COUNTRY-SPECIFIC SENTIMENT AND SECURITY PRICES

Byoung-Hyoun Hwang*

I study the effect of country-specific sentiment on security prices. I provide evidence that a country's popularity among Americans affects US investors' demand for securities from that country and causes security prices to deviate from their fundamental values. Moreover, I find that country popularity is positively associated with the intensity of US cross-border mergers and acquisitions activity, suggesting that country popularity also affects firms' investment decisions.

JEL Classification: G12, G14, G15.

Keywords: Investor sentiment, Country popularity.

* This paper is based on chapter two of my dissertation at Emory University. I would like to thank my dissertation committee: Tarun Chordia, Amit Goyal, Clifton Green, Narasimhan Jegadeesh, and Jay Shanken (advisor). I would also like to thank the referee, David Hirshleifer, Seoyoung Kim, Qin Lei, Fabio Moneta, Josh Pollet, Jeffrey Pontiff, Paul Schultz, Fatma Sonmez, Jeffrey Wurgler, and seminar participants at the Indiana Finance Symposium at Purdue University, the Behavioral Finance Conference at Queen's University, and the Whitebox Advisors Conference at Yale University for very helpful comments. I would like to thank Pedro Matos and Ion Mihai for sharing their data with me.

1. Introduction

The question of whether prices reflect investor sentiment is at the heart of asset pricing and has motivated a significant amount of research (e.g., De Long, Shleifer, Summers, and Waldman, 1990; Lee, Shleifer, and Thaler, 1991; Shleifer and Vishny, 1997; Shleifer, 2005; and Baker and Wurgler, 2006, 2007). Yet, while a growing body of literature reveals that sentiment may have an important influence on stock prices and financial markets, relatively little is known as to what causes investors to over- or underpay for a security in the first place. My purpose in this paper is to describe a new dimension of sentiment-driven demand and test its impact on financial markets. Specifically, I study whether a country's popularity among Americans affects US demand for securities from that country and causes prices to deviate from their fundamental values.

Single country closed-end funds (CCEFs) provide an attractive setting to explore this question. CCEFs are corporations holding a portfolio of securities in a single (non-US) country. Both the CCEF and the shares held by the CCEF are traded on stock exchanges. While the CCEF's market value is determined in the US, the market value of the fund's underlying assets is determined primarily by investors in the assets' "home market". To the extent that a country's popularity among Americans affects US investors' view of securities from that country, but not home market investors', the market value of the CCEF's underlying assets provides an adequate benchmark against which the fund's market value can be compared. If country-popularity does not influence US investors' demand and market outcomes, then I expect no association between country popularity and the discount between the fund's market value and the market value of the fund's underlying assets.

The findings presented in this study provide support of country popularity affecting decision making and market outcomes. I measure a country's popularity among Americans using the Gallup Poll on Americans' attitudes toward other countries. Survey participants are asked how they view country *X*, choosing from four answers: very favorably, mostly favorably, mostly unfavorably, and very unfavorably.

I observe striking differences in country popularity. The British, for instance, are viewed much more favorably (by Americans) than the French, particularly around the beginning of the Iraq invasion in

March 2003. The French, in turn, are viewed more favorably than the Russians. Some of these views may approximate societal norms against a country's political decisions (such as Americans' dislike of the French opposition to the Iraq War). As I show later, others appear to reflect Americans' cultural similarity with the country in question.

I begin my analysis by exploring how the discounts of French and German CCEFs evolve around the beginning of the Iraq War in 2003, a period marked by a sharp drop in France's and Germany's popularity among Americans. Consistent with country popularity having a non negligible impact on security prices, the average discount of French and German CCEFs increases substantially from 14.54% to 27.77%, but then subsequently reverses. When extending my analysis to 19 CCEFs from 15 countries over the 1993 to 2008 period, I confirm that funds from less popular countries trade at a higher discount than funds from popular countries. The estimated effect is both statistically and economically meaningful. Depending on the regression specifications, the estimated effect ranges from a 1.1% to a 2.9% drop in CCEF discount per one standard deviation increase in country popularity.

The association between country popularity and discount is not limited to CCEFs but extends to a sample of 320 American Depository Receipts (ADRs) from 20 countries over the 1992 to 2008 period.[1] Here, the estimated effect ranges from a 0.13% to a 0.18% drop in ADR discount per one standard deviation increase in a country's popularity among Americans. Consistent with the hypothesis that country popularity affects investors' investment decisions, I also observe that mutual funds investing in popular countries enjoy significantly higher fund inflows than mutual funds investing in less popular countries.

Low country popularity is associated not only with high discounts for securities from these countries, but also with high institutional holdings. One explanation is that while low country popularity causes retail investors to unload their holdings of these low popularity securities (increasing the discount), institutional investors – less affected by investor sentiment – take the other side of the unsophisticated

[1] ADRs are claims to shares of foreign securities that are traded in the US.

demand (increasing institutional holdings). This interpretation conforms nicely with the general notion that retail investors are more susceptible to sentiment than institutional investors (Baker and Wurgler, 2007).

The idea that country popularity primarily affects retail investors receives further support from evidence pertaining to foreign portfolio investments. Instead of investing indirectly in a country through CCEFs, ADRs, or mutual funds, US investors can also invest directly in a foreign country's stock market. I observe that holdings of US retail investors significantly increase with a country's popularity among Americans; holdings of US institutional investors, on the other hand, do not.

My final investigation considers whether country popularity also enters a firm's investment decision process. Consistent with the idea that country popularity affects firms' investment decisions, I find that a country's popularity among Americans predicts the intensity of US cross-border mergers and acquisitions (M&A) activity in that country. While much more work can be done along these lines, the evidence points to important real effects of country popularity.

The paper is organized as follows. Section 2 describes the data. Sections 3 and 4 report the results. Section 5 concludes.

2. Data

This section discusses my regression variables. I also explore what causes the variation in country popularity among Americans.

2.1. Country closed-end fund discount

This analysis focuses on country closed-end funds that are identified with a single (non-US) country (CCEF) and possess the necessary data to construct the closed-end fund discount and the following variables: *Country Popularity Score*, *Inverse Security Price*, *Dividend Yield*, *Expense Ratio*, *Turnover Ratio*, *Home Market Valuation Ratio*, *US Market Valuation Ratio,* and *Institutional Holdings* (all defined below or in Appendix A). The sample contains 19 CCEFs from 15 countries over the period 1993:12 to

2008:12. The countries are Australia, Brazil, France, Germany, India, Indonesia, Israel, Japan, Korea, Mexico, Philippines, Russia, Spain, Taiwan, and the UK. The CCEFs used in this study are reported in Appendix B. The sample is smaller than in related studies (e.g., Chan, Jain, and Xia, 2008). The reason is that I require countries to be covered by the Gallup Poll on Americans' opinion toward other countries.

Following Chan, Jain, and Xia (2008), I exclude data for the first six months after the fund's initial public offering (IPO) and for the month preceding the announcement of liquidation or open-ending to "avoid distortions associated with the flotation and winding up of closed-end funds" (p. 383).

Monthly closed-end fund premia/(discounts) are calculated using closing prices and net asset values (NAV) reported in Compustat:

$$Premium(Discount)_{i,t} = \frac{Price_{i,t} - NAV_{i,t}}{NAV_{i,t}}. \quad (1)$$

Any positive (or negative) association between some variable *X* and eq. (1) could be described either as *X* being positively (or negatively) associated with the closed-end fund premium or as *X* being negatively (or positively) associated with the closed-end fund discount. In this study, results are described in terms of discounts. The average closed-end fund discount in my sample is 7.96%; the standard deviation is 13.17%.[2] The mean and standard deviation of the CCEF discount in this study are similar to those reported in related studies (e.g., Bodurtha, Kim, and Lee, 1995; Klibanoff, Lamont, and Wizman, 1998; and Chan, Jain, and Xia, 2008).

2.2. Country popularity

To measure each country's popularity among Americans, I use Gallup surveys. I access Gallup surveys through the iPoll Databank, which compiles data from all major US public opinion polls. The surveys are based on telephone interviews with a national representative adult sample of 1,007. In the survey, respondents are asked the following question regarding 42 countries:

[2] Unless otherwise noted, the mean and the standard deviation are always calculated on the full pooled sample.

"(I'd like your overall opinion of some foreign countries.) Is your overall opinion of ... very favorable, mostly favorable, mostly unfavorable, or very unfavorable?"

Based on the survey participants' responses, I construct a *Country Popularity Score* by multiplying the percentage of survey participants who respond very favorably by four, mostly favorably by three, mostly unfavorably by two, and very unfavorably by one and adding these four numbers into one cumulative score.[3]

The mean *Country Popularity Score* from the surveys used in this study is 2.78; the standard deviation is 0.25. The average *Country Popularity Score* for each country covered in this study from 1992 to 2008 is reported in Appendix C.[4] The mean *Country Popularity Score* suggests that, on average, Americans think mostly favorably of countries in my sample. However, stark differences in popularity can be seen both across countries and, to a lesser degree, across time. As an example of a cross-sectional difference in country popularity, the UK was seen very favorably by 46% of Americans in February 2006. But at the same time, only 5% held the same view of Russia. As an example of an intertemporal change in a country's popularity, in February 2003, before the Iraq invasion, 3% of Americans viewed France very unfavorably. That percentage increased sharply to 39% by March 2003 after the country objected strenuously to the US-led war.

The survey frequency for the countries covered in this analysis is reported in Appendix D. The median number of months passed between two surveys is 12; the 25th percentile and 75th percentile are 11 months and 17 months, respectively. The average absolute change in the *Country Popularity Score* between surveys conducted one month apart equals 0.31. In comparison, the average absolute change in the *Country Popularity Score* between surveys conducted more than one year (two years) apart equals 0.11 (0.11). These results imply that, when warranted by a large change in Americans' perception of a

[3] Participants who feel they do not have sufficient information to form an overall opinion of a country can opt for "no opinion." On average, 8.32% of respondents had no opinion toward a country. The percentages in constructing the *Country Popularity Score* are all with respect to survey participants who had some opinion toward a country.

[4] The *Country Popularity Score* for each individual survey is available upon request to subscribers of the iPoll Databank.

country, surveys are conducted more frequently. Relatedly, it appears that not much information is lost when surveys are conducted on a less frequent basis because a country's popularity does not seem to change substantially in these cases.

Still, while past surveys contain valuable information about a country's present popularity among Americans, the low survey frequency likely introduces some noise and measurement error to my analysis. At the same time, restricting myself to observations close to the most recent survey date substantially decreases my sample size and the generalizability of my results.

In my analysis, I focus on observations for which the most recent survey was taken within the past two years or, if separated by more than two years, for which the next survey yields a *Country Popularity Score* that is within 0.2 units of the previous one. By doing so, I hope to strike a balance between reducing measurement error from stale surveys, on one hand, and keeping my sample size respectable, on the other. With respect to the former, if two surveys yield very similar *Country Popularity Score*s (despite being separated by more than two years), using the first survey until the second is released is unlikely to introduce significant measurement error from stale information. With respect to the latter, the here imposed restrictions decrease my sample size by only 15%. In comparison, imposing a strict one-year restriction reduces my sample size by more than 40%.[5]

Alternate data criteria, such as a strict one year-, three year-, or no restriction, yield similar results. Both the coefficient estimate on the *Country Popularity Score* and the associated standard error tend to increase the closer to the most recent survey date I require my observations to be. The resulting *t*-statistics are similar to the ones reported in this study. [6]

[5] After imposing the two-year restriction, the average absolute change in the *Country Popularity Score* between surveys conducted more than one year (two years) apart equals 0.10 (0.10).

[6] Because most observations with "old" survey data occur in year-months that have relatively few funds, Fama-MacBeth regressions (which give equal weight to all year-months) assign more weight to "old" observations than do the fixed effects- and first-difference regressions (which are estimated on a fund/year-month level and, consequently, assign low weight to year-months in which there are relatively few funds). The increase in the coefficient estimate on the *Country Popularity Score*, as I require more recent survey data, thus, is strongest for the Fama-MacBeth regressions.

Before turning to my main analysis, I explore what causes the variation in country popularity. Specifically, I test whether a country's popularity among Americans is determined by its cultural similarity to the US (cultural similarity-based view), Americans' familiarity with the country in question (familiarity-based view), or US societal norms against the country's political and legal system (political and legal system-based view).

To measure a country's cultural similarity with the US, I obtain data from the World Factbook produced by the Central Intelligence Agency (CIA) and construct a same language dummy and a same religion dummy. I also use the fraction of US citizens with ancestors from the country in question as published by the US Census Bureau, as well as differences in the Hofstede Index between the US and the country in question.[7]

To measure familiarity, I use the logarithm of a country's population and the logarithm of the distance in kilometers between Washington, DC, and the country's capital city as published by the CIA World Factbook. I also consider the fraction of participants in the Gallup survey who feel they do not have sufficient information to form an overall opinion of a country and opt for "no opinion."

To measure US societal norms against a country's political and legal system, I assume that Americans' perception of a country's political and legal system is related to the country's score on the Corruption Perceptions Index as published by Transparency International. I then examine how the corruption score associates with the *Country Popularity Score*.

Seventeen countries over the 1992-2008 time period produce the data necessary to construct the aforementioned variables. Given the nonexistent or limited amount of time series variation in my determinants variables, I take the time series average of the variables and compute cross-sectional pairwise correlation coefficients. The coefficient estimates are reported in Table 1.

---

[7] See http://www.geert-hofstede.com/. The Hofstede Index quantifies a country's culture along the following five dimensions: power distance, individualism, masculinity, uncertainty avoidance, and long-term orientation. For each of the five dimensions, I compute the absolute difference in score between the US and the country in question. I then calculate the average difference across all five dimensions.

Consistent with the cultural similarity-based view, country popularity is positively correlated with ancestry and negatively correlated with differences in the Hofstede Index. The correlation coefficients are both economically and statistically meaningful. Country popularity is also positively correlated with the same language dummy and the same religion dummy, albeit only at marginally statistically significant levels. Furthermore, consistent with the political and legal system-based view, I observe a strong positive correlation between a country's popularity and its score on the Corruption Perceptions Index (in which a high index value indicates good governance). The familiarity-based view receives no empirical support. That is, neither the population nor the distance variable is reliably correlated with country popularity. The fraction of survey participants with no opinion of the country in question also produces no reliable association.

In the end, while it is impossible to know with precision why a given survey respondent thinks more favorably of one country than another, the observed correlations suggest that, on an aggregate level, a country's average popularity over my sample period is related to its cultural similarity with the US and Americans' societal norms against its political and legal system.

Determining what causes a country's popularity to (suddenly) change from one month to another is more challenging. The biggest time series swings coincide with the Iraq War. Other time series swings are smaller in magnitude and more difficult to tie to a specific event. In general, time series swings appear to be transitory in nature. When a country experiences a positive change in its Popularity Score, the *Country Popularity Score*, on average, increases from 2.71 to 2.82; a year later, the *Country Popularity Score* averages 2.77; two years later, the *Country Popularity Score* averages 2.75. Similarly, when a country experiences a negative change in its Popularity Score, the *Country Popularity Score*, on average, decreases from 2.76 to 2.62; a year later, the *Country Popularity Score* averages 2.70; two years later, the *Country Popularity Score* averages 2.74. The fact that more than half of the change in a country's Popularity Score is reversed after one year and more than 75% is reversed after two years implies that neither changes in cultural similarity nor changes in familiarity (considered by themselves) can explain the time series swings in popularity, as cultural similarity- and familiarity-induced changes would be

expected to be more persistent. Instead, the evidence suggests that Americans overreact to a country's political decision (such as the French and German opposition to the Iraq War) and that those political decision-induced changes in a country's perception are largely reversed within one or two years.[8]

3. Iraq War

The beginning of the Iraq War was marked by a dramatic change in Americans' perceptions of various countries, in particular, France and Germany. As such, it presents an interesting setting for an initial exploration of the relevance of country popularity to security prices.

In February and March 2003, France and Germany made clear they would not support an invasion of Iraq, resulting in harsh criticism from US government officials and part of the American media. Some Americans even boycotted French and German products, with the stated goal of "punishing France and Germany" for their lack of support. Chavis and Leslie (2009) suggest that the unofficial US boycott of French wine alone cost France $112 million. Relatedly, US House of Representatives cafeterias began serving "freedom fries" and "freedom toast" in lieu of French fries and French toast.

The change in sentiment toward France and Germany is captured by the Gallup Poll on Americans' attitudes toward other countries and the *Country Popularity Score* constructed from it, providing some indication that the *Country Popularity Score* generally succeeds in measuring Americans' sentiment toward other countries. Specifically, from January to February 2003, the average *Country Popularity Score* of France and Germany dropped from 3.06 to 2.76. The beginning of the Iraq War was accompanied by a further drop in the average *Country Popularity Score* from 2.76 in February to 2.24 in March 2003.[9]

There is one CCEF from France and one CEEF from Germany around the beginning of the Iraq War (*gvkey* = 021768, 020190). The evolution of the average discount of these two CCEFs is plotted in

[8] In Section 4.2., I explore whether changes in country popularity are correlated with changes in fundamentals and whether this could explain the observed correlation between discount and *Country Popularity Score*.

[9] France's score decreased from 3.04 in January to 2.67 in February to 2.01 in March 2003. Germany's score decreased from 3.09 to 2.85 to 2.46 during the same period.

Fig. 1. Consistent with country popularity having a non-negligible impact on security prices, the average discount of the two French and German CCEFs increased substantially from 14.54% in January to 18.25% in February and then to 27.77% in March 2003. Eventually, the discount dropped, and by July 2006, when the House of Representatives cafeterias resumed serving French fries and French toast, the discount of the German CCEF had fallen back to 8%.[10] (Stockholders voted to liquidate the French CCEF in May 2004.)

Fig. 1 plots the evolution of another German CCEF, the Germany Fund, around the fall of the Berlin Wall. As described by Lamont and Thaler (2003), the Germany Fund traded at a discount of 9% at the beginning of 1989. By the time the Berlin Wall fell in October 1989, the discount had turned into a substantial premium. In January 1990, the premium reached 100%. Eventually, the premium dropped and, throughout 1991, the Germany Fund traded at an average premium of 10%. While the dramatic rise and fall in prices of the Germany Fund was not accompanied by a similarly dramatic change in Germany's popularity (among Americans), the episode of the Germany Fund around the fall of the Berlin Wall provides another instance in which American investors had a much different view of the fund's home market than home market investors did themselves. Next, a multivariate analysis tests whether the observation made for the special case of the Iraq War extends to the full panel.

4. Results

I estimate the partial effect of a country's popularity among Americans on security prices using both fixed effects and first-differencing estimators. Estimates under the fixed effects specification are obtained by adding fund dummies and estimating OLS regressions. Estimates under the first-differencing specification are obtained by estimating OLS regressions for the first difference of my dependent and independent variables. The dependent variable is $Discount_{i,t}$ [Eq.(1)]. The independent variable of most interest in the context of this study is the *Country Popularity Score*$_{i,t}$. Other independent variables are *Inverse Security*

[10] The discount of the German CCEF was 32.31% in March 2003; the discount of the French CCEF was 23.23%.

Price$_{i,t-1}$, *Dividend Yield* $_{i,t-1}$, *Expense Ratio*$_{i,t}$, *Turnover Ratio*$_{i,t}$, *Home Market Valuation Ratios*$_{i,t}$, and *US Market Valuation Ratios*$_{i,t}$. Appendix A provides a description of each variable and its expected relation with the discount. Appendix A also discusses the timing of my independent variables. I calculate *t*-statistics using White (1980) standard errors adjusted for clustering (by year-month and fund).[11]

As reported in Table 2, the coefficient estimate on the *Country Popularity Score* under the fixed effects regression specification equals 0.116 (*t*-statistic 2.00), implying that a one standard deviation drop in the *Country Popularity Score* leads to a 2.9% increase in the discount. Such a drop in popularity would move the median firm (in terms of discount) to the 61st percentile. The first-differencing estimator produces a similarly economically meaningful coefficient estimate on the *Country Popularity Score*. Here, the estimate equals 0.083 (*t*-statistic 2.22), implying that a one standard deviation drop in the *Country Popularity Score* leads to a 2.08% increase in the discount.[12]

Both fixed effects and first-differencing estimators solely exploit time series variation in the dependent and independent variables to obtain estimates of the partial effect of country popularity on security prices. To explore the relation between country popularity and security prices in the cross section, I estimate Fama-MacBeth (1973) regressions. Every month, I regress *Discount* on the *Country Popularity Score* and, except for the *US Market Valuation Ratios*, the same set of control variables as before. The reason I drop *US Market Valuation Ratios* is that they are the same for all funds at a given point in time. I then take the time series mean of the coefficient estimates from the cross-sectional regressions. I adjust the standard errors for serial correlation and heteroskedasticity using Newey-West (1987) with 12 lags. As reported in Column 3 of Table 2, I find that country popularity and CCEF discounts are associated in the cross section: The time series mean is 0.044 and has a *t*-statistic of 2.42.

---

[11] Throughout the paper, whenever I calculate standard errors adjusted for clustering along multiple dimensions, I use the estimator devised by Cameron, Gelbach, and Miller (2010).

[12] The country popularity effect is somewhat persistent. For instance, after a one-half standard deviation drop in the *Country Popularity Score*, average discounts increase from 8.21% to 11.36%. After 12 months, average discounts equal 9.18%. The partial reversal is consistent with the fact that when a country experiences a negative change in its Popularity Score, its *Country Popularity Score* partially reverses after one year (see Section 2.2.). I make similar observations for positive changes to the *Country Popularity Score*. Results are available upon request.

A closed-end fund exhibits substantially more time series variation in its discount than in its home country's popularity. It, thus, may not surprise that the incremental *R*-squared of the *Country Popularity Score* in the fixed effects and first-differencing regression specification is small (1% and 0.1%, respectively; untabulated). Fama-MacBeth (1973) regressions, which exploit cross-sectional variation in country popularity, produce economically more meaningful incremental *R*-squareds of 3% (untabulated). In comparison, when Lemmon and Portniaguina (2006) examine the effect of consumer confidence on the size premium, the incremental *R*-squared of consumer confidence in the post-1977-period ranges from 5% to 11%.[13] Thus, the country-popularity effect on the closed-end fund discount appears to be a similar order of magnitude as the consumer confidence effect on the size premium found in Lemmon and Portniaguina (2006).

The observed correlation between discount and country popularity is slightly stronger for funds more heavily held by retail investors and for funds estimated to have higher valuation uncertainty and arbitrage costs. Specifically, I re-estimate the partial effect of country popularity on discounts but now include the following interaction terms: $Country\ Popularity\ Score_{i,t}$*$I(Inst.\ Holdings_{i,t})$, to assess whether the here proposed effect is stronger among funds more heavily held by retail investors, and (in separate regressions) $Country\ Popularity\ Score_{i,t}$*$I(Return\ Volatility_{i,t})$ and $Country\ Popularity\ Score_{i,t}$*$I(Inverse\ Security\ Price_{i,t})$, to assess whether the effect is stronger among funds with higher uncertainty and arbitrage costs.[14] *I(.)* is an indicator function and equals zero if the variable is below the 30th percentile, one if the variable is between the 30th and 70th percentile, and two if the variable is above the 70th percentile. I use an indicator function to facilitate interpretation of the economic significance. $Return\ Volatility_{i,t}$ is the cross-sectional average of squared monthly returns across all stocks in the CCEF's home market and is intended to capture the difficulty of valuing the CCEF's underlying assets. *Inverse Security*

[13] See Table 3, Panel A of Lemmon and Portniaguina (2006). The incremental *R*-squareds in the pre-1977 period are all negative.

[14] I also include $Inst.\ Holdings_{i,t}$ and $Return\ Volatility_{i,t}$ as independent variables. In the first-difference specification, the interaction terms are $\Delta Country\ Popularity\ Score_{i,t}$*$I(Inst.\ Holdings_{i,t})$, $\Delta Country\ Popularity\ Score_{i,t}$*$I(Return\ Volatility_{i,t})$, and $\Delta Country\ Popularity\ Score_{i,t}$*$I(Inverse\ Security\ Price_{i,t})$.

$Price_{i,t-1}$ is the inverse of the CCEF's market price (in the US) and is intended to capture the CCEF's arbitrage costs (Pontiff, 1996).

Consistent with country popularity having a larger effect among funds more heavily held by retail investors, the Fama-MacBeth coefficient estimate on $Country\ Popularity\ Score_{i,t}*I(Inst.\ Holdings_{i,t})$ equals -0.006 (*t*-statistic -2.04). Moreover, consistent with country popularity having a larger effect among funds with higher valuation uncertainty and costs of arbitrage, the Fama-MacBeth coefficient estimates on $Country\ Popularity\ Score_{i,t}*I(Return\ Volatility_{i,t})$ and $Country\ Popularity\ Score_{i,t}*I(Inverse\ Security\ Price_{i,t-1})$ equal 0.010 (*t*-statistic 1.59) and 0.013 (*t*-statistic 2.93), respectively. The estimates imply that a one-unit change in the *Country Popularity Score* leads to a 1.21% smaller change in the discount for high institutional holdings funds than for low institutional holdings funds, a 1.92% larger change in the discount for high volatility funds than for low volatility funds, and a 2.62% larger change in the discount for low-price funds than for high-price funds. The coefficient estimates on the interaction terms in the fixed effects and first-differencing regression specifications have the same signs as the estimates obtained in the Fama-MacBeth regressions. However, none of them is reliably different from zero. Part of the weaker result could be due to valuation uncertainty and arbitrage costs exhibiting more variation in the cross section than in a fund's time series. Institutional holdings for CCEFs also exhibit limited time series variation.

4.1. Alternate survey aggregation

In Table 3, I explore alternative aggregations of survey responses from the Gallup Poll on Americans' attitudes toward other countries. In particular, I replace the *Country Popularity Score* with the fraction of survey participants thinking very or mostly favorably of a country (Panel A) and the fraction of survey participants thinking very or mostly unfavorably of a country (Panel B). Consistent with earlier results, the discount of CCEFs is negatively associated with the fraction of survey participants thinking very or mostly favorably of a country. The coefficient estimate on the fraction of survey participants is equal to 0.296 (*t*-statistic 2.23) under the fixed effects specification, 0.168 (*t*-statistic 2.44) under the first-

differencing specification, and 0.056 (*t*-statistic 2.54) under the Fama-MacBeth (1973) specification. The coefficient estimate of 0.296 suggests that a 10% drop in the fraction of survey participants thinking very or mostly favorably of a country leads to a 2.96% increase in the discount. Also consistent with earlier results, the discount of CCEFs is positively associated with the fraction of survey participants thinking very or mostly unfavorably of a country. The coefficient estimate on the fraction of survey participants is equal to -0.205 (*t*-statistic -1.92) under the fixed effects specification, -0.179 (*t*-statistic -2.53) under the first-differencing specification, and -0.093 (*t*-statistic -3.52) under the Fama-MacBeth (1973) specification. The coefficient estimate of -0.205 suggests that a 10% increase in the fraction of survey participants thinking very or mostly unfavorably of a country increases the discount by 2.05%.

4.2. Feedback effects, financial market openness, and fundamentals

Both fixed effects and first-differencing estimators allow unobserved, time-constant effects (such as managerial ability) to be correlated with the explanatory variables.[15] There remains the concern that the regression error terms, $\varepsilon_{i,t}$, and the explanatory variables, $X_{i,t}$, are correlated for $s \neq t$, thus violating the strict exogeneity assumption. Future values of the *Country Popularity Score* might be correlated with $\varepsilon_{i,t}$ if sentiment has price impact and changes in sentiment are reflected in the *Country Popularity Score* with a lag due to the low survey frequency. In addition, $\varepsilon_{i,t}$ might be correlated with past values of the *Country Popularity Score* if sentiment has price impact but only slowly gets factored into the price. These feedback effects do not appear to be very important in my data. Specifically, I find that including both past and future *Country Popularity Score*s as additional explanatory variables in the fixed effects specification does not materially alter my findings. For instance, when including *Country Popularity Score*$_{t-1}$ and *Country Popularity Score*$_{t+1}$ as additional independent variables, neither the coefficient on *Country Popularity Score*$_{t-1}$ nor the one on *Country Popularity Score*$_{t+1}$ is reliably different from zero; the coefficient on *Country Popularity Score*$_t$ turns to 0.077 (*t*-statistic 1.59). Similarly, including Δ*Country*

[15] The first-differencing estimator can continue to produce reasonable estimates if the unobserved effect rarely changes over time.

Popularity Score$_{t-1}$ and Δ*Country Popularity Score*$_{t+1}$ as additional independent variables in my first-differencing specification produces a coefficient estimate of 0.089 (*t*-statistic 2.02) on Δ*Country Popularity Score*$_t$. This estimate is very similar to the one obtained without including Δ*Country Popularity Score*$_{t-1}$ and Δ*Country Popularity Score*$_{t+1}$.

Another relevant concern is that country popularity could be positively correlated with a country's financial market openness, which in turn could negatively affect the CCEF discount. Moreover, changes in country popularity could be correlated with changes in a country's fundamentals recognized by US investors, but (initially) not fully comprehended by home market investors, driving a wedge between the market value of the fund and the market value of the fund's underlying assets. Results from additional analyses do not lend support to these alternative interpretations of the data. In particular, I observe no reliable correlation between country popularity and the country's financial market openness as estimated by the Edison-Warnock (2003) measure.[16] I also do not detect any significant association between changes in country popularity and the country's stock market return, growth in gross domestic product, or change in unemployment.

4.3. Country popularity and market sentiment

When examining how the popularity of country *X* affects how securities from that country are perceived by US investors (relative to country *X* investors), I, heretofore, (implicitly) assume that a) country *X* investors do not trade on sentiment and that b) US investors do not trade on dimensions of sentiment other than country *X*'s popularity. The former implies that the market value of the fund's underlying assets (determined in country *X*) provides an adequate estimate for the fund's fundamental value against which the market value of the fund (determined in the US) can be compared. The latter implies that

[16] The Edison-Warnock (2003) measure is the portion of a country's financial market available to foreign investors (as compiled by the International Finance Corporation). The data necessary to construct the *Country Popularity Score* and the Edison-Warnock (2003) measure were found in 12 countries. The countries are Brazil, China, Colombia, India, Indonesia, Korea, Mexico, Philippines, Russia, South Africa, Turkey, and Venezuela.

CCEFs provide a very clean laboratory in which to test the effect of country popularity on demand and security prices.

In practice, both assumptions could be violated and an alternative explanation of the results could be that high popularity of country *X* (among Americans) coincides with low sentiment by country *X* investors (toward securities from country *X*), thereby lowering the market value of the fund's underlying assets (determined in country *X*) relative to that of the fund itself (determined in the US). This is hereafter referred to as the home market-interpretation. Another possibility could be that high country popularity coincides with high sentiment by US investors toward all securities traded in the US, irrespective of their country of origin, thereby increasing the market value of the fund relative to that of its underlying assets. This is hereafter referred to as the US market-interpretation.[17]

Both possibilities highlight the relevance of sentiment. Nonetheless, for the purpose of this study, it is of interest to explore whether these alternate interpretations can explain the observed correlation between CCEF discount and country popularity. I, thus, follow Baker, Foley, and Wurgler (2009) and use the mispricing component in a country's average market-to-book ratio to proxy for the level of mispricing due to home market- and US market-sentiment. The decomposition of market-to-book into a fundamental and mispricing component is based on a first-stage regression of market-to-book ratios on future six-month-returns, where the fitted values provide estimates for the mispricing component in the market-to-book ratio.[18] The underlying assumption is that the mispricing component in the market-to-book ratio is associated with subsequent returns, whereas the fundamental component is unrelated to future returns (Baker, Foley, and Wurgler, 2009).

[17] Note that it is *only if* country *X*'s popularity among Americans is negatively correlated with country *X* investors' sentiment or positively correlated with other dimensions of US investor sentiment (or both) that this becomes an alternate interpretation of the data. Otherwise, examining the effect of country popularity on CCEF discounts still provides a valid (albeit less powerful) test of whether country popularity affects demand and influences security prices.

[18] The choice of six months was motivated by data constraints. The return data end in June 2009. The six months holding period allows me to estimate the fitted valuation ratios for the year 2008. In practice, I observe very similar results when computing returns over 12 or 24 months

I observe no reliable association between the *Country Popularity Score* and the mispricing component in the respective countries' market-to-book ratios. I make similar observations when using raw market-to-book ratios. The inclusion or exclusion of US market- and home market-valuation ratios as additional independent variables, thus, does not materially alter the coefficient estimate on the *Country Popularity Score*.[19] Vice versa, the inclusion or exclusion of the *Country Popularity Score* as an additional independent variable does not materially alter the coefficient estimates on the valuation ratios. Together, the results imply that the country popularity effect and the home market/US market effect are independent phenomena.

4.4. CCEF and domestic closed-end funds

Recent closed-end fund studies detect only a weak (or no) association between the discount of *domestic* closed-end funds and measures of investor sentiment, such as the US Consumer Confidence Index (Lemmon and Portniaguina, 2006) and the UBS/Gallup Sentiment Survey (Qiu and Welch, 2006). My finding that discounts of CCEFs decrease in a measure of sentiment while, at the same time, related studies find no such association for domestic closed-end funds then seems confusing.

However, the contradiction might be more apparent than real. Generally, if some sentiment were to have price impact, but to affect both the market value of the security and the market value of the security's underlying assets, then changes in sentiment would not be fully reflected in the discount and lead to an underestimation of the sentiment's true economic significance. In some cases, this understatement leads to the (incorrect) inference that sentiment has no meaningful impact on security prices. Finding a sentiment that could potentially affect the market value of the fund, but not the value of the fund's underlying assets, is challenging in the case of domestic closed-end funds.

[19] The coefficient estimates on the *Country Popularity Score* from regressions including the home market valuation ratios are reported in Table 2. The estimates from regressions excluding the home market valuations ratios equal 0.116 (t-statistic 1.99) in the fixed effects regression specification, 0.080 (t-statistic 2.13) in the first-differencing specification, and 0.035 (t-statistic 2.21) in the Fama-MacBeth specification.

But this challenge lessens significantly with CCEFs, because the investor base determining the market value of the fund remains disconnected from the investor base determining the value of the fund's underlying assets. The market value of the fund's underlying assets is determined primarily by investors in the fund's home market; the market value of the fund, on the other hand, is determined by investors in the US. To the extent that home market investors are sheltered from American sentiment toward their respective countries, the market value of a CCEF's underlying assets provides an adequate benchmark against which the fund's market value may be examined (Bodurtha, Kim, and Lee, 1995).

Overall, studying the effect of a country's popularity among Americans on CCEF discounts, therefore, provides a more powerful analysis of how sentiment-driven demand affects security prices, which likely explains why there is a strong association between CCEF discounts and country popularity, on one hand, but none between domestic closed-end fund discounts and various measures of investor sentiment, on the other.

4.5. Country popularity and ADR discounts

ADRs provide another interesting setting to explore the effect of country popularity on security prices. ADRs are claims to shares of foreign securities that are traded in the US. Similar to CCEFs, the price of the foreign security is determined by investors in their respective home markets, whereas the price of the claim is determined in the US. As with CCEFs, the market price of the ADR usually differs from the price of the ADR's underlying asset, although the magnitude of this disparity is generally much smaller for ADRs than for CCEFs (Karolyi, 1998; and Lamont and Thaler, 2003). Given the similarity in security structure between CCEFs and ADRs, a natural question that arises is whether the association found between country popularity and CCEF discounts extends to ADRs.

The data necessary to conduct my analysis are found in 320 ADRs from 20 countries over the period 1992:11 to 2008:12.[20] The countries are Australia, Brazil, China, France, Germany, India,

[20] ADRs are identified as such in Compustat if the company name includes either "ADR" or "ADS" and does not contain "REDH," "PRE FASB," or "PRO FORMA." ADRs are identified as such in CRSP if the share code is between 30 and 31.

Indonesia, Israel, Italy, Japan, Korea, Mexico, Philippines, Russia, South Africa, Spain, Taiwan, Turkey, UK, and Venezuela.

Monthly ADR premia/(discounts) are calculated using ADR trading prices and trading prices of the ADR's underlying assets in local currency adjusted for ADR ratios and exchange rates:

$$Premium(Discount)_{i,t} = \frac{PriceADR_{i,t} - Adj.PriceUnderlyingAsset_{i,t}}{Adj.PriceUnderlyingAsset_{i,t}}, \quad (2)$$

where ADR trading prices are from the Center for Research in Security Prices (CRSP), ADR ratios are from Compustat, trading prices of the ADR's underlying assets in local currency are from Compustat Global Issue, and exchange rates are from Compustat Global Currency. The average discount of ADRs in my sample is 0.03%; the standard deviation is 5.25%. The mean and standard deviation of the ADR discount in this study are similar to those reported in related studies (e.g., Chan, Hong, and Subrahmanyam, 2008).

Analogously to the CCEF analysis, I estimate the partial effect of a country's popularity among Americans on security prices using both fixed effects and first-differencing estimators. I also report estimates from Fama-MacBeth (1973) regressions. The dependent variable is $Discount_{i,t}$ [Eq. (2)]. Independent variables are *Country Popularity Score*$_{i,t}$, *Inverse Security Price*$_{i,t-1}$, *Dividend Yield*$_{i,t-1}$, *Turnover Ratio*$_{i,t}$, *Home Market Valuation Ratios*$_{i,t}$, and *US Market Valuation Ratios*$_{i,t}$ (dropped when estimating Fama-MacBeth (1973) regressions). For both the fixed effects and the first-differencing regression specification, I calculate *t*-statistics using White (1980) standard errors adjusted for clustering (by year-month and fund). For the Fama-MacBeth (1973) regression specification, standard errors are adjusted for serial correlation and heteroskedasticity using Newey-West (1987) with 12 lags.

Results are reported in Table 4. The coefficient estimate on the *Country Popularity Score* equals 0.005 (*t*-statistic 1.80) under the fixed effects specification, 0.007 (*t*-statistic 2.05) under the first-differencing specification, and 0.006 (*t*-statistic 2.05) under the Fama-MacBeth (1973) specification. The coefficient estimate of 0.005 suggests that a one standard deviation drop in the *Country Popularity Score*

increases discounts by 0.13%. Such an increase would move the median firm (in terms of discount) to the 54th percentile.

While, generally, the association between country popularity and discounts found for CCEFs extends to ADRs, the effect is weaker for ADRs than for CCEFs. One explanation is that deviations between price of the claim and price of the underlying asset can be more easily arbitraged away for ADRs than for CCEFs (Lamont and Thaler, 2003).

Another reason could be that many investors do not know an ADR's country of origin. For instance, in a tangential yet related vein, Andersonanalytics (2007) finds that more than 95% of US college students are unaware of Nokia's country of origin, despite Nokia being the world's largest manufacturer of mobile phones and the high relevance of mobile phones in US college students' lives (Aoki and Downes, 2003). In additional (untabulated) tests, I, therefore, examine whether the association between ADR discount and country popularity becomes stronger if the ADR's country of origin appears in the company name and investors are more likely to be aware that they are holding (not holding) ADRs from a popular (less popular) country. For the sample of 23 ADRs from ten countries over the 1992 to 2008 period for which the country of origin appears in the company name, the fixed effects estimator produces an estimate of 0.008 (*t*-statistic 2.25) on the *Country Popularity Score*, almost twice as large as the coefficient estimate obtained in the full sample (see Table 4). Despite the sharp reduction in sample size, the statistical significance of the coefficient estimate increases. The stronger association between country popularity and ADR discount for this subsample is not driven by the fewer countries in the subsample (from 20 countries in the full sample to ten in the subsample). The coefficient estimate on the *Country Popularity Score* for ADRs that do not have their country of origin in their name but are from the same ten countries as the ADRs used in this subsample is "only" 0.004. First-differencing and Fama-

MacBeth (1973) estimators also produce coefficient estimates that are larger in magnitude and statistically more significant.[21]

4.6. IPO, liquidation, and open-ending

To the extent that a country's popularity among Americans influences US investors' investment decisions and affects prices, one wonders whether managers are aware of the effect of country popularity and cater to investors' country preferences. This question can be examined by comparing the average country popularity around a CCEF's IPO with the average country popularity around a CCEF's announcement of liquidation or open-ending. Similarly, one can compare the average country popularity around the start of an ADR program with the average country popularity around the end of an ADR program.

Unfortunately, only five funds had an IPO and announced a liquidation or open-ending while being covered in the Gallup Poll on Americans' opinion toward other countries. The average *Country Popularity Score* around a CCEF's IPO is 2.84. In comparison, the average *Country Popularity Score* around a CCEF's announcement of liquidation or open-ending is 2.78. There are 110 firms that started and ended an ADR program while being covered in the Gallup Poll on Americans' opinion toward other countries. The average *Country Popularity Score* around an ADR's start is 3.01; the average *Country Popularity Score* around an ADR's end is 2.99.

The finding that country popularity is higher around the beginning of the CCEF's (ADR's) existence than around its liquidation is consistent with the hypothesis that managers take a country's popularity into consideration when either starting or ending a CCEF or ADR program. Put bluntly, the beginning of the Iraq invasion was a bad time to start a French CCEF in the US. However, both the economic and statistical significance of the differences are modest [0.06 (*t*-statistic 2.31) for CCEFs; 0.02 (*t*-statistic 0.96) for ADRs].

[21] As noted by Gagnon and Karolyi (2010), ADR discounts are small but can reach large extremes. These swings in the data have the potential to cloud my analysis. Consistent with this conjecture, I observe slightly stronger results when re-estimating my regressions using monthly averages of daily ADR discounts

4.7. Country popularity and mutual fund flows

The analysis so far has consisted of a joint test of country popularity affecting uninformed investors' investment decisions and the market impact of those investment decisions. In this subsection, I more directly test the hypothesis that country popularity affects uninformed demand by examining how a country's popularity among Americans affects US mutual fund flows which "provide a transparent measure of decisions made by a large set of investors who are, on average, less sophisticated and more likely to display sentiment" (Baker and Wurgler, 2007, p. 142).

The analysis focuses on mutual funds that are identified with a single (non-US) country [using the Standard and Poor (S&P) Area Codes in the CRSP Mutual Fund Database] and can produce the data necessary to construct normalized fund flows, the *Country Popularity Score*, and various control variables (defined below). Overall, my sample consists of 29 mutual funds from five countries over the period 1992:12 to 2008:12. The countries are China, Israel, Japan, Korea, and the UK. The mutual funds used in this study are listed in Appendix E.

The normalized net cash flow to fund i during month t is measured as

$$\frac{TNA_{i,t}-TNA_{i,t-1}*(1+r_{i,t})-MGTNA_{i,t}}{TNA_{i,t-1}}, \qquad (3)$$

where $TNA_{i,t}$ refers to the total net assets (TNA) at the end of month t, $r_{i,t}$ is the fund's return for month t, and $MGTNA_{i,t}$ is the increase in TNA due to mergers during month t. The data come from the CRSP US Mutual Fund Database. The normalized net cash flow measure in eq. (3) implicitly assumes that the new money is invested at the end of each month. Measuring normalized net cash flow under the alternative assumption that the new money is invested at the beginning of each month produces results very similar to those using eq. (3). For brevity and for consistency with prior studies (Zheng, 1999; Sapp and Tiwari, 2004; and Keswani and Stolin, 2008), only results for normalized net cash flow as measured in eq. (3) are reported. Following Gruber (1996), I assume that investors in merged funds place their money in the surviving fund and continue to earn the return on the surviving fund.

To analyze determinants of fund flows, I estimate a pooled regression with a fund's monthly normalized net cash flow [Eq. (3)] as the dependent variable:

$$Flow_{i,t}=\alpha_{2\text{-}29}+\beta_1 CountryPopularityScore_{i,t}+\beta_2 Ret_{i,t\text{-}12,t\text{-}1}+\beta_3 ln(TNA_{i,t\text{-}1})+\beta_4 Av.Flow_t+\varepsilon_{i,t}. \quad (4)$$

The right-hand-side variable of most interest in the context of this study is the *Country Popularity Score*. Other right-hand-side variables are $Ret_{i,t\text{-}12,t\text{-}1}$, the fund's past one-year holding period return, to capture the tendency for flows to chase past returns (Ippolito, 1992; and Sirri and Tufano, 1998); $ln(TNA_{i,t\text{-}1})$, the logarithm of *TNA* at the beginning of the month, as small funds may grow faster than large funds; and $Av.Flow_t$, the average monthly flow of all funds in the CRSP Mutual Fund Database universe to capture a general demand effect. Mutual fund dummies control for unobservable mutual fund specific fixed effects. I calculate *t*-statistics using White (1980) standard errors adjusted for clustering (by year-month and mutual fund).

As reported in Table 5, country popularity and fund flows are positively correlated. The coefficient on the *Country Popularity Score* of 0.124 (*t*-statistic 1.95) suggests that a one standard deviation increase in the *Country Popularity Score* leads to a 3.10% increase in fund flows. All other associations are as predicted and significant. Fund flows are positively related to past returns, negatively related to TNA, and positively related to the average flow across all funds in the CRSP Mutual Fund Database universe.

In summary, I find that a country's popularity among Americans is negatively associated with the discount of CCEFs from that country. The association partially extends to ADRs. Moreover, I detect a positive correlation between a country's popularity among Americans and fund flows of single-country mutual funds investing in that country. Taken together, these observations provide evidence that US investors care about a country's popularity and that this sentiment affects their buying and selling decision, which ultimately affects security prices.

4.8. Retail investors and institutional investors

To gain a better understanding of which types of investors are most affected by country popularity, I estimate the following pooled regression for my sample of CCEFs and ADRs:

$$Inst.Holdings_{i,t}=\alpha+\beta_1 CountryPopularityScore_{i,t}+\beta_2 Inv.Price_{i,t}+\beta_3 Div.Yield_{i,t-1}+Year\beta_{4\text{-}9}+\varepsilon_{i,t}. \quad (5)$$

$Inst.Holdings_{i,t}$, the dependent variable, is the institutional holdings of CCEF *i* (ADR *i*) at time *t*. As institutional holdings are released only quarterly, all observations in this regression are quarterly as well. Data to calculate institutional holdings come from the Thompson Institutional Holdings database (S34). *Country Popularity Score* is as explained above. $Inv.Price_{i,t-1}$ is the inverse of fund *i*'s (ADR *i*'s) lagged price level and is included to capture institutional investors' preference for high liquidity (Gompers and Metrick, 2001). $Div.Yield_{i,t-1}$ is dividends paid by CCEF *i* (ADR *i*) over the previous 12 months, scaled by the fund's lagged net asset value, and is included to capture fiduciary motives (Del Guercio, 1996). Year dummies are included to capture time effects (Gompers and Metrick, 2001). I calculate *t*-statistics using White (1980) standard errors adjusted for clustering (by year-quarter and fund).

As reported in Table 6, country popularity and institutional holdings associate negatively. For CCEFs, the coefficient estimate on the *Country Popularity Score* is -0.124 (*t*-statistic -2.33), which suggests that a one standard deviation increase in the *Country Popularity Score* leads to a 0.031 decrease in institutional holdings. For reference, the average institutional holdings in the CCEF sample are 0.193; the standard deviation is 0.131. For ADRs, the coefficient estimate of -0.014 (*t*-statistic -0.39) on the *Country Popularity Score* implies that a one standard deviation increase in the *Country Popularity Score* leads to a 0.004 decrease in institutional holdings. Again, for reference, the average institutional holdings in the ADR sample are 0.131; the standard deviation is 1.251.

That, for CCEFs, country popularity negatively associates with both discount and institutional holdings suggests that a country's popularity among Americans primarily affects investment decisions of US retail investors. Retail investors driven by positive sentiment toward a country acquire (more) securities from that particular country by buying from institutional investors and therefore simultaneously decrease discount and institutional holdings. An analogous argument can be made for negative sentiment

increasing both discount and institutional holdings. This interpretation agrees with the general notion that retail investors are more susceptible to sentiment than institutional investors (Baker and Wurgler, 2007). Such an interpretation of the results also implies that while institutional investors take the other side of unsophisticated demand, they are not able to eliminate its price effect. Otherwise, no significant association between country popularity and discount should be detected in the regression analysis.

4.9. Foreign portfolio investments

Instead of investing indirectly in a country through CCEFs, ADRs, or mutual funds, US investors can also invest directly in a foreign country's stock market. In 2007, US investors held $5.25 trillion in foreign equity securities (International Monetary Fund, 2009).[22] Ferreira and Matos (2008) estimate that, for their sample, 75% of US foreign equity holdings are held by US institutional investors and 25% are held by US retail investors.

In this subsection, I explore whether the country popularity effect found for CCEFs, ADRs, and mutual funds extends to foreign portfolio investments. Building on evidence that a country's popularity among Americans affects US retail and institutional investors differentially, I separate my analysis into foreign portfolio investments by US retail investors and foreign portfolio investments by US institutional investors.

Annual data on portfolio investments by US institutions from 2000 to 2005 are obtained from the FactSet/LionShares database.[23] There are no direct data on investments by US retail investors. However, the Coordinated Portfolio Investment Survey (CPIS) conducted by the International Monetary Fund (IMF) does provide data on annual aggregate US holdings, i.e., holdings summed across all US retail and institutional investors. The difference between holdings reported by the CPIS and holdings reported by the FactSet/LionShares database provides a clean estimate for holdings by US retail investors. Overall,

[22] See http://www.imf.org/external/np/sta/pi/part.asp?iso=USA.

[23] See Ferreira and Matos (2008) and Ferreira, Massa, and Matos (2010) for a more detailed description of the data set. I would like to thank Pedro Matos for generously sharing his data set with me.

eight countries over the 2000 to 2005 period (2001 to 2005 period) are represented by the FactSet/LionShares database (by both the CPIS and the FactSet/LionShares database) while being covered in the Gallup Poll on Americans' opinion toward other countries.[24] The countries are Australia, France, Germany, India, Italy, Japan, Spain, and the UK.

I estimate the following pooled regression:

$$Portf.Investment_{i,t}=\alpha+\beta_1 CountryPopularityScore_{i,t}+X\beta_{2\text{-}8}+Year\beta_{9\text{-}13}+\varepsilon_{i,t}. \quad (6)$$

$Portf.Investment_{i,t}$, the dependent variable, is the dollar holdings of US institutional (retail) investors in country *i* in year *t* scaled by country *i*'s market capitalization in year *t*. *Country Popularity Score*$_{i,t}$ is as explained above. *X* is a set of the following control variables: $M/B_{i,t}$ and $M/B_{US,t}$, the value-weighted average market-equity-to-book-equity ratio for country *i* and the US, respectively; $ROE_{i,t}$, the return on book equity for country *i*; *Tax Rate*$_{i,t}$, the statutory corporate income tax rate; $GDP_{i,t}$ and $GDP_{Cap,i,t}$, the total GDP and the GDP per capita in constant 2001 US dollars, respectively; *Exchange Rate*$_{i,t}$, the real exchange rate in units of foreign currency per US dollar indexed to one in 2001; *Shareholder Protection*$_{i,t}$, the shareholder protection index of La Porta, Shleifer, and Vishny (1997); and *Distance*$_{i,t}$, the distance in kilometers between Washington, DC, and the capital city of country *i*. The data sources are KPMG's Corporate and Indirect Tax Rate Survey for *Tax Rate*; the IMF-World Economic Outlook Database for *GDP*; Compustat for *Exchange Rate*; and Andrei Shleifer's website for *Shareholder Protection*.[25] I calculate *t*-statistics using White (1980) standard errors adjusted for clustering (by year and country).

The estimates from the regression are reported in Table 7. Corroborating prior results, country popularity reliably correlates with retail holdings. The partial correlation between US retail holdings and *Country Popularity Score* equals 0.011 (*t*-statistic 4.13), which implies that a one standard deviation increase in country popularity leads to a 0.28% increase in US retail holdings (as a fraction of the country's total market capitalization). In my sample, US retail investors, on average, hold 4.49% of a

[24] The institutional investor analysis spans the period from 2000 to 2005. The retail investor analysis spans the period from 2001 to 2005. Conducting the institutional investor analysis on the 2001 to 2005 period yields very similar results.

[25] See http://www.economics.harvard.edu/faculty/shleifer/dataset.

country's market capitalization. The association between country popularity and retail holdings is, thus, economically very meaningful.

Re-estimating regression eq. (6) with US institutional holdings as the dependent variable yields a coefficient estimate of 0.003 (*t*-statistic 0.46) on the *Country Popularity Score*. The insignificant coefficient estimate suggests that US institutions' investment decisions are not affected by a country's popularity among Americans. At the same time, US institutions do not appear to (actively) trade against country popularity either. This contrasts with the negative partial correlation between country popularity and institutional holdings observed for CCEFs (Table 6). The apparent contradiction could be explained by the fact that, in terms of fractional ownership, US retail holdings are much smaller in foreign markets than they are for CCEFs. US retail investors are, thus, less likely to significantly alter market prices and create arbitrage opportunities for institutional investors in foreign countries than they are for CCEFs.

4.10. Real effects of country popularity

Together, the evidence presented in this paper suggests that country popularity shifts investor demand and affects security prices. What remains to be explored is whether country popularity also influences the "real" economy. In this subsection, I consider this possibility and examine how country popularity affects individual firms' investment decisions. Specifically, I explore how a country's popularity among Americans affects the level of US foreign direct investment (FDI) and the intensity of US cross-border M&A activity in that country.

Growing evidence reveals that corporate managers are not immune to behavioral biases (e.g., Baker, Ruback, and Wurgler, 2007), pointing to the possibility that managers of multinationals may (very well) be influenced by a country's popularity in their investment decisions. On the other hand, Baker, Foley, and Wurgler (2009) find that the level of FDI is positively correlated with the valuation ratio of the "source country". The authors consider the finding evidence that when multinationals are overvalued in the source country, managers use the relatively low-cost financial capital available to them (in the source country) to buy less overpriced assets in other countries. To the extent that the interpretation chosen by

Baker, Foley, and Wurgler is correct and FDIs represent arbitrage activities by rational and opportunistic multinationals, the level of FDIs is unlikely to be affected by a country's popularity.

I obtain data on US FDIs from the Survey of US Direct Investment Abroad conducted by the US Bureau of Economic Analysis. The data are annual and span the period from 1989 to 2008. I estimate the following regression:

$$FDI_{i,t}=\alpha+\beta_1 CountryPopularityScore_{i,t}+X\beta_{2\text{-}8}+Year\beta_{9\text{-}29}+\varepsilon_{i,t}. \quad (7)$$

$FDI_{i,t}$, the dependent variable, is FDI flows from the US to country *i* in year *t* over the US FDI position in country *i* at the end of year *t-1*. Except for differences in the number of year dummies, the independent variables are the same as in regression eq. (6). I calculate *t*-statistics using White (1980) standard errors adjusted for clustering (by year and country).

The coefficient estimate on the *Country Popularity Score* equals 0.034 (*t*-statistic 1.18). I, thus, fail to reject the hypothesis that FDIs mostly reflect activities by rational and opportunistic multinationals that are not affected by country popularity.

While multinationals might not be affected by country popularity, the evidence presented in this paper indicates that country popularity does affect their underlying shareholder base. Investment decisions, such as mergers (which require shareholder approval) and acquisitions of majority interests (which, generally, receive shareholder attention), thus, represent a more promising channel through which country popularity may affect real decisions.

I obtain data on US cross-border M&As from the Securities Data Corporation (SDC) Platinum database. Following Ferreira, Massa, and Matos (2010), only transactions in which both parties are publicly traded companies are considered. I do not consider leveraged buyouts, spin-offs, recapitalizations, self-tender offers, exchange offers, repurchases, minority stake purchases, privatizations, and non-majority interests transactions (i.e., transactions in which the ownership percentage sought after the deal is below 50%).

The estimated regression is as follows:

$$M\&A\ Activity_{i,t}=\alpha+\beta_1 CountryPopularityScore_{i,t}+X\beta_{2\text{-}9}+Year\beta_{10\text{-}14}+\varepsilon_{i,t}. \quad (8)$$

$M\&A\ Activity_{i,t}$, the dependent variable, is the number of US M&As in country i in year t scaled by the total number of publicly traded firms in country i in year t (i.e., scaled by the total number of potential public targets in country i in year t). The independent variables are the same set of covariates as in regression eq. (6) plus $US\ Institutional\ Ownership_{i,t}$, defined to be the US institutional portfolio investment in country i as a percentage of country i's market capitalization. Ferreira, Massa, and Matos (2010) find that US institutional ownership is one of the strongest determinants of US cross-border M&A activity. The data span the period from 2000 to 2005 and cover the following countries: Australia, France, Germany, India, Italy, Japan, Spain, and the UK. The sample period is determined by the availability of data on US Institutional Ownership. Excluding US Institutional Ownership and extending the sample period yields very similar results. I calculate t-statistics using White (1980) standard errors adjusted for clustering (by year and country).

The data support the conjecture that even though a country's popularity among Americans does not materially affect the overall level of US FDI into that country, it does affect the intensity of US cross-border M&A activity in that country. The coefficient estimate on the *Country Popularity Score* equals 0.066 (t-statistic 2.30).[26] The estimate suggests that a one standard deviation increase in country popularity leads to a 0.02% increase in the fraction of (local) publicly traded firms acquired by US companies in a given year.

4.11. US patriotism

The evidence presented in this study is related to the work of Morse and Shive (2010). Morse and Shive find that home bias measures are positively correlated with measures of patriotism (i.e., country sentiment with respect to one's own country). This study corroborates and extends their analysis by presenting

[26] The coefficient estimate is multiplied by one hundred.

evidence that it is not only country sentiment with respect to one's own country that affects investment decisions, but also country sentiment with respect to foreign countries. More importantly perhaps, this paper adds to the literature by providing evidence that this type of country-specific sentiment causes prices to deviate from fundamental values. I also present evidence that country popularity affects firm investment policy and, as such, has important real effects.

To further explore how my finding relates to the patriotism result in Morse and Shive, I re-estimate my main regressions but now include the level of US patriotism as an additional independent variable. I observe that the level of US patriotism and CCEF (ADR) discounts are positively correlated (albeit not significantly so).[27] One interpretation is that when US patriotism is high, US investors (more strongly) prefer US securities over international securities and that this stronger preference causes market prices of international securities (determined in the US) to drop relative to their benchmark values.

5. Conclusion

In this study, I find that high levels of country popularity are associated with low CCEF discounts, low ADR discounts, high mutual fund inflows, high foreign portfolio investments by US retail investors, and low institutional holdings. Country popularity also associates positively with the intensity of US cross-border M&A activity. The interpretation most consistent with these findings is that country popularity, a country-specific sentiment, shifts (uninformed) demand and affects security prices and firm investment policy. As such, the evidence presented in this paper pertains to the ongoing discussion on the foundations of investor sentiment and its effect on market outcomes (e.g., Hirshleifer and Shumway, 2003; Kamstra, Kramer, and Levi, 2003; Edmans, Garcia, and Norli, 2007; and Kaplanski and Levy, 2010). The evidence also speaks to the growing literature on the "real" consequences of investor sentiment and the examination of how market valuation affects firm level resource allocation (e.g., Baker, Stein, and Wurgler, 2003; and Polk and Sapienza, 2009).

[27] The lack of significance could be due to the limited time series variation in US patriotism over my sample period. Results are available upon request.

This paper is also related to the literature on social norms, culture and their economic impact (e.g., Becker, 1957; Arrow, 1972; Akerlof, 1980; Levitt, 2004; and Guiso, Sapienza, and Zingales, 2009). Negative sentiment toward a country may approximate societal norms against a country's political decisions (such as Americans' dislike of the French opposition to the Iraq War) or, more broadly, a country's political, legal, and economic system. Investors not wanting themselves to be associated with these countries may, therefore, shun investing in securities from these countries. The finding that low country popularity correlates with high discounts, then, corroborates the Hong and Kacperczyk (2009) finding that societal norms appear to affect market outcomes and the Guiso, Sapienza, and Zingales (2009) finding that bilateral trust appears to be an important determinant of economic exchange between two countries.

Appendix A
Description of control variables

Inverse Security Price. Assets with higher stock prices might be easier to arbitrage because of lower transaction costs (Pontiff, 1996). For country closed-end funds (CCEF), *Inverse Security Price* is the inverse of the fund's price level as reported in Compustat. For American Depository Receipts (ADR), *Inverse Security Price* is the inverse of the ADR's price level in the US as reported in CRSP.

Expense Ratio/Dividend Yield. Because expense ratios lower the share of the fund's cash flows that goes to the investor, discounts should increase with the expense ratio (Ross, 2005). *Expense Ratio* is the annual expense ratio as reported by Morningstar.

Dividends lower the value of management fees. Discounts should, thus, narrow with dividends. Moreover, Pontiff (1996) argues that dividends reduce holdings costs for the arbitrageur pointing to another channel through which dividends could decrease the discount. *Dividend Yield* is dividends per share paid by the CCEF (the ADR) over the previous 12 months scaled by the fund's (the ADR's) lagged net asset value (lagged price), as reported in Compustat (Center for Research in Security Prices (CRSP)).

When the CCEF or ADR trades at a discount, *(Price-NAV)*/*NAV*, the dependent variable, should be less negative for securities with low costs of arbitrage. In other words, when the CCEF or ADR trades at a discount, *(Price-NAV)*/*NAV* should be high (or less negative) for securities with low *Inverse Security Price* and high *Dividend Yield*.

However, when the CCEF or ADR trades at a premium, *(Price-NAV)*/*NAV*, the dependent variable, should be less positive for securities with low costs of arbitrage. In other words, when the CCEF or ADR trades at a premium, *(Price-NAV)*/*NAV* should be low (or less positive) for securities with low *Inverse Security Price* and high *Dividend Yield*.

Given the differential prediction of *Inverse Security Price* and *Dividend Yield* on the dependent variable, *(Price-NAV)*/*NAV* (depending on whether the fund trades at a discount or at a premium), I separate *Inverse Security Price* into two variables: *Inverse Security Price (Price < NAV)*, which equals *Inverse Security Price* if the fund trades at a discount and zero otherwise; and *Inverse Security Price*

(Price > NAV), which equals *Inverse Security Price* if the fund trades at a premium and zero otherwise. Likewise, I separate *Dividend Yield* into *Dividend Yield (Price < NAV)*, which equals *Dividend Yield* if the fund trades at a discount and zero otherwise; and *Dividend Yield (Price > NAV)*, which equals *Dividend Yield* if the fund trades at a premium and zero otherwise.

Turnover Ratio. For CCEFs, this variable is the ratio of the median turnover of US stocks over the median turnover of stocks in the CCEF's respective home market. I take the median instead of the mean to reduce the effect of outliers. For ADRs, this variable is the ratio of the ADR's turnover in the US over the ADR's underlying asset's turnover in the home market. The data sources are Compustat Global Issue, Compustat Global Security Daily, and CRSP. I include the *Turnover Ratio* to control for differences in liquidity between the CCEF (the ADR) and the underlying asset in the home market. Differences in liquidity between the CCEF (the ADR) and its underlying asset have been argued to be an important determinant of CCEF (ADR) discounts (Cherkes, Sagi, and Stanton, 2009; and Chan, Hong, and Subrahmanyam, 2008).

My results are robust to the following alternate liquidity measures: the number of zero daily returns over the total number of trading days in a given month, the Roll measure (1984), and the Amihud measure (2002).[28]

Home Market Valuation Ratio/US Market Valuation Ratio. Following Baker, Foley, and Wurgler (2009), *Home Market Valuation Ratio* is the mispricing component in the annual value-weighted market-to-book ratio of the CCEF's (the ADR's) respective home market. *US Market Valuation Ratio* is the mispricing component in the annual value-weighted market-to-book ratio of US stocks. The decomposition of market-to-book into a fundamental and mispricing component is based on a first-stage regression of market-to-book on future six months returns. The fitted values provide estimates for the mispricing component in market-to-book. The assumption is that the mispricing component (in the market-to-book ratio) is associated with subsequent returns, whereas the fundamental component is not.

[28] Results are available upon request.

The data sources are Kenneth French's website and Datastream.[29] I include *Home Market Valuation Ratio* and *US Market Valuation Ratio* to control for general demand (sentiment) effects in the home market and the US market, respectively (Bodurtha, Kim, and Lee 1995). My results are robust to using raw market-to-book ratios (as opposed to using the mispricing component in market-to-book). My results are also robust to alternate holding periods for subsequent returns (i.e., nine, 12, 24 months). The choice of six months was motivated by data constraints.[30]

Except for *Inverse Security Price*$_{i,t-1}$ and *Dividend Yield*$_{i,t-1}$, values of my independent variables are contemporaneous. The reason I lag *Inverse Security Price*$_{i,t-1}$ and *Dividend Yield*$_{i,t-1}$ by one period is that *Discount*$_{i,t}$, *Inverse Security Price*$_{i,t}$, and *Dividend Yield*$_{i,t}$, are all three functions of *Price*$_t$. As a result, should country popularity have price impact, popularity changes would not only become reflected in *Discount*$_{i,t}$, but also in *Inverse Security Price*$_{i,t}$ and *Dividend Yield*$_{i,t}$. Because the coefficient on *Country Popularity Score*$_{i,t}$ estimates the correlation between *Discount*$_{i,t}$ and the part of the *Country Popularity Score*$_{i,t}$ that is unrelated to the other independent variables (including the impact of country popularity on security prices as reflected in *Inverse Security Price*$_{i,t}$ and *Dividend Yield*$_{i,t}$), using contemporaneous values of *Inverse Security Price* and *Dividend Yield* would unduly reduce the power of my empirical analysis.

[29] See http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html. I use market-to-book ratios computed from Datastream for countries not covered by Kenneth French's data library. I would like to thank Ion Mihail for generously providing data on market-to-book ratios computed from Datastream.

[30] I have return data until June 2009. The six months holding period allows me to estimate the fitted valuation ratios for the year 2008.

Appendix B

Country closed-end funds used in this study

Country closed-end fund (*gvkey*)	Country
Aberdeen Australia Equity Fund (014672)	Australia
Brazilian Equity Fund (025125)	Brazil
France Growth Fund (021768)	France
New Germany Fund (020190)	Germany
India Fund (029724)	India
Morgan Stanley India Investment Fund (029744)	India
Indonesia Fund (020905)	Indonesia
First Israel Fund (025855)	Israel
Japan Equity Fund (025659)	Japan
Japan Small Cap Fund (021065)	Japan
Fidelity Advisor Korea Fund (030860)	Korea
Korea Equity Fund (029289)	Korea
Korea Fund (014725)	Korea
Korean Investment Fund (024930)	Korea
Emerging Mexico Fund (023217)	Mexico
Mexico Equity and Income Fund (023048)	Mexico
Mexico Fund (014740)	Mexico
First Philippine Fund (016551)	Philippines
Templeton Russia Fund (061298)	Russia
Spain Fund (014767)	Spain
Taiwan Fund (014694)	Taiwan
United Kingdom Fund (014773)	UK

Appendix C

Average *Country Popularity Scores*

This table presents the average *Country Popularity Score* for each of the 20 countries covered in this study, from 1992 to 2008. The *Country Popularity Score* is equal to the sum of the percentage of survey participants in the US thinking very favorably of a country multiplied by four, mostly favorably of a country multiplied by three, mostly unfavorably of a country multiplied by two, and very unfavorably of a country multiplied by one.

Country	*Country Popularity Score*
Australia	3.32
Brazil	2.88
China	2.35
France	2.80
Germany	2.92
India	2.75
Indonesia	2.59
Israel	2.83
Italy	3.07
Japan	2.84
Korea	2.64
Mexico	2.74
Philippines	2.76
Russia	2.56
South Africa	2.66
Spain	3.04
Taiwan	2.79
Turkey	2.58
UK	3.31
Venezuela	2.33

Appendix D

Survey frequency

This table presents the dates the country popularity surveys used in this paper were conducted.

Country	Year	Month	Country	Year	Month	Country	Year	Month
Australia	1987	January	Germany	2004	February	Mexico	2001	February
Australia	2001	February	Germany	2005	February	Mexico	2002	February
Australia	2004	February	Germany	2006	February	Mexico	2003	February
Australia	2007	February	Germany	2007	February	Mexico	2004	February
Brazil	1999	February	Germany	2008	February	Mexico	2005	February
Brazil	2001	February	India	2001	February	Mexico	2006	February
Brazil	2004	February	India	2002	February	Mexico	2007	February
Brazil	2007	February	India	2004	February	Mexico	2008	February
China	1994	February	India	2005	February	Philippines	2001	February
China	1996	January	India	2006	February	Philippines	2002	February
China	1996	March	India	2007	February	Philippines	2006	February
China	1997	June	India	2008	February	Russia	2002	February
China	1998	June	Indonesia	2002	March	Russia	2003	February
China	1998	July	Indonesia	2005	February	Russia	2003	March
China	1999	March	Israel	2002	February	Russia	2004	February
China	1999	May	Israel	2003	February	Russia	2005	February
China	2000	January	Israel	2004	February	Russia	2006	February
China	2000	March	Israel	2005	February	Russia	2007	February
China	2000	November	Israel	2006	February	Russia	2008	February
China	2001	February	Israel	2007	February	South Africa	1991	March
China	2002	February	Israel	2008	February	South Africa	2001	February
China	2003	February	Italy	2001	February	Spain	2003	February
China	2004	February	Italy	2003	February	Spain	2003	March
China	2005	February	Japan	1992	February	Taiwan	1996	March
China	2006	February	Japan	1993	June	Taiwan	2000	March
China	2007	February	Japan	1994	February	Taiwan	2001	February
China	2008	February	Japan	1994	June	Taiwan	2002	February
France	1991	March	Japan	1995	November	Taiwan	2006	February
France	1996	March	Japan	1996	March	Turkey	2003	March
France	1999	February	Japan	1999	February	Turkey	2007	February
France	2001	February	Japan	1999	May	UK	1991	March
France	2002	February	Japan	2000	November	UK	1996	March
France	2003	February	Japan	2001	February	UK	1999	February
France	2003	March	Japan	2002	February	UK	1999	May
France	2004	February	Japan	2003	February	UK	2000	November
France	2005	February	Japan	2004	February	UK	2001	February
France	2006	February	Japan	2005	February	UK	2002	February
France	2007	February	Japan	2006	February	UK	2003	February
France	2008	February	Japan	2007	February	UK	2003	March
Germany	1996	March	Japan	2008	February	UK	2004	February
Germany	1999	February	Korea	1991	March	UK	2005	February
Germany	1999	November	Korea	2000	November	UK	2006	February
Germany	2000	November	Korea	2002	February	UK	2007	February
Germany	2001	February	Korea	2003	February	UK	2008	February
Germany	2002	February	Korea	2008	February	Venezuela	2007	February
Germany	2003	February	Mexico	1996	March			
Germany	2003	March	Mexico	1999	February			

Appendix E
Mutual funds used in this study

Mutual fund	Country
Gartmore China Opportunities	China
AMIDEX 35 Mutual Fund Israel	Israel
Blue and White Israel	Israel
Colonial Newport Japan Fund	Japan
Credit Suisse Japan Growth	Japan
DFA Japanese Small Company	Japan
Deutsche Japanese Equity	Japan
Dreyfus Premier Japan Fund	Japan
Fidelity Advisor Japan	Japan
Fidelity Japan Fund	Japan
Fidelity Japan Small Companies Fund	Japan
Flag Investors Japanese Equity	Japan
GAM Japan Capital Fund	Japan
Goldman Sachs: Japanese Equity Fund	Japan
Japan Fund	Japan
Japan Smaller Companies Fund	Japan
Matthews Japan Fund	Japan
Morgan Stanley Dean Witter Japan Fund	Japan
Nikko Japan Tilt Fund	Japan
PIMCO: Japanese Stock Total Return Strategy	Japan
ProFunds: Ultra Japan	Japan
Rydex Srs: Large Cap Japan Fund	Japan
Scudder Japanese Equity Fund	Japan
T. Rowe Price Japan Fund	Japan
Vista Mutual: Japan Fund	Japan
Warburg Pincus Japan Growth Fund	Japan
Fidelity Advisor Korea	Korea
Matthews Korea Fund	Korea
DFA United Kingdom Small Company	UK

References

AndersonAnalytics, 2007. Brand and countries. AndersonAnalytics Report, Stamford, CT.

Akerlof, G. A., 1980. A theory of social custom, of which unemployment may be one consequence. Quarterly Journal of Economics 94, 749-775.

Amihud, Y., 2002. Illiquidity and stock returns: cross-section and time-series effects. Journal of Financial Markets 5, 31-56.

Aoki, K., Downes, E. J., 2003. An analysis of young people's use of and attitudes toward cell phones. Telematics and Informatics 20, 349-364.

Arrow, K. J., 1972. Models of job discrimination. In: Pascal, A. H. (Ed.), Racial Discrimination in Economic Life. D.C. Heath, Lexington, MA.

Baker, M., Foley C. F., Wurgler, J., 2009. Multinationals as arbitrageurs? The effect of stock market valuations on foreign direct investment. Review of Financial Studies 22, 337-369.

Baker, M., Ruback, R. S., Wurgler, J., 2007. Behavioral corporate finance. In: Eckbo, B. E. (Ed.), Handbook of Corporate Finance. Elsevier, North-Holland, Amsterdam and Oxford.

Baker, M., Stein, J., Wurgler J., 2003. When does the market matter? Stock prices and the investment of equity-dependent firms. Quarterly Journal of Economics 118, 969-1005.

Baker, M., Wurgler, J., 2006. Investor sentiment and the cross-section of stock returns. Journal of Finance 61, 1645-1680.

Baker, M., Wurgler, J., 2007. Investor sentiment in the stock market. Journal of Economic Perspective 21, 129-151.

Becker, G., 1957. The economics of discrimination. University of Chicago Press, Chicago, IL.

Bodurtha, J. N., Kim, D.-S., Lee, C. M. C., 1995. Closed-end country funds and US market sentiment. Review of Financial Studies 8, 879-918.

Cameron, A. C., Gelbach, J. B., Miller, D. L., 2010. Robust inference with multi-way clustering. Journal of Business and Economic Statistics, forthcoming.

Chan, J., Hong, D., Subrahmanyam, M. G., 2008. A tale of two prices: liquidity and asset prices in multiple markets. Journal of Banking and Finance 21, 947-960.

Chan, J., Jain, R., Xia, Y., 2008. Market segmentation, liquidity spillover, and closed-end country fund discounts. Journal of Financial Markets 11, 377-399.

Chavis, L., Leslie, P., 2009. Consumer boycotts: the impact of the Iraq War on French wine sales in the US. Quantitative Marketing and Economics 7, 37-67.

Cherkes, M., Sagi, J., Stanton, R., 2009. A liquidity-based model of closed-end funds. Review of Financial Studies 22, 257-297.

De Long, J. B., Shleifer, A., Summers, L. H., Waldman, R. J., 1990. Noise trader risk in financial markets. Journal of Political Economy 98, 703-738.

Del Guercio, D., 1996. The distorting effect of the prudent man law on institutional equity investments. Journal of Financial Economics 40, 31-62.

Edison, H. J., Warnock, F. E., 2003. A simple measure of the intensity of capital controls. Journal of Empirical Finance 10, 81-103.

Edmans, A., Garcia, D., Norli, O., 2007. Sports sentiment and stock returns. Journal of Finance 62, 1967-1998.

Fama, E., MacBeth, J., 1973. Risk, return and equilibrium. Journal of Political Economy 81, 607-636.

Ferreira, M., Massa, M., Matos, P., 2010. Shareholders at the gate? Institutional investors and cross-border mergers and acquisitions. Review of Financial Studies 23, 601-644.

Ferreira, M., Matos, P., 2008. The colors of investors' money: the role of institutional investors around the world. Journal of Financial Economics 88, 499-533.

Gagnon, L., Karolyi, G. A., 2010. Multi-market trading and arbitrage. Journal of Financial Economics 97, 53-80.

Gompers, P., Metrick, A., 2001. Institutional investors and equity prices. Quarterly Journal of Economics 116, 229-259.

Gruber, M. J., 1996. Another puzzle: the growth in actively managed mutual funds. Journal of Finance 51, 783-810.

Guiso, L., Sapienza, P., Zingales, L., 2009. Cultural biases in economic exchange? Quarterly Journal of Economics 124, 1095-1131.

Hirshleifer, D., Shumway, T., 2003. Good day sunshine: stock returns and the weather. Journal of Finance 58, 1009-1032.

Hong, H., Kacperczyk, M., 2009. The price of sin: the effects of social norms on markets. Journal of Financial Economics 93, 15-36.

Ippolito, R. A., 1992. Consumer reaction to measures of poor quality: evidence from the mutual fund industry. Journal of Law and Economics 35, 45-70.

Kamstra, M., Kramer, L., Levi, M., 2003. Winter blues: a SAD stock market cycle. American Economic Review 93, 1257-1263.

Kaplanski, G., Levy, H., 2010. Sentiment and stock prices: the case of aviation disasters. Journal of Financial Economics 95, 174-201.

Karolyi, G. A., 1998. Why do companies list shares abroad? A survey of the evidence and its managerial implications. Financial Markets, Institutions and Instruments 7, 1-60.

Keswani, A., Stolin, D., 2008. Which money is smart? Mutual fund buys and sells of individual and institutional investors. Journal of Finance 63, 85-118.

Klibanoff, P., Lamont, O., Wizman, T. A., 1998. Investor reaction to salient news in closed-end country funds. Journal of Finance 53, 673-699.

Lamont, O., Thaler, R. H., 2003. Anomalies: the law of one price in financial markets. Journal of Economic Perspective 17, 191-202.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R. W., 1997. Legal determinants of external finance. Journal of Finance 52, 1131-1150.

Lee, C. M. C., Shleifer, A., Thaler, R. H., 1991. Investor sentiment and the closed-end fund puzzle. Journal of Finance 46, 75-109.

Lemmon, M., Portniaguina, E., 2006. Consumer confidence and asset prices: some empirical evidence. Review of Financial Studies 19, 1499-1529.

Levitt, S., 2004. Testing theories of discrimination: evidence from weakest link. Journal of Law and Economics 47, 431-452.

Morse, A., Shive, S., 2010. Patriotism in your portfolio. Journal of Financial Markets, forthcoming.

Newey, W. K., West, K. D., 1987. A simple, positive semi-definite, heteroskedasticity and autocorrelation consistent covariance matrix. Econometrica 55, 703-708.

Polk, C., Sapienza, P., 2009. The stock market and corporate investment: a test of catering theory. Review of Financial Studies 22, 187-217.

Pontiff, J., 1996. Costly arbitrage: evidence from closed-end funds. Quarterly Journal of Economics 111, 1135-1152.

Qiu, L., Welch, I., 2006. Investor sentiment measures. Unpublished working paper. Brown University.

Roll, R., 1984. A simple implicit measure of the effective bid-ask spread in an efficient market. Journal of Finance 39, 1127-1139.

Ross, S. A., 2005. Neoclassical finance. Princeton University Press, Princeton, NJ.

Sapp, T., Tiwari, A., 2004. Does stock return momentum explain the "smart money" effect? Journal of Finance 59, 2605-2622.

Shleifer, A., 2005. Inefficient markets. Oxford University Press, Oxford, UK.

Shleifer, A., Vishny, R. W., 1997. The limits of arbitrage. Journal of Finance 52, 35-55.

Sirri, E. R., Tufano, P., 1998. Costly search and mutual fund flows. Journal of Finance 53, 1589-1622.

White, H., 1980. A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. Econometrica 48, 817-838.

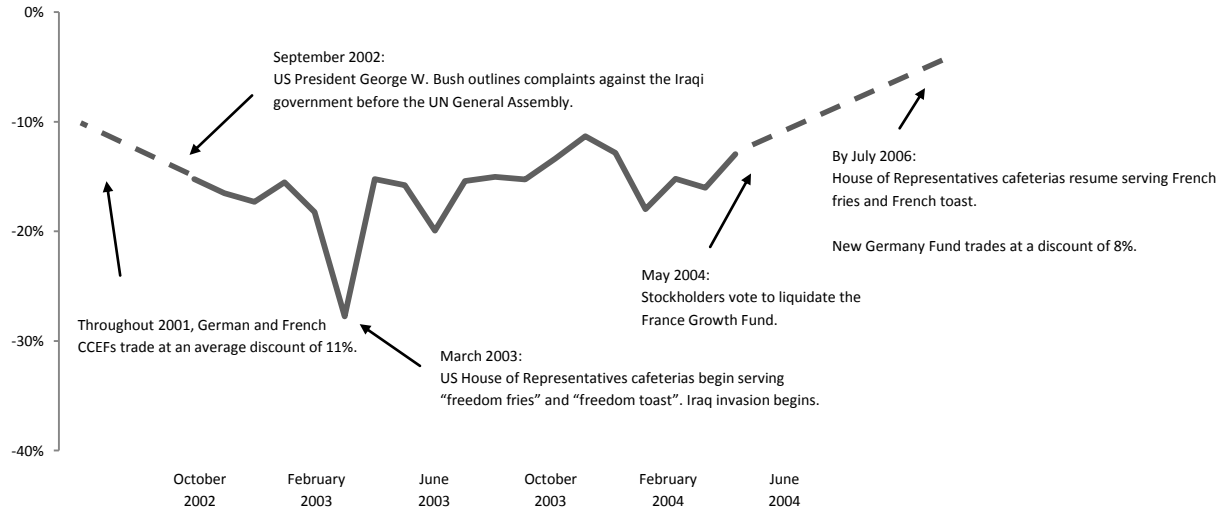
Zheng, L., 1999. Is money smart? A study of mutual fund investors' fund selection ability. Journal of Finance 54, 901-933.

Fig. 1

Evolution of premia/(discounts) around German Reunification and Iraq War

This figure plots the time series evolution of premia/(discounts) of country closed-end funds (CCEF) around the beginning of the Iraq War (March 2003) and the German Reunification (November 1989). Panel A reports the average premium/(discount) of the France Growth Fund (*gvkey*=021768) and the New Germany Fund (*gvkey*=020190). Panel B reports the premium/(discount) of the Germany Fund.

Panel A: Iraq War



Panel B: German Reunification

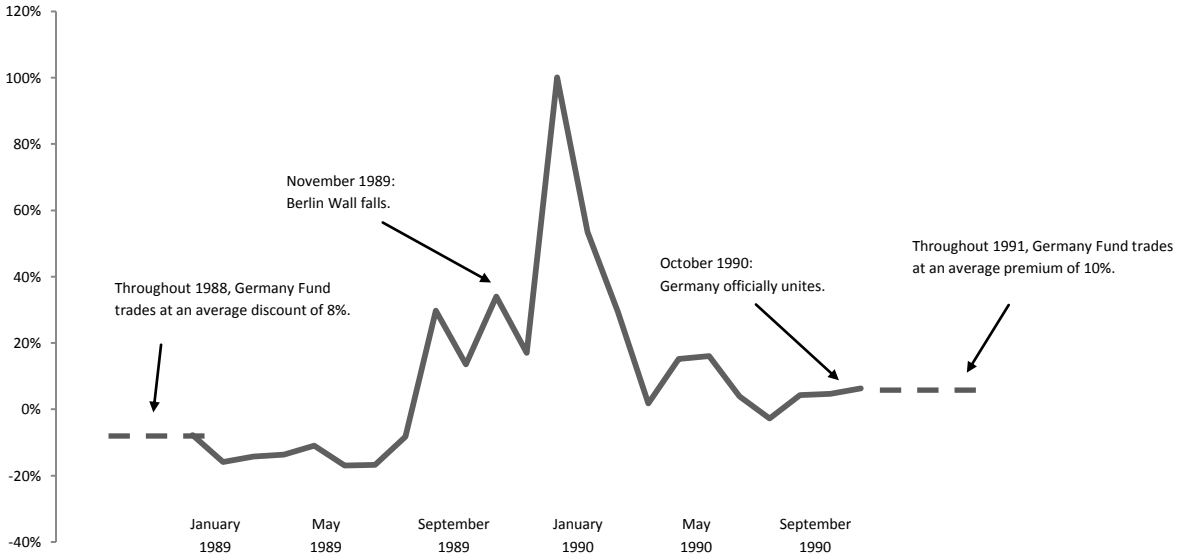


Table 1

Determinants of country popularity

This table presents correlation coefficient estimates between a measure of a country's popularity among Americans and various measures of a country's legal and political system, cultural similarity with the US, and familiarity among Americans. The sample contains 17 countries over the period 1992 to 2008. The *Country Popularity Score* is equal to the sum of the percentage of survey participants in the US thinking very favorably of a country multiplied by four, mostly favorably of a country multiplied by three, mostly unfavorably of a country multiplied by two, and very unfavorably of a country multiplied by one. *Population* is the logarithm of a country's population. *Distance* is the logarithm of the distance in kilometers between Washington, DC, and the country's capital city. *Fraction with no Opinion* is the fraction of survey participants who feel they do not have sufficient information to form an overall opinion of a country and opt for "no opinion."*Same Language* is a dummy that equals one if English is the country's official language or if English is one of the country's primary languages (as determined by the CIA *World Factbook*) and zero otherwise. *Same Religion* is a dummy that equals one if a country is predominantly Christian (as determined by the CIA *World Factbook*) and zero otherwise. *Ancestry* is the fraction of US citizens with ancestors from the country in question. *Hofstede-Cultural Distance* is the difference in the Hofstede Index between the US and the country in question. *Governance Quality* is the Corruption Perceptions Index as published by Transparency International. *p*-values are reported in squared brackets.

	Country Popularity Score	*Population*	*Distance*	*Fraction with no Opinion*	*Same Language*	*Same Religion*	*Ancestry*	*Hofstede-Cultural Distance*
Population	-0.251							
	[0.27]							
Distance	0.219	0.169						
	[0.34]	[0.46]						
Fraction with no Opinion	-0.320	-0.119	0.032					
	[0.16]	[0.61]	[0.89]					
Same Language	0.424	0.075	0.394	-0.245				
	[0.06]	[0.75]	[0.08]	[0.28]				
Same Religion	0.316	-0.278	-0.502	-0.094	0.258			
	[0.16]	[0.22]	[0.02]	[0.69]	[0.26]			
Ancestry	0.420	0.003	-0.358	-0.515	0.045	0.392		
	[0.06]	[0.99]	[0.11]	[0.02]	[0.85]	[0.08]		
Hofstede-Cultural Distance	-0.797	0.116	-0.137	0.458	-0.463	-0.378	-0.567	
	[0.00]	[0.62]	[0.55]	[0.04]	[0.03]	[0.09]	[0.01]	
Governance Quality	0.725	-0.501	0.042	-0.440	0.133	0.258	0.428	-0.657
	[0.00]	[0.02]	[0.86]	[0.05]	[0.57]	[0.26]	[0.05]	[0.00]

Table 2

Country closed-end fund premia/(discounts) and countries' popularities

This table presents coefficient estimates from regressions of monthly country closed-end fund premia/(discounts) on a country's popularity among Americans and various control variables. The sample includes 19 country closed-end funds from 15 countries over the period 1993 to 2008. The *Country Popularity Score* is concurrent and equal to the sum of the percentage of survey participants in the US thinking very favorably of a country multiplied by four, mostly favorably of a country multiplied by three, mostly unfavorably of a country multiplied by two, and very unfavorably of a country multiplied by one. *Inverse Security Price (Price < NAV)* [*(Price > NAV)*] is one over the fund's lagged price level if the fund trades at a discount [premium] and zero otherwise. *Dividend Yield (Price < NAV)* [*(Price > NAV)*] is dividends per share paid by the country closed-end fund over the previous 12 months scaled by the funds' lagged net asset value if the fund trades at a discount [premium] and zero otherwise. *Expense Ratio* is the fund's expense ratio. *Turnover Ratio* is the ratio of the concurrent median turnover of US stocks over the concurrent median turnover of stocks in a country closed-end fund's respective home market. *Home (US) Market Valuation Ratio* is the concurrent mispricing component in the value-weighted market-to-book ratio of a country closed-end fund's respective home market (of the US market), as described in Appendix A. *t*-statistics are reported in parentheses. For Columns 1 and 2, they are calculated using White (1980) standard errors adjusted for clustering (by year-month and fund); for Column 3, they are calculated using Newey-West (1987) standard errors with 12 lags.

		Coefficient (*t*-statistic)		
Variable	Expected sign	Fixed effects (1)	First-differencing (2)	Fama-MacBeth (3)
Country Popularity Score	+	0.116 (2.00)	0.083 (2.22)	0.044 (2.42)
Inverse Security Price (Price < NAV)	-	-0.620 (-3.97)	1.021 (3.80)	-0.282 (-3.97)
Inverse Security Price (Price > NAV)	+	0.887 (3.75)	3.247 (4.44)	2.968 (5.37)
Dividend Yield (Price < NAV)	+	0.109 (0.71)	-0.014 (-0.18)	-0.107 (-0.80)
Dividend Yield (Price > NAV)	-	0.874 (2.97)	0.059 (0.13)	-0.088 (0.01)
Expense Ratio	-	2.546 (1.42)	1.713 (0.92)	0.519 (0.82)
Turnover Ratio	+	0.001 (1.50)	0.001 (0.61)	0.001 (2.23)
Home Market Valuation Ratio	-	0.037 (0.19)	0.164 (1.39)	-1.311 (-3.84)
US Market Valuation Ratio	+	-0.034 (-0.69)	0.290 (2.92)	
Number of observations		2,155	2,136	181
Adjusted R^2 [average adjusted R^2]		0.60	0.10	[0.79]

Table 3

Country closed-end fund premia/(discounts) and countries' popularities - Alternative aggregation of country popularity

This table presents coefficient estimates from regressions of monthly country closed-end fund premia/(discounts) on a country's popularity among Americans and various control variables. The sample includes 19 country closed-end funds from 15 countries over the period 1993 to 2008. The *% Survey Participants* is concurrent and equal to the sum of the percentage of survey participants in the US thinking very or mostly favorably of a country (Panel A) or equal to the sum of the percentage of survey participants in the US thinking very or mostly unfavorably of a country (Panel B). Other independent variables are *Inverse Security Price (Price < NAV)*, *Inverse Security Price (Price > NAV)*, *Dividend Yield (Price < NAV)*, *Dividend Yield (Price > NAV)*, *Expense Ratio*, *Turnover Ratio*, *Home Market Valuation Ratio*, and *US Market Valuation Ratio*. *t*-statistics are reported in parentheses. For Columns 1 and 2, they are calculated using White (1980) standard errors adjusted for clustering (by year-month and fund); for Column 3, they are calculated using Newey-West (1987) standard errors with 12 lags.

		Coefficient (*t*-statistic)		
Variable	Expected sign	Fixed effects (1)	First-differencing (2)	Fama-MacBeth (3)
Panel A: Very favorably or mostly favorably				
% Survey Participants	+	0.296 (2.23)	0.168 (2.44)	0.056 (2.54)
Panel B: Very unfavorably or mostly unfavorably				
% Survey Participants	-	-0.205 (-1.92)	-0.179 (-2.53)	-0.093 (-3.52)

Table 4

American Depository Receipt (ADR) premia/(discounts) and countries' popularities

This table presents coefficient estimates from regressions of monthly ADR premia/(discounts) on a country's popularity among Americans and various control variables. The sample includes 320 ADRs from 20 countries over the period 1992 to 2008. The *Country Popularity Score* is concurrent and equal to the sum of the percentage of survey participants in the US thinking very favorably of a country multiplied by four, mostly favorably of a country multiplied by three, mostly unfavorably of a country multiplied by two, and very unfavorably of a country multiplied by one. *Inverse Security Price (Price < NAV)* [*(Price > NAV)*] is one over the ADR's lagged price level if the ADR trades at a discount [premium] and zero otherwise. *Dividend Yield (Price < NAV)* [*(Price > NAV)*] is dividends per share paid by the ADR over the previous 12 months scaled by lagged price if the ADR trades at a discount [premium] and zero otherwise. *Turnover Ratio* is the ratio of the ADR's concurrent turnover in the US over the ADR's underlying asset's concurrent turnover in the ADR's respective home market. *Home (US) Market Valuation Ratio* is the concurrent mispricing component in the value-weighted market-to-book ratio of an ADR's respective home market (of the US market), as described in Appendix A. *t*-statistics are reported in parentheses. For Columns 1 and 2, they are calculated using White (1980) standard errors adjusted for clustering (by year-month and fund); for Column 3, they are calculated using Newey-West (1987) standard errors with 12 lags.

		Coefficient (*t*-statistic)		
Variable	Expected sign	Fixed effects (1)	First-differencing (2)	Fama-MacBeth (3)
Country Popularity Score	+	0.005 (1.80)	0.007 (2.05)	0.006 (2.05)
Inverse Security Price (Price < NAV)	-	-0.099 (-9.31)	0.029 (1.43)	-0.120 (-12.76)
Inverse Security Price (Price > NAV)	+	0.083 (5.54)	0.084 (2.58)	0.160 (6.33)
Dividend Yield (Price < NAV)	+	-0.113 (-3.02)	-0.073 (-2.24)	-0.141 (-6.30)
Dividend Yield (Price > NAV)	-	0.088 (2.49)	0.093 (1.69)	0.176 (2.68)
Turnover Ratio	+	0.000 (1.60)	0.000 (1.09)	0.000 (1.22)
Home Market Valuation Ratio	-	0.029 (1.33)	0.024 (0.79)	0.102 (0.98)
US Market Valuation Ratio	+	-0.005 (-1.12)	0.060 (2.69)	
Number of observations		25,680	25,360	195
Adjusted R^2 [average adjusted R^2]		0.41	0.01	[0.49]

Table 5

Fund flows and countries' popularities

This table presents coefficient estimates from a pooled regression of monthly normalized fund flows on a country's popularity among Americans and various control variables. The sample includes 29 mutual funds investing predominantly in a single country (other than the US) from five countries over the period 1992 to 2008. The dependent variable is the normalized monthly cash flow computed as the dollar monthly cash flow for the fund divided by the total net assets (TNA) at the beginning of the month (adjusted for mergers). The *Country Popularity Score* is concurrent and equal to the sum of the percentage of survey participants in the US thinking very favorably of a country multiplied by four, mostly favorably of a country multiplied by three, mostly unfavorably of a country multiplied by two, and very unfavorably of a country multiplied by one. *Past Year Return* is the holding period return over the past 12 months. *MarketCap* is the fund's TNA at the beginning of the month. *Average Flow* is the concurrent average fund flow (adjusted for mergers) across all mutual funds in the CRSP universe. All *t*-statistics are reported in parentheses and calculated using White (1980) standard errors adjusted for clustering (by year-month and fund).

Variable	Expected sign	Coefficient (*t*-statistic)
Country Popularity Score	+	0.124 (1.95)
Past Year Return	+	0.045 (2.59)
Ln(MarketCap)	-	-0.041 (-4.43)
Average Flow	+	3.244 (3.63)
Fund dummies		Yes
Number of observations		2,583
Adjusted R^2		0.04

Table 6

Institutional holdings and countries' popularities

This table presents coefficient estimates from a pooled regression of quarterly institutional holdings on a country's popularity among Americans and various control variables for country closed-end funds (Column 1) and American Depository Receipts (ADRs) (Column 2). The sample includes 19 country closed-end funds from 15 countries over the period 1993 to 2008 and 320 ADRs from 20 countries over the period 1992 to 2008. *Institutional Holdings* is the fraction of shares held by institutions in the US. The *Country Popularity Score* is concurrent and equal to the sum of the percentage of survey participants in the US thinking very favorably of a country multiplied by four, mostly favorably of a country multiplied by three, mostly unfavorably of a country multiplied by two, and very unfavorably of a country multiplied by one. For country closed-end funds, *Inverse Security Price* is one over the fund's lagged price level, and *Dividend Yield* is dividends per share paid by the country closed-end fund over the previous 12 months scaled by the funds' lagged net asset value. For ADRs, *Inverse Security Price* is one over the ADR's lagged price level, and *Dividend Yield* is dividends per share paid by the ADR over the previous 12 months scaled by the ADR's lagged price. All *t*-statistics are reported in parentheses and calculated using White (1980) standard errors adjusted for clustering (by year-month and fund).

		Coefficient (*t*-statistic)	
Variable	Expected sign	Closed-end funds (1)	ADRs (2)
Country Popularity Score	-	-0.124 (-2.33)	-0.014 (-0.39)
Inverse Security Price	-	-0.163 (-0.61)	-0.003 (-0.08)
Dividend Yield	+	0.103 (0.30)	-0.765 (-1.57)
Year dummies		Yes	Yes
Number of observations		827	7,848
Adjusted R^2		0.11	0.00

Table 7

Foreign investment and countries' popularities

This table presents coefficient estimates from a pooled regression of foreign direct investment (FDI), cross-border mergers and acquisitions (M&A), and foreign portfolio investment on a country's popularity among Americans and various control variables. For FDIs, the sample covers 14 countries over the period 1989 to 2008; for cross-border M&As and foreign institutional portfolio investments, the sample covers eight countries over the period 2000 to 2005; for foreign retail portfolio investments, the sample covers eight countries over the period 2001 to 2005. In Column 1, the dependent variable is US FDI as a percentage of the beginning of year stock. In Column 2, the dependent variable is the number of US cross-border M&As over the country's total number of firms. In Columns 3 and 4, the dependent variable is the US portfolio investment as a percentage of the country's market capitalization for institutional investors and retail investors, respectively. The *Country Popularity Score* is concurrent and equal to the sum of the percentage of survey participants in the US thinking very favorably of a country multiplied by four, mostly favorably of a country multiplied by three, mostly unfavorably of a country multiplied by two, and very unfavorably of a country multiplied by one. *M/B* and M/B_{US} are the value-weighted average market-to-book ratios. *ROE* is the return on book equity. *Tax rate* is the statutory corporate income tax rate. *GDP* and GDP_{Cap} are the total GDP and the GDP per capita in constant 2001 US dollars. *Exchange Rate* is the real exchange rate in units of foreign currency per US dollar indexed to one in 2001. *Shareholder Protection* is the shareholder protection index of La Porta, Shleifer, and Vishny (1997). *Distance* is the distance in kilometers between Washington, DC, and the country's capital city. *US Institutional Ownership* is the dependent variable in Column 3. Coefficient estimates in Column 2 are multiplied by one hundred. All *t*-statistics are reported in parentheses and calculated using White (1980) standard errors adjusted for clustering (by year and country).

	Coefficient (*t*-statistic)			
Variable	Foreign direct investment (1)	Cross-border mergers and acquisitions (2)	Portfolio investment - institutional (3)	Portfolio investment - retail (4)
Country Popularity Score	0.034 (1.18)	0.066 (2.30)	0.003 (0.46)	0.011 (4.13)
M/B	-0.010 (-1.50)	0.064 (3.61)	0.001 (0.12)	-0.001 (-0.49)
M/B_{US}	-0.015 (-0.11)	-2.645 (-2.11)	0.195 (2.68)	0.412 (2.83)
ROE	-0.243 (-3.94)	-0.054 (-0.16)	-0.058 (-1.11)	-0.015 (-0.23)
Tax Rate	-0.243 (-2.56)	0.882 (1.02)	-0.199 (-1.19)	-0.024 (-0.30)
Ln(GDP)	0.069 (2.26)	-0.050 (-1.34)	0.014 (1.10)	-0.016 (-1.27)
GDP_{Cap}	-0.000 (-3.65)	0.000 (3.08)	-0.000 (-5.26)	0.000 (2.94)

Table 7. Continued.

Variable	Coefficient (*t*-statistic) Foreign direct investment (1)	Cross-border mergers and acquisitions (2)	Portfolio investment - institutional (3)	Portfolio investment - retail (4)
Exchange Rate	-0.123 (-3.35)	-0.842 (-3.30)	-0.006 (-0.26)	0.062 (0.96)
Shareholder Protection	-0.003 (-0.40)	-0.022 (-0.92)	0.006 (1.27)	0.003 (3.66)
Ln(Distance)	0.013 (0.45)	0.143 (3.57)	-0.017 (-1.15)	-0.018 (-1.41)
US Institutional Ownership		7.246 (5.23)		
Year dummies	Yes	Yes	Yes	Yes
Number of observations	191	44	44	38
Adjusted R^2	0.15	0.36	0.68	0.74