BEYOND BORDERS: EXPLORING INVESTOR SENTIMENT AND CCEF PRICES

ANALYSIS OF COUNTRY POPULARITY AMONG AMERICANS AND ITS IMPLICATION ON CLOSED-END COUNTRY FUND SECURITY PRICES

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Bachelor Thesis

Stockholm School of Economics

2023

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Abstract:

We test the relationship between closed-end country funds (CCEFs) and their relationship with American investors' sentiments toward the respective home country of the funds during the years 2009 to 2021 which were met with adversaries such as COVID-19. Previous research regarding closed-end country funds was done in the 1990s and in the early 2000s, where the research discovered a positive relationship between CCEF price premiums and positive perception of a country. As we considered these studies to not reflect the present-day society that has seen drastic social, economic, and technological changes, we have tested this relationship with a more recent time period. In contrast to existing literature, we find that CCEFs from countries with higher country popularity among American investors are generally traded at a discount.

Keywords:

Closed-end country fund (CCEF), Investor Sentiment, Country Popularity

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Acknowledgements:

We would like to thank our supervisor Paula Roth for providing constant support, valuable insights, and helpful feedback during the entire work process of this thesis.

Bachelor Thesis
Bachelor Program in Business and Economics
Stockholm School of Economics

1. Introduction

Closed-end funds have consistently been an investment instrument of interest to researchers given their long-observed, anomalous qualities in comparison to other securities. The most widely recognized element being the prevalence of mispricing, often referred to as the "closed-end fund puzzle". There have been numerous attempts to explain this phenomena, including connecting it to investor sentiment which led to the conclusion that there is indeed a connection between the two and that the closed-end funds' discount rates could be utilized as a proxy for shifts in individual investor sentiment (Lee, Shleifer, & Thaler, 1991). As an increasing amount of research provides evidence that investor sentiment affects the stock market in a significant, meaningful, and recurrent manner, methods to measure and quantify investor sentiment are introduced (Baker & Wurgler, 2007). This turns researchers to a unique investment instrument in the stock market – closed-end country funds.

Among several investment instruments that enable investments in diversified portfolios of securities in specific countries, one of the most well-known are closed-end country funds (CCEFs) which are usually used for securities in emerging markets that tend to show more volatility compared to developed markets. Although the investment opportunities the two instruments offer are similar, the mechanisms that underpin the fund prices of CCEFs and Country ETFs are completely different. CCEFs have a fixed number of shares that are solely traded on the stock market which makes the share price traded at a discount or a premium. Mispricing is rather prevalent as the share price is strongly impacted by the supply and demand in the stock market. This characteristic also increases the (price) volatility of CCEFs and is therefore better suited for investors that pursue long-term investments. On the other hand, Country ETFs and open-end mutual funds redeem and create new shares constantly which makes the share value more closely follow the NAV (net asset value) and rarely trade at a premium or discount (Ruffy, 2007).

A connection between investor sentiments toward specific countries and CCEFs being traded at a premium or discount was found in a US study (Hwang, 2011). Since then, there has been a plethora of research papers that examine investor sentiment, but only a few that have explored this concept in the context of CCEFs and country-specific sentiments. Therefore, this paper aims to investigate whether the results in Hwang's paper are consistent over a decade after its publication by replicating and writing an extension of it. This will add value to the existing literature as there has been a lack of recent studies about investor sentiment in relation to CCEFs. As the world has become increasingly interconnected, the definition and existence of borders has been questioned and redefined. However, simultaneously, political radicalization has been on the rise on national levels in numerous countries, leading us to find our question to be highly relevant and interesting in our current socio-political climate. Given the severe turbulence and market inefficiencies COVID-19 caused in the societies and stock markets around the world (Harjoto, Rossi, & Paglia, 2021) (Ozkan, 2021), we think exploring the impacts of COVID-19 on the country-specific investor sentiment and its implications on CCEF prices would be meaningful to not only our study, but also to the existing research.

As we are writing an extension on his paper, we closely follow the data and methods used by Hwang (Hwang, 2011). Investor sentiment is represented by a variable called *Country Popularity Score* which is based on data from surveys asking Americans their opinions about specific countries provided by Gallup (Gallup, 2023). The survey participants can answer with the answers Very Favorable, Mostly Favorable, Mostly Unfavorable, Very Unfavorable, and No Opinion.

Americans' investor sentiment toward specific countries is quantified into a score which is calculated by the sum of the percentage of survey participants that answered Very Favorable by four, Mostly Favorable by three, Mostly Unfavorable by two, and Very Unfavorable by one. The percentage of survey participants that answered No Opinion was excluded. To test whether it is a relevant variable to use in the main analysis, we run a correlation between the *Country Popularity Score* of 15 countries (Appendix 1) and four categories of variables that we assume to determine Americans' sentiment towards a country. In addition to the variables and categories suggested by Hwang (Hwang, 2011), we add new ones to better reflect the current conditions in the world. From this we identify the categories and variables that are more relevant than others in determining the variation in country-specific sentiments among American investors.

After examining the individual countries' *Country Popularity Score*, we observe that China experiences an above average change in *Country Popularity Score* between the years 2020 and 2021 which are the years affected by COVID-19 which was an extraordinary event both socially and in stock markets. As we preliminarily assume that this unprecedented *Country Popularity Score* development is connected to the occurrence of COVID-19, we closely examine the Chinese CCEFs' price premium (discount) around the occurrence of COVID-19 to confirm or deny these assumptions. From plotting time series graphs of the premium (discount) levels of the Chinese CCEF prices, we observe that there are sizeable, sharp negative shocks in the CCEF premium (discount) levels when COVID-19 and other remarkable external events, such as the US-China trade war, coincides. This means that the variation in country popularity among Americans and thereby Americans' sentiment could be explained by various events.

As the effects of different variables and external events on a country's popularity among Americans are confirmed, we subsequently test the relationship between CCEF price premium (discount) and *Country Popularity Score* which is our main empirical analysis. We do this by running fixed effects regressions and first-differencing regressions with *CCEF premium (discount)* as the dependent variable and *Country Popularity Score* as the independent variable. Control variables that are used in Hwang's study are included to improve the quality of the regressions by capturing the relationship between the *CCEF premium (discount)* and other relevant variables. Due to data constraints, we run two sets of regressions with different time periods and control variables. The first set of regressions includes data of 15 CCEFs from 10 countries between 2009 and 2021 without the control variables *Home Market Valuation Ratio* and *US Market Valuation Ratio*. The second set of regressions includes data from 15 CCEFs from 10 countries between 2013 and 2021 with all control variables.

To further analyze the data, we run the different regressions in two sets of panels. The first panel, Panel A, includes the percentage of survey participants that have a Very Favorable or Mostly Favorable opinion of a sample country. The second panel, Panel B, includes the percentage of survey participants that have a Very Unfavorable or Mostly Favorable opinion of a sample country. Fixed effects regressions and first-differencing regressions are run with *CCEF premium (discount)* as the dependent variable, the percentage of survey participants as the dependent variable in each panel, and with relevant control variables. Due to data constraints, we run two sets of regressions with different time periods and control variables. The first set of regressions includes data of 15 CCEFs from 10 countries between 2009 and 2021 without the control variables *Home Market Valuation Ratio* and *US Market Valuation Ratio*. The second set of regressions includes data from 15 CCEFs from 10 countries between 2013 and 2021 with all control variables.

The main empirical analyses produce results that contradict Hwang's study. The fixed effects regressions show a significant, negative relationship between the dependent variable and the independent variable, regardless of the time period used. This implies that CCEFs that invest in securities from countries that are perceived favorably among Americans are traded at a discount. The first-differencing regressions, on the other hand, produce different results depending on the time period used. In the regression that uses data between 2009 and 2021, the relationship between the dependent variable and the independent variable is insignificant and negative. However, when data between 2013 and 2021 is used, the relationship between the dependent variable and the independent variable is insignificant and positive. This suggests that CCEFs that invest in securities from countries that are perceived positively among Americans trades at a discount with a longer time period, and at a premium with a shorter time period.

The regressions with the panel data produced consistent results across the different time periods. The survey participants in Panel A showed a negative association with the *CCEF premium,* and the survey participants in Panel B showed a positive association with the *CCEF premium.* These results imply that CCEFs that invest in securities of countries that Americans generally have positive perceptions about are traded at a discount, whereas CCEFs that invest in securities of countries that Americans generally have negative perceptions about are traded at a premium. Consistently, the fixed effects regressions generated estimates that were of higher significance compared to that of the first-differencing regressions.

As the results from our empirical analyses are ambiguous and in contrast to previous studies, we run two additional sets of regressions to widen the scope of the discussion around our results. The first set of regressions uses data that excludes China and Chinese CCEFs, the fixed effects regressions produced results consistent with the original data for both sets of time periods. The first-differencing regressions generated an insignificant, positive relationship between the dependent variable and the independent variable in both sets of time periods. Hence, the fixed effects regressions confirmed the outcomes of our regressions with the original dataset. The first-differencing regressions confirmed the outcomes of the initial first-differencing regression using the shorter time period. This might be due to the data from China and the Chinese CCEFs containing consecutive observations that are quite stable.

Based on the impact on stock markets caused by COVID-19, we decided to run a second set of regressions without data from 2020. This resulted in both regressions producing negative relationships between the dependent variable and the independent variable, even though the overall significance level was higher for the fixed effects regression. This implies that, excluding 2020, the CCEFs that invest in securities of countries that are more popular among Americans are traded at a discount. This increased consistency in outcome compared to the original regressions might be due to 2020 containing consecutive observations that are volatile.

The structure of the paper is as follows. Section 2 covers existing studies and literature that are relevant to our study. Section 3 provides detailed descriptions and analyses of our data. Section 4 describes the empirical analysis used in our study. Section 5 reports the results of the empirical analysis and Section 6 provides a discussion around the findings in Section 5. The final section contains the conclusion, the limitations of our paper, and suggestions for future studies.

2. Related Literature

Recent related literature in the field of investor sentiment is largely based on Baker's Investor Sentiment Index and are mainly aligned with the associated findings (Baker & Wurgler, 2006). A study that examines investor sentiment considering several different markets in a simultaneous, concurrent perspective has found a negative relationship between stock market connectedness and high investor sentiment. Another finding is that low investor sentiment has a greater impact on the volatility connectedness, particularly during a time of market decline (Bissoondoyal-Bheenick, Do, Hu, & Zhong, 2022). Another paper suggests that high investor sentiment will lead to higher stock returns in the short term, but to price reversals in the long term. This study has not been able to find other factors to explain this relationship other than the investors' sentiment. Since high investor sentiment and retail investors play a significant role in the relationship mentioned above, the authors reemphasize the importance of understanding individual investors' sentiments and behaviors when analyzing the stock market (Dong & Gil-Bazo, 2020). A different study concludes that investors' sentiment toward foreign markets and the home market are strong contrarian predictors of stock returns. This further suggests that the high sentiments among investors will ultimately produce low stock returns in the long run. The authors proved that high investor sentiments affect the stocks in the French market in a statistically meaningful way (Aissia, 2016).

More specifically regarding CCEFs, it has been previously proven that high popularity of a country among Americans impacts the demand and, thus, the mispricing of securities from that specific country. This study has found that a high level of positive perception of a country among Americans has a positive association with low levels of trading price discount of CCEFs from that country. The author has investigated the potential causes for this association from a firm perspective and a society perspective by investigating the relationship between country popularity and a plethora of measures that shows the effect of Americans' investment behavior toward foreign securities. From the firm perspective, the author found that country popularity influences security prices and ultimately firms' investment policies by examining variables such as institutional holdings and US cross-border M&A activity. From the society perspective, it is found that perceptions of countries are affected by the societal norms surrounding other countries' political decisions and the political, legal, and economic system that underpins them (Hwang, 2011).

Our paper explores the effect of country-specific investor sentiment, and outlines and analyzes the factors that influence the popularity of a country in more detail. We offer analyses on existing and new societal factors that might influence Americans' sentiment toward different countries, along with how American investors' sentiment affects the market price of CCEFs. As the data used for this study is very recent, this will provide insights about country-specific foreign investment behavior of American investors at present. This is valuable as we live in an increasingly politically polarizing and rapidly changing world where interconnectivity between different countries is crucial. Our research could provide insights into what factors affect investor sentiment and how investors should incorporate them. Although our results might not be universal, it could be reasonably argued that the general conclusions drawn from our research could explain investor sentiment of investors in other countries as well. Since our study observes and analyzes Americans' foreign investing behavior during the years that were met with unprecedented abnormality in the stock market due to COVID-19 (Harjoto, Rossi, & Paglia, 2021), this would meaningfully contribute to the existing literature, given the increased polarization of Americans' sentiments toward certain ethnicities and countries during these times (Addo, 2020).

3. Data

3.1 Country Popularity Score

As we viewed Hwang's metric for country popularity displayed a high level of accuracy due to being directly based on the actual opinions extracted from a set of telephone interviews, we used the same method for our study. Similarly to Hwang's method, we use surveys performed by a random sample of Americans to produce a metric that reflects how popular a country is among Americans. The survey conducted by Gallup and iPoll DataBank by calling randomly selected Americans via phone and asking them to evaluate their perception of certain countries into four categories: Very Favorable, Mostly Favorable, Mostly Unfavorable, and Very Unfavorable. There was also a category called No Opinion if the respondents think they do not have enough information or no particular opinion about a country. The responses have been expressed in percentages of the total interviewees (Gallup, 2023). Our country popularity metric, *Country Popularity Score*, is the sum of the multiplying the Very Favorable percentage by four, the Mostly Favorable percentage by three, the Mostly Unfavorable percentage by two, and the Very Unfavorable percentage by one. No Opinions were dropped, as they would not produce meaningful insights. One metric is produced for one country every year where we have data. The mean of the *Country Popularity Score* from the sample surveys that we use is 2.74, which suggests that Americans think, on average, mostly favorably of countries included in our sample; the standard deviation is 0.41. The average *Country Popularity Score* for each country included in our sample between 2009 to 2021 is reported in Appendix 1.

Given the main aim of this study, we have chosen as many countries as possible among the countries that were included in the survey conducted by Gallup and iPoll for the entirety or majority of the years from 2009 to 2021. However, apart from a select few countries, the majority of these countries are not surveyed about every year. To minimize the errors that could be produced from using infrequent, lagged data but simultaneously maintain a statistically meaningful sample size that would lead to generalizable results, we follow the criteria suggested by Hwang (Hwang, 2011). The first criterion is that the most recent survey must be conducted within the last two years. The second criterion is that the difference in *Country Popularity Score* between the two scores should not be greater than 0.2 if the observations are more than two years apart. The surveys are mainly conducted on a yearly basis (an interval of 12 months is the median in our sample), but for some countries the interval between two surveys is longer than 36 months. Since many of the CCEFs were liquidated early in the time period between 2009 and 2021 or even before that,[1] and having to exclude the countries that are not included in the surveys each 12 months will severely decrease our sample size and it would also influence the main analysis related to the CCEFs included. Using the criteria above, we have been able to include countries such as Australia which has one of the few CCEFs that have complete data from 2009 to 2021, as the interval of the surveys where Australia was included is longer than 12 months, but it satisfies the criteria of a difference in *Country Popularity Score* that is not bigger than 0.2.

[1] The Brazilian Equity Fund went out of business in 2005. The France Growth Fund went out of business in 2004. The Indonesia Fund was merged into Aberdeen Chile Fund, Inc. in 2018. The Fidelity Advisor Korea Fund went out of business in 2007. The Korean Investment Fund went out of business an unknown year. The First Philippine Fund went out of business in 2003. The Spain Fund went out of business in 2011. The United Kingdom Fund went out of business in 1999.
Source: Capital IQ

The frequency of the survey covered in our sample is reported in Appendix 2. In order to make our data and analysis more easily comparable to similar studies, we have attempted to include as many of the same countries in our sample as Hwang had done in his (Hwang, 2011). Ultimately, our sample contains 15 countries over the period 2009 to 2021. The sample countries are Australia, Canada, China, France, Germany, India, Israel, Japan, South Korea, Mexico, Russia, Taiwan, Turkey, the United Kingdom, and Venezuela. For the main analysis, the countries that did not have an active CCEF for the majority or entirety of the time between the years 2009 to 2021 were excluded. This resulted in us using 15 CCEFs from 10 countries for the main empirical analysis: Australia, China, Germany, India, Israel, Japan, Korea, Mexico, Russia, and Taiwan (Appendix 3).

Nonetheless, there are clear differences that can be seen in the country popularity across countries and over time. An example of a drastic change in country popularity over a short period of time is China, as 24% of Americans had a Very Unfavorable opinion of China in 2020 before the global spread of COVID-19 occurred whereas the number increased to 41% the following year. As China is the country that Americans' sentiments toward have changed the most, this will be further explored in the paper in more detail in the following sections.

3.2 Determinants of Country Popularity

Prior to analyzing the relationship between CCEF premium (discount) and country popularity, we must first observe and analyze country popularity and understand what factors affect it. Hwang suggests that there are three groups of factors that influence a country's popularity among Americans: the cultural similarity between the sample country and the US (cultural similarity-based view), how familiar Americans are with the sample country (familiarity-based view), and how Americans perceive the sample country's legal and political system based on US societal norms (political and legal system-based view) (Hwang, 2011).

The factors included in the cultural similarity-based view are Same Language (a dummy variable that equals one if the sample country's official or primary language is English) (Central Intelligence Agency [CIA], 2023), Same Religion (a dummy variable that equals one if the sample country's most dominant religion is Christianity) (Central Intelligence Agency [CIA], 2023), Ancestry (percentage of the US citizen population that has ancestry from the sample country) (United States Census Bureau, 2007), and the Hofstede-Cultural Distance[2] (the average of the absolute difference between the scores of the US and the sample country regarding power distance, individualism, masculinity, uncertainty avoidance, and long-term orientation) (Hofstede Insights, 2023). Only five out of six dimensions are used in Hwang's study (Hwang, 2011) and we use this same method to calculate the Hofstede-Cultural Distance metric.

The familiarity-based view included factors such as Population (logarithm of sample country's population published by the World Bank), Distance (logarithm of the distance in kilometers between the capital of the sample country and the capital of the US). The data for Distance was

[2] An index developed by Hofstede that measures a country's culture in a quantifiable manner using the dimensions: power distance, individualism, masculinity, uncertainty avoidance, long-term orientation, and indulgence. (Hofstede Insights, 2023)

obtained from Time and Date (Time and Date, 2023). We use the same determinants for our study as in a similar study (Hwang, 2011).

For the political and legal system-based view, Hwang only included Governance Quality (a measure of the perceived corruption of countries; Corruption Perceptions Index that is released through Transparency International is used) (Hwang, 2011). As we viewed the political and legal system-based view only being represented by a single variable was unbalanced compared to the other views, we added an additional variable called Legal System (a dummy variable that equals one if the sample country enforces the common law system) (Central Intelligence Agency [CIA], 2023). Hence, for our study, the political and legal system-based view contains variables that measure how similar the political and legal system of the sample country and the US are in terms of societal norms and formal systems in place.

In addition, we have a fourth view that compares the societal development of the sample country in comparison to the American society (development system-based view). This was due to international cooperation, sustainability, and common values such as democracy, respect for and efforts in promoting human rights, gender equality, and freedom of speech have become increasingly important in 2010s and 2020s for many countries. The variables that are included in this fourth category are: Gender Inequality (a measure of gender inequality in a country; Gender Inequality Index) (United Nations Development Programme, 2023), Human Development (a measure of the average human development in a country in the dimensions of a long and healthy life, being knowledgeable, and having a decent standard of living; Human Development Index) (United Nations Development Programme, 2023), Sustainable Development (a measure UN's assessment of the progress of each country in terms of achieving the 17 Sustainable Development Goals; Overall Sustainable Development Goals score) (Sustainable Development Report, 2023), and Freedom of Expression (a measure of press freedom; World Press Freedom Index) (Reporters Without Borders [RSF], 2023). Here, all indices except Gender Inequality Index gives a higher score for a better performance.

Additionally, Hwang takes the percentage of the "No Opinion" answers from the survey and includes this which we also do.

With these different variables, we plot a correlation matrix to understand what causes Americans to have positive or negative sentiments of a specific country, like Hwang did (Hwang, 2011). In the correlation matrices, we use the average value of each variable for each country since some of the variables are not reported on a yearly basis. This is due to limited amount of variation in consecutive observations in the variables' data. *Country Popularity Score* is the average of the variables across the time series, as some of the variables are not reported on yearly basis and there being limited amount of variation in the data.

We construct two different correlation matrices as Gender Inequality, Human Development, and Sustainable Development data for Taiwan is missing due to its complicated international status and relation with China – one of the charter members of the UN. Hence, the first correlation matrix (Table 1) contains the coefficient estimates and p-values obtained from running a correlation between *Country Popularity Score* and all variables from the first three categories and only Freedom of Expression from the fourth category for all the countries. The second correlation matrix (Table 2) contains the coefficient estimates and p-values obtained from running a correlation between *Country Popularity Score* and all variables from the four categories for all

countries in our sample excluding Taiwan. The countries included in constructing these correlation matrices are listed in Appendix 1.

Table 1

This table provides coefficient estimates for correlation with *Country Popularity Score* (how popular a country is among Americans) and various variables that we predict are determinants of the *Country Popularity Score* that can be divided into four different categories: how similar the cultures of the sample country and the US are, how familiar Americans are with the sample country, how similar the political and legal systems of the sample country and the US are, and similar the level of societal development is between the sample country and the US. There are 15 countries in the sample. The data used in this correlation matrix is from 2009 to 2021. *Country Popularity Score* is the sum of four multiplied by the percentage of the US survey participants that have a Very Favorable opinion, three multiplied by the percentage that have a Mostly Favorable opinion, two multiplied by the percentage that have a Mostly Unfavorable opinion, and one multiplied by the percentage that have a Very Unfavorable opinion of the sample country. *Population* is the logarithm of the sample country's population. *Distance* is the logarithm of the distance between the sample country's capital city and the US capital reported in kilometers. *Fraction with no Opinion* is the percentage of survey participants that do not have a specific opinion about the sample country. *Same Language* is a dummy variable that equals one if the sample country's official or primary language is English, otherwise it equals zero. *Same Religion* is a dummy variable that equals one if Christianity is the sample country's predominant religion, otherwise it equals zero. *Ancestry* is the fraction of US citizens with ancestors from the sample country. *Hofstede-Cultural Distance* is the average of the absolute difference between the scores of the US and the sample country regarding power distance, individualism, masculinity, uncertainty avoidance, and long-term orientation. *Legal system* is a dummy variable that equals one if a country's legal system is common low. *Governance Quality* is the sample country's Corruption Perceptions Index according to Transparency International. *Freedom of Expression* is the sample country's World Press Freedom Index according to Reporters Without Borders. The *p*-values are reported in parentheses.

	Country Popularity Score	*Population*	*Distance*	*Fraction with no Opinion*	*Same Language*	*Same Religion*	*Ancestry*	*Hofstede-Cultural Distance*	*Legal System*	*Governance Quality*
Country Popularity Score										
Population	-0.339 *(.217)*									
Distance	-0.170 *(.544)*	0.184 *(.512)*								
Fraction with no Opinion	-0.483 *(.068)*	-0.053 *(.851)*	0.350 *(.202)*							
Same Language	0.618 *(.014)*	0.073 *(.796)*	-0.201 *(.472)*	-0.114 *(.687)*						
Same Religion	0.190 *(.497)*	-0.228 *(.415)*	-0.556 *(.031)*	-0.191 *(.496)*	0.262 *(.346)*					
Ancestry	0.263 *(.344)*	0.062 *(.826)*	-0.116 *(.682)*	-0.266 *(.338)*	0.007 *(.981)*	0.454 *(.089)*				
Hofstede-Cultural Distance	-0.731 *(.002)*	0.237 *(.395)*	0.333 *(.226)*	0.213 *(.446)*	-0.807 *(<.001)*	-0.465 *(.081)*	-0.274 *(.324)*			
Legal System	0.614 *(.015)*	-0.169 *(.547)*	-0.129 *(.647)*	-0.123 *(.662)*	0.853 *(<.001)*	0.094 *(.738)*	-0.074 *(.794)*	-0.789 *(<.001)*		
Governance Quality	0.932 *(<.001)*	-0.366 *(.180)*	-0.025 *(.930)*	-0.487 *(.066)*	0.389 *(.152)*	0.118 *(.674)*	0.327 *(.235)*	-0.572 *(.026)*	0.397 *(.143)*	
Freedom of Expression	0.824 *(<.001)*	-0.618 *(.014)*	-0.162 *(.565)*	-0.163 *(.561)*	0.349 *(.202)*	0.310 *(.261)*	0.308 *(.265)*	-0.488 *(.065)*	0.344 *(.209)*	0.804 *(<.001)*

The familiarity-based view has no empirical support as neither *Population* nor *Distance* has a reliable correlation coefficient with *Country Popularity Score*. The same reasoning goes for *Fraction with No Opinion*. While cultural similarity-based has empirical support, since *Country Popularity Score* is positively correlated with *Same Language* and negatively correlated with *Hofstede-Cultural Distance*, where the coefficient is significant and statistically meaningful. These

results are similar to the results produced in a previous study. In his study, he found little empirical evidence for the familiarity-based view (Hwang, 2011). Except for Hofstede-Cultural Distance that generated a relatively economically meaningful, negative relationship with the *Country Popularity Score*, all other variables in the cultural similarity view generated positive relationships with the *Country Popularity Score*. *Country Popularity Score* is also positively correlated with the political and legal system-based view where a high positive and significant correlation is observed with *Governance Quality* and a positive, significant correlation with *Legal System*. Aligned with our findings, Hwang's study had also found the political and legal system-based view to have the strongest effect on the *Country Popularity Score* (Hwang, 2011). Also, *Country Popularity Score* has a highly positive, statistically significant and meaningful correlation with Freedom of Expression, and hence the development-based view.

The result from Table 2 is consistent with Table 1, where there are some minor changes in magnitude for some variables. The correlation between *Country Popularity Score* and the variables associated with the familiarity-based view has no empirical support, but there is a strong positive correlation between *Country Popularity Score* and both cultural similarity-based view and legal-based view. The development-based view has a strong empirical support as there are positive and significant relationships between *Country Popularity Score* and *Freedom of Expression*, *Human Development*, and *Sustainable Development*. There is a negative, significant relationship between *Country Popularity Score* and *Gender Inequality* (where a high score indicates high gender inequality). Hence, we can further confirm our assumption that a country's popularity among Americans can be explained with the variables related to the development-based view.

Both Table 1 and 2 generate results that give consistent results in terms of the size of the variables' effects, meaning the magnitude of the coefficient estimates. Overall, the coefficient estimate magnitude is larger for our study compared to Hwang's, except for *Distance*, *Same Religion*, and *Hofstede-Cultural Distance*. Interestingly, these are the variables that are rather unlikely to have changed over time which might indicate that the size of these variables' effect on the *Country Popularity Score* decreases further into the future.

Overall, we can draw the conclusion that our results mostly align and are consistent with the results produced by Hwang (Hwang, 2011) as the political and legal system-based view is proven to have the strongest positive and significant relationship with *Country Popularity Score*. Select variables from the cultural similarity-based view and all variables from the development-based view can also explain a country's popularity among Americans, especially the latter which we have empirically proven. However, it is still quite difficult to know the precise reasons behind why Americans think more favorably about a specific country over another with these results alone. In our sample, a country's *Country Popularity Score* changes minorly over time, which makes it difficult to investigate and connect the measure of popularity to a specific reason or event. However, in our dataset, the biggest difference in *Country Popularity Score* for certain countries coincides with the period characterized by the prevalence of the COVID-19 pandemic. This observation suggests that Americans' perception of a specific country is affected by various external situations and a country's decisions surrounding those circumstances. This aspect will be further examined in subsequent sections of the paper.

Table 2

This table provides coefficient estimates for correlation with *Country Popularity Score* (how popular a country is among Americans) and various variables that we predict are determinants of the *Country Popularity Score* that can be divided into four different categories: how similar the cultures of the sample country and the US are, how familiar Americans are with the sample country, how similar the political and legal systems of the sample country and the US are, and similar the level of societal development is between the sample country and the US. There are 14 countries in the sample (Taiwan is excluded). The data used in this correlation matrix is from 2009 to 2021. *Country Popularity Score* is the sum of four multiplied by the percentage of the US survey participants that have a Very Favorable opinion, three multiplied by the percentage that have a Mostly Favorable opinion, two multiplied by the percentage that have a Mostly Unfavorable opinion, and one multiplied by the percentage that have a Very Unfavorable opinion of the sample country. *Population* is the logarithm of the sample country's population. *Distance* is the logarithm of the distance between the sample country's capital city and the US capital reported in kilometers. *Fraction with no Opinion* is the percentage of survey participants that do not have a specific opinion about the sample country. *Same Language* is a dummy variable that equals one if the sample country's official or primary language is English, otherwise it equals zero. *Same Religion* is a dummy variable that equals one if Christianity is the sample country's predominant religion, otherwise it equals zero. *Ancestry* is the fraction of US citizens with ancestors from the sample country. *Hofstede-Cultural Distance* is the average of the absolute difference between the scores of the US and the sample country regarding power distance, individualism, masculinity, uncertainty avoidance, and long-term orientation. *Legal system* is a dummy variable that equals one if a country's legal system is common low. *Governance Quality* is the sample country's Corruption Perceptions Index according to Transparency International. *Freedom of Expression* is the sample country's World Press Freedom Index according to Reporters Without Borders. The *p*-values are reported in parentheses. *Gender Inequality* is the sample country's Gender Inequality Index according to the United Nations. *Human Development* is the sample country's Human Development Index according to the United Nations. *Sustainable Development* is the sample country's Overall Sustainable Development Goals score according to the United Nations. The *p*-values are reported in parentheses.

	Country Popularity Score	*Population*	*Distance*	*Fraction with no Opinion*	*Same Language*	*Same Religion*	*Ancestry*	*Hofstede-Cultural Distance*	*Legal System*	*Governance Quality*	*Freedom of Expression*	*Gender Inequality*	*Human Development*
Country Popularity Score													
Population	-0.352 *(.217)*												
Distance	-0.172 *(.556)*	0.249 *(.390)*											
Fraction with no Opinion	-0.489 *(.076)*	-0.011 *(.969)*	0.325 *(.258)*										
Same Language	0.624 *(.017)*	0.035 *(.905)*	-0.173 *(.554)*	-0.088 *(.765)*									
Same Religion	0.196 *(.503)*	-0.320 *(.265)*	-0.529 *(.052)*	-0.150 *(.610)*	0.228 *(.433)*								
Ancestry	0.264 *(.361)*	0.027 *(.926)*	-0.087 *(.768)*	-0.247 *(.395)*	-0.017 *(.953)*	0.435 *(.120)*							
Hofstede-Cultural Distance	-0.749 *(.002)*	0.311 *(.278)*	0.298 *(.302)*	0.180 *(.538)*	-0.801 *(.001)*	-0.427 *(.128)*	-0.249 *(.391)*						
Legal System	0.624 *(.017)*	-0.226 *(.438)*	-0.092 *(.754)*	-0.093 *(.751)*	0.849 *(<.001)*	0.043 *(.884)*	-0.104 *(.722)*	-0.781 *(.001)*					
Governance Quality	0.935 *(<.001)*	-0.359 *(.207)*	-0.042 *(.885)*	-0.509 *(.063)*	0.408 *(.148)*	0.147 *(.617)*	0.343 *(.231)*	-0.608 *(.021)*	0.420 *(.135)*				
Freedom of Expression	0.834 *(<.001)*	-0.607 *(.021)*	-0.200 *(.493)*	-0.194 *(.507)*	0.382 *(.178)*	0.371 *(.192)*	0.336 *(.240)*	-0.543 *(.045)*	0.383 *(.177)*	0.804 *(.001)*			
Gender Inequality	-0.647 *(.012)*	0.437 *(.119)*	-0.028 *(.924)*	0.657 *(.011)*	0.013 *(.964)*	-0.103 *(.727)*	-0.244 *(.400)*	0.209 *(.474)*	-0.093 *(.753)*	-0.823 *(<.001)*	-0.587 *(.027)*		
Human Development	0.675 *(.008)*	-0.697 *(.006)*	-0.096 *(.745)*	-0.466 *(.093)*	0.036 *(.902)*	0.280 *(.333)*	0.281 *(.331)*	-0.318 *(.268)*	0.134 *(.647)*	0.814 *(<.001)*	0.765 *(.001)*	-0.915 *(<.001)*	
Sustainable Development	0.616 *(.019)*	-0.434 *(.121)*	-0.099 *(.737)*	-0.603 *(.023)*	-0.047 *(.874)*	0.297 *(.302)*	0.432 *(.123)*	-0.199 *(.495)*	-0.060 *(.838)*	0.801 *(.001)*	0.654 *(.011)*	-0.928 *(<.001)*	0.926 *(<.001)*

3.3 CCEF Data

3.3.1 Dependent Variable

To test the relationship between a country's perception by American investors and a closed-end country fund (i.e., CCEF) from that country, we run several regressions. The dependent variable is the *CCEF premium (discount)* which is calculated with the following formula: [(Price – NAV)/NAV] as in previous studies (Hwang, 2011). The data used is monthly security data downloaded from Compustat – Capital IQ via WRDS. The data from the six months after the sample funds' IPOs and the month before the liquidation or open-ending announcement were left out to mitigate data distortions that these events might cause. This data modification was done by previous studies (Chan, Jain, & Xia, 2008), including the paper we are extending on (Hwang, 2011) which we, therefore, follow.

3.3.2 Control Variables

Other independent variables that are used as control variables include *Inverse Security Price (Price < NAV)*, *Inverse Security Price (Price > NAV)*, *Dividend Yield (Price < NAV)*, *Dividend Yield (Price > NAV)*, *Expense Ratio*, *Turnover Ratio*, *US Market Valuation Ratio*, and the *Home Market Valuation Ratio*. As Hwang uses these specific control variables in his empirical analysis and since we thought the theoretical significance of each of these control variables are valid, relevant, and well-defined, we use the same set of control variables for our study (Hwang, 2011).

The control variable *Inverse Security Price (Price > NAV)* is calculated by dividing one by the CCEFs' lagged price (one month) when the price is at a premium (Price > NAV), and otherwise zero. The control variable *Inverse Security Price (Price < NAV)* is calculated by dividing one by the CCEFs' lagged price (one month) when the price is at a discount (Price < NAV), and otherwise zero. Based on previous research, stocks with lower (higher) price levels have higher (lower) transaction costs, which makes it more difficult (easier) to arbitrage (Pontiff, 1996). Hence, *Inverse Security Price* is included in this study to capture the arbitrage costs of the different CCEFs (Pontiff, 1996).

Dividend Yield is calculated by dividing the monthly dividend paid per share paid by the CCEF over the fund's lagged net asset value (one month) with data obtained from Compustat – Capital IQ via WRDS. *Dividend Yield (Price < NAV)* is calculated if the price is at a premium, and zero otherwise. *Dividend Yield (Price > NAV)* is calculated if the price is at a discount, and zero otherwise. As paying out dividends decreases the holding costs, it increases the arbitrage profits which implies that securities that have larger dividend payouts are less likely to be mispriced (Pontiff, 1996). Hence, *Dividend Yield* is a control variable that captures the mispricing of the CCEFs. This implies that when CCEFs that are traded for premium (discount) market prices, the magnitude of the premium (discount) will be lower for securities with low (high) costs of arbitrage, which often are securities with low (high) *Inverse Security Price* and high (low) *Dividend Yield*.

Although there are multiple credit agencies and financial institutions that provide expense ratio data, we did not have access to them. Hence, we use data from Capital IQ to calculate the annual expense ratio for each fund. The control variable *Expense Ratio* is calculated by dividing the total operating expenses of a fund by the net assets, which is calculated through the difference between a fund's total assets and total liabilities. Since increasing expenses that increases the *Expense Ratio* leaves less cash available to potentially distribute to investors, a high *Expense Ratio* would increase

the discount of the security (Ross, 2005). Hence, *Expense Ratio* is included to capture rather fund-specific characteristics such as the fund manager's managerial capabilities that will impact the *CCEF premium (discount).*

The control variable *Turnover Ratio* is calculated through dividing the total trading volume of all stocks in a specific country by the total shares outstanding in a market. This formula was based on the share turnover formula for companies which we expanded to cover the entire economy of a specific country.[3] This data is obtained from Compustat – Capital IQ and is reported with daily frequency. The median turnover of each year and each country is used as the annual turnover ratio metric for each country. Given the specific characteristics of a CCEF – that its underlying asset's value is determined in the fund's home market whereas the price of the fund is set in the US market - *Turnover Ratio* is included to capture the liquidity differences in the US market and the CCEF's respective home market.

The control variables *Home Market Valuation Ratio* and *US Market Valuation Ratio* are calculated by extracting the mispricing component in the market-to-book ratio of the CCEF's home market or the US market. More specifically, this is done by running a first-stage regression with the return of the future six months of all stocks in the specific market as the dependent variable and the market-to-book ratio as the independent variable (Baker, Foley, & Wurgler, 2009). The fitted values from these regressions are used as the mispricing component values. Although there are multiple formulas for return, we use the formula of the current adjusted close price multiplied by the current total return factor divided by last period's adjusted close price multiplied by last period's total return factor. This expression is then subtracted by one and multiplied by 100 (Wharton Research Data Services, 2020).[4] This data is on an annual basis and is obtained from Compustat – Capital IQ via WRDS. These control variables are included in this empirical study to capture overall market sentiment (i.e., the overall demand) in the respective home market and the US market. Due to data constraints regarding the market-to-book ratio, (which is later used to calculate *Home Market Valuation Ratio* and *US Market Valuation Ratio*,), we run separate two separate sets of regressions. The first has the time series of 2009 to 2021 without the control variables *Home Market Valuation Ratio* and *US Market Valuation Ratio*. The second has the time series of 2013 to 2021 and includes all control variables. In order to check the robustness of the mispricing component, we also run a third regression with the time series of 2013 to 2021, but by replacing the *Home Market Valuation Ratio* and the *US Market Valuation Ratio* with the market-to-book ratio of each country. The market-to-book ratios of the different countries are downloaded from Professor Damodaran's dataset at NYU Stern (Damodaran, 2023).

3.4 COVID-19

In accordance with the COVID-19 pandemic, country popularity among Americans witnessed a substantial change for some countries in our sample, specifically for China. The effects of these series of events on Americans' growing negative sentiments toward China are reflected in China's *Country Popularity Score* for the years 2020 and 2021. The biggest change of *Country Popularity Score* for China is between 2020-2021 as it decreased with 0.31 points (2.14 in 2020 to 1.83 in 2021) whereas the average change in *Country Popularity Score* between 2020 and 2021 for all

[3] Share Turnover = Trading Volume / Average Shares Outstanding. Source: Investopedia

[4] ([{((PRCCD/AJEXDI)*TRFD)/((PRCCD(PRIOR)/AJEXDI(PRIOR))*TRFD(PRIOR))} -1]* 100)
Source: WRDS

countries in our sample was approximately 0.06. Given that the country with the second largest change in *Country Popularity Score*, Russia, has seen a 0.15 change (from 2.04 in 2020 to 1.89 in 2021) which is less than half of the change China has experienced. China's *Country Popularity Score* development can be seen as extraordinary and abnormal when compared to other sample countries. Therefore, we dedicate this separate section to investigate the relationship between China's country popularity among Americans and *CCEF premium (discount)* by plotting time series of the price premia (discounts) of the two Chinese CCEFs.

Figure 1 shows that the China Fund's price premium (discount) it its lowest peak where it was traded at a 38% discount around June 2018. Around this time, the China's *Country Popularity Score* decreased by 0.16. A notable event that could be linked to this market event is the US-China trade war that started in 2018 which stirred up various political conflicts which led to negative economic implications between these two major economic trading partners (Bissoondoyal-Bheenick, Do, Hu, & Zhong, 2022). After that, the fund's price recovers to a lower discount rate, but hits another low point in the beginning of 2020 where it traded at 15% discount approximately. The World Health Organization declaring COVID-19 as a pandemic in March 2020 can be linked to this negative price fluctuation.

As shown in Figure 2, the Templeton Dragon Fund had the biggest drop in 2019 toward the end of the year, trading at approximately 14% discount. This could be associated with the identification of the first case of COVID-19 in China. Later between 2020 and 2021, the CCEF had its biggest drop where it traded at 20% discount during 2020 which coincided with the outbreak in China's capital Beijing. This extreme negative effect on the *CCEF premium (discount)* around this time is consistent with China's *Country Popularity Score* dropping during the same period (decreasing from 2.14 in 2020 to 1.83 in 2021), mainly reflecting the news related to the COVID-19 pandemic. Both Chinese CCEFs witnessed a positive peak during 2021 (China Fund traded at 0% premium or discount, and Templeton Dragon Fund traded at 5% discount) which could be due to the global economy somewhat recovering from COVID-19. From these two time series plots, we have found evidence that political and macroenvironmental events that take place inside and outside of the CCEF's home market affect the CCEFs' price premia (discounts).

Figure 1

Time series of the China Fund's (NYSE: CHN) price premium (discount) from 2018 to 2021.

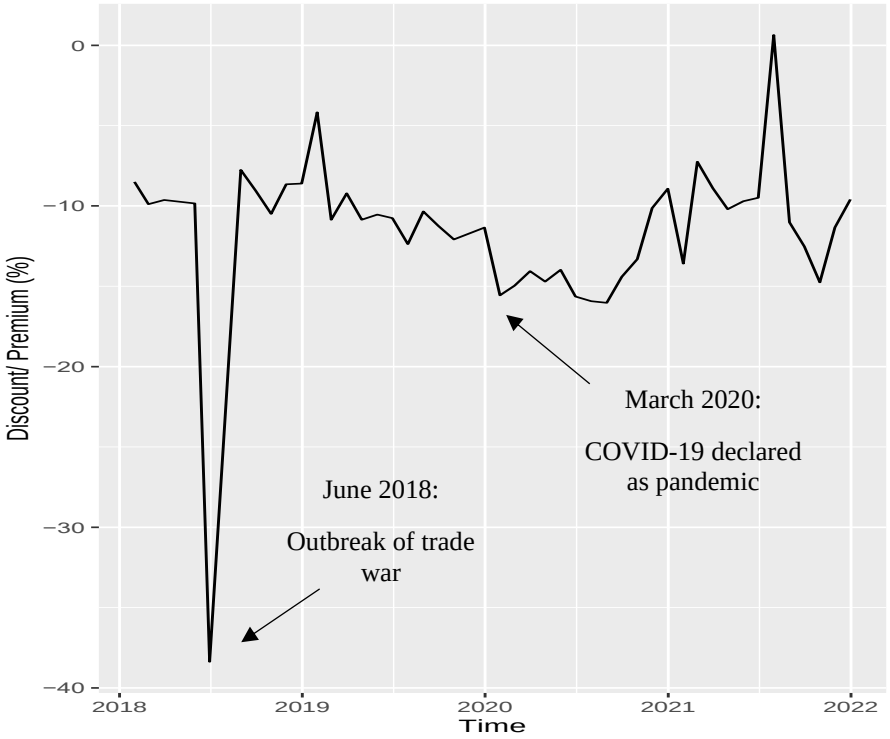
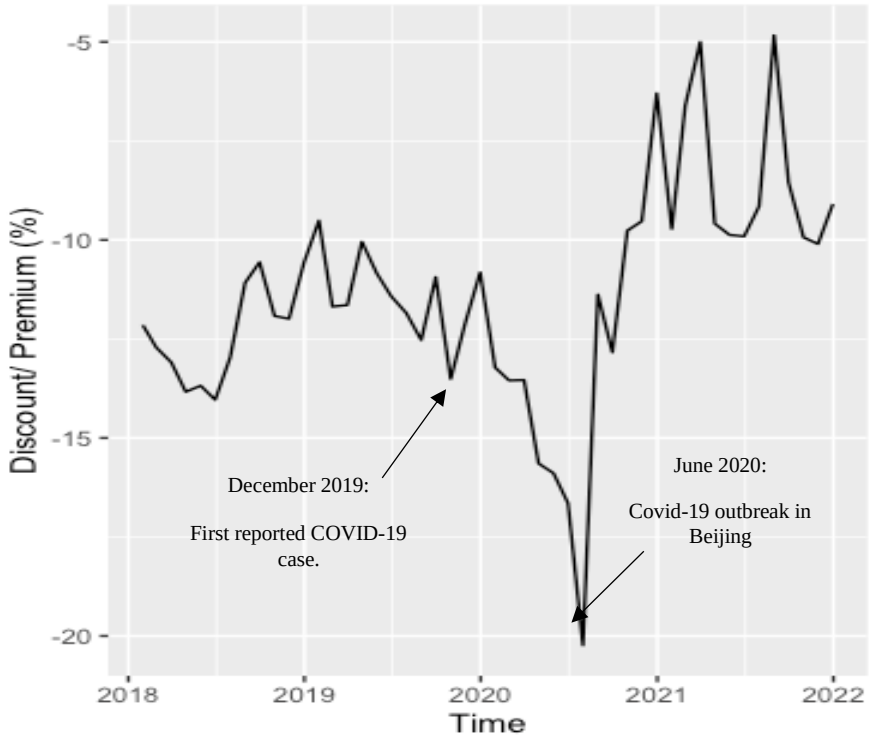


Figure 2

Time series of the Templeton Dragon Fund's (NYSE: TDF) price premium (discount) from 2018 to 2021.



4. Empirical Analysis

A study conducted in 2011 that aimed to test the relationship between country popularity and the market price of CCEFs runs a fixed effects regression, a first-differencing regression, and a Fama-McBeth regression using data from 1993 to 2008. The dependent variable is *CCEF premium (discount)* and the independent variable is *Country Popularity Score*. The control variables used in this study 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* (Hwang, 2011).

Similarly, we run fixed effects regressions and first-differencing regressions in order to control for unobserved heterogeneity and omitted variable bias, as well as estimate the associations between the variables. By including both, this study will be able to generate results that are robust and meaningful since the characteristic of the independent variable of main interest (*Country Popularity Score*) can be seen as both a long-term trend but also short-term changes, as country popularity usually maintains a similar level over time but can also drastically change due to extraordinary macroenvironmental changes. As this study takes place surrounding the occurrence of COVID-19 which was one of the most socioeconomically impactful events during the last decade, it would be meaningful to showcase both regressions that might reflect different perspectives on country popularity – whether it is an aggregation of short-term changes or a long-term trend.

However, we do not run a Fama-McBeth regression which is often preferred from an empirical analysis standpoint given its superiority in robustness and being able to test more complex relationships between the variables. Due to data constraints, our data would not be able to yield meaningful and reliable results as the coefficient estimates of Fama-McBeth regressions run with insufficient data often result in statistical errors such as endogeneity and omitted variable bias. Rather than risking generating results that are statistically erroneous, we think it is more advantageous to run fixed effects regressions and first-differencing regressions that could produce more statistically robust results given the data we have and combining the results and insights that we can obtain from these. As Hwang did, we adjust for clusters in the standard errors (by year-month and fund) (White, 1980) as a remedy for heteroscedasticity that exists in our data along with underlying autocorrelation that might exist in the data (Hwang, 2011).

We run a fixed effects regression and first-differencing model with data from 2009 to 2021. In this dataset, the dependent variable is the *CCEF premium (discount)* and the independent variable of main interest is *Country Popularity Score*. The control variables are *Inverse Security Price (Price > NAV)*, *Inverse Security Price (Price < NAV)*, *Dividend Yield (Price > NAV)*, *Dividend Yield (Price < NAV)*, *Expense Ratio*, and *Turnover Ratio* (Equation 1). Due to data constraints, we could not calculate the *Home Market Valuation Ratio* and *US Market Valuation Ratio* for the years 2009 to 2012. Hence, they are excluded from the regressions run with this time period. Leaving out two control variables that could be argued as the more important variables – since they directly represent and explain market sentiments – could have negative implications on the overall goodness-of-fit of the regression model and the accuracy of the parameter estimates.

(Equation 1) $Premium\ (Discount) \sim \beta_0 + \beta_1\ Country\ Popularity\ Score + \beta_2\ Inverse\ Security\ Price\ (Price > NAV) + \beta_3\ Inverse\ Security\ Price\ (Price < NAV) + \beta_4\ Dividend\ Yield\ (Price > NAV) + \beta_5\ Dividend\ Yield\ (Price < NAV) + \beta_6\ Expense\ Ratio + \beta_7\ Turnover\ Ratio + \varepsilon$

Although there is the risk of the data not providing statistically strong evidence due to a short time period, we run a fixed effects regression and first-differencing regression with the data between the years 2013 and 2020. In this dataset, we use the same dependent variable, independent variable, and control variables as we did for the time period from 2009 and 2021, we *include Home Market Valuation Ratio* and *US Market Valuation Ratio* as control variables (Equation 2). This is done to include all variables that were in a similar study but with a different time period (Hwang, 2011). When we compare the outcomes between our study and Hwang's study – as it is the study that has produced the conclusion that has led to us forming a hypothesis that there would be a positive relationship between *Country Popularity Score* and CCEF premium – it would be appropriate to include all variables that are included in Hwang's study in order to make comparisons and draw reasonable conclusions. For completeness, we also run a fixed effects regression and first-differencing regression with data from 2013 to 2021, but with Home Market-to-Book Ratio and US Market-to-Book Ratio instead of *Home Market Valuation Ratio* and *US Market Valuation Ratio*. We do this to observe whether there are significant differences in the regression outputs when using raw market-to-book ratios compared to the mispricing components, and hence see whether using the mispricing components yields robust results. Although this set of regressions will perhaps have a higher level of goodness of fit and more accurate parameter estimates as all necessary control variables according to the benchmark study are included, other problems such as limited statistical power and limited generalizability might occur, given the short time period.

(Equation 2) $Premium\ (Discount) \sim \beta_0 + \beta_1\ Country\ Popularity\ Score + \beta_2\ Inverse\ Security\ Price\ (Price > NAV) + \beta_3\ Inverse\ Security\ Price\ (Price < NAV) + \beta_4\ Dividend\ Yield\ (Price > NAV) + \beta_5\ Dividend\ Yield\ (Price < NAV) + \beta_6\ Expense\ Ratio + \beta_7\ Turnover\ Ratio + \beta_8\ Home\ Market\ Valuation\ Ratio + \beta_9\ US\ Market\ Valuation\ Ratio + \varepsilon$

5. Results

Prior to the empirical studies, we hypothesized that there would be a positive relationship between country popularity and the CCEF premium (discount) based on previous studies that have empirically shown this (Hwang, 2011). However, this hypothesis has been contradicted overall in our empirical analyses.

As reported in Table 3, the fixed effects regression with the data from 2009 to 2021 produces a significant negative relationship between *Country Popularity Score* and the *CCEF premium (discount)*. Other control variables that have resulted in significant negative relationships ($p<0.01$) with the dependent variable are *Inverse Security Price (Price < NAV)* and *Turnover Ratio*. There is a significant positive relationship between *Expense Ratio* and the dependent variable, and the coefficient estimate generated by *Expense Ratio* has the largest magnitude. All other control variables resulted in insignificant positive relationships with the dependent variable. In both our and Hwang's study, *Expense Ratio* has the largest coefficient estimate magnitude which is economically meaningful in comparison with other independent variables. This is a very strong effect as the coefficient estimates produced in our study were overall smaller in magnitude compared to the ones produced in Hwang's study except for *Expense Ratio* (2.546 in Hwang's study). Except for *Dividend Yield (Price > NAV)*, *Dividend Yield (Price < NAV)*, and *Expense Ratio*, the control variables have coefficient estimates with opposite signs when comparing our study to a similar study conducted by Hwang (Hwang, 2011). This similarity might exist due to

these control variables being relatively more directly associated with the CCEFs' cash flows and therefore show more consistent relationships with the dependent variable throughout time.

The adjusted R-squared metric is very low and indicates that the proportion of variance in the dependent variable (*CCEF premium (discount)*) that can be explained by the independent variables are very low and that, therefore, the explanatory power of the model is low. The adjusted R-squared generated in our regression (0.362) is nearly half of that of Hwang's (0.60) despite having similar numbers of observations (2150 in our study, 2155 in Hwang's) which means that our model fits the data poorly in comparison to Hwang's.

Given that the coefficient estimate of *Country Popularity Score* is –0.080 and the t-statistic is -4.85, one standard deviation increase in *Country Popularity Score* would result in a 3.28% decrease in CCEF discount. Compared to Hwang's study (0.116 coefficient estimate for *Country Popularity Score*; 2.9% increase in discount when one standard deviation decrease) that produced a positive relationship between *CCEF premium (discount)* and *Country Popularity Score*, the effect of *Country Popularity Score* on the dependent variable is stronger in Hwang's study. Overall, the magnitude of the coefficient estimates being larger in Hwang's study indicates a stronger size or strength of the relationships of the independent variables with the dependent variable. All of the coefficient estimates are positive except for *Inverse Security Price (Price < NAV)* in Hwang's study (excluding *US Market Valuation Ratio* since it is not included in this regression with data from 2009 to 2021). Given that all variables that are used in the regressions should have the same theoretical significance and explanation, our model being inadequately specified would be of low possibility. Overall, we can draw the conclusion from the fixed effects regression that country popularity shows a significant negative relationship with the *CCEF premium (discount)*. The variables that are more directly associated to the cash flows of the fund (*Dividend Yield (Price > NAV)*, *Dividend Yield (Price < NAV)*, and *Expense Ratio*) that are positively associated with the *CCEF premium (discount)*. In Hwang's study, other variables that are less directly linked to the fund's cash flows showed positive relationships with *the CCEF premium (discount)*. This difference could potentially signify a change in investor behavior.

The first differencing regression results in a negative relationship between *Country Popularity Score* and the dependent variable. All relationships are insignificant except for the relationship between the dependent variable and *Dividend Yield (Price > NAV)* which is also the independent variable that has generated the largest coefficient estimate magnitude in our regression. In Hwang's study, all independent variables except *Dividend Yield (Price < NAV)* generated positive relationships with the dependent variable. In our study, all independent variables except *Country Popularity Score*, *Inverse Security Price (Price > NAV)*, and *Dividend Yield (Price > NAV)* generates a positive relationship with the dependent variable. What is worth noting is that the control variables that generate a negative relationship with the dependent variable are all control variables for when the fund trades at a premium. As the coefficient estimate of *Country Popularity Score* is -0.004 and the t-statistic is -0.299, one increase in *Country Popularity Score*'s standard deviation leads to a 0.164% decrease in CCEF discount. Compared to the outputs in Hwang's study, this is a very weak effect (coefficient estimate of *Country Popularity Score* is 0.083; one standard deviation decrease in *Country Popularity Score* leads to a 2.08% increase in the CCEF discount).

The adjusted R squared metric is 0.023 which is nearly one fourth of the adjusted R-squared metric generated in Hwang's first-differencing model, despite having nearly the same number of observations (2135 observations in our study; 2136 observations in Hwang's study). This means that, much like the fixed effects model, this model has a weak explanatory power and fits our data poorly. The goodness-of-fit represented by the adjusted R-squared metric is much lower than the fixed effects model. The intercept generated from this first differencing regression has a coefficient estimate of -0.001, t-statistic of -0.874, is insignificant, and therefore does not meaningfully contribute to explaining the variation in the dependent variable. Overall, the first-differencing model produced a result that is consistent with the fixed effects regression, but with much less statistical significance. None of the coefficients were economically meaningful. The majority of the independent variables showed insignificant relationships with the dependent variable which could be due to the model capturing short-term changes that might not yield significant findings given that CCEFs are highly volatile.

As mentioned earlier, the above process will be repeated for the dataset that has data from 2013 to 2021 including the control variables *Home Market Valuation Ratio* and *US Market Valuation Ratio*, since we only have market-to-book ratio data accessible from 2013 and onwards. The coefficient estimates, t-statistics, and p-values from the regressions are reported in Table 4. Our data constraint regarding calculating the *Home Market Valuation Ratio* and the *US Market Valuation Ratio* has led us to using market-to-book ratios that were not value-weighted. For the completeness of our study, we have conducted a fixed effects regression and first-differencing regression using market-to-book ratios instead of the *Home Market Valuation Ratio* and the *US Market Valuation Ratio* with data between 2013 and 2021. These regressions produce fairly similar results as the regressions using the mispricing components which attest to the fact that regressions using the mispricing components are robust.

As seen in Table 4, the fixed effects regression, we can observe that there is a statistically significant negative relationship between *Country Popularity Score* and the *CCEF premium (discount)*. Since the coefficient estimate is -0.077 and the t-statistic is -3.33, one standard deviation increase in *Country Popularity Score* will lead to a 3.16% decrease in CCEF discount. Similar to the previous fixed effects regression, the effect on the dependent variable is stronger in Hwang's study given the overall larger coefficient estimate magnitude.

The adjusted R-squared metrics are very low (0.222) which is lower in comparison to the fixed effects regression run with the data from 2009 to 2021, and is nonetheless much lower compared to the adjusted R-squared metric in Hwang's study (0.6). This could be due to the number of observations being significantly lower (1445 observations in this regression, 2150 observations in fixed effects regression with dataset from 2009 to 2021, and 2155 observations in Hwang's study). However, the goodness-of-fit was a problem for the regression containing the data from 2009 to 2021 despite having similar numbers of observations. Therefore, this most likely is not a problem particularly pertaining to this regression model.

Table 3

This table reports the coefficient estimates, t-statistics, and p-values from the output from a fixed effects regression and a first-differencing regression with *CCEF premium (discount)* as the dependent variable, *Country Popularity Score* as the independent variable, and *Inverse Security Price (Price > NAV)*, *Inverse Security Price (Price < NAV)*, *Dividend Yield (Price > NAV)*, *Dividend Yield (Price < NAV)*, *Expense Ratio*, and *Turnover Ratio* as the control variables. *CCEF premium (discount)* is calculated with this formula: (Price-NAV)/NAV. *Country Popularity Score* is the sum of four multiplied by the percentage of the US survey participants that have a Very Favorable opinion, three multiplied by the percentage that have a Mostly Favorable opinion, two multiplied by the percentage that have a Mostly Unfavorable opinion, and one multiplied by the percentage that have a Very Unfavorable opinion of the sample country. *Inverse Security Price (Price > NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a premium. *Inverse Security Price (Price < NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a discount. *Dividend Yield (Price > NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a premium. *Dividend Yield (Price < NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a discount. *Expense Ratio* is the CCEF's total operating expenses over the net assets, which is the difference between the fund's total assets and total liabilities. *Turnover Ratio* is the total trading volume of all stocks in a specific country by the total shares outstanding in the same market. The data comprises 15 CCEFs from 10 countries between 2009 and 2021. The t-statistics are in brackets. The p-values are represented through the number of stars next to the coefficient estimates. To produce more accurate coefficient estimates, t-statistics, and p-values, standard errors from the regressions are adjusted for clustering by year-month and fund (White, 1980). p<0.1(*); p<0.05(**); p<0.01(***)

	Coefficient [t-statistic]	
Variable	Fixed Effects	First Differencing
Country Popularity Score	-0.08***	-0.004
	[-4.85]	[-0.229]
Inverse Security Price (Price > NAV)	0.058	-0.295
	[0.289]	[-0.899]
Inverse Security Price (Price < NAV)	-0.63***	0.053
	[-5.24]	[0.182]
Dividend Yield (Price > NAV)	0.066	-0.587**
	[0.154]	[-2.25]
Dividend Yield (Price < NAV)	0.027	0.024
	[0.522]	[0.695]
Expense Ratio	3.174***	0.249
	[3.42]	[0.848]
Turnover Ratio	-0.008***	0.003
	[-4.88]	[1.22]
Number of observations	2150	2135
Adjusted R-squared	0.362	0.023

Control variables that have generated significant relationships with the dependent variable are *Inverse Security Price (Price > NAV)*, *Inverse Security Price (Price < NAV)*, *Expense Ratio*, *Turnover Ratio*, and *US Market Valuation Ratio*. Consistent with the fixed effects regression with the data from 2009 to 2021, *Expense Ratio* has the largest coefficient estimate magnitude which is also significant. Also, similarly to the fixed effects regression with data from 2009 to 2021, *Dividend Yield (Price > NAV)*, *Dividend Yield (Price < NAV)*, and *Expense Ratio* have positive relationships with the dependent variable, where *Expense Ratio* is the only control variable with a statistically significant relationship. In this regression, *Home Market Valuation Ratio* also has a positive relationship with the dependent variable. This further supports our findings from the

previous fixed effects regression control variables that have a more direct association to the fund's cash flow that have positive relationships with the *CCEF premium (discount)* when examining for long-term trends.

The first differencing regression resulted in a statistically insignificant positive relationship between *Country Popularity Score* and *CCEF premium (discount)*. This contrasts with the previous first differencing regression run with data from 2009 to 2021 that generated a negative insignificant relationship between *Country Popularity Score* and *CCEF premium (discount)* as well as results found in Hwang's study. As the coefficient estimate is 0.035 and the t-statistic is 1.44 for *Country Popularity Score*, one standard deviation decrease in Country Popularity will lead to a 1.44% increase in *CCEF premium (discount)*. This is a weaker effect on the dependent variable compared to Hwang's study.

Similar to the previous first differencing model run with data from 2009 to 2021, *Dividend Yield (Price > NAV)* produced a statistically significant, negative relationship with the dependent variable. *Home Market Valuation Ratio* and *US Market Valuation Ratio* also have significant relationships with the dependent variable. Nearly half of the independent variables have opposite coefficient estimate signs compared to ones produced in Hwang's study. As in the previous first differencing regression with using data from 2009 to 2021, the control variables *Inverse Security Price (Price < NAV)* and *Turnover Ratio* produce the same coefficient estimate signs (positive) as in Hwang's paper. Additionally for this output, *Country Popularity Score* and Home Market Valuation in this first-differencing regression shares the same coefficient estimate sign (positive) as in Hwang's study. The intercept generated in this first differencing model has the same coefficient estimate magnitude (-0.001) and a t-statistic of -1.65, which makes the intercept in this regression not very useful in explaining the variation of the dependent variable.

The adjusted R-squared metric is 0.024 which is very low but still very similar to the adjusted R-squared metric in the previous first-differencing regression. The regressions run with market-to-book ratios instead of the mispricing components (Appendix 8) produce similar results as the fixed effects regression shows a significant negative relationship between the *CCEF premium (discount)* and the *Country Popularity Score*. *Dividend Yield (Price > NAV)*, *Dividend Yield (Price < NAV)*, and *Expense Ratio* are positively associated with the dependent variable. *Expense Ratio* has the coefficient estimate with the largest magnitude. The first-differencing regression shows an insignificant, positive relationship between the *CCEF premium (discount)* and the *Country Popularity Score*. As in the regressions reported in Table 4, *Dividend Yield (Price > NAV)* had a significant, negative relationship with the dependent variable and had the largest coefficient estimate magnitude. For both regressions, the coefficient estimate signs of *Home Market Valuation Ratio* (positive) and *US Market Valuation Ratio* (negative) were the opposite for Home Market-to-Book Ratio (negative) and US Market-to-Book Ratio (negative). Hence, we can conclude that using the mispricing component of the market-to-book ratio does not generate any meaningfully different results and is, therefore, robust.

Table 4

This table reports the coefficient estimates, t-statistics, and p-values from the output from a fixed effects regression and a first-differencing regression with *CCEF premium (discount)* as the dependent variable, *Country Popularity Score* as the independent variable, and *Inverse Security Price (Price > NAV)*, *Inverse Security Price (Price < NAV)*, *Dividend Yield (Price > NAV)*, *Dividend Yield (Price < NAV)*, *Expense Ratio*, and *Turnover Ratio* as the control variables. *CCEF premium (discount)* is calculated with this formula: (Price-NAV)/NAV. *Country Popularity Score* is the sum of four multiplied by the percentage of the US survey participants that have a Very Favorable opinion, three multiplied by the percentage that have a Mostly Favorable opinion, two multiplied by the percentage that have a Mostly Unfavorable opinion, and one multiplied by the percentage that have a Very Unfavorable opinion of the sample country. *Inverse Security Price (Price > NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a premium. *Inverse Security Price (Price < NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a discount. *Dividend Yield (Price > NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a premium. *Dividend Yield (Price < NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a discount. *Expense Ratio* is the CCEF's total operating expenses over the net assets, which is the difference between the fund's total assets and total liabilities. *Turnover Ratio* is the total trading volume of all stocks in a specific country by the total shares outstanding in the same market. *Home Market Valuation Ratio* is the mispricing component of the market-to-book ratio of the CCEF's home market. *US Market Valuation Ratio* is the mispricing component of the market-to-book ratio of the US market. The data comprises 15 CCEFs from 10 countries between 2013 and 2021. The t-statistics are in brackets. The p-values are represented through the number of stars next to the coefficient estimates. To produce more accurate coefficient estimates, t-statistics, and p-values, standard errors from the regressions are adjusted for clustering by year-month and fund (White, 1980). p<0.1(*); p<0.05(**); p<0.01(***)

	Coefficient [t-statistic]	
Variable	Fixed Effects	First Differencing
Country Popularity Score	-0.077***	0.035
	[-3.33]	[1.44]
Inverse Security Price (Price > NAV)	-0.38*	-0.042
	[-1.93]	[-0.106]
Inverse Security Price (Price < NAV)	-0.874***	0.295
	[-5.02]	[0.823]
Dividend Yield (Price > NAV)	0.487	-0.848***
	[1.16]	[-3.08]
Dividend Yield (Price < NAV)	0.017	0.021
	[0.252]	[0.417]
Expense Ratio	1.266***	-0.35
	[4.22]	[-1.38]
Turnover Ratio	-0.005***	0.004
	[-4.14]	[1.41]
Home Market Valuation Ratio	0.001	0.001***
	[1.25]	[2.72]
US Market Valuation Ratio	-0.008***	-0.01***
	[-2.63]	[-3.59]
Number of observations	1445	1430
Adjusted R-squared	0.222	0.024

As the results from the regressions have produced results that contradict our hypothesis, and since the regressions using data from 2013 to 2021 produced different results, we investigate this further by examining the country popularity survey data in a different way. Similar to how Hwang (Hwang, 2011) did his study, we use the portion of surveys with the answers Very Favorable or

Mostly Favorable of a country (Panel A) and the portion of surveys with the answers Very Unfavorable or Mostly Unfavorable of a country (Panel B), instead of *Country Popularity Score*. After aggregating the survey data in this alternate way, a fixed effects regression and a first differencing regression are run for each Panel A and Panel B. The results are reported in Tables 5 and 6 where Table 5 contains the data from 2009 to 2021 and Table 6 contains the data from 2013 to 2021.

In both Table 5 and 6, for Panel A, the *CCEF premium (discount)* has a negative association with the portion of survey participants that answered very or mostly favorably of a country for both fixed effects and first-differencing regressions. While for Panel B, the *CCEF premium (discount)* has a positive association with the portion of surveys participants that answered very or mostly unfavorably of a country for both fixed effects and first-differencing regressions. The results are in accordance with the regressions run with *Country Popularity Score* as the independent variable, since we get the opposite signs compared to the study done by Hwang (Hwang, 2011). In his study, Panel A showed a positive association with the *CCEF premium (discount)*, and Panel B showed a negative association with the *CCEF premium (discount)*, which is aligned with the result from his regression with *Country Popularity Score* as the independent variable (Hwang, 2011). We also did this using market-to-book ratios instead of *Home Market Valuation Ratio* and *US Market Valuation Ratio* (Appendix 11) which produced similar results.

This consistent result indicates that CCEFs with securities from countries that are positively perceived among Americans are trades at a discount, and CCEFs with securities from countries that are negatively perceived among Americans are traded at a premium. However, the magnitude of the coefficient estimates for Panel B (Very Unfavorable or Mostly Unfavorable) is larger than the coefficient estimates for Panel A (Very Favorable or Mostly Favorable). The significance level of the outputs from fixed effects regressions is consistently higher than the outputs from the first-differencing regressions.

Table 5

This table reports the coefficient estimates, t-statistics, and p-values from the output from a fixed effects regression and a first-differencing regression for each panel (Panel A and Panel B) with *CCEF premium (discount)* as the dependent variable, *% Survey Participants* as the independent variable, and *Inverse Security Price (Price > NAV)*, *Inverse Security Price (Price < NAV)*, *Dividend Yield (Price > NAV)*, *Dividend Yield (Price < NAV)*, *Expense Ratio*, and *Turnover Ratio* as the control variables. *CCEF premium (discount)* is calculated with this formula: (Price-NAV)/NAV. In Panel A, *% Survey Participants* is the percentage of the total US survey participants that has a Very Favorable opinion or Mostly Favorable opinion of the sample country. In Panel B, *% Survey Participants* is the percentage of the total US survey participants that has a Very Unfavorable opinion or Mostly Unfavorable opinion of the sample country. *Inverse Security Price (Price > NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a premium. *Inverse Security Price (Price < NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a discount. *Dividend Yield (Price > NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a premium. *Dividend Yield (Price < NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a discount. *Expense Ratio* is the CCEF's total operating expenses over the net assets, which is the difference between the fund's total assets and total liabilities. *Turnover Ratio* is the total trading volume of all stocks in a specific country by the total shares outstanding in the same market. The data comprises 15 CCEFs from 10 countries between 2009 and 2021. The t-statistics are in brackets. The p-values are represented through the number of stars next to the coefficient estimates. To produce more accurate coefficient estimates, t-statistics, and p-values, standard errors from the regressions are adjusted for clustering by year-month and fund (White, 1980). p<0.1(*); p<0.05(**); p<0.01(***)

	Coefficient [*t*-statistics]	
Variable	Fixed effects	First-differencing
Panel A: Very favorably or mostly favorably % Survey Participants	-0.007*** [-5.53]	-0.001 [-1.14]
Panel B: Very unfavorably or mostly unfavorably % Survey Participants	0.025*** [3.5]	0.003 [1.11]

6. Discussion

As our empirical analyses have generated results that contradicted our hypothesis, we decided running the same regressions but excluding data from China and 2020 each, which we think may contain extreme outliers or extraordinary data that might affect the regression outputs given the remarkable changes in Americans' sentiments toward China and COVID-19 taking place during 2020.

The regressions excluding China and Chinese CCEFs resulted in overall consistent results regardless of what time periods we use. The fixed effects regressions showed a significant, negative association between *CCEF premium (discount)* and *Country Popularity Score*. Regardless of the time period, the adjusted R-squared increased slightly when China and Chinese CCEFs were excluded from the dataset. The first-differencing regressions that excluded China and Chinese CCEFs showed an insignificant, positive relationship between the *CCEF premium (discount)* and *Country Popularity Score*. The adjusted R-squared shows barely any differences when China and Chinese CCEFs are excluded from the dataset. This means that excluding China and Chinese CCEFs altered the data to become more like the original first-differencing regression using data between 2013 to 2021, meaning a shorter time period. This could imply that the data related to China is consistent and showed stable differences between consecutive observations.

This could be the explanation to why removing China and Chinese CCEFs from the data produces first-differencing regression results that contradict the fixed effects regressions that control for more long-term, time-invariant trends in the data. Hence, in both fixed effects regressions and first-differencing regressions, excluding China and Chinese CCEFs generates similar results to the original dataset with the time period 2013 to 2021. Hence, Americans' sentiment toward China changing drastically in 2020 along with our study including China when Hwang's study does not, is not a likely explanation for the different results that were produced.

Table 6

This table reports the coefficient estimates, t-statistics, and p-values from the output from a fixed effects regression and a first-differencing regression for each panel (Panel A and Panel B) with *CCEF premium (discount)* as the dependent variable, *% Survey Participants* as the independent variable, and *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* as the control variables. *CCEF premium (discount)* is calculated with this formula: (Price-NAV)/NAV. In Panel A, *% Survey Participants* is the percentage of the total US survey participants that has a Very Favorable opinion or Mostly Favorable opinion of the sample country. In Panel B, *% Survey Participants* is the percentage of the total US survey participants that has a Very Unfavorable opinion or Mostly Unfavorable opinion of the sample country. *Inverse Security Price (Price > NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a premium. *Inverse Security Price (Price < NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a discount. *Dividend Yield (Price > NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a premium. *Dividend Yield (Price < NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a discount. *Expense Ratio* is the CCEF's total operating expenses over the net assets, which is the difference between the fund's total assets and total liabilities. *Turnover Ratio* is the total trading volume of all stocks in a specific country by the total shares outstanding in the same market. *Home Market Valuation Ratio* is the mispricing component of the market-to-book ratio of the CCEF's home market. *US Market Valuation Ratio* is the mispricing component of the market-to-book ratio of the US market. The data comprises 15 CCEFs from 10 countries between 2013 and 2021. The t-statistics are in brackets. The p-values are represented through the number of stars next to the coefficient estimates. To produce more accurate coefficient estimates, t-statistics, and p-values, standard errors from the regressions are adjusted for clustering by year-month and fund (White, 1980). p<0.1(*); p<0.05(**); p<0.01(***)

	Coefficient [*t*-statistics]	
Variable	Fixed effects	First-differencing
Panel A: Very favorably or mostly favorably	-0.005*** [-3.78]	-0.001 [-1.55]
% Survey Participants		
Panel B: Very unfavorably or mostly unfavorably	0.016** [2.16]	0.006 [1.42]
% Survey Participants		

When 2020 is excluded from the dataset, the fixed effects regression outputs result in rather similar outputs as with the original data. The significant, negative relationship between the *CCEF premium (discount)* and the *Country Popularity Score* that was produced from the original datasets is unchanged when 2020 is excluded. The first differencing regressions excluding 2020 show that there is an insignificant, negative relationship between the *CCEF premium (discount)* and *Country Popularity Score* which is consistent with the outcome of the first differencing regression run with data from 2009 to 2021 (the relatively longer time period in our study). This could imply that the data from 2020 was overall quite volatile and showed inconsistent consecutive observations. Therefore, excluding them produces results that are more similar to the outcomes of the fixed effects regressions that control for more long-term, time-invariant trends and the first differencing regression that used data from 2009 to 2021. For the regressions that exclude 2020 with data from

2013 to 2021, the adjusted R-squared improves very little compared to the original first-differencing regressions. However, there are barely any differences when comparing the regressions that use data from 2009 to 2021. This implies that the goodness-of-fit of the model shows very little improvement when 2020 is excluded from the dataset, and barely any when the time period in the dataset is longer. Hence, even if the extraordinary circumstances in 2020 resulted in the data from that year being relatively more volatile compared to other years, removing the observations from this year does not change the initial conclusion that that *Country Popularity Score* is negatively associated with the *CCEF premium (discount)*.

Regardless of the time periods and the control variables, there are some common observations in the regressions in our study. For the fixed effects regressions, *Expense Ratio* is significantly positively associated with the dependent variable and has the largest coefficient estimate magnitude. The significance of *Expense Ratio* is aligned with previous empirical evidence that ETFs showed higher mean returns than CCEFs due to lower expense ratios (Harper, Madura, & Schnusenberg, 2006). *Dividend Yield (Price > NAV)* shows a significant relationship with the *CCEF price premium (discount)*. The first-differencing regressions show an insignificant, positive relationship between *CCEF premium (discount)* and Country Popularity. *Dividend Yield (Price > NAV)* produces a significant, negative relationship with the dependent variable. Apart from this, the results generated in the first differencing regressions are relatively irregular and, therefore, more difficult to find similarities in the control variables that persist despite the alterations in the dataset. Although the magnitudes of the effects are small for both and the level of significance varies, the coefficient estimates of *US Market Valuation Ratio* (*US Market-to-Book Ratio*) are larger than *Home Market Valuation Ratio* (*Home Market-to-Book Ratio*) for both fixed effects and first differencing regressions. This could be due to the US market, where the CCEFs are traded, directly affecting the CCEFs' prices whereas the home markets are more indirectly associated with the CCEF market prices.

Overall, we observe that there is a negative relationship between the *CCEF premium (discount)* and the *Country Popularity Score*. This outcome is statistically significant, and the results are consistent over different lengths of time periods when using the fixed effects regression. However, this outcome is not reached when using the first differencing regression, as the relationship shows no statistical significance regardless of the length of the time series. The sign and the magnitude of the coefficient estimates are rather inconsistent and highly dependent on the dataset chosen. From the regressions in Table 3 and Table 4, we could reason that the first differencing regressions yield results that are more aligned with the fixed effects regression if it includes an increased number of observations over a longer period of time. As excluding data from 2020 (Appendix 5, 7, and 10) also generated results similar to the results from Table 3 that contained data from 2009 to 2021, we can arrive at the preliminary conclusion that the data from 2020 was volatile, especially regarding the differences between consecutive observations. On the other hand, as removing China produced results (Appendix 4, 6, and 9) that are aligned with the regressions run with shorter time periods (Table 4 and Appendix 8) this could imply that the data from China and Chinese CCEFs were consistent in terms of the differences between consecutive observations.

The coefficient estimate is negative for the first-differencing regression run from 2009 to 2021 which is consistent with the results produced from the fixed effects regressions. From a statistical perspective, these outcomes could be due to first-differencing regressions using changes between consecutive time periods which makes it relatively more prone to errors and less precise estimates

due to data constraints. For completeness, we have run regressions that each excludes China and Chinese CCEFs and 2020 with the dataset that uses market-to-book ratios (Appendix 9 and 10) which gave us results very similar to the ones using the dataset with *Home Market Valuation Ratio* and *US Market Valuation Ratio* (that excludes China and 2020). Fixed effects regressions control for time-invariant individual-specific factors, which can help address endogeneity to some extent. However, in the first differencing regression, differencing eliminates time-invariant individual-specific factors but may introduce endogeneity if there are omitted time-varying variables that are correlated with the independent variables. Endogeneity can lead to inconsistent coefficient estimates and conflicting signs across different regression models, which could be what we are observing in our study.

When comparing the average *Country Popularity Score* (Appendix 1) with the average *Country Popularity Score* of the sample countries in Hwang's study from 1992 to 2008 (Hwang, 2011), there is a 0.1 decrease on average from the 1992 to 2008 time period to the 2009 to 2021 time period among the countries that were included in both studies (the countries listed in Appendix 1 except Canada). Russia is the country that showed the greatest difference with a 0.47 decrease on average between the two time periods, followed by Mexico that shows a 0.25 average decrease. As this change in country popularity is not drastic, it is rather unlikely that we have arrived at contrasting conclusions regarding the relationship between *CCEF premium (discount)* and Country Popularity compared to Hwang' study because of changes in the *Country Popularity Score* data.

Previous research has empirically proven that perceptions of a country can permeate into the social norms of a country and affect how decisions by specific countries are perceived and influence the investment policies of a firm (Hwang, 2011). In other words, American investors have a higher (lower) level of demand for securities from countries they have a positive (negative) perception of which results in the CCEF trading at a premium (discount). Our study has generated an overall weaker effect (magnitude of coefficient estimates) of *Country Popularity Score* on *CCEF premium (discount)* as well as a completely different directions (slope of coefficient estimates), compared to the previous study (Hwang, 2011). As discussed in previous sections of this paper, this discrepancy between the results of the two studies might be due to incompleteness of data that has led to us not being able to account for all underlying effects.

However, this could also demonstrate actual change in investor behavior where country popularity has become less important in comparison to variables that are more directly associated with the cash flows of the funds (such as *Expense Ratio* and *Dividend Yield*) for American investors. Further research in the future would be meaningful in providing additional support for this reasoning. With this perspective, the importance of this study increases as this could be an indicator of a changing socioeconomic landscape in the US where investors have a rather equal level of optimism regarding foreign securities, independent of their home markets. This could be explained by increased information exchange which might have decreased country-specific biases. Similarly, American investors might simply be more interested in increasing their profits by making financially sound investments in funds that have a strong or positive cash flows, rather than making investment decisions based on what country the securities originate from.

Another possible explanation to the differences between our study and Hwang's could be CCEFs becoming less popular in general, as there has been previous empirical evidence that ETFs have a

better performance than CCEFs on average (Harper, Madura, & Schnusenberg, 2006). CCEFs require long-term commitment, long-term risk exposure, and higher tolerance for volatility compared to similar investments like country ETFs which might not make CCEFs attractive investment vehicles anymore. It is reasonable to assume that CCEFs are becoming less popular, as more than half of the CCEFs that were listed on the New York Stock Exchange have become liquidated or merged with other CCEFs in order to be able to invest in securities with a larger regional scope. In 1993, there were 32 single country closed end funds (Diwan, Errunza, & Senbet, 1993) whereas there were 15 in 2022 (Stock Market MBA, 2022). This might have occurred due to technological advancements and heightened levels of globalization that have enabled easier access to investment in foreign securities. Based on our study, it is reasonable to assume that investor sentiment and behavior toward foreign investment are different now compared to in the late 1990s to early 2000s which is the time period used in Hwang's study. As access to data and investing has been significantly easier during recent compared to the 1990s, CCEFs might be seen as lacking in risk diversification (regional risk) and has hence not been as popular as before.

7. Conclusion

In this paper, our objective is to empirically test the relationship between *CCEF premium (discount)* and *Country Popularity Score* – a measure of Americans' investor sentiment – which we find to be ambiguous. Contrary to previous studies that we have extended upon, we cannot find strong empirical evidence that how popular a country is among Americans causes CCEF mispricing to occur. Rather, we find that there is a significant, negative association between country popularity and *CCEF premium (discount)* when considering time-invariant factors, such as fund-specific characteristics. Generally, when considering changes between consecutive time periods, there is an insignificant, negative association between country popularity and *CCEF premium (discount)*. However, with a shorter time period and when controlling for overall market sentiments in the home market as well as the US market, there is an insignificant positive association between country popularity and *CCEF premium (discount)*.

Some limitations of this study might be related to the data used. When it comes to *Country Popularity Score*, for some countries there are annual survey data but for other countries the surveys are conducted with >3 years intervals. This could have had an effect when running the regressions considering that the dependent variable is reported with monthly data, where we had to convert country popularity yearly data to monthly data (by repeating the value for one year once for each month). This could have had a non-negligible effect in regard to the coefficient estimates obtained from the first-differencing model. We have also calculated most of the control variables (*Expense Ratio*, *Turnover Ratio*, *Home Market Valuation Ratio*, and *US Market Valuation Ratio*) manually rather than using values provided by credit agencies or financial institutions which could have used different methods or more specific data that we do not have access to. The same can be said for the variables *Home Market-to-Book Ratio*, *US Market-to-Book*, and *Dividend Yield* that have been calculated differently than the ways suggested by Hwang due to data constraints (Hwang, 2011). The formulas we used were highly theoretical, which might be different from data produced by financial institutions since they could have proprietary methods to prepare their data. Also, as we did not have access to data for the control variables *Home Market Valuation Ratio* and *US Market Valuation Ratio* from 2009 to 2012, we ran regressions for the time period between 2009 to 2021 and the time period between 2013 to 2021 with different control variables. This could

be the cause to the discrepancy between the results from the fixed effects regression and the first-differencing regression, particularly in the regressions using the time periods 2013 to 2021, when *Home Market Valuation Ratio* and *US Market Valuation Ratio* are included. Additionally, we have fewer CCEFs, fewer countries, and fewer years in our sample which could have generated less precise estimates since it does not capture the needed variation in the data.

Further extensions to this study would be to examine country popularity effect using data that includes a longer time series from the 1990s up until 2020s, for example. This could provide variation in the data to a greater degree, as it would include more CCEFs and more countries in the sample and, thus, generate more generalizable results. Also, when running the regressions, one could account for additional fixed effects, related to the sectors that the CCEFs invest in, to account for fixed effects that are not limited to the fund. As suggested in the previous section, future studies providing empirical evidence that CCEFs have become less popular and the reasons behind it would be interesting.

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9. Appendix

Appendix 1

This table lists the 15 countries that were used in our study to examine the factors that affect a country's *Country Popularity Score*. The second column is each country's average Country Popularity Score from 2009 to 2021. *Country Popularity Score* is the sum of four multiplied by the percentage of the US survey participants that have a Very Favorable opinion, three multiplied by the percentage that have a Mostly Favorable opinion, two multiplied by the percentage that have a Mostly Unfavorable opinion, and one multiplied by the percentage that have a Very Unfavorable opinion of the sample country.

Country	Country Popularity Score
Australia	3.23
Canada	3.36
China	2.23
France	2.88
Germany	2.95
India	2.67
Israel	2.81
Japan	2.97
Korea	2.71
Mexico	2.49
Russia	2.09
Taiwan	2.70
Turkey	2.35
UK	3.20
Venezuela	2.08

Appendix 2

This table provides the year and month of each survey used in this study to calculate *Country Popularity Score*.

Country	Year	Month	Country	Year	Month	Country	Year	Month
Australia	2019	February	Germany	2012	February	Mexico	2018	February
Australia	2012	February	Germany	2011	February	Mexico	2017	February
Canada	2021	February	Germany	2010	February	Mexico	2016	February
Canada	2020	February	Germany	2009	February	Mexico	2015	February
Canada	2019	February	India	2021	February	Mexico	2014	February
Canada	2018	February	India	2020	February	Mexico	2013	February

Canada	2017	February	India	2019	February	Mexico	2012	February
Canada	2016	February	India	2018	February	Mexico	2011	February
Canada	2015	February	India	2017	February	Mexico	2010	February
Canada	2014	February	India	2016	February	Mexico	2009	February
Canada	2013	February	India	2015	February	Russia	2021	February
Canada	2012	February	India	2014	February	Russia	2020	February
Canada	2011	February	India	2013	February	Russia	2019	February
Canada	2010	February	India	2012	February	Russia	2018	February
Canada	2009	February	India	2011	February	Russia	2017	February
China	2021	February	India	2010	February	Russia	2016	February
China	2020	February	India	2009	February	Russia	2015	February
China	2019	February	Israel	2021	February	Russia	2014	February
China	2018	February	Israel	2020	February	Russia	2013	February
China	2017	February	Israel	2019	February	Russia	2012	February
China	2016	February	Israel	2018	February	Russia	2011	February
China	2015	February	Israel	2017	February	Russia	2010	February
China	2014	February	Israel	2016	February	Russia	2009	February
China	2013	February	Israel	2015	February	Taiwan	2021	February
China	2012	February	Israel	2014	February	Taiwan	2017	February
China	2011	February	Israel	2013	February	Turkey	2020	February
China	2010	February	Israel	2012	February	Turkey	2019	February
China	2009	February	Israel	2011	February	Turkey	2012	September
France	2021	February	Israel	2010	February	Turkey	2011	April
France	2020	February	Israel	2009	February	Turkey	2009	April
France	2019	February	Japan	2021	February	UK	2021	February
France	2018	February	Japan	2020	February	UK	2020	February
France	2017	February	Japan	2019	February	UK	2019	February
France	2016	February	Japan	2018	February	UK	2018	February
France	2015	February	Japan	2017	February	UK	2017	February

France	2014	February	Japan	2016	February	UK	2016	February
France	2013	February	Japan	2015	February	UK	2015	February
France	2012	February	Japan	2014	February	UK	2014	February
France	2011	February	Japan	2013	February	UK	2013	February
France	2010	February	Japan	2012	February	UK	2012	February
France	2009	February	Japan	2011	February	UK	2011	February
Germany	2021	February	Japan	2010	February	UK	2010	February
Germany	2020	February	Japan	2009	February	UK	2009	February
Germany	2019	February	Korea	2019	February	Venezuela	2019	February
Germany	2018	February	Korea	2018	February	Venezuela	2013	February
Germany	2017	February	Korea	2014	February	Venezuela	2011	August
Germany	2016	February	Korea	2011	February	Venezuela	2009	April
Germany	2015	February	Mexico	2021	February			
Germany	2014	February	Mexico	2020	February			
Germany	2013	February	Mexico	2019	February			

Appendix 3

This table presents the single country closed-end funds (CCEFs) that were used in this study and their respective home countries.

Country Closed End-Fund	Country
Abrdn Australia Equity Fund (14672)	Australia
China Fund Inc (25524)	China
Templeton Dragon Fund Inc (30683)	China
New Germany Fund Inc (20190)	Germany
India Fund Inc (29724)	India
Morgan Stan India Invt Fund (29744)	India
Aberdeen Israel Fund Inc (25855)	Israel
Abrdn Japan Equity Fund Inc (25659)	Japan
Japan Small Cap Fund Inc (21065)	Japan
Korea Equity Fund Inc (29289)	Korea
Korea Fund (14728)	Korea

Mexico Equity & Income Fund (23048)	Mexico
Mexico Fund Inc (14740)	Mexico
Templeton Russia & E Euro Fund (61298)	Russia
Taiwan Fund Inc (14694)	Taiwan

Appendix 4

This table reports the coefficient estimates, t-statistics, and p-values from the output from a fixed effects regression and a first-differencing regression with *CCEF premium (discount)* as the dependent variable, *Country Popularity Score* as the independent variable, and *Inverse Security Price (Price > NAV)*, *Inverse Security Price (Price < NAV)*, *Dividend Yield (Price > NAV)*, *Dividend Yield (Price < NAV)*, *Expense Ratio*, and *Turnover Ratio* as the control variables. *CCEF premium (discount)* is calculated with this formula: (Price-NAV)/NAV. *Country Popularity Score* is the sum of four multiplied by the percentage of the US survey participants that have a Very Favorable opinion, three multiplied by the percentage that have a Mostly Favorable opinion, two multiplied by the percentage that have a Mostly Unfavorable opinion, and one multiplied by the percentage that have a Very Unfavorable opinion of the sample country. *Inverse Security Price (Price > NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a premium. *Inverse Security Price (Price < NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a discount. *Dividend Yield (Price > NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a premium. *Dividend Yield (Price < NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a discount. *Expense Ratio* is the CCEF's total operating expenses over the net assets, which is the difference between the fund's total assets and total liabilities. *Turnover Ratio* is the total trading volume of all stocks in a specific country by the total shares outstanding in the same market. The data comprises 15 CCEFs from 10 countries between 2009 and 2021. The t-statistics are in brackets. The p-values are represented through the number of stars next to the coefficient estimates. To produce more accurate coefficient estimates, t-statistics, and p-values, standard errors from the regressions are adjusted for clustering by year-month and fund (White, 1980). This data excludes China and Chinese CCEFs. p<0.1(*); p<0.05(**); p<0.01(***)

	Coefficient [t-statistic]	
Variable	Fixed Effects	First Differencing
Country Popularity Score	-0.09***	0.004
	[-4.32]	[0,0973]
Inverse Security Price (Price > NAV)	0.073	-0.296
	[0.35]	[-1,7498]
Inverse Security Price (Price < NAV)	-0.63***	0.038
	[-5.21]	[0,2466]
Dividend Yield (Price > NAV)	0.035	-0.591**
	[0.081]	[-2,8857]
Dividend Yield (Price < NAV)	-0.0005	0.008
	[-0.00696]	[0,2225]
Expense Ratio	3.234***	0.308
	[3.48]	[0,6444]
Turnover Ratio	-0.008***	0.003
	[-4.52]	[1,0367]
Number of observations	1840	1827
Adjusted R-squared	0.384	0.024

Appendix 5

This table reports the coefficient estimates, t-statistics, and p-values from the output from a fixed effects regression and a first-differencing regression with *CCEF premium (discount)* as the dependent variable, *Country Popularity Score* as the independent variable, and *Inverse Security Price (Price > NAV)*, *Inverse Security Price (Price < NAV)*, *Dividend Yield (Price > NAV)*, *Dividend Yield (Price < NAV)*, *Expense Ratio*, and *Turnover Ratio* as the control variables. *CCEF premium (discount)* is calculated with this formula: (Price-NAV)/NAV. *Country Popularity Score* is the sum of four multiplied by the percentage of the US survey participants that have a Very Favorable opinion, three multiplied by the percentage that have a Mostly Favorable opinion, two multiplied by the percentage that have a Mostly Unfavorable opinion, and one multiplied by the percentage that have a Very Unfavorable opinion of the sample country. *Inverse Security Price (Price > NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a premium. *Inverse Security Price (Price < NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a discount. *Dividend Yield (Price > NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a premium. *Dividend Yield (Price < NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a discount. *Expense Ratio* is the CCEF's total operating expenses over the net assets, which is the difference between the fund's total assets and total liabilities. *Turnover Ratio* is the total trading volume of all stocks in a specific country by the total shares outstanding in the same market. The data comprises 15 CCEFs from 10 countries between 2009 and 2021. The t-statistics are in brackets. The p-values are represented through the number of stars next to the coefficient estimates. To produce more accurate coefficient estimates, t-statistics, and p-values, standard errors from the regressions are adjusted for clustering by year-month and fund (White, 1980). This data excludes data from 2020. p<0.1(*); p<0.05(**); p<0.01(***)

	Coefficient [t-statistic]	
Variable	Fixed Effects	First Differencing
Country Popularity Score	-0.071***	-0.036*
	[-4.52]	[-1.91]
Inverse Security Price (Price > NAV)	0.013	-0.251
	[0.0699]	[-0.685]
Inverse Security Price (Price < NAV)	-0.612***	0.097
	[-5.04]	[0.285]
Dividend Yield (Price > NAV)	0.167	-0.588**
	[0.386]	[-2.19]
Dividend Yield (Price < NAV)	0.01	0.029
	[0.179]	[0.801]
Expense Ratio	3.958***	0.329
	[6.71]	[1.1]
Turnover Ratio	-0.008***	-0.002
	[-5.36]	[-0.364]
Number of observations	2006	1991
Adjusted R-squared	0.36	0.024

Appendix 6

This table reports the coefficient estimates, t-statistics, and p-values from the output from a fixed effects regression and a first-differencing regression with *CCEF premium (discount)* as the dependent variable, *Country Popularity Score* as the independent variable, and *Inverse Security Price (Price > NAV)*, *Inverse Security Price (Price < NAV)*, *Dividend Yield (Price > NAV)*, *Dividend Yield (Price < NAV)*, *Expense Ratio*, and *Turnover Ratio* as the control variables. *CCEF premium (discount)* is calculated with this formula: (Price-NAV)/NAV. *Country Popularity Score* is the sum of four multiplied by the percentage of the US survey participants that have a Very Favorable opinion, three multiplied by the percentage that have a Mostly Favorable opinion, two multiplied by the percentage that have a Mostly Unfavorable opinion, and one multiplied by the percentage that have a Very Unfavorable opinion of the sample country. *Inverse Security Price (Price > NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a premium. *Inverse Security Price (Price < NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a discount. *Dividend Yield (Price > NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a premium. *Dividend Yield (Price < NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a discount. *Expense Ratio* is the CCEF's total operating expenses over the net assets, which is the difference between the fund's total assets and total liabilities. *Turnover Ratio* is the total trading volume of all stocks in a specific country by the total shares outstanding in the same market. *Home Market Valuation Ratio* is the mispricing component of the market-to-book ratio of the CCEF's home market. *US Market Valuation Ratio* is the mispricing component of the market-to-book ratio of the US market. The data comprises 15 CCEFs from 10 countries between 2013 and 2021. The t-statistics are in brackets. The p-values are represented through the number of stars next to the coefficient estimates. To produce more accurate coefficient estimates, t-statistics, and p-values, standard errors from the regressions are adjusted for clustering by year-month and fund (White, 1980). This data excludes China and Chinese CCEFs. p<0.1(*); p<0.05(**); p<0.01(***)

	Coefficient [t-statistic]	
Variable	Fixed Effects	First Differencing
Country Popularity Score	-0.112***	0.029
	[-4.22]	[0.688]
Inverse Security Price (Price > NAV)	-0.469**	-0.013
	[-2.36]	[-0.0316]
Inverse Security Price (Price < NAV)	-0.963***	0.304
	[-5.81]	[0.809]
Dividend Yield (Price > NAV)	0.372	-0.857***
	[0.991]	[-3.07]
Dividend Yield (Price < NAV)	-0.015	0.004
	[-0.173]	[0.0638]
Expense Ratio	1.282***	-0.198
	[5.42]	[-1.3]
Turnover Ratio	-0.004***	0.004
	[-3.69]	[1.44]
Home Market Valuation Ratio	0.002***	0.001*
	[4.03]	[1.75]
US Market Valuation Ratio	-0.009**	-0.01***
	[-2.52]	[-3.0]
Number of observations	1229	1216
Adjusted R-squared	0.257	0.024

Appendix 7

This table reports the coefficient estimates, t-statistics, and p-values from the output from a fixed effects regression and a first-differencing regression with *CCEF premium (discount)* as the dependent variable, *Country Popularity Score* as the independent variable, and *Inverse Security Price (Price > NAV)*, *Inverse Security Price (Price < NAV)*, *Dividend Yield (Price > NAV)*, *Dividend Yield (Price < NAV)*, *Expense Ratio*, and *Turnover Ratio* as the control variables. *CCEF premium (discount)* is calculated with this formula: (Price-NAV)/NAV. *Country Popularity Score* is the sum of four multiplied by the percentage of the US survey participants that have a Very Favorable opinion, three multiplied by the percentage that have a Mostly Favorable opinion, two multiplied by the percentage that have a Mostly Unfavorable opinion, and one multiplied by the percentage that have a Very Unfavorable opinion of the sample country. *Inverse Security Price (Price > NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a premium. *Inverse Security Price (Price < NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a discount. *Dividend Yield (Price > NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a premium. *Dividend Yield (Price < NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a discount. *Expense Ratio* is the CCEF's total operating expenses over the net assets, which is the difference between the fund's total assets and total liabilities. *Turnover Ratio* is the total trading volume of all stocks in a specific country by the total shares outstanding in the same market. *Home Market Valuation Ratio* is the mispricing component of the market-to-book ratio of the CCEF's home market. *US Market Valuation Ratio* is the mispricing component of the market-to-book ratio of the US market. The data comprises 15 CCEFs from 10 countries between 2013 and 2021. The t-statistics are in brackets. The p-values are represented through the number of stars next to the coefficient estimates. To produce more accurate coefficient estimates, t-statistics, and p-values, standard errors from the regressions are adjusted for clustering by year-month and fund (White, 1980). This data excludes data from 2020. p<0.1(*); p<0.05(**); p<0.01(***)

	Coefficient [t-statistic]	
Variable	Fixed Effects	First Differencing
Country Popularity Score	-0.073***	-0.026
	[-3.34]	[-0.919]
Inverse Security Price (Price > NAV)	-0.314	0.129
	[-1.19]	[0.234]
Inverse Security Price (Price < NAV)	-0.799***	0.47
	[-3.36]	[0.887]
Dividend Yield (Price > NAV)	0.546	-0.852***
	[1.26]	[-2.91]
Dividend Yield (Price < NAV)	0.0002	0.026
	[0.00258]	[0.502]
Expense Ratio	1.44**	-1.084
	[2.08]	[-1.26]
Turnover Ratio	-0.004***	-0.001
	[-3.81]	[-0.293]
Home Market Valuation Ratio	0.0004	0.001**
	[1.3]	[2.38]
US Market Valuation Ratio	-0.007**	-0.01***
	[-2.37]	[-2.78]
Number of observations	1301	1286
Adjusted R-squared	0,173	0.027

Appendix 8

This table reports the coefficient estimates, t-statistics, and p-values from the output from a fixed effects regression and a first-differencing regression with *CCEF premium (discount)* as the dependent variable, *Country Popularity Score* as the independent variable, and *Inverse Security Price (Price > NAV)*, *Inverse Security Price (Price < NAV)*, *Dividend Yield (Price > NAV)*, *Dividend Yield (Price < NAV)*, *Expense Ratio*, and *Turnover Ratio* as the control variables. *CCEF premium (discount)* is calculated with this formula: (Price-NAV)/NAV. *Country Popularity Score* is the sum of four multiplied by the percentage of the US survey participants that have a Very Favorable opinion, three multiplied by the percentage that have a Mostly Favorable opinion, two multiplied by the percentage that have a Mostly Unfavorable opinion, and one multiplied by the percentage that have a Very Unfavorable opinion of the sample country. *Inverse Security Price (Price > NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a premium. *Inverse Security Price (Price < NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a discount. *Dividend Yield (Price > NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a premium. *Dividend Yield (Price < NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a discount. *Expense Ratio* is the CCEF's total operating expenses over the net assets, which is the difference between the fund's total assets and total liabilities. *Turnover Ratio* is the total trading volume of all stocks in a specific country by the total shares outstanding in the same market. *Home Market-to-Book Ratio* is the market-to-book ratio of the CCEF's home market. *US Market-to-Book Ratio* is the market-to-book ratio of the US market. The data comprises 15 CCEFs from 10 countries between 2013 and 2021. The t-statistics are in brackets. The p-values are represented through the number of stars next to the coefficient estimates. To produce more accurate coefficient estimates, t-statistics, and p-values, standard errors from the regressions are adjusted for clustering by year-month and fund (White, 1980). p<0.1(*); p<0.05(**); p<0.01(***)

	Coefficient [t-statistic]	
Variable	Fixed Effects	First Differencing
Country Popularity Score	-0.081***	0.03
	[-3.63]	[1.24]
Inverse Security Price (Price > NAV)	-0.355*	-0.033
	[-1.81]	[-0.0838]
Inverse Security Price (Price < NAV)	-0.857***	0.303
	[-4.91]	[0.847]
Dividend Yield (Price > NAV)	0.479	-0.855***
	[1.17]	[-3.04]
Dividend Yield (Price < NAV)	0.017	0.024
	[0.25]	[0.484]
Expense Ratio	1.233***	-0.333
	[4.56]	[-1.46]
Turnover Ratio	-0.005***	0.004
	[-4.03]	[1.34]
Home Market-to-Book Ratio	-0.00002	-0.00002*
	[-0.385]	[-1.65]
US Market-to-Book Ratio	0.0004**	0.0004***
	[2.06]	[3.38]
Number of observations	1445	1430
Adjusted R-squared	0.22	0.024

Appendix 9

This table reports the coefficient estimates, t-statistics, and p-values from the output from a fixed effects regression and a first-differencing regression with *CCEF premium (discount)* as the dependent variable, *Country Popularity Score* as the independent variable, and *Inverse Security Price (Price > NAV)*, *Inverse Security Price (Price < NAV)*, *Dividend Yield (Price > NAV)*, *Dividend Yield (Price < NAV)*, *Expense Ratio*, and *Turnover Ratio* as the control variables. *CCEF premium (discount)* is calculated with this formula: (Price-NAV)/NAV. *Country Popularity Score* is the sum of four multiplied by the percentage of the US survey participants that have a Very Favorable opinion, three multiplied by the percentage that have a Mostly Favorable opinion, two multiplied by the percentage that have a Mostly Unfavorable opinion, and one multiplied by the percentage that have a Very Unfavorable opinion of the sample country. *Inverse Security Price (Price > NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a premium. *Inverse Security Price (Price < NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a discount. *Dividend Yield (Price > NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a premium. *Dividend Yield (Price < NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a discount. *Expense Ratio* is the CCEF's total operating expenses over the net assets, which is the difference between the fund's total assets and total liabilities. *Turnover Ratio* is the total trading volume of all stocks in a specific country by the total shares outstanding in the same market. *Home Market-to-Book Ratio* is the market-to-book ratio of the CCEF's home market. *US Market-to-Book Ratio* is the market-to-book ratio of the US market. The data comprises 15 CCEFs from 10 countries between 2013 and 2021. The t-statistics are in brackets. The p-values are represented through the number of stars next to the coefficient estimates. To produce more accurate coefficient estimates, t-statistics, and p-values, standard errors from the regressions are adjusted for clustering by year-month and fund (White, 1980). This data excludes China and Chinese CCEFs. p<0.1(*); p<0.05(**); p<0.01(***)

	Coefficient [t-statistic]	
Variable	Fixed Effects	First Differencing
Country Popularity Score	-0.112***	0.029
	[-4.32]	[0.694]
Inverse Security Price (Price > NAV)	-0.376*	-0.002
	[-1.73]	[-0.0037]
Inverse Security Price (Price < NAV)	-0.887***	0.314
	[-4.85]	[0.838]
Dividend Yield (Price > NAV)	0.397	-0.865***
	[1.05]	[-3.05]
Dividend Yield (Price < NAV)	-0.02	0.008
	[-0.23]	[0.119]
Expense Ratio	1.185***	-0.253
	[5.9]	[-1.33]
Turnover Ratio	-0.004***	0.004
	[-3.63]	[1.38]
Home Market-to-Book Ratio	-0.00002	-0.00001
	[-0.415]	[-1.13]
US Market-to-Book Ratio	0.0003	0.0004***
	[1.42]	[2.65]
Number of observations	1229	1216
Adjusted R-squared	0.246	0.024

Appendix 10

This table reports the coefficient estimates, t-statistics, and p-values from the output from a fixed effects regression and a first-differencing regression with *CCEF premium (discount)* as the dependent variable, *Country Popularity Score* as the independent variable, and *Inverse Security Price (Price > NAV)*, *Inverse Security Price (Price < NAV)*, *Dividend Yield (Price > NAV)*, *Dividend Yield (Price < NAV)*, *Expense Ratio*, and *Turnover Ratio* as the control variables. *CCEF premium (discount)* is calculated with this formula: (Price-NAV)/NAV. *Country Popularity Score* is the sum of four multiplied by the percentage of the US survey participants that have a Very Favorable opinion, three multiplied by the percentage that have a Mostly Favorable opinion, two multiplied by the percentage that have a Mostly Unfavorable opinion, and one multiplied by the percentage that have a Very Unfavorable opinion of the sample country. *Inverse Security Price (Price > NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a premium. *Inverse Security Price (Price < NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a discount. *Dividend Yield (Price > NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a premium. *Dividend Yield (Price < NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a discount. *Expense Ratio* is the CCEF's total operating expenses over the net assets, which is the difference between the fund's total assets and total liabilities. *Turnover Ratio* is the total trading volume of all stocks in a specific country by the total shares outstanding in the same market. *Home Market-to-Book Ratio* is the market-to-book ratio of the CCEF's home market. *US Market-to-Book Ratio* is the market-to-book ratio of the US market. The data comprises 15 CCEFs from 10 countries between 2013 and 2021. The t-statistics are in brackets. The p-values are represented through the number of stars next to the coefficient estimates. To produce more accurate coefficient estimates, t-statistics, and p-values, standard errors from the regressions are adjusted for clustering by year-month and fund (White, 1980). This data excludes data from 2020. p<0.1(*); p<0.05(**); p<0.01(***)

	Coefficient [t-statistic]	
Variable	Fixed Effects	First Differencing
Country Popularity Score	-0.076***	-0.029
	[-3.78]	[-1.0]
Inverse Security Price (Price > NAV)	-0.281	0.138
	[-1.09]	[0.254]
Inverse Security Price (Price < NAV)	-0.774***	0.483*
	[-3.29]	[0.918]
Dividend Yield (Price > NAV)	0.54	-0.857***
	[1.27]	[-2.86]
Dividend Yield (Price < NAV)	-0.0002	0.029
	[-0.0036]	[0.561]
Expense Ratio	1.346*	-1.051
	[1.96]	[-1.57]
Turnover Ratio	-0.004***	-0.002
	[-3.83]	[-0.404]
Home Market-to-Book Ratio	-0.00002	-0.00002
	[-0.553]	[-1.88]
US Market-to-Book Ratio	0.0003*	0.0005*
	[1.9]	[-2.76]
Number of observations	1301	1286
Adjusted R-squared	0.172	0.027

Appendix 11

This table reports the coefficient estimates, t-statistics, and p-values from the output from a fixed effects regression and a first-differencing regression for each panel (Panel A and Panel B) with *CCEF premium (discount)* as the dependent variable, *% Survey Participants* as the independent variable, and *Inverse Security Price (Price > NAV)*, *Inverse Security Price (Price < NAV)*, *Dividend Yield (Price > NAV)*, *Dividend Yield (Price < NAV)*, *Expense Ratio*, *Turnover Ratio*, *Home Market-to-Book Ratio*, and *US Market-to-Book Ratio* as the control variables. *CCEF premium (discount)* is calculated with this formula: (Price-NAV)/NAV. In Panel A, *% Survey Participants* is the percentage of the total US survey participants that has a Very Favorable opinion or Mostly Favorable opinion of the sample country. In Panel B, *% Survey Participants* is the percentage of the total US survey participants that has a Very Unfavorable opinion or Mostly Unfavorable opinion of the sample country. *Inverse Security Price (Price > NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a premium. *Inverse Security Price (Price < NAV)* is one over the lagged CCEF's price by one month when the CCEF trades at a discount. *Dividend Yield (Price > NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a premium. *Dividend Yield (Price < NAV)* is the monthly dividend paid per share of each CCEF over the fund's lagged NAV when the CCEF trades at a discount. *Expense Ratio* is the CCEF's total operating expenses over the net assets, which is the difference between the fund's total assets and total liabilities. *Turnover Ratio* is the total trading volume of all stocks in a specific country by the total shares outstanding in the same market. *Home Market-to-Book Ratio* is the market-to-book ratio of the CCEF's home market. *US Market-to-Book Ratio* is the market-to-book ratio of the US market. The data comprises 15 CCEFs from 10 countries between 2013 and 2021. The t-statistics are in brackets. The p-values are represented through the number of stars next to the coefficient estimates. To produce more accurate coefficient estimates, t-statistics, and p-values, standard errors from the regressions are adjusted for clustering by year-month and fund (White, 1980). p<0.1(*); p<0.05(**); p<0.01(***)

	Coefficient [*t*-statistics]	
Variable	Fixed effects	First-differencing
Panel A: Very favorably or mostly favorably	-0.006*** [-4.29]	-0.001 [-1.49]
% Survey Participants		
Panel B: Very unfavorably or mostly unfavorably	0.021*** [3.75]	0.006 [1.42]
% Survey Participants		