**The Flight to Global Branding - The Case of COVID-19**

**Abstract**

The tendency of investors to overweight local assets in their portfolio is a well - known phenomenon documented in previous literature. This tendency is called "the home bias phenomenon". During times of high uncertainty and financial crises, the home bias tendency increases as investors search for safe havens causing a "flight home effect" (Giannetti and Leaven, 2012). This study aims to challenge the idea of home bias show that in the new globalized world of today, strong global branding might also play a major role in investor's portfolio allocation decisions, especially during periods of increased uncertainty. We suggest that during the time of the coronavirus (COVID-19) outburst, investors increased their holdings in giant international brands such as the FAANG companies (Facebook, Apple, Amazon and Netflix), which are highly concentrated in the USA. We call this tendency "the flight to global branding". We claim that the increase is partially related to rationale explanations such as the growing importance of technology, especially during the pandemic outbreak. However, we also hypothesize that in the increasing globalized world of today, investors decision to increase their investment in highly branded companies might also be due to behavioral reasons such as perceived familiarity. We replace the original home bias ratio with a new USA ratio, and through an empirical data analysis of 52 countries, before the corona virus (December 2018 until December 2019) and during the coronavirus outburst (December 2019 until June 2020), we show a significant increase in the USA ratio during the coronavirus outburst. Results also show that the level of social globalization has a positive significant relationship with the level of USA ratio. However, this relationship is not significant with regards to economic and political globalization. Also, findings demonstrate that countries which are more indulgent oriented experienced a greater increase in their USA ratio compared with less indulgent oriented countries during the observed period.

**1. Introduction**

The investor tendency to favor local assets, called home bias, has been documented and researched extensively in the literature. Despite increasing globalization and reductions in foreign trade barriers and costs, the home bias phenomenon still exists, although its magnitude has decreased over the years (Riff and Yagil, 2019).

The main purpose of this paper is to examine, during the spread of the coronavirus (COVID-19), investors equity portfolio allocation decisions. The first cases of COVID-19 were identified during December 2019 in Wuhan, China. By March 11, 2020, the virus spread rapidly toa at least 114 countries and killed more than 4,000 people. On March 11, 2020, COVID-19 was officially declared a pandemic by the World Health Organization (WHO) (Park, 2020).

We examine the level of a new USA ratio, during the coronavirus outburst (December 2019 until June 2020) compared with the previous period (December 2018 until December 2019) across different countries. We assume that with the high technology and internet revolution, global branding might play an increasing role in investor's choices. Furthermore, the coronavirus pandemic amplified the importance of technology, and therefore we assumed that during the virus outburst investors increased their investment in the USA, since the largest and most highly branded technology companies which are located in the country (i.e the FAANG companies). We aim to examine the relationship between the USA ratio level during the coronavirus outbreak across different countries, assuming that the level of globalization has a positive impact on the level of investment in highly branded companies. Especially, we expect to find a greater increase in USA ratio in more culturally globalized countries.

This paper contributes to current literature in several respects. To the best of our knowledge, it is the first work to examine and the flight home effect and the home bias concept during the corona virus spread. Second, this paper challenges the concept of home bias, suggesting that new factors might emerge in the new high technology globalized world. Such an investigation is crucial for understanding the different consequences of the recent and possible future financial and global disasters on investor decision-making and portfolio selection in general. This paper offers a new ratio, USAratio, to examine the percentage invested in the USA compared to the USA proportion in the world market. The new USA ratio is based on a common previous home bias ratio presented in previous literature. The rest of this paper continues as follows. Section 2 presents a literature review. Section 3 discusses the theoretical background, hypotheses, and expected results. Section 4 defines the variables, measurements, data, and methodology. Section 5 reports the results. Finally, Section 6 presents a summary.

**2. Prior Works**

The International Capital Asset Pricing Model (I-CAPM) asserts that investors should hold a well-diversified portfolio. However, despite well-known financial theories supporting global portfolio diversification, increasing world integration, and reducing foreign investment costs and limitations, investors still tend to invest a larger than suggested amount in local assets. Previous literature shows that especially during financial crises this tendency increases as investors search for safe havens (Coudert and Gex*,* 2008).

Many different reasons were suggested as possible causes for the home bias phenomenon, such as information asymmetries, global integration, market return correlation across countries, exchange rate volatility, and foreign transaction costs and behavioral biases (Van Nieuwerburgh and Veldkamp 2009, Karolyi and Stulz 2003, Fidora et al. 2007, Lin and Viswanathan 2015). Prior studies attempt to explain the tendency to favor investment in local assets using rational economic factors. One explanation to the home bias phenomenon is based on the notion that the preference of investors towards local assets reflects asymmetric information between local and foreign investors. Meaning that investors prefer to invest in local assets, since they have more comprehensive, reliable, and available data about domestic companies and markets (Ahearne et al. 2004, Bae et al. 2008, Piccioni et al., 2012). Additional reason discussed in the literature is the impact of foreign transaction and costs, suggesting that higher foreign fees and cost induces investors preference towards domestic assets (Karolyi and Stulz, 2003). However, Levy and Levy (2014) claim that reduction in foreign cost and fees over the years did not cause a reduction in home bias. Hedging for local market risk such as inflation and exchange rate volatility can also increase investors desire to invest in domestic market. Accordingly, inflation risk has been considered as a factor that might induce a preference toward local assets. The assumption is that stock return rates are positively correlated with inflation, and therefore a hedging inflation strategy would increase home bias. However, Cooper and Kaplanis (1994) show that hedging inflation cannot explain home bias unless investors have very low levels of risk aversion.

The high levels of correlation between stock market returns during times of crisis and increased volatility, undermines the benefits of global portfolio diversification, and may serve as another reason for the existence of home bias. (Solnik et al., 1996). However, Levy (2017) claims that since 2009 there has been a decrease in correlation between global market returns, and that this reversal in correlation trend indicates that the home bias phenomenon is emerging again.

The connection between portfolio allocation and global crises was explored by Giannetti and Leaven (2012), who revealed that home bias increases when investors face negative shocks. They referred to this increase as the "flight home effect." Correspondingly, Riff and Yagil (2016) show that home bias increases during bear markets compared to regular or bull market periods. Additionally, Barberis (2010) shows that investors experience higher ambiguity aversion after negative shock periods, causing them to prefer less risky assets.

The "flight to quality" hypothesis claims that government bonds to rally during periods of financial crisis, as people prefer safety government obligation over, since it reduces their potential losses from more volatile assets such as equities (Baur and Lucey, 2009). In accordance, Papadamou et al. (2021) identify a flight to quality periods during outbreak of the COVID-19 using time varying correlation between stock and bonds returns during the first quarter of 2020.

Developing markets also play a significant part in foreign portfolio investment allocation. On the one hand, home bias tends to be higher in emerging countries (Ahearn et al., 2004; Cooper et al., 2013). On the other hand, an increase the percent invested in emerging markets raises portfolio diversification (Amadi, 2004).Christoffersen et al. (2012) argue that due to the increased market returns correlations between countries, the benefits of financial portfolio diversification for developed countries declined significantly during time. Still, the benefits of financial diversification for developing markets are still significant. [Eiling](javascript:;) and [Gerard](javascript:;) (2014) assert that in the last decades, developing markets returns are becoming gradually more correlated with the rest of the world.

Behavioral theories argue that investors are not always rational and that behavioral heuristics influence their investment choices. Familiarity, optimism toward local asset risk, and performance are some of the behavioral arguments suggested as factors affecting investor's decision making. Lin and Viswanathan (2016) claim that investors make insufficient investment choices based on local preferences, suggesting that their investment choices are not rational. Kika and Weber (2000) state that people feel more skilled and optimistic about domestic assets performance. They argue that the optimism towards domestic assets returns is led by an unbalanced evaluation of probabilities, causing investors to perceive foreign assets as riskier. Graham et al. (2009) also argue that investors who trade frequently, feel more competent, knowledgeable, and are less home biased. Familiarity is another issue discussed in the literature as a possible reason for the investor's preference towards local assets. Investors feel more comfortable investing in stocks with which they feel closer to, even if, in fact, they do not have any information advantage with regards to these stocks (Huberman, 2001; Riff and Yagil, 2016).

The impact of national and cultural differences on investors' portfolio allocation decisions has also been discussed in the literature. Various studies find a relationship between the level of international diversification and countries’ characteristics such as individualism, openness to experiences, uncertainty avoidance, masculinity, and patriotism (Beugelsdijk and Frijns, 2010; Morse and Shive, 2011; Anderson et al. 2011; Niszczota, 2014). Anderson et al. 2011 show that countries characterized by higher levels of uncertainty avoidance are more internationally diversified, while countries characterized by higher long-term orientation and masculinity display lower levels of home bias.

Globalization, Since the 1990s, appeared as a main issue capturing the integration of cultures and markets around the world. Globalization continues to be central topic for debate and discussion, as anti-globalization groups fear for the diminishing of national identity (Steger, 2017). Globalization has been shown to reduce the level of home bias (Lauterbach and Reisman, 2004). Riff and Yagil (2020) show the negative relationship between globalization and its different dimensions (economic, cultural, and political) and claim that social and cultural globalization has a major impact on home bias. Also, they show that global branding has an impact, and even a stronger impact compared to location, in investor's allocation decision making. Steenkamp et al.’s (2003) research focuses on consumers growing preferences for global brands. Globalization accelerates a brand's time to market and increases the similarity between consumers' tastes and needs worldwide. They claim that a perceived global brand is positively connected to the perception of quality and prestige that influence consumers' willingness to purchase a product. Ha and Perks (2005) demonstrate that brand trust has a positive relationship with familiarity, satisfaction, and brand's experience. Previous works have emphasized the benefits of international branding, where a major advantage is the opportunity of firms to benefit from high-level economics of scale due to standardized product platform (Levitt 1993, Kapferer 2008).

In December 2019, an outburst of a new virus named the coronavirus (COVID-19) appeared from Wuhan, China and expanded globally by June 2020 to at least 25 countries (Wu et al., 2020). COVID- 19 outbreak is not limited to medical condition and the loss of lives but also to short and long term economic and social aspects. Farzanegan et al. (2021) ‏found based on the KOF globalization index that countries with higher level of socio-economic globalization are also more exposed to higher levels of case fatality rate (CFR). In their sample composed out of 149 countries they found that an increase of 10 point in the globalization index is related with an increase of 0.7 percent of CFR. Singh (2020) claims the relative out performance of the ESG (environmental, social and governance) portfolio can be explained by the argument that investors found refuge in the ESG oriented company while flowing away from defensive and EAFE (stocks from Europe, Australia and Far East) portfolios, since the ESG approach concentrates on the long run sustainability of companies. Zhang and Zhao (2020) examine and reevaluate the role of different asset types as safe haven for people's investment during the massive turmoil caused by the COVID-19 pandemic. They found that the role of safe haven for most asset types become less effective, while gold and soybean commodity futures continue to act as safe heaven during the pandemic outburst.

In summary, prior studies show that the investor's portfolio allocation is most likely caused by a mixture of economic and behavioral aspects, and that during negative shock investors tend search for safe havens and therefore tend to increase their portfolio proportion in more defensive or familiar assets. In this study we aim to examine the impact of the recent COVID-19 pandemic on investor's decision behavior.

**3. Theoretical Background, Hypotheses and Expected Results**

Subsections 3.1 the theoretical background and subsection 3.2 below present the hypotheses and expected results

**3.1 Theoretical Background**

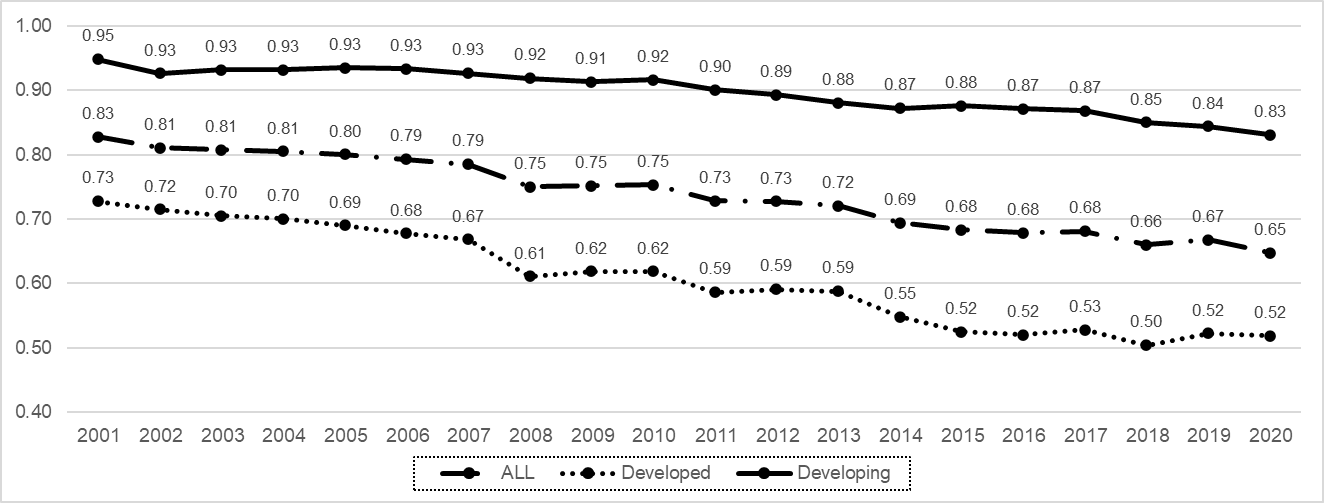
A conventional home bias measure for a certain country is calculated as one minus the percent of foreign to total investment holdings of domestic investors divided by the share of foreign market capitalization with respect to world market capitalization (Solnik and Zuo, 2012). It is given by Eq. (1) as follows:

1. *HBR* = 1-α/(*M/W*),

where, *HBR* is the home bias ratio, α is the foreign to total equity holdings of domestic investors, *M*is the foreign market capitalization, and *W* is the world market value (M/W is the weight of foreign equity in the world portfolio). If the *HBR* ratio equals zero, then there is no home bias, and if the *HBR* ratio equals 1 there is full home bias.

To assess the magnitude of the home bias phenomenon in various countries over time, we estimatedthe home bias ratios of 31 countries for the period from 2001-2020. The sample chosen if based on countries for whom data for the home bias ratio was available for all observed years (see Appendix A for full HBR results for each of the 31 countries through the years). HBR for 2020 was calculated until June 2020 to capture the effect of the COVID-19 outburst. The portfolio holding values were based on data from the Coordinated Portfolio Investment Survey (CPIS) conducted by the International Monetary Fund (IMF), while market capitalization data were obtained from the World Federation of Exchange (WFE) and the World Bank.

**Figure 1: The Average Home bias ratio of 31 countries from 2001-2020**

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Notes:

1. Figure 1 summarizes the HB ratio from 2001-2020 across 31 countries. 17 developed countries and 14 developing countries.
2. Data for 1998-2000 were not available by the CIPS conducted by the IMF.
3. HB ratio for 2020 was calculated until June 2020.
4. HB ratio is calculated using Eq. (1) where *HBR=1- α/(mi/W),* where α is the weight of foreign stocks in an investor's portfolio, mi is the foreign market capitalization and W is the world market capitalization.

The results in Figure 1 indicate that the home bias phenomenon still exists in various countries; however, its magnitude has decreased over the years. The mean home bias ratio for all countries declined from 0.83 in 2001 to 0.65 in 2020, representing a reduction nearly 22%. The home bias level among developing countries is higher than the home bias level in the developed countries, where the home bias level decreased from 0.95 and 0.73 in 2001 to 0.83 and 0.52 in 2020, for developing and developed countries, respectively. When examining home bias values of countries in the sample during the examined years in relation to the MSCI world market yearly return, it can be observed that there is an insignificant negative correlation of 0.077 (See Appendix A). It is possible there is an increase in the home bias level during times of negative shocks, but this effect seems to be offset when accounting for the general downward trend of the home bias phenomenon during the years. During the spread of the COVID-19, we can observe an average moderate decrease in home bias for all countries from 0.84 at December 2020 to 0.83 at June 2020.

**3.2 Foreign inward investments over the years**

We also tested the "flight home effect" during negative market shocks by examining the level of inward foreign investments in different countries during time. Table 1 shows the values of the yearly average change in foreign inward investments as a percentage of the country's market capitalization(FRC) of 23 countries between the 2000 until September 2020. The countries were selected according to the countries that had available data of the foreign investment by the CEIC and market capitalization by the World Bank or WFE, through all examined years. Table 1 and figure 1 also shows the yearly average change in foreign investments compared to the change in world MSCI world index. It can be observed that there is a strong positive relationship between the change in the world market index (MSCI) during the years and the average change in foreign inward investments (FRC). Inward foreign investment data is based on quarterly, while data for 2020 was calculated until September 2020 in order to capture the impact of corona virus outburst. Table 1 and Figure 2 shows that during major market negative shocks, foreign inward investments tend to decrease (see appendix B for full data of 23 countries). Mean foreign investment change is minus 0.06% during the 2001 dot com crisis, a substantial negative change of minus 0.91% during 2008 subprime crisis, minus 0.09% during the 2018 cryptocurrency crash and minus 0.12% during the 2020 covid 19 pandemic. However, foreign inward investments to the US during the 2020 COVID 19 outburst increased by 0.44% (see Appendix B) in contrast to average trend during this period of a mean of minus 12% decrease across all countries.

Sample correlation results between world market return (MSCI) and foreign inward investment (FRC) show a positive significant relationship (R=0.54, P<0.05), suggesting that during negative market performance the level of inward foreign investments tend to decrease and vice versa. At can be observed that although during the 2020 coronavirus outburst the average FRC is negative 0.12%, however the US's FRC is a show a positive increase of 0.44% during that period (See Appendix B).

Results indicate that during negative shocks or financial crises, investors tend to invest less in foreign countries. This result fits previous literature showing an increase in the 'flight home effect' during negative shocks (Giannetti and Leaven, 2012). In the next subsection we will demonstrate that although it seems that the "flight home effect" during financial crisis still exists, the impact of global branding also has a might also have major effect on investors decisions. We aim to demonstrate that during the COVID-19 global turmoil investors see the large highly branded technology brands as the new safe havens, thus causing them investors to increase their holding those firms.

**Table 1: Change in foreign inward investments of 23 countries between 2000 – 2020.**



Notes:

1. Table 1 shows results of average yearly change of inward foreign investments data (FRC) (Data source: CEIC) divided by market capitalization for 23 countries (sources: World Bank and WFE).

2. STD is the standards deviation, n is the number of observations, MSCI is the yearly average world market return (source: [www.msci.com](http://www.msci.com) ).

3. The average percentage of foreign investment change and the market return of the MSCI world index was calculated until September 01, 2020, in order to capture the impact of COVID -19 pandemic negative shock.

4. FRC data is calculated based on quarterly data.

**Figure 2: Average inward foreign investments and world market returns during 2000-2020**

Notes:

1. Y axis represent the value in percentage of the MSCI and FRC. MSCI is the world index yearly average return of 23 countries from Table 1. FRC is the yearly average change of foreign investments (source: CEIC) divided by the country's market capitalization (source: World Bank and WFE). FRC values were multiplied by 100 to allow comparison with the MSCI world market returns.

**3.2 Hypotheses and Expected Results**

Our main rationale is that during negative shocks and uncertainty investors search for security in the familiar. We claim that in today's integrated and globally branded world, international branding has a crucial impact on investors' decision making. Accordingly, we expect to find that during the latest COVID-19 crisis, investors tended to over invest in the large, branded technology firms, such as the FAANG companies, which are mainly located in the US. The reason for the increase may be caused due to a mixture of rationale decision as well as behavioral ones.

Accordingly, our first hypothesis is that during the coronavirus outbreak investors increased their proportion invested the USA. On the one hand, we assume that this increase is partially caused by since the corona virus spread magnified the importance of technology. The USA technology sector is one of the largest in the world with the fourth country highest high-tech exports in the world (156,074,126 thousand USD for 2019, as reported by the World Bank). We also assume, that since US giant brands, such as the FAANG companies became well - known household names they are perceived as more familiar, also triggering investors to increase their holding in those brands the virus spread turmoil as uncertainty increased. Accordingly, our second hypothesis is that level of globalization, will have a positive relationship with the level of investment in the US. Our third hypothesis is that the impact of social globalization is greater compared to the impact of economic or political globalization. This hypothesis is based on the assumption the more culturally integrated companies will be more highly affected by the familiarity and appeal of strong international branding.

**4. Data, Variable Measurements and Methodology**

Subsection 4.1 presents the data and measurements of variables and subsection 4.2 presents the methodology.

**4.1 Data and Measurement of Variable**

The main regression sample includes data for 52 countries for two time periods: before the COVID-19 turmoil (December 2019) and during the coronavirus spread (June 2020). Countries were selected as the countries to which available information was available to calculate the USAR ratio. The main data sources are the IMF (International Monetary Fund), WFE (World Federation Exchanges) and the World Bank. Luxemburg and Ireland were excluded from the sample as they are two major offshore banking centers (Mishra, 2015).

Presented below are the variables used to:

* *USARit*=the USA ratio of country i during time t, calculated based on the following Eq. which is based on Eq. (1):

(2) *USAR* = 1-*β*/(*M/W*),

where, *USAR* is the USA ratio of a specific country, *β* is the total minus USA equity holdings divided by the total equity holdings of the country's investors, *M* is the world market minus USA market capitalization, and *W* is the world market value. We calculated *USAR* for the end of 2019 and for the end of June 2020 for 52 countries using data from the IMF, The World Bank and WFE. The IMF data we used is based on the CPIS (Coordinated Portfolio Investment Survey).

* GLOBi= Globalization index for country i. Data for the social globalization is based using The KOF index of globalization introduced by Dreher (2006) is a broadly used index of globalization in the literature (e.g., Vogli et al., 2014; Gygli et al., 2019, Riff and Yagil 2020). We examined the impact of total globalization index (*TOGI*) and its three dimensions: social globalization index (*SOGI*), economic globalization (*ECGI*), and political globalization *(POGI).* Social globalization includes data on personal contact, information flows and data on cultural proximity, economic globalization includes data such as trade in goods and services and financial investments and restrictions and political globalization includes data such as the number of embassies in the country and memberships in international organizations. See Appendix C for globalization indicesstructure, variables, and weights[[1]](#footnote-1).
* We also included economic control variables and cultural control variables in our analysis:

Economic control variables include:

*GDP*i is the yearly change in GDP per capita (data source: the World Bank)[[2]](#footnote-2). *INFit* is the yearly inflation rate of country i at time t (data source: the World Bank), and *MRi* and *lagMRi* are the market returns and one-year lagged market return of each country for the observed period, based on the S&P global equity indices (Data source: the World Bank). *Type* is a dummy variable representing the country type, where 1 is developing and 2 is for developed country (Data source: The Department of Economic and Social Affairs of the United Nations Secretariat). *GDP* is expected to have a positive correlation with *USAR*. A positive relationship between *GDP* and *USAR* fits the size bias hypothesis that wealthier investors can increase their foreign holdings, since they can obtain foreign information more easily (Barron and Ni, 2008). We assume that inflation will have a negative correlation with *USAR*, in line with Cooper and Kaplanis’s (1994) findings that inflation risk hedging has a positive relationship with investors bias to invest in local assets. We expect to observe that lagged stock market returns are negatively correlated with USAR, in accordance with return chasing behavior (Chan et al. 2005).

Control variables for countries' cultural aspects are based on the well-known Hofstede's survey dimensions of masculinity, (*MAS)*, individuality (*IDV),* long term orientation (*LTO*), uncertainty avoidance (*UAI)* and indulgence (*IVR*)*.* Masculinity differentiates countries based on whether their individuals display more masculine behavior (such as assertiveness, and competitive behavior) versus feminine behavior (modest and caring). Individuality distinguishes countries based on the level of which individuals' relations are loose (people are expected to take care only for themselves and their close families) versus countries displaying collectivism and strong integrated groups. Long term orientation values are associated with thrift and perseverance. Uncertainty avoidance refers to country's tolerance for uncertainty and avoidance. Indulgence refers to the level of that society allows free immediate gratification of human drives such as having fun and enjoying life (Hofstede 2011).

In accordance with Anderson et al. (2011), we expect masculinity and individuality to have a positive relationship with the level of *USAR*. Male investors and people with higher level of individuality might suffer from overconfidence therefor causing them to believe they have better information about foreign countries. Also, we expect indulgence to have a positive relationship with the level of *USAR*, as more indulgent people will be more attracted to highly familiar brand. The relationship between *USAR* and uncertainty avoidance might be two sided, since on the one hand, individuals who are less willing to take risk would avoid foreign investments. On the other hand, we assume that the increased investment the US is partially instigated by a seek for security achieved by investing in strong family globalized brands.

**4.2 Methodology**

We estimated the *USAR* using the following general equation:

(2)  *USAR*it = a0 + a1*SHOCK* + a2*GLOB*i + *ECcontrols*i *+CUcontrols*i + ei,

where, *USAR*it is the US ratio based on Eq. (2) for country i. *SHOCK*represents the corona virus outburst. It is a categorial variable were 1 represents the period before the Covid- 19 (year 2019) and 2 represents the period during the corona outbreak (January 2020 until June 2021). *GLOB* represents the globalization index; we examine the overall globalization index, as well as its three different dimensions: total globalization (*TOGI*), cultural globalization (*SOGI*), economic globalization (ECGI) and political globalization (*POGI*). globalization index. Economic controls (*ECcontrols*it) include the following variables: *GDP* is the yearly change in GDP per capita, *INF* is the yearly inflation rate, and *MR* lag*MR* are the market returns and one-year lagged market return, and *Type* is a dummy variable representing the country type (developing versus developed).

Cultural controls (*CUcontrols*it) include the following variables: *MAS is* the level masculinity, *IDV* is the level of individuality*, LTO* is the long-term orientation, *UAI* is the level of uncertainty avoidance, and *IVR* is the level of indulgence.

**5. Results**

Table 2 shows the descriptive statistics and correlation of relevant variables for 2019 and 2020 of relevant variables.

**Table 2: Descriptive statistics and correlation matrix of variables**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Descriptive statistics** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | *USAR* | | *KOFGI* | | *SOGI* | | | *ECGI* | | *POGI* | | *IDV* | | *MAS* | | *UAI* | | *LOT* | | *IVR* | | | *GDP* | | *INF* | | *MR* | | *lagMR* |
| *Mean* | -0.60 | | 77.13 | | 78.10 | | | 70.57 | | 82.76 | | 44.67 | | 48.14 | | 68.86 | | 52.57 | | 45.64 | | | -0.44 | | 2.31 | | 15.67 | | -15.56 |
| *STDV* | 0.17 | | 8.79 | | 9.54 | | | 13.22 | | 14.69 | | 22.65 | | 19.54 | | 21.67 | | 22.58 | | 20.94 | | | 1.16 | | 2.56 | | 14.59 | | 10.24 |
| *Min* | -0.86 | | 55.87 | | 52.41 | | | 41.40 | | 29.47 | | 11.00 | | 5.00 | | 8.00 | | 7.00 | | 4.00 | | | -6.02 | | -2.09 | | -18.46 | | -43.86 |
| *Max* | -0.04 | | 90.79 | | 90.35 | | | 93.63 | | 97.98 | | 89.00 | | 95.00 | | 100.00 | | 100.00 | | 97.00 | | | 1.87 | | 15.18 | | 48.56 | | 10.72 |
| *SKEW* | 1.19 | | -0.22 | | -0.81 | | | -0.46 | | -1.73 | | 0.27 | | -0.15 | | -0.77 | | 0.01 | | 0.14 | | | -2.22 | | 2.92 | | -0.13 | | -0.35 |
| *KURT* | 1.30 | | -0.89 | | -0.31 | | | -0.83 | | 3.42 | | -1.31 | | 0.03 | | -0.19 | | -0.79 | | -0.54 | | | 9.20 | | 12.51 | | 0.11 | | 1.62 |
| *N* | 104.00 | | 104.00 | | 104.00 | | | 104.00 | | 104.00 | | 98.00 | | 98.00 | | 98.00 | | 92.00 | | 90.00 | | | 104.00 | | 98.00 | | 98.00 | | 98.00 |
| **Correlations** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | *USAR* | | *KOFGI* | | *SOGI* | *ECGI* | | *POGI* | | *IDV* | | *MAS* | | *UAI* | | *LOT* | | *IVR* | | *GDP* | *INF* | | *MR* | | *lagMR* | | *SHOCK* | |
| *USAR* | | 1 | |  | |  |  | |  | |  | |  | |  | |  | |  | |  |  | |  | |  | |  | |
| *KOFGI* | | 0.13 | | 1 | |  |  | |  | |  | |  | |  | |  | |  | |  |  | |  | |  | |  | |
| *SOGI* | | .24\*\* | | .73\*\*\* | | 1 |  | |  | |  | |  | |  | |  | |  | |  |  | |  | |  | |  | |
| *ECGI* | | 0.03 | | .82\*\*\* | | .80\*\*\* | 1 | |  | |  | |  | |  | |  | |  | |  |  | |  | |  | |  | |
| *POGI* | | 0.05 | | .57\*\*\* | | -0.05 | 0.05 | | 1 | |  | |  | |  | |  | |  | |  |  | |  | |  | |  | |
| *IDV* | | 0.14 | | .67\*\*\* | | .57\*\*\* | .48\*\*\* | | .40\*\*\* | | 1 | |  | |  | |  | |  | |  |  | |  | |  | |  | |
| *MAS* | | 0.09 | | -0.08 | | -0.14 | -0.16 | | 0.10 | | 0.08 | | 1 | |  | |  | |  | |  |  | |  | |  | |  | |
| *UAI* | | 0.02 | | -0.03 | | -0.13 | -0.20\* | | .25\*\* | | -0.18\* | | 0.02 | | 1 | |  | |  | |  |  | |  | |  | |  | |
| *LOT* | | -0.04 | | .34\*\*\* | | .29\*\*\* | .31\*\*\* | | 0.14 | | 0.16 | | 0.05 | | -0.01 | | 1 | |  | |  |  | |  | |  | |  | |
| *IVR* | | .27\*\*\* | | 0.155 | | 0.15 | 0.02 | | 0.18\* | | .21\* | | 0.04 | | -0.12 | | -.35\*\* | | 1 | |  |  | |  | |  | |  | |
| *GDP* | | 0.06 | | -.23\*\* | | -.24\*\* | -0.18 | | -0.09 | | -0.18 | | .27\*\* | | 0.13 | | 0.07 | | -.32\*\*\* | | 1 |  | |  | |  | |  | |
| *INF* | | -0.18\* | | -.32\*\*\* | | -.49\*\*\* | -.44\*\*\* | | 0.11 | | -0.07 | | -0.06 | | 0.08 | | -0.18 | | -0.16 | | 0.13 | 1 | |  | |  | |  | |
| *MR* | | 0.03 | | -0.01 | | -0.06 | -0.18\* | | .22\*\* | | .21\*\* | | 0.10 | | 0.09 | | -0.10 | | -0.03 | | -0.14 | 0.08 | | 1 | |  | |  | |
| *lagMR* | | -.22\*\* | | -0.02 | | 0.04 | 0.16 | | -.24\*\* | | 0.11 | | -0.14 | | -0.16 | | -0.01 | | -0.18 | | .25\*\* | -.29\*\*\* | | -0.05 | | 1 | |  | |
| *SHOCK* | | 0.35\*\*\* | | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 1 | |

Notes:

1. *USAR=* The US ratio calculated based on Eq. (2), *TOGI* = total globalization, *SOGI* = social globalization index, *ECGI* = economic globalization index, *POGI*= political globalization, *MAS*= masculinity, *IDV* = individuality*, LTO*=long-term orientation and *UAI*= uncertainty avoidance, IVR=indulgence*, INF* = the change inflation rate in percent, *MR* and *lagMR* is the market return and the one-year market return respectively, SHOCK represents time trend (before and during corona virus outburst).
2. Data source: The World Bank, WFE, IMF, KOF Swiss Economic Institute, United Nations Secretariat and Hofstede Insights.
3. \*\*\*, \*\*, and \* represent significance at the 0.01, 0.05, and 0.1 levels, respectively.
4. Number of countries observed between December 2019 until June 2020 are 51.

Results of Table 2 shows *USAR* has a mean negative value of 0.60, however, correlation matrix results show a positive correlation between *USAR* and *SHOCK*, indicating that mean *USAR* increased during time of corona virus spread outburst shock. *USAR* shows significant positive correlation with social globalization (SOGI), while correlation with total globalization (*TOGI*), economic globalization (*ECGI*) and political globalization (*POGI*) are positive but not significant. These results fit our hypotheses that globalization has a positive impact on the level of USAR, and specifically social globalization has a crucial impact compared to the other dimensions. The level of indulgence (*IVR*) has a significant positive relationship with USAR, while inflation (*INF*) and one-year lagged market return (*lagMR*) have a negative relationship with *USAR*. These results fit our assumptions that indulgence increases *USAR*, while inflation reduces *USAR* since investors seek to hedge inflation, and lagged market return has a negative relationship with *USAR* in accordance with the return chasing behavior.

Figure 2 shows that USA ratio based on Equation 2 calculated for 35 countries between 2010 – 2020 (see Appendix D for full *USAR* results of each country across time). Countries selected are those with available information to calculate ratios across all observed years from the IMF and the World Bank. Results does not show a steady trend of increase or decrease during observed years. The largest increase in the level of *USAR* is during the corona virus burst during 2020 of 22% from an average of minus 0.66 to minus 0.51 (See Figure 2 and appendix D)[[3]](#footnote-3).

**Figure 2: USA ratio between 2010- 2020**

1. Figure 1 summarizes the USA ratio from 2010-2020 across 35 countries. 15 developed countries and 20 developing countries.
2. Data sources: CIPS conducted by the IMF, the world bank and WFE.
3. USA ratio for 2020 was calculated until June 2020 in order to capture the COVID-19 outburst impact.
4. USAR ratio is calculated using Eq. (2) USAR = 1-β/(M/W), where USAR is the USA ratio of a specific country, β is the total minus USA equity holdings divided by the total equity holdings of the country's investors, M is the world market minus USA market capitalization, and W is the world market value.

**Table 3: Regression Results**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | *TOGI* | *SOGI* | *ECGI* | *POGI* |
| *C* | a0 | -215.347\*\*\* | -215.9\*\*\* | -215.404\*\*\* | -215.438\*\*\* |
| *SHOCK* | a1 | 0.366\*\*\* | 0.366\*\*\* | 0.366\*\*\* | 0.366\*\*\* |
| *GLOB* | a2 | -0.174 | 0.367\*\*\* | -0.167 | -0.160 |
| *IDV* | a3 | 0.097 | 0.025 | 0.067 | 0.111 |
| *MAS* | a4 | 0.056 | 0.124 | 0.060 | 0.069 |
| *UAI* | a5 | -0.152 | -0.035 | -0.188 | -0.081 |
| *LOT* | a6 | 0.082 | 0.041 | 0.073 | 0.079 |
| *IVR* | a7 | 0.28\*\*\* | 0.240\* | 0.254\*\* | 0.296\*\* |
| *INF* | a8 | -0.073 | 0.086 | -0.077 | -0.025 |
| *TYPE* | a9 | 0.273 | -0.51 | 0.269 | 0.192 |
| *MR* | a10 | -0.139 | -0.57 | -0.152 | -0.104 |
| *lagMR* | a11 | -0.083 | 0.022 | -0.061 | -0.080 |
| d-Watson | | 1.84 | 1.70 | 1.90 | 1.80 |
| R2 | | 0.31 | 0.34 | 0.31 | 0.31 |
| F –Stat. | | 2.803 | 3.261 | 2.863 | 2.906 |
| Prob. | | 0.004 | 0.001 | 0.004 | 0.003 |

Notes:

1. *USAR=* The US ratio calculated based on Eq. (2), *TOGI* = total globalization, *SOGI* = social globalization index, *ECGI* = economic globalization index, *POGI*= political globalization, *MAS*= masculinity, *IDV* = individuality*, LTO*=long-term orientation and *UAI*= uncertainty avoidance, IVR=indulgence*, INF* = the change inflation rate in percent, *MR* and *lagMR* is the market return and the one-year market return respectively, SHOCK represents time trend (before and during corona virus outburst). *Type* represents the type of country (developed versus developing)
2. Data source: The World Bank, WFE, IMF, KOF Swiss Economic Institute, United Nations Secretariat and Hofstede Insights.
3. \*\*\*, \*\*, and \* represent significance at the 0.01, 0.05, and 0.1 levels, respectively.
4. *USAR*it = a0 + a1*SHOCK* + a2*GLOB*i + *ECcontrols*i *+CUcontrols*i + ei

**6. Summary**

The main objective of this study is to examine investors decision making across different countries during the COVID-19 outburst. Our paper challenges the concept of home bias and the flight home effect during negative financial shocks, showing that global branding might play a major role in investors decision making during time of uncertainty. We examine whether during the outburst of COVID-19 investors increased their holding in familiar international brands, located mainly in the USA, such as the FAANG companies. We call this tendency to increase holding in familiar, giant brands during times of uncertainty, "the flight towards global branding", and test this tendency using a new ratio measure USAR (USA ratio). Overall, the results show a significant increase in the level of USAR during the COVID-19 shock. This result may be due to a mixture of factors, rationale and behavioral. On the one hand, the COVID -19 outburst emphasized the importance of technology causing investors to rationally prefer high technology brands, which are strongly located in the USA. On the other hand, this increase might be due to behavioral factors, as investors prefer to invest in large, highly branded familiar companies. Accordingly, results show that more culturally globalized countries show a significant increase in the level of USAR during the COVID-19 global wave. However, we did not find significant relationship between USAR and economic or political globalization during examined period. Another interesting result found is a significant positive relationship between USAR during COVID-19 global ourbreak and Hofstede's cultural dimension of indulgence. Meaning that the level of USAR increased more in societies that allows more freely the fulfillment of human needs related to enjoying life tended, compared with more restraint societies. Results stress the importance of strong international branding in today's global world. Findings imply that strong global branding and familiarity might paly a major role in investor's decision making. An improved understanding of investors' behavior and asset allocation decisions can add great value to investors since it can increase reduce investor's behavioral heuristics and increase market inefficiency costs. Investors aiming to build a sufficient portfolio should carefully examine their portfolio, to analyze whether their decisions are based on rationale decisions such as global diversification, or is it also based on behavioral factors such perceived familiarity of highly branded companies. This study can be extended to examine the level invested in different sectors during COVID -19 such as the industrial versus the high technology sectors.

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Appendix A: HBR for 31 countries from 2001-2020



Notes:

1. Data for 1998-2000 were not available by the CIPS conducted by the IMF.
2. MSCI (Morgan Stanly Capital Index) represents the world market index.
3. HB ratio and MSCI for 2020 were calculated until June 2020.
4. HB ratio is calculated using Eq. (1) where *HBR=1- α/(mi/W),* where α is the weight of foreign stocks in an investor's portfolio, mi is the foreign market capitalization and W is the world market capitalization.
5. Correlation between HBR and MSCI equals -0.077 (P>0.1)

Appendix B: Change in foreign investments of 23 countries between 2000 – 2020.



Appendix B Continue: Change in foreign investments of 23 countries between 2000 – 2020.



Notes:

1. FRC is the average yearly change of foreign investments data (data source: CEIC) divided by market capitalization (sources: World Bank and WFE).

2. STD is the standards deviation, n is the number of observations, MSCI is the yearly average world market return (source: [www.msci.com](http://www.msci.com) ).

3. The average percentage of foreign investment change and the market return of the MSCI world index was calculated until September 01, 2020, in order to capture the impact of Covid -19 pandemic negative shock.

**Appendix C : Globalisation indices :** **Structure, variables and weights**

|  |  |  |  |
| --- | --- | --- | --- |
| **Globalisation Index, de facto** | **Weights** | **Globalisation Index, de jure** | **Weights** |
| ***Economic Globalisation, de facto*** | ***33.3*** | ***Economic Globalisation, de jure*** | ***33.3*** |
| *Trade Globalisation, de facto* | *50.0* | *Trade Globalisation, de jure* | *50.0* |
| Trade in goods | 38.5 | Trade regulations | 25.8 |
| Trade in services | 45.1 | Trade taxes | 25.3 |
| Trade partner diversity | 16.4 | Tariffs | 25.4 |
|  |  | Trade agreements | 23.5 |
| *Financial Globalisation, de facto* | *50.0* | *Financial Globalisation, de jure* | *50.0* |
| Foreign direct investment | 27.3 | Investment restrictions | 32.2 |
| Portfolio investment | 16.9 | Capital account openness | 38.7 |
| International debt | 25.7 | International Investment Agreements | 29.1 |
| International reserves | 3.2 |  |  |
| International income payments | 26.9 |  |  |
| ***Social Globalisation, de facto*** | ***33.3*** | ***Social Globalisation, de jure*** | ***33.3*** |
| *Interpersonal Globalisation, de facto* | *33.3* | *Interpersonal Globalisation, de jure* | *33.3* |
| International voice traffic | 20.0 | Telephone subscriptions | 40.6 |
| Transfers | 21.8 | Freedom to visit | 32.4 |
| International tourism | 21.2 | International airports | 27.0 |
| International students | 20.4 |  |  |
| Migration | 16.6 |  |  |
| *Informational Globalisation, de facto* | *33.3* | *Informational Globalisation, de jure* | *33.3* |
| Used internet bandwidth | 43.2 | Television access | 35.7 |
| International patents | 23.6 | Internet access | 42.0 |
| High technology exports | 33.2 | Press freedom | 22.3 |
| *Cultural Globalisation, de facto* | *33.3* | *Cultural Globalisation, de jure* | *33.3* |
| Trade in cultural goods | 28.0 | Gender parity | 26.2 |
| Trade in personal services | 24.3 | Human capital | 41.2 |
| International trademarks | 11.1 | Civil liberties | 32.6 |
| McDonald's restaurant | 20.9 |  |  |
| IKEA stores | 15.7 |  |  |
| ***Political Globalisation, de facto*** | ***33.3*** | ***Political Globalisation, de jure*** | ***33.3*** |
| Embassies | 36.2 | International organisations | 36.0 |
| UN peace keeping missions | 26.1 | International treaties | 33.6 |
| International Nos | 37.7 | Treaty partner diversity | 30.4 |
| Notes :  1. Source : KOF Swiss Economic Institute.  2. Overall globalisation indices for each aggregation level are calculated by the average of the respective de facto and de jure indices. | | | | |

**Appendix D: USAR ratio from 2010-2020**



1. Globalization indices are based on the most recent indices published for the end of 2018. [↑](#footnote-ref-1)
2. GDP and INF and MR data are for the end of 2019. [↑](#footnote-ref-2)
3. An additional major USAR increase can be observed in 2017. This increase might be caused due to the crypto currency boom. [↑](#footnote-ref-3)