical Semi_Pub_Poor	Semi_Pub_Good
Amihud Illiquidity	1	0.071	0.008	0.048	−0.049	−0.032	−0.093	0.001	0.036	0.039	0.025
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.76)	(0.00)	(0.00)	(0.00)
Zero Return		1	0.15	0.093	−0.02	−0.034	−0.084	−0.069	0.012	0.008	0.01
			(0.00)	(0.00)	(0.09)	(0.00)	(0.00)	(0.00)	(0.31)	(0.49)	(0.38)
Idiosyn Vol (from market and industry model)			1	0.899	0.073	0.05	0.074	0.088	0.026	−0.003	0.046
				(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.03)	(0.82)	(0.00)
Idiosyn Vol (from six-factor model)				1	0.084	0.06	0.083	0.101	0.026	0.008	0.044
					(0.00)	(0.00)	(0.00)	(0.00)	(0.03)	(0.51)	(0.00)
RET					1	0.919	0.174	0.173	−0.013	−0.01	−0.008
						(0.00)	(0.00)	(0.00)	(0.29)	(0.42)	(0.53)
DGTW Return						1	0.237	0.233	−0.008	−0.004	0.005
							(0.00)	(0.00)	(0.52)	(0.73)	(0.71)
M/B							1	0.903	−0.011	−0.016	0.084
								(0.00)	(0.29)	(0.12)	(0.00)
Tobin's q								1	−0.014	−0.019	0.088
									(0.16)	(0.06)	(0.00)
Horizontal Semi_Pub_Poor									1	0.622	0.176
										(0.00)	(0.00)
Vertical Semi_Pub_Poor										1	0.18
											(0.00)
Semi_Pub_Good											1

Panel C: Correlation Matrix of Governance

	Horizontal Gov	Vertical Gov	Poor Gov	Disclosure	Anti_SD	Anti-Transaction	CPI
Horizontal Gov	1	0.59	0.58	0.2	0.46	0.16	0.6
		(0.00)	(0.00)	(0.25)	(0.00)	(0.29)	(0.00)
Vertical Gov		1	0.89	0.47	0.02	0.11	0.83
			(0.00)	(0.01)	(0.88)	(0.46)	(0.00)
Poor Gov			1	0.58	0.11	0.34	0.91
				(0.00)	(0.52)	(0.04)	(0.00)
Disclosure				1	0.29	0.3	0.64
					(0.09)	(0.08)	(0.00)
Anti_SD					1	0.06	0.15
						(0.70)	(0.29)
Anti-Transaction						1	0.24
							(0.10)
CPI							1

Panel A reports summary statistics of our sample stocks over the 2000–2009 period. The sample selection is described in Appendix C. We also screen stocks following procedures for Dimson standard errors in monthly returns as suggested by Ince and Porter (2006) and others. Panel B reports the correlation matrix of the main variables. Panel C reports the correlation matrix of the governance proxies. All the variables are described in Appendix B.

e ss oe e Do Jo s s, s ons st nt not on t u nfor t on se ss e n es ounte s. B us us of s r e ou ue nu e r of fir s rt u r n ounte s oor goe rn ne , our r et sts fo us on ons u nfor t on. Ho e e r, e us s ro of u nfor t on n ts o n ng s e r e to or ff er nt et e ono ts of t o soure s of nfor t on.

rt of P A su r e s oe str ut on of utu fur turnoe r n sto s ($\%\Delta Hold_{i,k,t}$, e rr ng to e re n e er n ng of sto i n e r t fur k) str ut on of our n e nt r e s us of s u nfor t on n ounte s goo goe rn ne (*SemPub_Good*) n e n us of s u nfor t on n ounte s oor e rt or zon goe rn ne (*SemPub_Poor*) e e ne t e utu fur o rs of sto . W e n r onstru t on n t e t on. e , e s not t o fur turnoe r our e nt r e s e e r son str ut ons.[8] Furt r or , q u nte str ut on ust s e or t on e t ee n us of s u nfor t on n e s oor goe rn ne , e s e r su ort to our ote s s. Of ours , or t on so su sts t fur ne st nt s ons e ust er n ge n ountr . To e r e ous s uss on on ountr -fie ff ts, s oss t ot s us to ontro for ountr - t -fie ff ts. W furt r fo o Pet s n (2009) to ust r e rrors t ountr t e e for our sto e e e ss ons to ontro for n ust r e ne un tur t or ountr u e s. Fo o ng et tur , e so us ff nte ts of ontro r e s t r to ff nt e nt r e s. W e r e sts sons for us ng n e e n e ss on o s. Int n t A e ro s str ut ons.

F , e e ort or t on tr of e nt nt r e s n P B t of n t rn t e goe rn ne s n P C. P B ust s t us of s u nfor t on ue oor ountr e e goe rn ne s t toe ss q u t , os n t r s , o e r To n' q . M n e , P C su sts t or zon e rt goe rn ne or s not sur r s ng e us e oe (r g n g) ounte s t to e e tr (ors) ong ot ns ons. In n ounte s, o e e r, r t on e t ee n t o goe rn ne ns ons s ff nt. , for e , se r oor roe rt r ts nst tut ons, s ts ont t ng nst tut ons of e q t .

8 In our e , fur turnoe r s n of −2.21% s at on of 73%. nor t st sts (C r– on M s Ko ogoro –S rno) ej t nu ote s s t r e s nor str ut on, ng t so stru tu o s, su s on e s re n E t on (1), e e s q ue to ur rs nd for t on of r e .

3. The Use of Semipublic Information and Quality of Governance

In this section, we investigate the link between the use of semipublic information and governance, and we assess whether the profitability of such strategies depends on it.

3.1 Semipublic information and fund behavior

We begin by studying whether mutual funds use semipublic information differently depending on the quality of governance of the country whose stocks they invest in. Thus, for each fund, we regress the percentage change in holdings of fund k in stock i over the semiannual period on the contemporaneous changes in analyst recommendations $\Delta Re_{i,t}$, country-level governance, and the interaction between governance and changes in analyst recommendations, in addition to a set of control variables. More specifically, we estimate for each fund and period:

$$\%\Delta Hold_{i,k,t} = a_{k,t} + \lambda^*_{k,t}\Delta Re_{i,t} + \lambda^G_{k,t} G_i + \gamma_{k,t}\Delta Re_{i,t} \times G_i + c \times M_{i,t-1} + \varepsilon_{i,k,t}, \quad (1)$$

where $\%\Delta Hold_{i,k,t}$ refers to the percentage change in holdings of stock i in period t,[9] $\Delta Re_{i,t}$ is the change in the analyst consensus of the stock, $a_{k,t}$ is the regression constant, $\lambda^*_{k,t}$ is the sensitivity to semipublic information when country-level governance is perfect, G_i is the index of the quality of governance of the country of stock i (this is static and thus does not have a time subscript), $\lambda^G_{k,t}$ is the sensitivity to governance, and $\gamma_{k,t}$ captures the mutual funds' incremental sensitivity to semipublic information in the presence of poor governance. The vector of $M_{i,t-1}$ stacks several control variables, including country and industry returns, and lagged analyst recommendation changes. Because the semipublic information conveyed in the analyst reports becomes public upon the release of these reports, we focus on the contemporaneous relation between fund trading and analyst recommendations. In this case, the sensitivity of managers' trading to contemporaneous analyst recommendations is more likely to reflect which fund managers use semipublic information to trade.

Table 2 reports the average value of the regression coefficients and the corresponding robust t-stats. We see that fund rebalancing correlates positively with the contemporaneous changes in analyst recommendations. Even more important, the effect is stronger in the case of poor country-level governance and is economically significant. For example, in columns 2 and 3, a one-standard deviation increase in changes in analyst recommendation induces funds to increase their stock holdings by 1.03% and 6.23% for stocks in countries with the worst horizontal and vertical governance, respectively. The

9 We follow Kacperczyk and Seru (2007) in winsorizing the percentage change in stock turnover at 100% (4.6% of the stock turnover ratios above 100%). We have also verified that different thresholds do not qualitatively change our main results.

Table 2
Governance and the fund-level use of semipublic information (first-stage regression)

	1	2	3	4	5	6
ΔRe	12.587***	1.725***	10.383***	14.124***	3.865***	11.628***
	(114.54)	(3.96)	(67.54)	(107.62)	(6.83)	(57.55)
ΔRe (t–1)				6.078***	5.675***	5.633***
				(48.76)	(44.01)	(43.44)
Horizontal Gov		−0.048			−2.330***	
		(−0.08)			(−3.23)	
ΔRe *Horizontal Gov		30.434***			27.069***	
		(26.54)			(18.99)	
Vertical Gov			−3.513*			−0.486
			(−1.77)			(−0.21)
ΔRe *Vertical Gov			25.608***			26.521***
			(9.37)			(7.53)
Market Return (t–1)				66.733***	30.394***	19.874***
				(4.6)	(4.35)	(2.78)
Industry Return (t–1)				61.302***	53.355***	51.532***
				(23.37)	(19.75)	(19.1)
Constant	10.874***	11.759***	10.391***	8.674***	10.299***	9.093***
	(125.57)	(50.6)	(96.09)	(35.34)	(29.94)	(41.32)
# Fund-Semiannual	104,957	104,955	104,939	104,933	104,927	104,888
Adj. R^2	0.038	0.098	0.097	0.142	0.194	0.193

This table reports the results of the following regression for all fund-semiannual holding periods,

$$\%\Delta Hold_{i,k,t} = a_{k,t} + \lambda^{*}_{k,t}\Delta Re_{i,t} + \lambda^{G}_{k,t} G_i + \gamma_{k,t}\Delta Re_{i,t} \times G_i + c \times M_{i,t-1} + \varepsilon_{i,k,t},$$

where $\%\Delta Hold_{i,k,t}$ denotes the percentage change in split-adjusted holdings of stock i held by fund k over the semiannual period, $\Delta Re_{i,t}$ is the change in the consensus forecast of stock i, and G_i is the governance index of the country of the stock. $M_{i,t-1}$ is a set of control variables, including country and industry return, and lagged changes. The table reports the average of the regression coefficients and the corresponding robust t-statistics. The superscripts ***, **, and * refer to the 1%, 5%, and 10% levels of statistical significance, respectively. The sample includes fund-firm-semiannual observations over the 2000–2009 period.

countries scoring high in governance ... poor governance are much higher. They are 17.2% and 17.8% for Peru and China, which have the worst overall ratings for horizontal and vertical governance, respectively, and 15.6% and 16.8% in the five worst countries (Peru, Argentina, Mexico, Philippines, and Spain for horizontal governance and China, Peru, Indonesia, Sri Lanka, and Romania for vertical governance).[10] All these numbers are highly statistically significant. In addition, these results are robust to adding further controls for aggregated semipublic information and industry-level information.

We use Equation (1) to define two fund-level measures that capture the importance of semipublic information in explaining portfolio turnovers. The first is the partial R^2 of $\lambda^{*}_{k,t}\Delta Re_{i,t}$, which we call *Fund SemPub_Good*$_{i,t}$

(fun us of es u nfor t on n ounte s good goe rn ne). It s r e s te us of es u nfor t on on t on on strong nst tut ons. Te es on sur /!,1S 2 s

Table 3
Fund performance and the fund-level use of semipublic information

	1	2	3	4
	Hor zone. *Fund SemPub_Poor*	Wrt a. *Fund SemPub_Poor*	Hor zone. *Fund SemPub_Poor*	Wrt a. *Fund SemPub_Poor*
Fund SemPub_Poor	0.403***	0.419***	0.274**	0.294**
	(4.12)	(3.99)	(2.26)	(2.32)
Fund Pub_Poor			0.122	0.176
			(1.03)	(1.42)
Fund SemPub_Good	−0.384***	−0.416***	−0.164	−0.18
	(−3.65)	(−3.84)	(−1.37)	(−1.48)
E e. ns Re.t o	−0.085***	−0.087***	−0.083***	−0.082***
	(−9.82)	(−9.9)	(−8.58)	(−8.28)
Turnoe. r	−0.019	−0.018	0.014	0.016
	(−1.18)	(−1.12)	(0.77)	(0.91)
Furo Sce	−0.024***	−0.024***	−0.016***	−0.016***
	(−8.13)	(−8.05)	(−5.1)	(−4.88)
Conse. nt	0.559***	0.570***	0.400***	0.388***
	(8.99)	(8.99)	(5.82)	(5.56)
Countr -a. ro Ya. r-Fe. o Eff -ts	Ys	Ys	Ys	Ys
Os r a. t ons	27,078	26,381	21,631	21,209
R^2	0.049	0.049	0.055	0.055

T- s e. e. cr cs nts te. a. n cr gr ss on a. e. s s of te. cr a. t ons- e. t ee. n *Fund SemPub_Poor* a. ro furo e. rfor e. ne. . W us te. four-f -tor a. -a. of Ca. t-a. rt (1997) to e. a. sur furo e. rfor e. ne. a. cs o on a. 36- on- ro n g ro o . Mor se. - fi- a. , e.e. st e. ct te. f -tor o. o n gs of furo s a. cs o on te. 36- on- e. r o r or to *t*, a. ro te. n -o ut te. e. rfor e. ne. of te. furo n on- *t*2. s te. o ff cr ne. e. t ee. n te. cr a. cs o furo cr turn n on- *t* (e. ss of te. r s -fre. ct)a. ro te. cr a. cs o r s cr u. n te. s e. on- (e. ., te. ro u-t of te. e. -tor of ro n g f -tor o. o n gs t e. s te. cr a. cs o f -tor cr turn n on- *t*). W a. e. f. g te. on- e. rfor e. ne. a. 83 28 Pu _Pe. 83 28 Pu _Poor

for [illegible] nfor[illegible]t on [illegible] s [illegible] across countr[illegible]s. Aft[illegible] [illegible] on [illegible] sts, [illegible] to furt[illegible]r [illegible] our [illegible] ous [illegible] s. [illegible] fun[illegible] of [illegible] nfor[illegible]t on s [illegible] n E[illegible]u[illegible]t on (1) [illegible] u [illegible] nfor[illegible]t on [illegible] fro[illegible] [illegible] (ΔNS) [illegible] ts [illegible]t on [illegible] countr[illegible] go[illegible]e[illegible]rn[illegible]n[illegible]. In [illegible] st of [illegible] ort [illegible] su[illegible]ts of [illegible] first-s[illegible]g[illegible] r[illegible]gr[illegible]ss on [illegible] Int[illegible]rn[illegible]t A[illegible] . It suffi[illegible]s to [illegible] t, n [illegible] first-s[illegible]g[illegible] r[illegible]gr[illegible]ss on, [illegible] R^2 of [illegible] fi[illegible] [illegible] of [illegible] oor go[illegible]e[illegible]rn[illegible]n[illegible] on fun[illegible] of [illegible] u [illegible] nfor[illegible]t on. W[illegible] s [illegible] s *Fund Pub_Poor*. In [illegible] o[illegible]u[illegible]ns 3 [illegible] 4, [illegible] ort [illegible] t of *Fund Pub_Poor* on fun[illegible] rfor[illegible]n[illegible] s [illegible] t of *Fund SemPub_Poor*. W[illegible] s [illegible] of [illegible] u [illegible] nfor[illegible]t on [illegible] s not [illegible] sor [illegible] tor [illegible] of [illegible] of [illegible] u [illegible] nfor[illegible]t on on fun[illegible] rfor[illegible]n[illegible] s no [illegible] t on [illegible] of [illegible] u [illegible] nfor[illegible]t on (*Fund Pub_Poor*) [illegible] rfor[illegible]n[illegible]. [illegible] su[illegible]ts [illegible] ons[illegible]st[illegible]nt [illegible] our [illegible] t on of [illegible] u [illegible] nfor[illegible]t on [illegible] our [illegible] of [illegible] ro[illegible].

4. Effects on the Stock Market

In [illegible] s [illegible]t on, [illegible] oor go[illegible]e[illegible]rn[illegible]n[illegible] of [illegible] u [illegible] nfor[illegible]t on (*SemPub_Poor*) to sto[illegible] r[illegible]st[illegible]s.

4.1 Stock liquidity and idiosyncratic volatility

W[illegible] g[illegible]n [illegible] st[illegible]g[illegible]t[illegible]ng [illegible]t of *SemPub_Poor* on sto[illegible] q[illegible]u[illegible]t[illegible] [illegible] os[illegible]n[illegible]t[illegible] o[illegible]t[illegible]t[illegible]. W[illegible] st[illegible] fo[illegible]o[illegible]ng:

$$Char_{i,t+1} = \alpha + \beta_1 \times SemPub\_Poor_{i,t} + \beta_2 \times SemPub\_Good_{i,t} + c \times M_{i,t} + \varepsilon_{i,t+1}, \quad (2)$$

[illegible] $Char_{i,t+1}$ s [illegible] sto[illegible] r[illegible]st[illegible] for[illegible], q[illegible]u[illegible]t[illegible] or [illegible]os[illegible]n[illegible]t[illegible] o[illegible]t[illegible]t[illegible] [illegible] ffi[illegible]nts β_1 [illegible] β_2 [illegible] of [illegible] sto[illegible] r[illegible]st[illegible]s [illegible] q[illegible]u[illegible]t[illegible]) [illegible] to sto[illegible] *SemPub_Poor* [illegible] *SemPub_Good*. [illegible] tor $M_{i,t}$ s[illegible] ontro[illegible] s. For [illegible] q[illegible]u[illegible]t[illegible] [illegible] os[illegible]n[illegible]t[illegible] o[illegible]t[illegible]t[illegible], [illegible] ontro[illegible] for [illegible] o[illegible]t[illegible]t[illegible] of fun[illegible] flo[illegible]s (*Flow_Std*), [illegible] flo[illegible] [illegible]ot[illegible]t ons for fun[illegible]s to tr[illegible], su[illegible]s fir[illegible] s [illegible] g., Co[illegible] S[illegible]ffor[illegible] 2007). W[illegible] so ontro[illegible] for s[illegible] fir[illegible] r[illegible]st[illegible]s, su[illegible] s [illegible]oo[illegible]-to-[illegible]r[illegible]t[illegible]o (*BM*), [illegible] o[illegible]g[illegible]r[illegible] of fir[illegible] s[illegible] (*LogSize*), [illegible] nst[illegible]tut[illegible]on[illegible] o[illegible]n[illegible]rs[illegible] (*IO*) [illegible]t on[illegible] [illegible] s [illegible] no[illegible]n to [illegible] ff[illegible]t [illegible] nt [illegible] n [illegible] t[illegible]tur[illegible], [illegible] s [illegible] ort[illegible]. [illegible] fi[illegible] n A[illegible] B[illegible]r[illegible] [illegible] g[illegible] o[illegible] r[illegible]. W[illegible] st[illegible] [illegible] t[illegible] [illegible]-countr[illegible]-fi[illegible] ff[illegible]ts [illegible] ust[illegible]r [illegible] rrors [illegible] ountr[illegible] [illegible]r.

Table 4 reports the results of the specifications in which liquidity is used as the dependent variable. In columns 1 to 4, liquidity is proxied by the Amihud (2002) measure, which is computed as the logarithm of one plus the absolute return per dollar of trading volume. We further control for seasonality in the spirit of Chordia, Sarkar, and Subrahmanyam (2005), Hameed, Kang, and Viswanathan (2010), and Karolyi, Lee, and Van Dijk (2012), as described in Appendix B. Columns 5 to 8 define liquidity as the proportion of zero daily firm returns in a period (*Zero Return*). Bekaert et al. (2007) demonstrate that this measure better captures the impacts of liquidity than traditional measures such as turnover, in emerging markets.[12] Columns 1, 3, 5, and 7 present our main results. As a robustness check, we also control for the firm governance index from Aggarwal et al. (2009) in the remaining columns, as well as a dummy variable that takes the value of 1 when the firm governance index is available and zero otherwise in order to control for the potential effect of firms that do not have corporate governance data.[13] Finally, we follow Gompers et al. (2012) and further control for variables that are known to affect firm liquidity, such as the level of cash over the total assets of the firm (Cash/TA), capital expenditures (CAPEX), returns on assets (ROA), and the buy-and-hold return over the previous six months (MOM).

We find a strong positive correlation between *SemPub_Poor* and liquidity across the different specifications and for the alternate measures of governance. A one-standard-deviation increase in *SemPub_Poor* defined in terms of horizontal governance is related to an 11% higher Amihud liquidity and a 3.4% lower proportion of zero return days. The analogous figures for vertical governance are 15% and 2.9%.[14] The results are qualitatively and quantitatively similar in the specification in which we control for firm-level governance.

Table 5 reports the results for the specifications in which Idiosyncratic volatility is used as the dependent variable. Due to its skewness, we transform Idiosyncratic volatility by adding 1 and taking the log transformation. We

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[12] The implication of country-level governance on turnover is ambiguous in our extensions of Kim and Verrecchia (1994). As discussed in Appendix A, the effect depends on the relative mass of informed as opposed to discretionary liquidity traders. Thus, we do not include it as a main dependent variable.

[13] Similar to our country-level governance, we normalize the firm-level governance index with 1 for the weakest governance and 0 for the best governance.

[14] The economic magnitude for the regression of $y=$

Table 4
Illiquidity and the use of semipublic information

	1	2	3	4	5	6	7	8
	Amihud Illiquidity				Zero Return			
	Horizontal Gov		Vertical Gov		Horizontal Gov		Vertical Gov	
SemPub_Poor	0.336**	0.341**	0.427***	0.410***	0.089**	0.083**	0.072**	0.064**
	(2.54)	(2.43)	(3.82)	(3.44)	(2.01)	(2.19)	(2.21)	(2.01)
SemPub_Good	−0.024	−0.025	−0.04	−0.039	−0.062	−0.057	−0.06	−0.055
	(−0.42)	(−0.47)	(−0.86)	(−0.93)	(−1.4)	(−1.45)	(−1.46)	(−1.51)
Firm Gov		−0.063		−0.063		−0.131*		−0.131*
		(−1.37)		(−1.36)		(−1.65)		(−1.65)
Flow_Std	16.988**	17.446**	16.930**	17.387**	0.43	0.311	0.417	0.298
	(2.5)	(2.58)	(2.49)	(2.56)	(0.6)	(0.46)	(0.58)	(0.45)
Cash/TA	−1.866	−1.962	−1.86	−1.952	0.45	0.676	0.457	0.683
	(−1.5)	(−1.53)	(−1.48)	(−1.51)	(0.82)	(1.11)	(0.82)	(1.11)
CAPEX	−5.030***	−4.890***	−5.026***	−4.886***	−0.405	−0.416	−0.405	−0.416
	(−3.9)	(−3.88)	(−3.91)	(−3.88)	(−0.74)	(−0.74)	(−0.74)	(−0.74)
ROA	0.167	0.224	0.168	0.225	0.057	0.037	0.057	0.037
	(0.78)	(0.97)	(0.78)	(0.97)	(0.4)	(0.28)	(0.4)	(0.28)
IO	−9.700***	−8.552***	−9.740***	−8.588***	−0.427	−0.415*	−0.427	−0.415*
	(−4.35)	(−3.71)	(−4.36)	(−3.71)	(−1.54)	(−1.69)	(−1.53)	(−1.68)
MOM	−0.039***	−0.038***	−0.039***	−0.037***	−0.007**	−0.006*	−0.007**	−0.006*
	(−5)	(−5.3)	(−5.01)	(−5.31)	(−2.09)	(−1.96)	(−2.08)	(−1.95)
BM	1.878***	1.984***	1.873***	1.980***	−0.292	−0.244	−0.291	−0.243
	(5.81)	(4.9)	(5.84)	(4.92)	(−0.75)	(−0.79)	(−0.75)	(−0.79)
LogSize	0.01	0.007	0.009	0.007	−0.011*	−0.011**	−0.011*	−0.011**
	(1.2)	(0.9)	(1.18)	(0.88)	(−1.93)	(−2.13)	(−1.94)	(−2.14)
Dummy (Firm Gov)		0.097***		0.097***		0.056		0.056
		(4.57)		(4.56)		(1.57)		(1.57)
Constant	−0.309*	−0.224	−0.307*	−0.222	0.255**	0.257**	0.255**	0.256**
	(−1.77)	(−1.3)	(−1.75)	(−1.29)	(2.01)	(2.23)	(2.01)	(2.23)
Country and Year-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	102,773	102,773	102,758	102,758	102,776	102,776	102,761	102,761
R^2	0.199	0.214	0.2	0.214	0.575	0.583	0.575	0.583

The table reports the results of the following panel regression:

$$Illiq_{i,t+1} = \alpha + \beta_1 \times SemPub\_Poor_{i,t} + \beta_2 \times SemPub\_Good_{i,t} + c \times M_{i,t} + \varepsilon_{i,t+1}$$

where $Illiq_{i,t+1}$ is the illiquidity of stock i, proxied by Amihud illiquidity and the percentage of zero returns; $SemPub\_Poor_{i,t}$ and $SemPub\_Good_{i,t}$ are the corresponding measures of the use of semipublic information by funds that invest in the stock; and $M_{i,t}$ is a vector of control variables, including firm-level governance (*Firm Gov*), the volatility of fund flows (*Flow_Std*), the ratio of cash to total assets of firms (*Cash/TA*), capital expenditures (*CAPEX*), return on assets (*ROA*), institutional ownership (*IO*), the cumulative return during the previous six months (*MOM*), book-to-market (*BM*), *LogSize*, and a dummy variable that equals 1 when *Firm Gov* is available and 0 otherwise. The t-values are shown in parentheses. Regressions are clustered by country and year. The superscripts ***, **, and * refer to 1%, 5%, and 10% levels of statistical significance, respectively. The sample includes firm-annual observations over the period 2000 to 2009.

Table 5
Idiosyncratic volatility and the use of semipublic information

	1	2	3	4	5	6	7	8
	Idiosyncratic Volatility from Domestic and Global Fama-French Factors				Idiosyncratic Volatility from Industry and Market Factors			
	Horizontal Go		Vertical Go		Horizontal Go		Vertical Go	
SemPub_Poor	0.025***	0.026***	0.021***	0.022***	0.024***	0.025***	0.018***	0.019***
	(4.94)	(4.99)	(3.91)	(3.84)	(4.16)	(4.28)	(3.52)	(3.48)
SemPub_Good	0.011***	0.011***	0.012***	0.012***	0.010***	0.010***	0.011***	0.011***
	(5.21)	(5.33)	(5.54)	(5.65)	(4.45)	(4.49)	(4.72)	(4.79)
Firm Go		0.009***		0.009***		0.010***		0.010***
		(4.42)		(4.42)		(5.53)		(5.53)
For_Sh	1.941***	1.833***	1.932***	1.824***	1.775***	1.682***	1.762***	1.669***
	(4.38)	(3.66)	(4.4)	(3.67)	(4.63)	(4.33)	(4.65)	(4.37)
ICRG Political	−0.020***	−0.018***	−0.020***	−0.018***	−0.019***	−0.017***	−0.019***	−0.017***
	(−5.09)	(−4.99)	(−5.07)	(−4.98)	(−4.73)	(−4.94)	(−4.69)	(−4.9)
Creditor rights	−0.002	−0.002	−0.002	−0.002	−0.001	−0.001	−0.001	−0.001
	(−1.54)	(−1.35)	(−1.54)	(−1.35)	(−0.89)	(−0.76)	(−0.9)	(−0.77)
Anti-director rights	0.031	0.041	0.03	0.041	0.078	0.088	0.	

Table 5
Continued

	1	2	3	4	5	6	7	8
	Positive net Volatility from Dot-com Growth Firms				Positive net Volatility from Industrial Machinery Firms			
	Horizontal Growth		Vertical Growth		Horizontal Growth		Vertical Growth	
Debt/Asset	0.022	0.025	0.022	0.025	−0.011	−0.007	−0.01	−0.007
	(0.52)	(0.59)	(0.52)	(0.59)	(−0.31)	(−0.22)	(−0.3)	(−0.21)
R&D	0.015***	0.014***	0.015***	0.014***	0.020***	0.020***	0.020***	0.020***
	(5.08)	(5.17)	(5.1)	(5.19)	(6.75)	(6.81)	(6.78)	(6.84)
Zero Return	0.037	0.147	0.038	0.148	0.118	0.24	0.119	0.241
	(0.08)	(0.33)	(0.08)	(0.34)	(0.27)	(0.58)	(0.28)	(0.58)
Age (log)	−0.001***	−0.001***	−0.001***	−0.001***	−0.001***	−0.001***	−0.001***	−0.001***
	(−3.05)	(−3.15)	(−3.07)	(−3.17)	(−2.59)	(−2.71)	(−2.61)	(−2.73)
Leverage	0.075***	0.074***	0.075***	0.073***	0.072***	0.071**	0.072***	0.071**
	(2.71)	(2.67)	(2.72)	(2.67)	(2.59)	(2.56)	(2.59)	(2.56)
IO	−0.048	−0.02	−0.048	−0.019	−0.127***	−0.098**	−0.126***	−0.098**
	(−1.08)	(−0.89)	(−1.07)	(−0.86)	(−4.95)	(−2.24)	(−4.96)	(−2.23)
BM	2.677	2.609	2.673	2.606	2.955	2.86	2.95	2.855
	(0.64)	(0.62)	(0.64)	(0.62)	(0.74)	(0.71)	(0.74)	(0.71)
LogSale	−0.002***	−0.002***	−0.002***	−0.002***	−0.003***	−0.003***	−0.003***	−0.003***

/T1_2 1 Tf(0)Tj4.4776 0 326.7877 564.9799 Tu

follow Bartram, Brown, and Stulz (2012) and Bekaert, Hodrick, and Zhang (2012) to compute stock price synchronicity using an international version of the Fama-French three-factor model that is based on three global factors and three international factors in columns 1 to 4. As a robustness check, we also report in columns 5 to 8 the results based on synchronicity computed using a model that contains industry factors following [illegible]. Our results do not change when we use other factor models, including the CAPM model, the local Fama-French three-factor model, and the Carhart four-factor model.

Finally, in addition to the common control variables, we follow Bartram, Brown, and Stulz (2012) and further control for a list of variables that may affect synchronicity in the global market, including ICRG Political risk, the creditor rights index, the anti-director index, stock market turnover, stock market capitalization (%GDP), private bond market (%GDP), equity market liberalization, disclosure, PPE/TA, ROA, Cash/TA, debt maturity, R&D, Zero Return, age (log), and leverage. All these variables are defined in Appendix B.

The results show a highly significant positive relation between synchronicity and *SemPub_Poor*, which holds across the different specifications and for the alternative measures of governance. In particular, a one-standard-deviation increase in *SemPub_Poor* defined in terms of horizontal (vertical) governance score leads to a 2.5% (2.2%) higher synchronicity in column 1 (3).[15] As before, the results are qualitatively and quantitatively similar if we control for firm-specific level of governance.

[illegible]

The additional test examines the impact of *SemPub_Poor* on the stock reaction to semipublic information releases. The sequential information trading model (e.g., Kyle 1985) suggests that informed trading leads the market to incorporate information at a higher speed. If so, we would expect *SemPub_Poor* to enhance the stock reaction to the release of semipublic information, making it more positive in the case of good news and more negative in the case of bad news. To test this conjecture, we use both the raw returns and the DGTW-adjusted abnormal returns as our dependent variables. The DGTW adjustment follows Daniel, Grinblatt, Titman, and Wermers (1997) and uses the benchmark return constructed from the portfolios that are matched with the stocks held in the value-weighted portfolio of size, book-to-market, and prior-year return characteristics of such stocks. We then decompose the sensitivity of returns to information into reactions to positive and negative information and estimate the following semiannual panel regression with country and time-fixed effects, and errors clustered at the country and time level:

$$
\begin{aligned}
Ret_{i,t+1} = \alpha + \beta_{1g} \times SemPub\_Poor_{i,t} \times D_{Good} + \beta_{1b} \times SemPub\_Poor_{i,t} \\
\times D_{bad} + \beta_{2g} \times SemPub\_Good_{i,t} \times D_{Good} + \beta_{2b} \\
\times SemPub\_Good_{i,t} \times D_{bad} + c \times M_{i,t} + \varepsilon_{i,t+1},
\end{aligned} \quad (3)
$$

where $Ret_{i,t+1}$ is the price reaction of stock i, measured either by the raw return or the DGTW return, D_{good} and D_{bad} are dummy variables that take the value of one for positive and negative changes in [illegible] conditions, $SemPub\_Poor_{i,t}$ and $SemPub\_Good_{i,t}$ are the use of semipublic information induced by poor governance or good governance, respectively, and the vector of $M_{i,t}$ is a list of control variables in Table 4, except that we further control for momentum. The parameters of β_{1g} and β_{1b} describe the incremental stock reaction to news induced by *SemPub_Poor*, in addition to that *SemPub_Good* generates.

The results are reported in Panel A of Table 6, with columns 1 to 4 for raw returns and 5 to 8 for DGTW-adjusted returns. The results are consistent across the specifications and show that poor-governance-induced use of semipublic information (*SemPub_Poor*) indeed amplifies the stock reaction to both good news and bad news. The effect is also economically significant. For horizontal governance-induced *SemPub_Poor*, a one-standard-deviation increase is associated to an additional 4.0% (3.6%) additional positive return (DGTW return) for good news and a −2.9% (−2.8%) negative return for bad news. For vertical governance, the analogous figures are 2.3% (2.6%) and −2.6% (−3.2%).

As an additional robustness check, we also implement a portfolio-based analysis. The results, which we report in our Internet Appendix, are qualitatively and quantitatively similar. These results confirm our original hypothesis that the use of semipublic information by mutual funds amplifies the impact

Table 6
Firm value and the use of semipublic information

	1	2	3	4	5	6	7	8
Panel A. Stock performance and semipublic information								
	Raw Return				DGTW return			
	Horizon: Go		Short: Go		Horizon: Go		Short: Go	
Semipublic_Poor*Dgood	0.150***	0.149***	0.087***	0.085***	0.131***	0.13***	0.094***	0.093***
	(5.08)	(5.12)	(3.31)	(3.16)	(5.26)	(5.38)	(4.92)	(5.07)
Semipublic_Poor*Dbad	−0.11***	−0.109***	−0.141***	−0.142***	−0.101***	−0.101***	−0.115***	−0.115***
	(−2.77)	(−2.77)	(−2.71)	(−2.69)	(−4.09)	(−4.11)	(−4.26)	(−4.24)
Semipublic_Good*Dgood	0.023	0.022	0.0341	0.033	0.053***	0.0529***	0.0604***	0.06***
	(0.79)	(0.76)	(1.28)	(1.23)	(2.94)	(2.94)	(3.48)	(3.49)
Semipublic_Good*Dbad	−0.068***	−0.0679***	−0.0658***	−0.066***	−0.031***	−0.0315***	−0.0312***	−0.031***
	(−3.15)	(−3.18)	(−3.21)	(−3.25)	(−2.92)	(−2.96)	(−2.71)	(−2.75)
Fringe Go		−0.002		−0.002		−0.0025		−0.003
		(−0.39)		(−0.39)		(−0.45)		(−0.44)
Focal_Size	−2.3517	−2.2778	−2.3497	−2.275	−0.916	−0.8785	−0.8948	−0.857
	(−0.7)	(−0.68)	(−0.7)	(−0.68)	(−0.8)	(−0.75)	(−0.78)	(−0.74)
MOM	−0.001	−0.001	−0.001	−0.001	−0.001	−0.001	−0.001	−0.001
	(−0.32)	(−0.25)	(−0.33)	(−0.26)	(−0.66)	(−0.6)	(−0.66)	(−0.61)
Reversal	−0.758	−0.753	−0.758	−0.753	−0.219**	−0.216**	−0.219**	−0.216**
	(−1.08)	(−1.07)	(−1.08)	(−1.07)	(−2.25)	(−2.24)	(−2.25)	(−2.24)
IO	−0.419	−0.363	−0.409	−0.351	−0.326***	−0.293***	−0.326***	−0.287***
	(−1.06)	(−0.94)	(−1.02)	(−0.91)	(−5.72)	(−4.66)	(−5.72)	(−4.64)
BM	0.024	0.038	0.030	0.043	−0.286***	−0.277***	−0.286***	−0.273***
	(0.56)	(0.81)	(0.68)	(0.92)	(−7.37)	(−8.53)	(−7.37)	(−8.43)
LogSize	−0.003***	−0.003***	−0.003***	−0.003***	−0.001***	−0.001**	−0.001***	−0.001**
	(−2.71)	(−2.73)	(−2.65)	(−2.67)	(−2.69)	(−2.52)	(−2.69)	(−2.44)
Dummy (Fringe Go)		0.0044		0.004		0.003		0.003
		(1.15)		(1.15)		(0.87)		(0.87)
Constant	0.117***	0.121***	0.117***	0.120***	0.023***	0.025**	0.0228***	0.0249**
	(5.7)	(5.43)	(5.65)	(5.4)	(2.69)	(2.43)	(2.63)	(2.39)
Country-Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	96103	96091	96103	96091	96103	96103	96091	96091
R^2	0.224	0.224	0.224	0.224	0.018	0.02	0.017	0.02

(*continued*)

Table 6
Continued

	1	2	3	4	5	6	7	8
Panel B: Fr u a e a n S uPu _Poor								
	Market-to-Book				Tobin's q			
	Horizontal Go		Vertical Go		Horizontal Go		Vertical Go	
S uPu _Poor	−0.363***	−0.255**	−0.399***	−0.267**	−0.237***	−0.160*	−0.258***	−0.164*
	(−3.16)	(−2.23)	(−3.59)	(−2.41)	(−2.72)	(−1.83)	(−3.06)	(−1.95)
S uPu _Good	0.152***	0.152***	0.158***	0.157***	0.101***	0.101***	0.106***	0.105***
	(3.01)	(3.02)	(3.11)	(3.10)	(2.62)	(2.63)	(2.75)	(2.73)
Fr u Go		0.122***		0.122***		0.098***		0.098***
		(5.97)		(5.96)		(6.34)		(6.33)
Fo _S	−65.157***	−56.721***	−65.293***	−56.818***	−43.376***	−37.436***	−43.458***	−37.490***
	(−7.02)	(−6.13)	(−7.03)	(−6.14)	(−6.16)	(−5.33)	(−6.17)	(−5.33)
LogSa	0.170***	0.172***	0.170***	0.172***	0.131***	0.133***	0.131***	0.133***
	(68.29)	(69.25)	(68.29)	(69.24)	(69.44)	[illegible]	[illegible]	[illegible]

of these [illegible] on these stocks, consistent with our [illegible] results that the former may improve the informativeness of stocks.[16]

The information disclosure role [illegible] the funds is [illegible] financial returns of improving the informativeness of the stocks [illegible] and [illegible] costs of [illegible] equity [illegible]. It is therefore important to [illegible] the overall impact of *SemPub_Poor* by examining its impact on stock [illegible]. We follow Hong and Kacperczyk (2009) and adopt market-to-book and Tobin's q on *SemPub_Poor* and a set of control variables that could affect the dividend payout ratio, including, among others, R&D expenditures and development expenditures as a percentage of total sales) and firm profitability, proxied by the contemporaneous and two-year forward returns on equity (ROE, FROE, F2ROE).

We report the market-to-book results in columns 1 to 4 and the Tobin's q results in columns 5 to 8 in Panel B. The results provide evidence of a negative relationship between *SemPub_Poor* and stock valuation. For instance, the impact of *SemPub_Poor* on market-to-book is significant negative for both vertical and horizontal governance. A one-standard-deviation increase in *SemPub_Poor* is associated with a 1.5% lower market-to-book and 1.2% Tobin's q for vertical governance and impacts of similar magnitude for horizontal governance.

Taken jointly, these results suggest that, again, mutual funds play a positive role in promoting information economies in poor governance. However, the cost may more than offset the positive effects of better information. Thus, the role of mutual funds that seek to process semipublic information in countries with poor governance reduces firm value.

5. Extensions

We now consider extensions to further enrich our economic insight. First, we examine whether the cost of poor-governance-induced semipublic information is particularly relevant during the financial crisis. Second, we investigate potential endogeneity issues. Finally, we conduct a series of robustness checks and discuss, among other topics, the role of semipublic information, short-selling constraints, and alternative proxies of governance.

5.1 The use of semipublic information and the financial crisis

To understand the cost of poor-governance-induced semipublic information during the financial crisis, we examine how the effect of *SemPub_Poor* and *SemPub_Good* affected the change in stock price synchronicity around the crisis, from the precrisis period (2005–2007) to the crisis period (2008–2009).

16 Although in the interest of space we only tabulate the panel regressions with country and year-fixed effects and clustering at the country and year level, our main conclusions in the second stage are also robust to Fama-MacBeth regressions.

Table 7
Crisis period liquidity crunches

	1	2	3	4
	ΔA[illegible] Liquidity		ΔZero Return	
	Horizon: Good	Vert: Good	Horizon: Good	Vert: Good
S[illegible]Pu_Poor	1.008***	0.921***	0.112***	0.128***
	(3.62)	(3.45)	(2.96)	(3.57)
S[illegible]Pu_Good	−0.619***	−0.613***	0.006	0.003
	(−5.06)	(−5)	(0.37)	(0.16)
F o _S[illegible]	−6.074	−6.188	1.474	1.492
	(−0.63)	(−0.64)	(1.18)	(1.19)
C[illegible]TA	−3.781[illegible]3..613			

Table 8
Crisis period return and pre-crisis SemPub_Poor

	1	2	3	4
	DGTW Return		ΔMarket to Book	
	Horizontal Go	Vertical Go	Horizontal Go	Vertical Go
SemPub_Poor	−0.217***	−0.17***	−2.835***	−2.231***
	(−4.16)	(−3.41)	(−4)	(−3.33)
SemPub_Good	0.032	0.026	−0.011	−0.092
	(1.42)	(1.15)	(−0.04)	(−0.3)
Fog_Sem	−2.326	−2.239	−15.323	−13.979
	(−0.96)	(−0.92)	(−0.43)	(−0.4)
Lee_Log	−0.883***	−0.883***		
	(−4.25)	(−4.25)		
IO	−0.773***	−0.777***		
	(−6.44)	(−6.46)		
MOM	0.017***	0.017***		
	(20.38)	(20.38)		
BM	0.128	0.126		
	(0.4)	(0.39)		
LogSize	0.001**	0.001**	0.033***	0.032***
	(2.21)	(2.14)	(11.75)	(11.61)
R&D			0.723***	0.722***
			(8.75)	(8.74)
ROE			−0.640***	−0.636***
			(−7.47)	(−7.43)
Constant	−0.03***	−0.03***	−1.093***	−1.089***
	(−5.86)	(−5.75)	(−19.28)	(−19.18)
Country-Fe_Sem Effects	Yes	Yes	Yes	Yes
Observations	7,826	7,826	7,756	7,756
R^2				

i during the 2008–2009 crisis period, the increment of market-to-book ratios from the pre-crisis period to the crisis period. We also consider raw returns and To n's q, but because the results are similar and in the interest of [illegible] on DGTW returns and market-to-book. We find that [illegible] are consistent with our previous analyses and regression results. Indeed, a one-standard-deviation increase in *SemPub_Poor* is related to a 5.3% lower DGTW-adjusted return and a 5.8% lower market-to-book ratio during the crisis period in the case of horizontal governance and a 3.9% lower return and 4.4% lower market-to-book ratio in the case of vertical governance. These numbers are highly significant both statistically and economically, and they demonstrate the level of impact that quality of country-level governance can have on the market during a crisis period.

5.2 Endogeneity Issues

One potential concern is that the choice of assets in the fund portfolios might be endogenous with respect to the governance regime: mutual funds may simply invest more in assets that are, for example, *SemPub_Poor* in countries with poor governance, rather than processing more public information for these stocks. In other words, *SemPub_Poor* may proxy for some unobserved characteristic of the assets that causes investors to select assets without superior information. For example, it may be that the assets that attract more information are more concentrated in poor governance countries because the [illegible] information may [illegible] and these are [illegible] subject to governance issues.

We provide two pieces of evidence to rule out that *SemPub_Poor* is related to the processing of public information rather than to the selection of stocks with certain characteristics. The first evidence, as we have shown before, is that the fund-level use of public information is related to superior performance, which is not the case for private information. The [illegible] performance implies that funds trading highly *SemPub_Poor* stocks are informed about these stocks, which would [illegible] discourage uninformed funds from investing in such stocks.

Second, in the case of reverse causality, we would expect that in the presence of an improvement in governance: (1) the demand for highly *SemPub_Poor* assets would reduce as the preference of the funds for these stocks drops; and (2) *SemPub_Poor* would not change. By contrast, if the causality is as we have argued, we would expect the following: (1) the demand for highly *SemPub_Poor* assets would not change; and (2) stock-level *SemPub_Poor* would decrease as funds begin to process less public information. In other words, in the presence of reverse causality, we would expect a change in holders only for *SemPub_Poor* stocks, whereas, according to our hypotheses, we would expect a change in *SemPub_Poor* for all the stocks. Therefore, the test to determine this is

channel, we test this based on the following two regressions:

$$\Delta H_{i,c,t} = \alpha + \beta_1 \times \Delta CPI_{c,t} + \beta_2 \times SemPub\_Poor_{i,c,t-1} + \beta_3 \times \Delta CPI_{c,t} \times SemPub\_Poor_{i,c,t-1} + \varepsilon_{i,c,t}, \quad (5A)$$

$$\Delta SemPub\_Poor_{i,c,t} = \alpha' + \beta_1' \times \Delta CPI_{c,t} + c \times M_{i,c,t} + \varepsilon_{i,c,t} \quad (5B)$$

where $\Delta H_{i,c,t}$ is the percentage change in the holdings of stock i in the aggregate mutual fund holding portfolio in country c (where the stock is traded) over the period of t, $\Delta SemPub\_Poor_{i,c,t}$ is the change in a measure of *SemPub_Poor* of the stock over period t conditional on the fund's prior information on news released at *t–1* (or a dummy that equals one if fund holders sold out stock *SemPub_Poor*), and $\Delta CPI_{c,t}$ is the change in country-level governance, which is proxied by the annual change in the Corruption Perceptions Index of the country. The Corruption Perceptions Index ranges from 0 (very clean) to 10 (highly corrupt). However, because this index is only available annually for most countries. Accordingly, in order to align the data frequency of this index, the regressions are conducted annually.

The reverse causality hypothesis predicts β_3 to be positive in Equation (5A) because the demand for high *SemPub_Poor* stocks increases (decreases) more when governance deteriorates (improves). By contrast, our hypothesis predicts β_1' in Equation (5B) to be positive because more (less) corruption increases (reduces) the use of semipublic information. The results are reported in Table 9. The first two columns evaluate the regression of Equation (5A). The coefficient of β_3 is negative or positive but insignificant, which rejects the reverse causality. The last two columns evaluate the regression of Equation (5B), in which β_1' is consistent with our hypothesis. These results provide evidence of the direction of the causality implied in our story. Combined, our results confirm that *SemPub_Poor* is a causal channel for mutual funds in processing information, which fits our intuition that mutual funds play a role in transferring the indirect impact of country-level governance to the stock market.

5.3 Robustness checks

We conduct a series of robustness checks. In the interest of space, we tabulate the detailed regression results in the Internet Appendix and discuss the general methodology and results here.

We first investigate how poor governance induces funds to use semipublic information instead of public information by estimating Equation (1) and including ΔNS, the proxy for unprocessed public information, and its interaction with country governance. The results are reported in Table A1 in the Internet Appendix. The most important observation is that, unlike the case of analyst recommendations, the interaction between unprocessed public information and governance has a negative impact on stock turnover. The negative sign is

Table 9
Endogeneity test

	1	2	3	4
	Dependent variable $= \Delta H_{i,C,t}$		Dependent variable $= \Delta SemPub\_Poor_{i,C,t}$	
Parameter	Horizontal Go	Vertical Go	Horizontal Go	Vertical Go
ΔCPI	0.01	−0.004	0.11**	0.15***
	(0.79)	(−0.34)	(2.44)	(3.12)
$SemPub\_Poor_{c,t-1}$	−0.526***	−0.455***		
	(−4)	(−3.73)		
$\Delta CPI^{*} SemPub\_Poor_{c,t-1}$	−1.066**	0.538		
	(2.15)	(1.15)		
IO	−5.495***	−5.453***	4.698	0.497
	(−5.5)	(−5.45)	−1.17	−0.12
MOM	0.108***	0.108***	0.027	0.024
	(17.04)	(17.03)	−0.94	−0.8
BM	1.976*	1.967*	0.068	3.341
	(1.73)	(1.72)	−0.02	−0.78
Log size	0.008***	0.009***	0.012	0.004
	(4.47)	(4.53)	−1.59	−0.53
Constant	−0.039	−0.042	−0.358*	−0.208
	(−0.79)	(−0.84)	(−1.81)	(−0.99)
Observations	56,142	56,142	51,066	51,066
R^2	0.047	0.047	0.006	0.005

The table reports the results of the following two-stage regressions:

$$\Delta H_{i,c,t} = \alpha + \beta_1 \times \Delta CPI_{c,t} + \beta_2 \times SemPub\_Poor_{i,c,t-1} + \beta_3 \times \Delta CPI_{c,t} \times SemPub\_Poor_{i,c,t-1} + \varepsilon_{i,c,t},$$

$$\Delta SemPub\_Poor_{i,c,t} = \alpha' + \beta_1' \times \Delta CPI_{c,t} + c \times M_{i,c,t} + \varepsilon_{i,c,t},$$

where $\Delta H_{i,c,t}$ is the percentage change in the aggregate mutual fund holdings of stock i in the year of $SemPub\_Poor_{i,c,t-1}$ in country c (in which the stock is traded) over the period of t, $\Delta SemPub\_Poor_{i,c,t}$ is the change in the value of $SemPub\_Poor$ of the stock over the period t conditional on the fund's information observed at $t-1$, and $\Delta CPI_{c,t}$ is the annual change in the Corruption Perceptions Index of country c, in which stock i is traded. The Corruption Perceptions Index ranges from 0 (clean) to 10 (highly corrupt). $M_{i,c,t}$ is a set of control variables. The superscripts ***, **, and * refer to 1%, 5%, and 10% levels of statistical significance, respectively. The sample includes firm-year observations over the 2000–2009 period.

consistent with the idea that poor governance makes funds use less public and more private information.

Next, we examine how country-level constraints on short-selling affect the pricing impact of *SemPub_Poor*. We note that in the presence of differences in opinions among investors, constraints on short-selling lead to stock price increases (e.g., Hong and Stein 2003). Hence, we want to verify that the effect of *SemPub_Poor* (particularly during the crisis period) does not come from these market restrictions. We use a simple proxy for short-selling: a dummy variable (*NoShort*) that takes the value of 1 for a stock in a country in which short sales are not allowed, or in countries/industries that experienced short-sale bans during the crisis period, and zero otherwise. The list of short-selling bans is derived from Beber and Pagano (2013). We also include the interactions between the dummy variable and *SemPub_Poor* and *SemPub_Good*.

Two main results emerge from Table A2 in the Internet Appendix. First, controlling for short-sale constraints does not absorb the impact of *SemPub_Poor* on crisis period returns, including the crisis period DGTW

er turn a. nd A. ud q u t . S o nd, e nt a on e tee n ort- e onstr nts a. nd *SemPub_Poor* a. s ns gn fi a. nt a. ts. e o e r a. t ons onfir t a. t (e a.) goe rn ne ontr ut to e e nt g o a. fin n a. r s s n a. n a. r t a. t s ff e nt fro t a. t of e rg n g o n ons a. nd ort- e onstr nts.

In e nd ro ustn ss e e e r nt a. e rn t e a. sur s of ountr e e goe rn ne . W ons r e oor goe rn nt nd (e e e s of e good goe rn nt nd) fro K ro , Le , a. nd V n D j (2012), e nd of s osur (*Disclose*) fro Bus n, P otros , a. nd S (2004), e a. nt - f a. ng nd (*Anti_SD*) fro D n o , La Por a. , Lo e z- -S a. e s, a. nd e f r (2008), a. nd e a. ount ng tr a. ns a. r n a. sur (*Acc Transparency*) fro Dure , Errun a. , a. nd Mo no (2009). S a. r to our n goe rn ne a. r a. e s, e s a. e e a. e rn t e nd e s to e e tee n 0 (good) a. nd 1 (oor). We e t e a. e rn t e goe rn ne nd e s to a. e a. s gn fi a. nt a. t on sto re t a. r st s e a. us e a. r a. so a. a. e of nt f ng e a. nst tut ons a. t e nfor e e e fit of u s g a. s (a. t e to u s g a. s) a. nd nd ue a. a. e t rs to us or u nfor a. t on.

T e A3 n e Int rn t A e nd o s a. t e a. goe rn ne us n g e a. e rn t e goe rn ne ro e s s a. e to fun a. a. g rs' us of u nfor a. t on. W a. so o re a. t *SemPub_Poor* n a. s q u t a. nd r e nfor a. t e ss (e e a. t on of sto e turn to u nfor a. t on). e a. a. e rs a. nd ono s gn fi a. ne a. o a. a. e to e *SemPub_Poor* a. on our n ro e s of goe rn ne . (Un ort) e sts on e r s s e r onfir a. t e *SemPub_Poor* of e a. e rn t e goe rn ne a. sur a. e a. s a. r r s s e r a. t to a. t of our n goe rn ne a. r a. e s. us, our e su ts a. r ro ust to e a. e rn t e goe rn ne a. sur s.

e a. e rn t e a. sur s a. not e s a. r ort o go a. to our n goe rn ne a. r a. e s. e a. son e o not ost fo us on e s a. t, un e our n ro e s, e a. e rn t e a. r a. e s a. e t tos a. t a. a. ttr ut sto re t a. r st s not on to e e rt a. a. t ons s e tee n o on rs a. nd e e (e ., roe rt r g ts nst tut ons) ut a. so to e or zon a. a. t ons s e tee n re t a. rt a. nts (e ., ont a. t n g goe rn ne). Ho e e r, e not on a. t e a. goe rn ne nd ue s fun s to roe ss a. nnu a. nfor a. t on, furt e r a. ff ts a. ss t r e s, s fu su ort a. e nd e s.

In a. t on to e n ro ustn ss s, e a. so o a. t our n on us ons a. r ro ust f e us a. s nd a. goe rn ne nd e s of Ae o g u a. nd Jo nson (2005) e a. a. t n our n e sts, e s nd e s a. r a. gg e nto t o e e n a. t e ont a. t n g a. nd roe rt r g ts nd e s a. nd/or e r o g a. e s, e n e us e o g-tr a. nsfor a. t on of *SemPub_Poor*, or e n e e str t e a. e to e to t e nt ountr s. e e sts onfir a. t our e su ts a. r not r e n a. oute rs, su a. s e r goe rn ne a. e s o e r *SemPub_Poor* st a. t ons.

Furthermore, to alleviate the concerns of estimating Equations (1) and (3) [illegible]. As we point out in footnote 10, an alternative way to test Equation (1) is to first-orthogonalize the funds' use of soft information without interacting soft information with governance, and then to regress the R^2 from the regression on the quality of country governance. The results in Table A5 confirm that poor-country governance induces funds to use more soft information. Our main specification in Equation (1), on the other hand, allows us to take advantage of the time variation in [illegible] (governance index [illegible]) and construct [illegible] such as [illegible] tests. Finally, our results are robust to the frequency of the estimations (that is, estimating Fund SemPub_Poor on a quarterly [illegible] [illegible] annual estimation frequency [illegible] more funds) and various cutoff [illegible] on foreign holdings (30% and 80%, in addition to the 50% [illegible] in our main tests). We [illegible] these results and [illegible] our discussions in the Internet Appendix. All these additional tests confirm that our results are economically and statistically robust.

Overall, these results offer a [illegible] interpretation. They show that mutual funds partially offset the negative impact of poor-country governance on the quality of public information – but such an improvement [illegible] the cost of increased information asymmetry [illegible], thus, liquidity. Country-level governance, therefore, has a [illegible] financial markets: [illegible] market participants cannot completely offset the negative impact of poor governance without negatively affecting some market conditions.

6. Conclusion

We study how country-level governance affects the [illegible] and transmission of information in the market. Poor country-level governance reduces the usefulness of public information in the market, which induces some investors (e.g., fund managers) to use their professional judgment to process public information into [illegible] information. Through these professional investors [illegible] information into the market, [illegible] its informational efficiency. However, the process of [illegible] public information [illegible] increases the informational asymmetry and reduces market liquidity. Thus, improvements in [illegible] information [illegible] the cost of liquidity, a cost that [illegible] particularly [illegible] during [illegible] crises [illegible] liquidity [illegible] the negative impacts of the financial crisis.

We test this hypothesis using data on international mutual funds and international stocks over the period 2000–2009. Using [illegible] as [illegible] components as proxies for soft information, we confirm that weak country-level governance induces fund managers to use more of

this type of information. We then use the Dow Jones News Service as a proxy for public information and investigate its impact on short-... information, we find that poor-country governance mutual fund managers use less public information and that the inclusion of public information does not affect the pursuit of common public information. More important, the use of common public information also helps funds to generate higher risk-adjusted performance, whereas the use of public information does not. This finding confirms the usefulness of the new proxy of common public signals and the economic motivation for funds to process such signals.

Next, to detect the asset pricing impact of such behavior, we aggregate the use of common public information at the stock level across all mutual fund holders and compute a stock-level variable, *SemPub_Poor*, which measures the extent to which the institutional investors of a stock that have poor-country governance tend to use more common public information than the institutional investors in a stock that have good-country governance. Consistent with our hypotheses, we find that the poor-governance-induced use of common public information (*SemPub_Poor*) significantly increases the informativeness of a stock as proxied by ... as well as the sensitivity of the stock return to information, and ... The effect ... stock ... We also find that these effects contribute to the impact of the recent global financial crisis and are robust to alternative proxies of governance and endogeneity tests.

Our findings provide a novel channel of looking at the effects of country-level governance on financial markets through the intermediation of mutual funds, which has important normative implications. The basis of offsetting the negative impact of country-level governance is costly, implying that country-level governance may have a greater impact than a naive direct measure. Indeed, our results suggest that ... institutions ... greater consideration to improve the overall conditions of the financial markets.

Appendix A. Summary of the model

This appendix extends Kim and Verrecchia (1994, hereafter, KV) and additional simplified assumption that, in economies with better country-level governance, ... KV assumes that a firm ... generates cash flows ... each of the T periods of an economy. The cash flows are accumulated to the end and ending value equal to $\tilde{U}=\sum_{s=1}^{T}\tilde{u}_s$, where $\tilde{u}_s$ is the cash flow generated by the firm in period s ... the end of the period. Now consider a specific period, t, ... the firm announces a public signal about the value of $\tilde{u}_t$ as $\tilde{Y}=\tilde{u}_t+\tilde{\delta}$, where $\tilde{\delta}$ is a noise. Assume that $\tilde{u}_t\sim N(0,a)$ and $\tilde{\delta}\sim N(0,d)$ are the unconditional distributions of the two variables.

Next, the announcement can be processed ... different types of investors. One type of investor, for example, professional fund managers, can choose to pay a cost C to obtain a conditional signal (e.g., judgments) to fine tune the firm's public signal. There are N such investors (the number is determined endogenously), and the ith investor observes (at a cost C): $\tilde{O}_i=\tilde{\delta}+\tilde{\varepsilon}_i$, where $\tilde{\varepsilon}_i\sim N(0,e)$ is a noise. The additional signal is referred to as semi-public ...

information in this period to differentiate it from the public signal and earnings information (KV refers to this as signal). These investors choose to invest in this period t (and only in this period).

The KV model further assumes that there are three types of liquidity traders. There are L nondiscretionary liquidity traders who trade in every period. There are also TM discretionary liquidity traders who can choose when to trade (but do not observe information). In each period, the three types of investors submit trading demands, which also serve as inputs to market makers to update the market price. The summation of orders for period t can be denoted as $\omega = x + z_n + z_d$, where $x = \sum_{i=1}^{N} x_i$ is the summation of orders from the N informed investors (x_i is the individual order), and z_n and z_d are similar summations of orders from nondiscretionary and discretionary liquidity investors, respectively.

Based on these assumptions, the informed investors trade following the Kyle (1985) model, which leads to a linear equilibrium for period t that can be characterized as follows:

$$x_i = \beta \tilde{Y} + \gamma \tilde{O}_i, P_t = U_{t-1} + \alpha \tilde{Y} + \lambda \omega_t, \quad \text{(A1)}$$

where $\alpha = \frac{a}{a+d}$, $\lambda = \sqrt{\frac{Na^2d^2(ad+ae+de)}{v(a+d)[(N+1)ad+\{2+(N-1)\rho\}e(a+d)]^2}}$, $\beta = \sqrt{\frac{vd^2}{N(a+d)(ad+ae+de)}}$, and $\gamma = -\sqrt{\frac{v(a+d)}{N(ad+ae+de)}}$ are constants, and v is the variance of the nondiscretionary liquidity traders. Note that informed traders are attracted in this period of trading only when they receive private information. Discretionary liquidity traders are not attracted in this period because they lose from trading against informed investors in the market. They are attracted in trading in other periods. Hence, liquidity traders are attracted in this period when informed investors can process information. Furthermore, to a certain extent the level of information in the price of the stock increases because informed trading moves the price. Trading volume may increase or decrease (volume increases in other periods), depending on the mass of the discretionary and informed traders. Finally, the total number of informed traders is determined by information costs and the benefit of informed trading.

What about the impact of country-level legal governance? Intuitively, it may be a big effect in that firms in these economies may be more outside rather cash flows and what the reality might be. The legal can be a natural in the conditional variance of the cash flow based on the pre-announcement. That is, if we denote $\sigma \equiv var(\tilde{u}_t|\tilde{Y})$ and $h \equiv 1/\sigma$ as the conditional variance and precision based on the pre-announcement of the firms, and if we further denote G as country-level legal governance that the larger value corresponds to a better legal governance, then we can summarize the impact of legal governance as $\frac{\partial \sigma}{\partial G} > 0$ or $\frac{\partial h}{\partial G} < 0$. It is easy to verify that $\sigma = ad/(a+d)$. That is, a larger gap between the announcement and the actual might come from two economic sources related to country-level legal governance. First, cash flows are more risky in countries with weaker governance ($\frac{\partial a}{\partial G} > 0$) because the weaker governance might impose some additional volatility to affect the normal cash flow stability, including the normal business of firms (e.g., O 2012). Second, firms in bad countries may make poor announcements ($\frac{\partial d}{\partial G} > 0$) because managers may find it optimal to bias the information in such an environment (Morck, Yeung, and Yu 2000; Jin and Myers 2006; DeFond, Hung, and Trezevant 2007; Hail et al. 2012; Bartram, Brown, and Stulz 2012). In other words, public information in poor governance countries is more noisy than in countries with good governance. Because firms invest less in firm-level governance in countries with poor country-level governance (Doidge, Karolyi, and Stulz 2007), these problems are unlikely to be solved by corporate governance.

The impact of country-level governance can be summarized in the following proposition.

Proposition 1. In the presence of legal country-level governance, the equilibrium described above further demonstrates the following properties related to governance:

1. Informed investors use more of their private signal and less public information in countries with bad governance. Mathematically, $\frac{\beta^2}{\beta^2+\gamma^2}$ decreases in G (or $\frac{\gamma^2}{\beta^2+\gamma^2}$

increases in G). Furthermore, [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] than on [illegible] information encountered [illegible] early good news [illegible] that is, $\frac{\gamma^2 var(\tilde{O}_i)}{\beta^2 var(\tilde{Y})}$ increases in G.

2. More informed investors [illegible] [illegible] [illegible] [illegible] [illegible] information $(, \frac{dN}{dG} > 0)$ encountered [illegible] early good news.
3. The stock [illegible] [illegible] [illegible] encountered [illegible] early good news,
4. The stock [illegible] [illegible] [illegible] [illegible] [illegible] informed encountered [illegible] early good news.

Proof.

Number of Procedures: Number of procedures involved in collecting a commercial debt, valued at 50% of annual GDP per capita.
Executive Constraints: A seven-category scale, from 1 to 7, with a higher score indicating more constraint.
Protection Expropriation: Risk of expropriation of private foreign investment, from 0 to 10, with a higher score meaning less risk.
Private Property: From 1 to 5, with a higher score indicating better protection for private property.
Horizontal Gov: Average of normalized Legal Formalism, Procedural Complexity and Number of Procedures.
Vertical Gov: Average of normalized Executive Constraints, Protection Expropriation and Private Property.

Alternative Governance Variables

(We normalize the values of all governance variables with one for the weakest governance and 0 for the best governance.)

Poor Gov: The reverse of the good government index from Karolyi, Lee, and Van Dijk (2012). The good government index is defined as the sum of the following three indices from the International Country Risk Guide (each ranging from zero to ten): (1) government corruption, (2) the risk of expropriation of private property by the government, and (3) the risk of the government repudiating contracts. Lower scores for each index indicate less respect for private property.
Disclosure: Assessment of the general level of disclosure concerning research and development (R&D) expenses, capital expenditures, product and geographic segment data, subsidiary information, and accounting methods as of the 1995 International Accounting and Auditing Trends from the Center for Financial Analysis and Research (CIFAR). The source is Bushman, Piotroski, and Smith (2004).
Anti_SD: The anti-self-dealing index of Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008).
Acc Transparency: Accounting transparency index from Durnev, Errunza, and Molchanov (2009).
CPI: Corruption Perceptions Index developed by Transparency International. The CPI defines corruption as the misuse of public power for private benefit. Every year, it ranks countries on a scale from 10 (very clean) to 0 (highly corrupt).). We reverse and scale the index so that *CPI* ranges from 0 (very clean) to 1 (highly corrupt).

Measures on the Use of Semipublic and Public Information

Fund SemPub_Poor: Partial R^2 of the $\gamma_{k,t}\Delta Re_{i,t}\times G$ term from regression of Equation (1).
Fund SemPub_Good: Partial R^2 of $\gamma_{k,t}\Delta Re_{i,t}$ term from regression of Equation (1).
Fund Pub_Poor: Partial R^2 of the $\gamma^N_{k,t}\Delta NS_{i,t}\times G_i$ term.
Fund Pub_Good: Partial R^2 of the $\lambda^N_{k,t}\Delta NS_{i,t}$ term.

SemPub_Poor: Value-weighted average of ***Fund SemPub_Poor*** of funds investing in the stock, weighted by their investment values.
SemPub_Good: Value-weighted average of ***Fund SemPub_Good*** of funds investing in the stock, weighted by their investment values.
Pub_Poor: Value-weighted average of ***Fund Pub_Poor*** of funds investing in the stock, weighted by their investment values.
Pub_Good: Value-weighted average of ***Fund Pub_Good*** of funds investing in the stock, weighted by their investment values.

Mutual Fund Characteristics

ExpenseRatio: Expense ratio of mutual funds.
Turnover: Funds' turnover.
FundSize: The natural log of 1 plus the fund's master fund's total net asset.

Stock Characteristics

Amihud Illiquidity (Illiq): We first find a monthly Amihud illiquidity measure for each stock as $Illiq_t = ln(1+\sum_d \frac{|r|}{v})$, where r is the daily return, v is the daily dollar trading volume, and d is the number of trading days in month t. Following the spirit of Chordia, Sarkar, and Subrahmanyam (2005), Hameed, Kang, and Viswanathan (2010), and Karolyi, Lee, and Van Dijk (2012), we further adjust for seasonality by running regressions for each stock i across observations on month t: $Illiq_{i,t} = \beta_m \sum_{m=1}^{11} D_m + \varepsilon_{i,t}$, where D_m is the dummy variable that takes the value of 1 for the calendar months from February to December m and 0 otherwise. We use the residuals $\varepsilon_{i,t}$ from the regression to obtain monthly measures of Amihud illiquidity. Note that these researchers also control for day-of-the-week and holiday effects for illiquidity. Because these daily controls are less relevant to our semiannual analyses, we focus on the calendar month adjustments. We then compute semiannual Amihud illiquidity as the average value of monthly illiquidity within the semiannual period.
Zero Return: Percentage of zero returns for a stock during the semiannual (six-month) period.
Idiosyncratic Volatility(Idiosyncratic Vol): We first find idiosyncratic volatility as the standard deviation of the residuals from the daily Fama-French three-factor regression in a given semiannual period. We then transform idiosyncratic volatility by adding 1 and taking the log transformation. We follow Bartram, Brown, and Stulz (2012), and Bekaert, Hodrick, and Zhang (2012) to use two versions of models. In the first version, we use three domestic Fama-French factors and three international factors. In the second version, we use the market and industry factors.
Raw Return: Average monthly stock return during the semiannual period.
DGTW Return: Following Daniel, Grinblatt, Titman, and Wermers (1997), we create 125 st

Other Country-Level Control Valuables

ICRG political risk index: Index measures the overall stability and quality of government institutions using 10 different quality measures such as internal and external conflict, corruption, law and order, and bureaucratic quality. Higher values represent more stable and high-quality government institutions. Data are from the PRS group.

Creditor rights: From Djankov, McLiesh, and Shleifer (2007).

Anti-director rights: From Andrei Shleifer's web site. Revised and as described in Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008).

Stock market turnover: Ratio of annual trading volume to shares outstanding. Data are from the World Bank.

Stock market Capit. (%GDP): Ratio of end-of-year stock market capitalization to nominal GDP. Data are from the World Bank.

Private bond market (%GDP): Private domestic debt securities issued by financial institutions and corporations as a share of GDP. Data are from the World Bank Financial Development and Structure Dataset.

Equity market liberalization: The percentage of the equity market that is investable for foreign investors. Data are from EMDB.

Appendix C. Sample selection

This table shows the procedure for how we construct our final sample from the following main datasets: Datastream/WorldScope, CRSP/Compustat, FactSet/LionShares, Morningstar International, and I/B/E/S. We report the total number of stocks for each step.

Procedure	Number of stocks
Common stocks from Datastream/WorldScope and CRSP/Compustat for the time period 1999–2009	45,343
Merging with mutual fund holding data from FactSet/LionShares	34,839
Merging with fund information from Morningstar International	23,045
Merging with I/B/E/S	23,045
Merging with the main measures of governance from Acemoglu and Johnson (2005)	21,329
Other screening procedures:	
Stocks with at least 12 monthly returns, at least 12 months of no missing trading volume and with price greater than US$1	16,313

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