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

**Abstract**

The tendency of investors to overweight local assets in their portfolio, the “home bias” phenomenon, is a well-known and well-documented 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 seeks to challenge the idea of home bias by showing that in today’s globalized world, strong global branding might also play a major role in investors’ portfolio allocation decisions, especially during periods of increased uncertainty. We suggest that during the time of the COVID-19 crisis, investors increased their holdings in giant international brands, such as the FAANG companies (Facebook, Apple, Amazon, Netflix and Alphabet), which are highly concentrated in the United States. We call this tendency “the flight to global branding.” While we claim that the increase is partially related to rational explanations, such as the growing importance of technology, especially during the COVID-19 pandemic, we also hypothesize that in today’s increasingly globalized world, investors’ decisions to increase their investment in highly branded companies might also be the result of behavioral factors, such as perceived familiarity. Replacing the original home bias ratio with a new USA Ratio, and performing an empirical data analysis of 52 countries, before COVID-19 (from December 2018 to December 2019), and during the COVID-19 outbreak (from December 2019 to June 2020), we show a significant increase in the USA Ratio during the COVID-19 outbreak. 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 regard to economic and political globalization. Also, findings demonstrate that countries that are more indulgency-oriented experienced a greater increase in their USA Ratio than less indulgency-oriented countries during the observed period.

**1. Introduction**

The tendency of investors to favor local assets, known as home bias, has been extensively documented and researched. 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 the equity portfolio allocation decisions made by investors during the spread of the coronavirus. The first cases of COVID-19 were identified during December 2019 in Wuhan, China. By March 11, 2020, the virus had spread rapidly to at least 114 countries, causing over 4,000 deaths. On March 11, 2020, COVID-19 was officially declared a pandemic by the World Health Organization (WHO; Park, 2020).

We propose a new measure that we refer to as the “USA Ratio” to examine the flight to global branding that occurred during the COVID-19 outbreak (from December 2019 to June 2020) compared with the preceding period (from December 2018 to December 2019) across different countries. We assumed that with the high-technology and internet revolution, global branding will play an increasing role in investors’ choices. Furthermore, the COVID-19 pandemic has amplified the importance of technology, and therefore, we assumed that during the outbreak of the virus, investors increased their investment in the United States, since the largest and most highly-branded technology companies (the FAANG companies) are located there. We aimed to examine the relationship between the level of the USA Ratio during the COVID-19 outbreak across different countries, positing that the level of globalization has a positive impact on the level of investment in highly branded companies. Specifically, we expected to find a greater increase in the USA Ratio in more culturally globalized countries.

This paper contributes to the current literature in several respects. To the best of our knowledge, it is the first work to examine the capital flight home effect and the home bias in investments during the COVID-19 pandemic. Second, this paper challenges the concept of home bias, suggesting that new factors might emerge in a world with continuing advances in technology and globalization. Such an investigation is crucial for understanding the consequences of recent and possible future financial and global disasters on investor decision-making and portfolio selection in general. In this paper, we propose a new measure, the USARatio, to examine the percentage invested in the United States compared to the U.S. proportion in the world market. The new USA Ratio is based on a common home bias ratio already presented in previous literature. The remainder of this paper continues as follows. In section 2, we present a review of the literature. In section 3, we discuss the theoretical background, our hypotheses, and expected results. In section 4, we define the variables, measurements, data, and methodology. In section 5, we report the results. Finally, in section 6, we present a summary.

**2. Prior Works**

The international capital asset pricing model (I-CAPM) holds that investors should hold a well-diversified portfolio. However, despite this and other well-known financial theories supporting global portfolio diversification, as well as increasing global integration and decreasing foreign investment costs and limitations, investors still tend to overweight local assets. Previous literature shows that this tendency increases during financial crises, as investors search for safe havens (Coudert and Gex*,* 2008).

Many different reasons have been suggested as possible causes for the home bias phenomenon, such as information asymmetries, global integration, market return correlation across countries, exchange rate volatility, foreign transaction costs, and behavioral biases (Fidora et al. 2007; Karolyi and Stulz 2003; Lin and Viswanathan 2015; Van Nieuwerburgh and Veldkamp 2009). Prior studies attempted to explain the tendency to favor investment in local assets using rational economic factors. One explanation for the home bias phenomenon is based on the notion that the preference of investors for local assets reflects information asymmetries between local and foreign investors. Consequently, 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). Another reason for the home bias phenomenon discussed in the literature is the impact of foreign transaction costs, suggesting that higher foreign fees and costs also induce investors’ preference for domestic assets (Karolyi and Stulz, 2003). However, Levy and Levy (2014) claim that a reduction in foreign transaction costs over the years did not cause a reduction in home bias. Hedging for local market risk, such as inflation and exchange rate volatility, may also increase investors’ desire to invest in the domestic market. Accordingly, inflation risk has been considered as a factor that might generate a preference for local assets. The assumption is that stock returns are positively correlated with inflation, and therefore an inflation hedging 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 level of correlation between stock market returns in different countries 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 the correlation between global market returns, and that this reversal in the 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 found 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) indicates that investors experience higher ambiguity aversion after negative shock periods, causing them to prefer less risky assets.

The “flight to quality” hypothesis suggests that government bonds rally during periods of financial crisis, as people prefer the safety of government obligations, since it reduces their potential losses from more volatile assets, such as equities (Baur and Lucey, 2009). Papadamou et al. (2021) identify a flight to quality during the COVID-19 outbreak, using a time-varying correlation between stock and bond 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, higher investment in emerging markets increases portfolio diversification (Amadi, 2004).Christoffersen et al. (2012) argue that the benefits of portfolio diversification for developed countries have declined significantly over time due to the increased correlation between markets for different countries. The benefits of diversification for developing markets are nonetheless 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.

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

The impact of national and cultural differences on investors’ portfolio allocation decisions has also been raised 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 (Anderson et al., 2011; Beugelsdijk and Frijns, 2010; Morse and Shive, 2011; Niszczota, 2014). Anderson et al. (2011) show that residents of countries characterized by higher levels of uncertainty avoidance are more internationally diversified, while those of countries characterized by higher long-term orientation and masculinity display lower levels of home bias.

Since the 1990s, globalization has emerged as a major issue, capturing the integration of cultures and markets around the world. Globalization continues to be a central topic for debate and discussion, as anti-globalization groups fear for the diminishment of national identity (Steger, 2017). Globalization has been shown to reduce the level of home bias (Lauterbach and Reisman, 2004). Riff and Yagil (2020) demonstrate a negative relationship between globalization and its different dimensions (economic, cultural, and political), claiming that social and cultural globalization has a major impact on home bias. They also show that global branding has an even stronger impact than does location on investors’ asset allocation decisions. Steenkamp et al. (2003) focus on consumers’ growing preferences for global brands. Globalization accelerates a brand’s market entry and increases similarities 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 experience. Previous works have emphasized the benefits of international branding, whereby a major advantage is the opportunity for firms to benefit from high-level economics of scale due to a standardized product platform (Kapferer 2008; Levitt 1993).

In December 2019, a novel COVID-19 virus appeared in Wuhan, China and expanded globally, reaching at least 25 countries by June 2020 (Wu et al., 2020). The impact of the COVID-19 outbreak is not limited to illness 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 levels of socio-economic globalization are also more exposed to higher levels of case fatality rates (CFR). In their sample, composed out of 149 countries, they found that an increase of 10 points in the globalization index is related with a CFR increase of 0.7 percent. Singh (2020) claims the relative outperformance of the ESG (environmental, social and governance) portfolio can be explained by the argument that investors found refuge in ESG-oriented companies while moving funds away from defensive and EAFE stocks (stocks from Europe, Australia and Far East), 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 investment safe havens during the massive turmoil caused by the COVID-19 pandemic. They find that the role of safe havens for most asset types became less effective, while gold and soybean commodity futures continued to act as safe havens during the pandemic.

In summary, prior studies show that investors’ portfolio allocation is most likely affected by a mixture of economic and behavioral factors, and that during negative shocks, investors tend to seek safe havens and therefore tend to increase the proportion of their portfolios invested in more defensive or familiar assets. In this study, we examine the impact of the recent COVID-19 pandemic on investors’ decision behavior.

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

In subsections 3.1 we present the theoretical background and in subsection 3.2 we present the hypotheses and expected results.

**3.1 Theoretical Background**

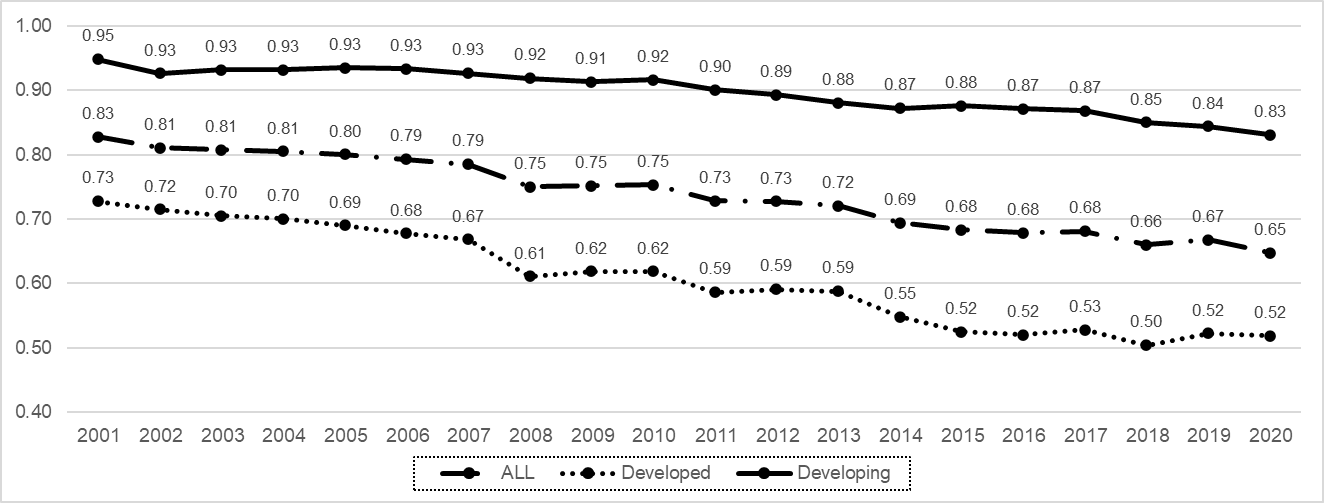
A conventional home bias measure for a certain country is calculated as 1 minus the percent of foreign to total investment holdings of domestic investors divided by the share of foreign market capitalization with respect to world market capitalization (Solnik and Zuo, 2012). It is given by Eq. (1) as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

1. *HBR* = 1-α/(*M/W*),

In this equation, *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 home bias in various countries over time, we estimatedthe home bias ratios of 31 countries for the period from 2001 to 2020. The sample was chosen based on countries for which 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 over time). HBR for 2020 was calculated until June 2020 to capture the effect of the COVID-19 outbreak. 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**

****

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 made available through 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 decrease of nearly 22%. The level of home bias among developing countries is higher than among developed countries. The home bias ratio for developing and developed countries decreased from 0.95 and 0.73 in 2001 to 0.83 and 0.52 in 2020, respectively. When examining the home bias rations of countries in the sample in relation to the MSCI world market yearly return, we observed that there is an insignificant negative correlation of 0.077 (See Appendix A). It is possible there is an increase in the level of home bias during times of negative shocks, but this effect seems to be offset by the general downward trend of the home bias during the years we examined. During the spread of the COVID-19, we can observe an average moderate decrease in home bias for all countries from 0.84 in December 2020 to 0.83 in 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 foreign inward investments in different countries over time. Table 1 shows the values of the yearly average change in foreign inward investments as a percentage of each country’s market capitalization (FRC), for 23 countries between 2000 and (September) 2020. We selected countries for which data on foreign inward investments could be obtained from CEIC, and data on market capitalization could be obtained from the World Bank or WFE, through all examined years. Table 1 and Figure 1 also show the yearly average change in foreign inward investments compared to the change in the MSCI world index. A strong positive relationship can be observed between the change in the world market index (MSCI) and the average change in foreign inward investments (FRC). Foreign inward investment data is recorded quarterly, and data for 2020 was calculated until September 2020 in order to capture the impact of the COVID-19 outbreak. Table 1 and Figure 2 show that during major negative market shocks, foreign inward investments tend to decrease (see Appendix B for full data for 23 countries). Mean foreign inward investment change was minus 0.06% during the 2001 dot com crisis, and there was a substantial negative change of minus 0.91% during the 2008 subprime crisis, minus 0.09% during the 2018 cryptocurrency crash and -0.12% during the 2020 COVID-19 pandemic. However, foreign inward investments to the United States during the 2020 COVID-19 outbreak increased by 0.44% (see Appendix B) in contrast to the average trend during this period of -12% decrease across all countries.

Sample correlations between world market return (MSCI) and foreign inward investment (FRC) indicates a positive significant relationship (R=0.54, P<0.05), suggesting that during negative market performance, the level of foreign inward investment tends to decrease, and vice versa. We observed that although during the 2020 COVID-19 outbreak, the average FRC was negative 0.12%, the United States shows an increase in FRC of 0.44% during that period (See Appendix B).

Our results indicate that during negative shocks or financial crises, investors tend to invest less in foreign countries. This result accords with 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 crises still exists, the impact of global branding also has a major effect on investors’ decisions. We aim to demonstrate that during the global turmoil caused by the COVID-19 pandemic, investors see large, familiar technology brands as the new safe havens, leading them to increase their holding in these firms.

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



Notes:

1. Table 1 shows results of average yearly change in foreign inward investments (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 change in foreign inward investment and the market return of the MSCI world index were calculated until September 01, 2020, in order to capture the impact of the negative shock caused by the COVID-19 pandemic.

4. FRC data is calculated based on quarterly data.

**Figure 2: Average foreign inward investments and world market returns from 2000–2020**

Notes:

1. The Y axis represents 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 hypothesis is that during negative shocks and uncertain times, investors seek 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 overinvest in the large, branded technology firms, such as the FAANG companies, which are located mainly in the United States. The reason for the increase may be caused due to a mixture of rational decision and behavioral factors.

Accordingly, our first hypothesis is that during the COVID-19 outbreak, investors increased the proportion of their portfolios invested the United States. On the one hand, we assume that this increase is partially caused by the importance of technology, which was magnified by the spread of COVID-19. The U.S. technology sector is one of the largest in the world, with the fourth highest value of high-tech exports in the world (USD 156,074,126 thousand for 2019, as reported by the World Bank). We also assume that since giant U.S. brands, such as the FAANG companies, have become well-known household names, they are more familiar to investors, prompting investors to increase their holding in those companies in the wake of the spread of the increased market turmoil and uncertainty. Accordingly, our second hypothesis is that the level of globalization will have a positive association with the level of investment in the United States. 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 affected by the familiarity and appeal of strong international branding.

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

We present the data and measurements of variables in subsection 4.1, and the methodology in subsection 4.2.

**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 spread of COVID-19 (June 2020). We selected countries for which information was available to calculate the USA Ratio. The main data sources we used 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).

The variables used are presented below.

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

(2) *USAR* = 1-*β*/(*M/W*),

In this equation, *USAR* is the USA Ratio of a specific country, *β* is the total minus U.S. equity holdings divided by the total equity holdings of the country’s investors, *M* is the world market minus U.S. 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), which is a broadly used index of globalization in the literature (e.g., Gygli et al., 2019; Riff and Yagil 2020; Vogli et al., 2014). We examined the impact of the total globalization index (*TOGI*) and its three dimensions: the 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, 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 the following.

*GDP*i is the yearly change in GDP per capita (data source: the World Bank)[[2]](#footnote-2). *INFit*is 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 for developing and 2 is for developed countries (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 more easily obtain foreign information (Barron and Ni, 2008). We assume that inflation will have a negative correlation with *USAR*, consistent with Cooper and Kaplanis’s (1994) findings that inflation risk hedging has a positive relationship with investors’ tendency 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 detached (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 intolerance for uncertainty. Indulgence refers to the degree to which a 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 levels of individuality might suffer from overconfidence, 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 brands. The relationship between *USAR* and uncertainty avoidance might be two-sided, since individuals who are less willing to take risk would avoid foreign investments. However, we also assume that the increased investment the United States is partially due to investors seeking security by investing in strong, familiar, 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,

In this equation, *USAR*it is the USA Ratio based on Eq. (2) for country i. *SHOCK*represents the COVID-19 outbreak. It is a categorial variable, where 1 represents the period before COVID-19 (2019) and 2 represents the period during the COVID-19 outbreak (from January 2020 to 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*). Economic controls (*ECcontrols*it) include the following variables: *GDP* is the yearly change in GDP per capita, *INF* is the yearly inflation rate, *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.

**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 USA 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 the COVID-19 outbreak).
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. The number of countries observed between December 2019 until June 2020 are 51.

The results in Table 2 show that *USAR* has a mean negative value of 0.60; however, the correlation matrix shows a positive correlation between *USAR* and *SHOCK*, indicating that mean *USAR* increased during the COVID crisis due to the spread of COVID-19. *USAR* shows a 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 support 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 association with *USAR*, while inflation (*INF*) and one-year lagged market return (*lagMR*) have a negative association with *USAR*. These results support our assumptions that indulgence increases *USAR* while inflation reduces *USAR,* since investors seek to hedge inflation, and that lagged market returns have a negative relationship with *USAR* in accordance with return-chasing behavior.

Figure 2 shows the USA Ratio based on Equation 2, calculated for 35 countries between 2010 and 2020 (see Appendix D for full *USAR* results of each country over time). Countries selected are those with information available from the IMF and the World Bank with which to calculate ratios across all observed years. The results do not show a steady trend of increase or decrease during the observed years. The largest increase in the level of *USAR* is during the COVID-19 outbreak of 2020 was 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. The USA Ratio for 2020 was calculated until June 2020 in order to capture the impact of the COVID-19 outbreak.
4. *USAR* 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 U.S. equity holdings divided by the total equity holdings of the country’s investors, M is the world market minus U.S. 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 USA 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* are the market return and the one-year market return, respectively, SHOCK represents time trend (before and during coronavirus outbreak). *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 was to examine investors’ decision-making across different countries during the COVID-19 outbreak. Our paper challenges the concept of home bias and the flight home effect during negative financial shocks, showing that global branding plays a major role in investors’ decision-making during time of uncertainty. We examine whether during the COVID-19 pandemic investors increased their holding in familiar international brand, located mainly in the United States, such as the FAANG companies. We call this tendency to increase holdings in familiar, giant brands during times of uncertainty “the flight towards global branding,” and test this tendency using a new ratio measure, *USAR* (the USA Ratio). Overall, the results show a significant increase in the level of *USAR* during the COVID-19 outbreak. This result may be attributable to a mixture of factors, both rational and behavioral. On the one hand, the COVID-19 outbreak underscored the importance of technology, causing investors to rationally prefer high-technology brands, which tend to be located in the United States. On the other hand, this increase might be attributable to behavioral factors, as investors prefer to invest in large, highly-branded and familiar companies. Accordingly, our results show that more culturally globalized countries showed a significant increase in the level of *USAR* during the global wave of COVID-19. However, we did not find a significant association between *USAR* and economic or political globalization during the period we examined. Another interesting result is a significant positive relationship between *USAR* and Hofstede’s cultural dimension of indulgence during the COVID-19 global outbreak. This indicates that the level of *USAR* increased more in societies that allow freer fulfillment of human needs related to enjoying life, compared with more restrained societies. These results support the importance of strong international branding in today’s global world. Our findings imply that strong global branding and familiarity may play a major role in investors’ decision-making. An improved understanding of investors’ behavior and asset allocation decisions can add considerable value for investors since it can reduce behavioral heuristics and increase market inefficiency costs. Investors aiming to build an optimal portfolio should carefully examine their asset allocation, to analyze whether their decisions are based on rational factors such as global diversification, or on behavioral factors, such the perceived familiarity of highly-branded companies. This study can be extended to examine the level invested in different sectors, such as the industrial sector versus the high technology sector, during the COVID-19 pandemic.

**References**

Ahearne, A.G., Griever, W.L., Warnock, F.E. (2004). Information costs and home bias: an analysis of U.S. holdings of foreign equities. *Journal of International Economics*, 62, 313–336.

Amadi, A. A. (2004). Equity home bias: A disappearing phenomenon? *Available at SSRN*. doi: [http://dx.doi.org/10.2139/ssrn.540662.](http://dx.doi.org/10.2139/ssrn.540662.%20)

Anderson, C. W., Fedenia, M., Hirschey, M., and Skiba, H. (2011). Cultural influences on home bias and international diversification by Institutional Investors. *Journal of Banking & Finance*, *35*, 916–934.‏

Barberis, N. (2010). Psychology and the financial crisis of 2007-2008, *in Michael Haliassos (Ed.), Financial Innovation and the Crisis, MIT Press, Massachusetts, forthcoming* *Journal of Finance, 60*, 1495–1534.

Beugelsdijk, S., & Frijns, B. (2010). A cultural explanation of the foreign bias in international asset allocation. *Journal of Banking & Finance*, *34*, 2121–2131.

Chan, K., Covrig, V., & Ng, L. (2005). What determines the domestic bias and foreign bias? Evidence from mutual fund equity allocations worldwide. *The Journal of Finance*, *60*, 1495–1534.‏

Coudert V., Gex M. Does risk aversion drive financial crises? Testing the predictive power of empirical indicators. *J. Empir. Finance.*2008;*15*(2), 167–184

Coeurdacier, N., & Rey, H. (2013). Home bias in open economy financial macroeconomics. *Journal of Economic Literature*, *51*, 63–115.‏

Cooper, I., & Kaplanis, E. (1994). Home bias in equity portfolios, inflation hedging, and international capital market equilibrium. *The Review of Financial Studies*, *7*, 45–60.‏

Cooper, I., Sercu, P., & Vanpée, R. (2013). The equity home bias puzzle: A survey. *Foundations and Trends® in Finance*, *7*, 289–416.‏

Farzanegan, M. R., Feizi, M., & Gholipour, H. F. (2021). Globalization and the outbreak of COVID-19: An empirical analysis. *Journal of Risk and Financial Management*, *14*(3), 105.‏

Fidora, M., M. Fratzscher, and C. Thimann (2007), Home bias in global bond and equity markets: The Role of Real Exchange Rate Volatility, *Journal of International Money and Finance* *26*, 631–655.‏

Giannetti, M., and L. Laeven (2012), The flight home effect: Evidence from the syndicated loan market during financial crises, *Journal of Financial Economics*, 104, 23–43.

Graham, J. R., Harvey, C. R., & Huang, H. (2009). Investor competence, trading frequency, and home bias. *Management Science*, *55*(7), 1094–1106.‏

Ha, H. Y. and Perks, H. (2005), Effects of consumer perceptions of brand experience on the web: Brand familiarity, satisfaction and brand trust, *Journal of Consumer Behaviour: An International Research Review*, *4*(6), 438–452.

Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. *Online Readings in Psychology and Vulture*, *2*(1), 2307–0919.‏

Huberman, J. (2001). Familiarity breeds of investment. *Review of Financial Studies, 14*, 659–680.

Kapferer, J. N. (2008). *The new strategic brand management: Creating and sustaining brand equity long term*. Kogan Page Publishers.‏

Karolyi, G. A. and Stulz, R. M. (2003), Are financial assets priced locally or globally? *Handbook of the Economics of Finance*, *1*, 975–1020.‏

Kika, M. and Weber, M. (2000). Home bias in international stock return expectation. *Journal of Psychology and Financial Markets, 1*, 176–192.

Lauterbach, B., and Reisman, H. (2004). Keeping up with the Joneses and the home bias. *European Financial Management*, 10, 225–234.

Levitt, T. (1993). The globalization of markets. *Readings in International Business: A Decision Approach*, *249*.‏

Levy, H., and Levy, M. (2014). The home bias is here to stay. *Journal of Banking & Finance*, *47*, 29–40.

Levy, H. (2017). What is the economic cost of the investment home bias? *Journal of Money, Credit and Banking*, *49*, 897–929.‏

Li, J., Zhang, Y., & Niu, X. (2021). The COVID-19 pandemic reduces trust behavior. *Economics Letters*, *199*, 109700.

Lin M., and S. Viswanathan (2016), Home bias in online investments: An empirical study of an online crowdfunding market, *Management Science* *62* (5), 1393–1414.

Mishra, A.V. (2015), Measures of equity home bias puzzle. Journal of Empirical Finance, *34*, 293–312.

Morse, A. & Shive, S. (2011). Patriotism in your portfolio. *Journal of Financial Markets*, *14*, 411–440.‏

Niszczota, P. (2014). Cross-country differences in personality and the foreign bias in international equity portfolios. *The European Journal of Finance*, *20*, 934–956.‏

Papadamou, S., Fassas, A. P., Kenourgios, D., & Dimitriou, D. (2021). Flight-to-quality between global stock and bond markets in the COVID era. *Finance Research Letters*, *38*, 101852.‏

Park, S. E. (2020). Epidemiology, virology, and clinical features of severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2; Coronavirus Disease-19). *Clinical and Experimental Pediatrics*, *63*(4), 119.

Riff, S. & Yagil, Y. (2016). Behavioral factors affecting the home bias phenomenon: experimental tests. *Journal of Behavioral Finance*, *17*, 267–279.

Riff, S., & Yagil, J. (2019). The driving forces behind the home bias phenomenon: Evidence from Israel. *Investment Analysts Journal*, *48*, 263–277.‏

Riff, S., & Yagil, Y. (2020). Home Bias and the Power of Branding. *Journal of Behavioral Finance*, 1–9.‏

Riff, S., & Yagil, Y. (2020). The relationship between home bias and globalization–an international comparison. *Managerial Finance*.

Singh, A. (2020). COVID-19 and safer investment bets. *Finance Research Letters*, *36*, 101729.‏

Solnik, B., Boucrelle C., & Yann, L. F. (1996). International market correlation and volatility. *Financial Analysts Journal*. *52*, 17–34.

Solnik, B. & Zuo, L. (2012). A Global equilibrium asset-pricing model with home preference. *Management Science*, *58*, 273–292.

Steger, M. B. (2017). Globalization: A very short introduction, fourth ed. Oxford University Press*.‏*

Wu, Y. C., Chen, C. S., & Chan, Y. J. (2020). The outbreak of COVID-19: An overview. *Journal of the Chinese Medical Association*, *83*(3), 217.‏

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 Continued: 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 the Covid-19 pandemic negative shock.

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

|  |  |  |  |
| --- | --- | --- | --- |
| **Globalization Index, de facto** | **Weights** | **Globalization Index, de jure** | **Weights** |
| ***Economic Globalization, de facto*** | ***33.3*** | ***Economic Globalization, de jure*** | ***33.3*** |
| *Trade Globalization, de facto* | *50.0* | *Trade Globalization, 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 Globalzsation, de facto* | *50.0* | *Financial Globalization, 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 Globalization, de facto*** | ***33.3*** | ***Social Globalization, de jure*** | ***33.3*** |
| *Interpersonal Globalization, de facto* | *33.3* | *Interpersonal Globalization, 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 Globalization, de facto* | *33.3* | *Informational Globalization, 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 Globalization, de facto* | *33.3* | *Cultural Globalization, 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 Globalization, de facto*** | ***33.3*** | ***Political Globalization, de jure*** | ***33.3*** |
| Embassies | 36.2 | International organizations | 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 globalization indices for each aggregation level are calculated by the average of the respective de facto and de jure indices. | | | | |

**Appendix D: *USAR* from2010-2020**



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)