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Cultural Distance and Momentum Effect—The Case of Cross-Listed Companies in the United States

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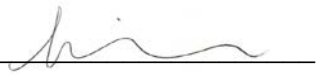
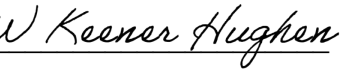
Committee Member: Dr. Zhijian Huang Signature: 

Committee Member: Dr. W. Keener Hughen Signature: 

Cultural Distance and Momentum Effect

-- the Case of Cross-Listed Companies in the United States

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Abstract:

This paper examines the momentum effect in U.S. cross-listed companies, exploring the relationship between cultural distance and momentum portfolio formation, and how cultural distance affects momentum portfolio returns for US cross-listed firms. The study selects cross-listed companies from January 2001 to December 2022 and create momentum portfolios (Chui, Timan, & Wei, 2010) to test the momentum effect of cross-listed companies in the United States. The cultural distance for cross-listed companies is then calculated using the within-group cultural diversity method (Frijns, Dodd, & Cimerova, 2016) and the Hofstede (2001) dimensional method to find the momentum effect in cultural distance sorted groups. The study also examines the relationship between cultural distance and momentum portfolio formation and the impact of cultural distance on cross-listed companies momentum returns using multiple regression methods. The results show that there is a momentum effect in US cross-listed companies, and a stronger momentum effect when the cross-listed company is from a country more culturally different from the US. Companies with higher cultural distance scores are more likely to be selected as winning portfolios.

Key Words: Cultural distance, Cross Listed Companies, Momentum effect, Hofstede's Framework.

I. **Introduction**

The momentum effect refers to the observation that stocks that perform the best in the recent past continuously perform well in the future (Chui et al., 2010). Jegadeesh and Titman (1993) asserted that in the United States, trading strategies that buy past winners and sell past losers over the past three to twelve months realize significant abnormal returns, and such profitability of the relative strength strategies are not due to their systematic risk. Meanwhile, Chui et al. (2010) has claimed that individualism, one of the cultural factors, is positively associated with momentum profits. Moreover, Darsono, Wong, Thai, Jati, and Dewanti (2021) find that four of the cultural dimensions, power distance, individualism, uncertainty of avoidance index and long-term orientation, positively associated with market returns. In addition, Hong, Lee, and Swaminathan (2003) mention that earnings momentum is stronger in Western countries. Tihanyi, Griffith, and Russell (2005) discover that cultural distance positively associates with international diversification in multination enterprises. Breuer and Salzmann (2012) show that national culture is a strong indicator for the portfolio structure. These studies reveal that cultural distance and cultural dimensions are related to momentum returns and portfolio structure. This paper focus on US cross-listed companies' momentum effects, the relationship between cultural distance and US cross-listed companies' momentum portfolios formation, and the impact of cultural distance on the US cross-listed companies momentum portfolio returns.

Previous studies focus on the impact of cultural factors on the momentum strategy across countries. Using data from various stock exchange(s) in countries around the world, calculating momentum strategy returns for each individual country and examining the impact of cultural factors on momentum portfolios for each country. They either excluded cross-listed companies

(Teplova & Mikova, 2015) or failed to analyze the effects of cross-listing on momentum returns (Chui, et al. 2010).

By cross-listing, a company expands their business scale, has more opportunities to overcome the investment barriers between capital markets, and has a higher chance to meet a broad group of investors (Del Bosco & Misani, 2016). US cross-listed companies are influenced by multiple cultural factors from more than one country, differences in cultural aspects between the two countries can affect corporate risk-taking, hedging decisions, and dividend policies (Chui et al., 2010). Diverse cultural dimensions can impact market returns (Darsono et al., 2021), companies financial decision-making and outcomes (Frijns et al., 2016), lower their cost of capital (Hail & Leuz, 2009) and potentially improve investment decisions and firm value (Bris, Cantale, Hrnjić, & Nishiotis, 2012). These factors can be reflected in the company's price, which could impact on their momentum returns.

This paper extent the research to the impact of cultural distance on the US cross-listed companies' momentum profits. First, I find a list of cross-listed companies and their headquarters locations by using the SEC (Securities and Exchange Commission) EDGAR free search tool (Wijayana & Gray, 2018). Second, I determine the cultural scores for these cross-listed companies by using the Hofstede (2001, 2010) six-dimension framework, and then utilize the within-group cultural diversity method (Frijns et al., 2016) to calculate the cultural distance between the cross-listed companies headquarter countries and the United States. Third, I follow the method of Chui et al. (2010) to create momentum portfolios among cross-listed companies, and then find the average returns on the momentum portfolio by country and by cultural distance sorted groups. Finally, I use logistic regression to examine the correlation between the formation of momentum portfolios and cultural distance and conduct regression analyses to assess the

relationship between momentum return and cultural distance. The results show that momentum effects exist in US cross-listed companies, US cross-listed companies with higher cultural distance scores have higher odds of being selected for winning portfolios, and the greater cultural distance the stronger the momentum returns.

To examine the robustness of the result, I reduce the sample size by removing eight Asian countries because the momentum effect is weaker in east Asian countries (Chui et al., 2010). Additionally, to avoid the size effect which claims that small firms tend to earn higher returns, I create a dummy variable to control small size companies whose month-end market capitalization is less than $100 million. I also use logarithm cultural distance instead the cultural distance as independent variables to see the difference of the result. The positive relationship between companies' cultural distance scores and the momentum profits remains unchanged under these alternative tests. The contribution of this paper is to extend the examination of cultural factors on momentum strategy to US cross-listed companies, use within-group cultural diversity method to investigate the impact of cultural distance on momentum returns, and add cultural distance as a consideration for investors in choosing stocks in their momentum portfolio to maximize profits.

The rest of the paper is structured as follows. Section II would be a literature review Section III reports cross listed companies in the United States and their cultural scores**,** and Section IV creates momentum portfolios and reports the returns of the portfolios. Section V shows the relationship between momentum profits and cultural distance. Section VI shows the regression analysis results, Section VII is the robust test, and section VIII is the conclusion.

II. **Literature review**

This section includes three strands of literatures: cultural dimensions and the importance of cultural influence in corporate finance, cultural difference in cross-listed companies in the United States, and momentum strategy and cultural difference.

A. Cultural dimensions and the importance of cultural influence in corporate finance.

The two most well-known frameworks to measure cultural dimensions are Hofstede (2001) and Schwartz (2004). Hofstede (2001) reflects the degree of people's internal attributes, such as their own abilities, to differentiate themselves from others. Hofstede (2001) defines national culture as the collective mental programming that distinguishes the individuals of a nation from the individuals of other nations.

Initially, Hofstede (1980, 2001(2nd edition)) introduced four dimensions: individualism/collectivism (INDI), masculinity/femininity (MASCU), uncertainty avoidance (UA), and power distance (PD). The score was obtained from a large respondent group of IBM managers from 70 countries between 1967 and 1973. Later, the other two dimensions, long-term orientation (LTO) and indulgence/constraint (INDU) have been added in (Hofstede & Minkov, 2010). The six cultural dimensions are described below:

The power distance score captures the acceptance of societies' members of an unequal distribution of power among people. The **individualism** score indicates how much value members of a society place on taking care of themselves and their close families. The **masculinity** score measures the importance societies' members place on achievement, assertiveness, and material reward for success. The **uncertainty avoidance** score represents the degree to which people from that country feel uncomfortable with uncertainty and ambiguity. **Long-term orientation**: The degree to which a culture values long-term planning and perseverance versus short-term goals and immediate gratification. **Indulgence vs. restraint**: The

degree to which a culture allows and encourages gratification of basic human drives and desires, versus regulating and suppressing them.

Different from the Hofstede (2001) framework, the Schwartz (2004) cultural model identifies three bipolar dimensions that represent alternative solutions to basic problems confronting all societies. The three bipolar dimensions are autonomy-embeddedness, egalitarianism-egalitarianism, and hierarchy-harmony.

Studies show that culture plays a significant role in both corporate finance and household finance. Among others, Guiso, Sapienza, and Zingales (2006) and Tabellini (2008) claim that systematic differences in people's beliefs and values will generate far-reaching economic and social implications. Gray, Kang and Yoo (2013) state that cultural values influence accounting measurement practices and then impact earnings quality differentially across countries. Frijns et al. (2016) find that national cultural diversity in corporate boards negatively affects firm returns, and Breuer and Salzmann (2012) show that national culture is a strong indicator for the portfolio structure. Darsono et al. (2021) finds that four of the cultural dimensions, power distance, individualism, uncertainty of avoidance index and long-term orientation, positively associate with market returns in the Asian region.

B. Cultural difference in cross-listed companies in the United States

By cross-listing, a company expands their business scale, has more opportunities to overcome the investment barriers between capital markets, and has a higher chance to meet a broad group of investors (Del Bosco & Misani, 2016). Other advantages of cross-listing include achieving higher Tobin’s q ratios (Doidge, Karolyi, & Stulz, 2004), more access to external financing (Reese & Weisbach, 2002), greater abnormal returns around earnings announcements, lower cost of capital, and a better information environment (Del Bosco & Misani 2016).

Frijns et al. (2016) work on the impact of cultural diversity in corporate boards on firm performance. They create a within-group cultural diversity method to measure national cultural diversity by calculating the average of cultural distances among board members using Hofstede (2001) culture framework and find a robust result that national cultural diversity in boards negatively affects firm Tobin's Q and return on assets (ROA).

C. Momentum strategy and cultural distance

Jegadeesh and Titman (1993) assert that in the United States, trading strategies that buy past winners and sell past losers over the past three to twelve months realize significant abnormal returns, and such profitability of the relative strength strategies are not due to their systematic risk. However, the momentum effect in different countries is different from in the United States. Several scholars find that inconclusive results on the momentum effect around different countries. For instance, among others, Hong et al. (2003) find that earnings momentum is stronger in Western countries than in East Asian countries. Similarly, Asness, Moskowitz, and Pedersen (2013) document that the availability and profitability of momentum effect are in Central Europe, the United Kingdom, and the United States, but are not in Japan.

In contrast, some scholars examine the Asian market and find that the momentum effect does exist. For instance, Vo and Truong (2018) find that momentum effects exist in Vietnamese stock market. Teplova and Mikova (2015) find that under certain condition, investors will earn positive momentum profit in the Japanese market. Nedev and Bogdanova (2019) find evidence that momentum effect can be predictable for both stock exchanges in the Shanghai Stock Exchange (SHSE) and the New York Stock Exchange (NYSE) with some dominancy for the NYSE.

According to Chui et al. (2010), individualism, a dimension in Hofstede's (2001) cultural framework, may be linked to overconfidence and self-attribution bias. This correlation is positively related to trading volume, volatility, and the magnitude of momentum profits. They also find that the result is robust after controlling for other factors such as firm size, analyst forecast dispersion, transaction costs, and volatility. Tihanyi et al. (2005) discover a positive and significant association between cultural distance and international diversification in multination enterprises.

III. Cross listed companies in the United States and their cultural scores

To conduct this research, I first find United States cross-listed companies and their cultural scores of their headquarter location, and then calculate cultural distance between the headquarter countries and the United States. I use SEC EDGAR free search tool (Wijayana & Gray, 2018) to find the cross-listed companies' names and their headquarters locations, the sample period is from March 2001 to December 2022 (longest time frame available in EDGAR). Specifically, I search the 20 F form for all companies in countries other than in Canada, and the 40 F form for Canadian companies. I then combine them together to obtain 690 unique non-US companies are from 40 countries who cross listing their shares in the United States stock exchanges. Figure1 below shows the detail. We can see the substantial portion of cross-listed companies are from Canada (311 firms), followed by China (54 firms), United Kingdom (47 firms), Israel (36 firms), and Brazil (20 firms).

[Insert Figure 1 here]

To measure the cultural distance, I first identify the headquarters location of each company on the list, and then following Zheng & Ashraf's (2014) method, use the Hofstede (2001) and Hofstede et al. (2010) six cultural dimension framework to find each country's six

cultural dimension scores. At Hofstede insights.com, I find the cultural dimension scores for 690 companies from 40 countries listed above according to their headquarters locations. 17 companies whose headquarters are in Bahamas and Bermuda are excluded because there are no corresponding cultural scores in the Hofstede cultural dimension. The total sample is reduced to 673 companies in 38 countries.

Finally, create a variable of cultural distance CD_{iu} by following the Frijns et al (2016) within-group cultural diversity method and calculate cultural distance for each cross-listed company.

$$CD_{iu} = \sqrt{\sum_{k=1}^{6}\{(I_{ki} - I_{ku})^2/V_k\}} \quad \forall\, i \neq j$$

Where:

CD_{iu} is the cultural distance between the country of a company's headquarter and the United States.

I_{ki} is the cultural score on dimension k for a country i ,

I_{ku} is the cultural score on dimension k for the United States, and

V_k is the in-sample variance of the score for the specific cultural dimension.

This measure of cultural distance has been applied by Frijns et al. (2016) and Kogut and Singh (1988) among others. Figure 2 shows the six cultural dimension scores across 38 countries, along with their cultural distance scores and the numbers of companies in each country.

[Insert Fig. 2 here]

IV. **Return on Momentum Portfolios**

In this section, I follow the method of Chui et al. (2010) to create winner portfolios, loser portfolios, and momentum portfolios for 673 US cross-listed companies whose headquarters are in 38 countries and calculate the return for each portfolio. The dataset in this study starts in January 1980, and goes on until December 2022 since the original Hofstede (1980) four dimensions of national culture was conducted in 1980. I calculate country-level portfolio returns based on the home country of US cross-listed firms, and then divide countries into three groups based on their cultural distance scores to assess the impact of cultural distance on the momentum returns for each group. Additionally, I perform regression analysis using firm-level portfolio returns. Table 1 shows the summary statistics of all the variables used in this study.

[Insert Table 1 here]

A. Obtain and prepare data.

Cross-listed companies' monthly returns are obtained from the Center for Research in Security Prices (CRSP) database. From CRSP, I use the conversion tool to convert each company's ticker symbol to its corresponding PEMCO numbers, then use company's unique PERMCO number to find its monthly returns from January 1980 to December 2022. Because some companies have ticker symbols that are not available or missing when converting ticker symbols to the PERMCO numbers, the sample size is reduced to 332 companies in 32 countries. Six countries: Denmark, Finland, Greece, Hungary, Lebanon, and Norway are removed from the dataset. To further prepare the data, I remove duplicate records if the PERMCO, date, and return are all the same. Companies with returns of less than six months per ranking period are also removed. The final sample contains 164,055 monthly returns.

After data preparation, I follow the method of Chui et al. (2010) for creating winner, loser, and momentum (Winner-Loser) portfolios in my dataset of US cross-listed companies.

[Insert Figure 3 here]

At the end of each month, I sort all cross-listed companies in descending order based on their cumulative returns for the previous six months. Assign the top 30% of companies to the winning (W) portfolio and the bottom 30% to the losing (L) portfolio. These equally weighted portfolios are held for six months, with a one-month gap between the ranking period and the holding period. The returns of the "W" and "L" portfolios are measured one month after the ranking. For example, at the end of June 1980, I created the first "W" and "L" portfolios by sorting all companies based on their cumulative returns between January 1980 and June 1980. The June 1980 "W" and "L" portfolios are held from August 1980 to January 1980 for six months.

Returns on those “W” portfolios in month t are computed as

$$\frac{Average\ cumulative\ returns\ of\ the\ stocks\ in\ these\ portfolios\ in\ month\ (t)}{Average\ cumulative\ returns\ of\ these\ stocks\ in\ month\ (t-1)} - 1$$

To increase the power of the tests, overlapping portfolios are being used. The winner portfolio is an overlapping portfolio consisting of six “W” portfolios. For example, the first winner portfolio in the dataset is an overlapping portfolio consisting of six “W” portfolios starting from the period June 1980 to November 1980. A winner portfolio return is the simple average of the returns of the six “W” portfolio returns. The return on the first winner portfolio can be calculated in July 1981. If any stock has a missing return during the holding period, it is replaced by the corresponding value-weighted market return. If a stock is delisted, the portolio is rebalanced at the end of the delisting month. The momentum portfolio (W-L) is a zero-cost, winner-minus-loser portfolio.

B. Momentum Portfolio Returns

In this section, I report the country-level returns of winner, loser and momentum portfolios. For each home country of U.S. cross-listed company, the momentum portfolio generates the highest returns, followed by winner portfolio returns, and loser portfolios have the lowest returns.

[Insert Figure 4 here]

[Insert Table 2 here]

Panel A of Table 2 reports the country-level monthly average returns (percentage) of the winner portfolio, loser portfolio, and the winner-minus-loser portfolio for each of the 32 countries. The results show that except for Malta, all other 31 country-level momentum portfolios produced positive average returns over the entire sample period. The positive profits in all but six countries (Belgium, Colombia, Malta, Peru, Singapore, Switzerland) are statistically significant. Panel B of Table 2 reports the returns on winner portfolio, loser portfolio, and winner-minus-loser portfolio at all country average base. The country-average portfolio equally weights each country-specific momentum portfolio. The result in panel B of Table 2 indicates the overall momentum profits in 32 countries across the period of January 1980 to December 2022 is 0.87% per month with a t-statistic of 14.25. The result supports the momentum strategy can be used in US cross-listed companies, and there is momentum profit among cross-listed companies. This result aligns with the findings from other momentum literature (Chui et al, 2010; Jegadeesh & Titman, 1993) and adds the study of cross-listed firms to the existing literature on momentum strategies.

V. **Momentum Profits and cultural distance**

In this section, I classify cross-listed companies home countries into three groups based on their cultural distance score to investigate the relationship between cultural distance and the profitability of momentum strategies of each country.

[Insert Table 3 here]

Table 3 reports the average monthly returns on cultural distance sorted momentum portfolios. I group 32 countries to three groups from low to high based on their cultural distance scores to see the average monthly return on cultural distance sorted momentum portfolios. The high cultural distance group (top 10 countries) has a return of 1.112% with t-statistic of 5.35, the low cultural distance group (bottom 10 countries) has a return of 0.818% with t-statistic of 5.71, and the countries in the middle show the 0.985% monthly return with t-statistic of 8.42. These results reveal that momentum profits increase accordingly with cultural distance scores.

VI. **Regression analysis**

In this section, I conduct a logistic regression analysis to examine the relationship between momentum portfolio's formation and cultural distance as well as the other six cultural dimension scores. I also utilize least square regression to assess the relationship between momentum profitability and the cultural distance and other cultural dimensions.

A. ***Examine the relationship between cultural distance and winning ("W") portfolios formation by using logistic regression.***

In recent year, with the increase of globalization and the population of social media, companies expand their market and products to emerging economies, management start to aware more about cultural difference and feel more comfortable diversifying into countries with dissimilar cultures. Tihanyi et al. (2005) find that high cultural distance provides performance

benefits when a company operates in other countries. Breuer and Salzmann (2012) show that national culture is a strong indicator for the portfolio structure.

Hypothesis I: the cultural distance score has a positive relationship with the probability of being chosen to the Wining (W) portfolio at any ranking period.

To test the impact of cultural distance on the formation of "W" portfolios, logit regression was conducted. I create a dummy variable $Winp$ equal to 1, if the stock is chosen into the "W" portfolio at any ranking period, and 0 otherwise. Most of the research use two common models for binary dependent variables which are the logit and probit models. This study follows Zheng & Ashraf (2014) to use logit regression models. Equation 1 uses cultural distance plus six cultural dimensions as independent variables. Equation 2 uses logarithmic of cultural distance and logarithmic of six cultural dimensions as independent variables. By using logarithmic independent variables, the variables can be presented as a more normalized dataset and reflect the result for percentage change in the independent variables.

$$Pro_{Winp} = F(\beta_0 + \beta_1 CD + \beta_2 INDI + \beta_3 INDU + \beta_4 MASCU + \beta_5 PD + \beta_6 LTO + \beta_7 UA + \epsilon) \ldots\ldots\ldots\ldots (1)$$

Where *Winp* is a dummy variable equal to 1 if the stock is chosen into the "W" portfolio at any ranking period, otherwise, equal to 0. *CD* is a cultural distance between a company's headquarter country and the United States. *INDI* is an individualism score for a company's headquarters country. *INDU* is an indulgence score for a company's headquarters country. *MASCU* is a masculinity score for a company's headquarters country. *PD* is a power distance score for a company's headquarters country. *LTO* is a long-term orientation for a company's headquarters country and *UA* is an uncertainty avoidance score for a company's headquarters country.

$$Pro_{Winp} = F(\beta_0 + \beta_1 LCD + \beta_2 LINDI + \beta_3 LINDU + \beta_4 LMASCU + \beta_5 LPD + \beta_6 LLTO + \beta_7 LUA + \epsilon) \ldots\ldots (2)$$

Where *Winp* is a dummy variable equal to 1 if the stock is chosen into the "W" portfolio at any ranking period, otherwise, equal to 0. *LCD* is a logarithmic of cultural distance between a company's headquarter country and the United States. *LINDI* is a logarithmic of individualism score for a company's headquarters country. *LINDU* is a logarithmic of indulgence score for a company's headquarters country. *LMASCU* is a logarithmic of masculinity score for a company's headquarters country. LPD is a logarithmic of power distance score of a company's headquarters country. $LLTO$ is a logarithmic of long-term orientation of a company's headquarter country and LUA is a logarithmic of uncertainty avoidance score of a company's headquarter country.

To avoid any multicollinearity problem, a variance inflation factors test was conducted. Panel A of Table 4 reports the result of the variance inflation factors test between cultural distance and the six cultural dimensions and Panel B of Table 4 reports the result of variance inflation factors test between logarithmic of cultural distance and the logarithmic of six cultural dimensions. The result shows that the centered VIF scores are all less than ten, and there is no server multicollinearity problem for these two sets of independent variables.

[Insert Table 4 here]

[Insert Table 5 here]

Panel A of Table 5 reports the results of the impact of cultural distance and the six cultural dimensions on "W" portfolio's formation. The results show that the cultural distance (CD), indulgence (INDU), and masculinity (MASCU) have statistically significant positive relationship with "W" portfolios' formation. Whereas long-term orientation (LTO) is negatively correlated to "W" portfolios' formation and statistically significant. The results reveal that increase in the cultural distance score associate with a better chance of being selected into the

"W" portfolio. A one percentage point increase in CD increases the odds of being selected into "W" portfolios by 1.61%, and likewise a one percentage point increase in INDU and MASCU increase the odds of being selected into “W” portfolios by 0.2% and 0.3%, respectively. On the other hand, companies with culture that value long-term planning and perseverance are less likely to be selected for a “W” portfolio. Each one-point increase in the LTO score reduces the odds of being selected for a “W” portfolio by 0.3%.

Panel A of Table 5 also reports the relationship between cultural distance and the six Hofstede dimensions to “L” portfolio’s formation. Uncertainty avoidance (UA) has a statistically significant negative relationship with “L” portfolios. This makes sense, since UA measures how uncomfortable people in the country are with uncertainty and ambiguity. High UA is associated with risk aversion and conservatism. With high UA, trading activities become less flexible and full of caution (Darsono et al., 2021). A one percentage point increase in UA reduces the odds of being selected into an “L” portfolio by 0.3%.

Panel B of Table 5 reports regression results using logarithmic variables. I observe a significant improvement in results. The logarithm of cultural distance (LCD) is positively associated with the formation of winning portfolios and negatively associated with the formation of losing portfolios. Specifically, a 1% increase in LCD would increase the odds a "W" portfolio by 0.089% and decrease the odds of being selected for a "L" portfolio by 0.072%. This result suggests that companies with greater cultural distance from the United States have more chances of being selected in the "W" portfolio and less chance of being selected in the "L" portfolio.

The results also shows that companies with higher scores on indulgence and masculinity had more chances of being selected in the "W" portfolio and less chance of being selected in the "L" portfolio. A 1% increase in the log of indulgence (LINDU) and log of masculinity

(LMASCU) increase the odds of forming a winning portfolio by 0.214% and 0.145%, respectively, and decreased the odds of forming an "L" portfolio by 0.360% and 0.126%, respectively. Furthermore, the higher a firm's individualism and power distance scores, the less likely the firm will be selected for the "L" portfolio. A 1% increase in log individualism (LINDI) and log power distance (LPD) leads to a statistically significant 0.131% and 0.312% reduction in the odds of being selected to the "L" portfolio.

*B. **Assess the relationship between momentum portfolio's return and cultural distance.***

Several studies find that some of the Hofstede dimensions affect market returns. Chui et al. (2010) find that individualism has a positive effect on momentum profit. Darsono et al., (2021) find that four of the Hofstede dimensions, individualism, power distance, uncertainty avoidance, and long-term orientation, show significant positive effects on sustainable stock returns in Asian countries. At the same time, some scholars find opposite results for some cultural dimensions. Among them, Zhou, Cui, Wu, and Wang (2019) find that uncertainty avoidance negatively affects stock returns.

Hypothesis II: The cultural distances between the cross-listed companies' home country and listing country positively affects the momentum portfolio's return.

$$Mom_t = \alpha_0 + \beta_1 CD + \beta_2 INDI + \beta_3 INDU + \beta_4 MASCU + \beta_5 PD + \beta_6 LTO + \beta_7 UA + \beta_8 Mom_{t-n} + \varepsilon_{it} \ldots. (3)$$

Where Mom_t is the return on the momentum portfolio ("W" minus "L") in month t. I use firm level data here to find how the cultural distance and other six cultural dimension scores impact monthly momentum returns. To avoid autocorrelation problem, I add one period lag of dependent variable Mom_{t-1} to the equation. I use the ordinary least square (OLS) and panel data estimated generalized least squares (EGLS) regression to assess the relationship between

momentum returns and cultural distance and other six cultural dimensions. The sample includes all the companies that are in momentum portfolio for each month.

[Insert Table 6 here]

In the first step of the analysis, the model was processed by OLS regression. Panel A of Table 6 reports that cultural distance has a positive relationship with momentum portfolios return and statistically significant and the uncertainty avoidance has significantly negative relationship with momentum profitability. The results revealed that momentum return is significantly and positively affected by cultural distance, and significantly and negatively affected by uncertainty avoidance. However, Durbin-Watson stat indicate that autocorrelation in the sample, and Breusch-Pagan-Godfrey Test also shows that there is heteroscedasticity in the results.

To avoid autocorrelation problem, I add one period lag of dependent variable to the equation and run the OLS regression again. As shown in panel B of Table 6, cultural distance, individualism, and indulgence have a positive relationship with momentum returns while masculinity, power distance, long-term orientation, and uncertainty avoidance negatively related momentum returns. And the Durbin-Watson stat become to 2.0773 from 0.0103. However, all the independent variables lose the statistic significant in this model.

Panel C of Table 6 reports the estimated generalized least squares panel data regression with cross-section weights results. This time, the regression employs six periods lag of momentum returns. With Durbin-Watson stat stays around 1.9967, **long-term orientation** becomes positive statistically significant at 5% level.

VII. **Robust test**

A. Reduced Sample with no Asian countries

Since momentum profits are weak in east Asian countries (Hong et al., 2003) and that these countries have high cultural distance scores. Therefore, it is worthwhile to perform a subsample analysis without Asian countries. Specifically, in this test, I remove eight Asian countries: China, Hong Kong, India, Indonesia, Japan, Philippines, Singapore, and South Korea (Chui et al., 2010). The reduced sample contains 24 countries.

[Insert Table 7 here]

The results are the same as for the full sample. Even without these eight Asian countries, the momentum portfolios in all other 23 counties (except Malta) produced positive average returns over the entire sample period. However, the reduced sample only reports statistically significant results for 13 countries (with the exception of Belgium, Chile, Colombia, Italy, Luxembourg, Malta, Mexico, Panama, Peru, Sweden, and Switzerland). The all-country average winner, loser and momentum portfolio returns are –0.345, -1.189, and 0.845, respectively, with t-statistics of -4.42, -10.98, and 10.98, respectively. Momentum portfolios in the reduced sample with no Asian countries still yield significant positive returns.

[Insert Table 8 here]

When testing the reduced sample with no Asian countries by cultural distance sorted group, the result shows similar momentum profits with the full sample test. It is noted that among the eight Asian countries, five of them were in the high cultural distance group of full sample test, and none of them were in low cultural distance group. The high cultural distance group (top 8 countries) has a return of 1.182% with t-statistic of 7.17, the low cultural distance group (bottom 8 countries) has a return of 0.787% with t-statistic of 4.39, and the countries in the middle show the 0.849% monthly return with t-statistic of 5.53. These results still show that momentum profits increase accordingly with cultural distance scores.

B. Control of small size companies.

Small size companies tend to generate greater momentum profits (Chui et al., 2010). As a result, it is possible that the positive relation between cultural distance and the momentum profits is caused by the size effect. To control the size effect on momentum returns, I create a dummy variable *SIZE* equal to one if a company's monthly market capitalization is less than $100 million, and zero otherwise. Panel A of Table 9 shows the result of the relationship between momentum returns and cultural distance as well as other six cultural dimension scores, and panel B of Table 9 shows that the relationship between momentum returns and logarithmic of cultural distance scores plus logarithmic of six cultural dimensions scores.

[Insert Table 9 here]

Table 9 reports the results of the least square regression analysis showing the connection between momentum returns and cultural distance, while also considering for the control variable of size. The test finds that the result remains similar when controlling for small size companies. Panel A of Table 9 shows that even controlling for size, cultural distance still significantly and positively affects momentum returns, while uncertainty avoidance also remains significantly negatively correlated with momentum profitability. Panel A and C of Table 9 both show a significant negative relationship between firm size and momentum profitability. The negative coefficient suggests that larger firms tend to experience lower momentum returns compared to smaller firms, consistent with the previous research that smaller firms tend to generate larger momentum profits (Chui et al., 2010).

VIII. **Conclusion**

The momentum effect is a widely recognized phenomenon in the stock market. Studies have consistently shown that stocks have performed well in the recent past tend to continue

performing well in the future. In fact, research conducted by Jegadeesh and Titman (1993) in the United States has demonstrated that trading strategies that buy past winners and sell past losers can result in significant abnormal returns and this profitability is not due to systematic risk. These findings have been supported by Chui et al. (2010), who has claimed that individualism, one of the cultural factors, is positively associated with momentum profits. Additionally, Hong et al. (2003) have found that earnings momentum is stronger in Western countries compared to East Asian countries. And Tihanyi, Griffith, and Russell (2005) discover that cultural distance positively associates with international diversification in multination enterprises.

The existing literature on momentum effect primarily studies it across different countries, without considering cross-listed companies. In contrast, this study focuses on exploring the impact of cultural distance as well as Hofstede (2001, 2010) six cultural dimensions on US cross-listed companies' momentum strategies. The evidence in this paper indicates that cultural distance is positively associated with momentum profits among cross-listed companies in the United States. And the results also show that high cultural distance companies are more likely to be selected into winning portfolios.

However, this paper only includes the cross-listed companies in the United States and has some sample limitation. For example, due to the missing data from the converting from company tickers symbol to the PERMCO number, some countries are missing from the dataset. Also, some countries only have a handful of companies in the sample. Even so, this paper still made a positive attempt. The main contribution of this paper is to expand upon the study of the momentum effect to include cross-listed companies and suggest that investors should consider cultural distance when selecting stocks for their momentum portfolio to maximize profit. Future research could employ a broader sample of cross-listed companies from different countries,

rather than just considering US cross-listed firms. Also, could try to use different culture dimension to measure cultural distance and use various regression model to improve the result.

Figure 1:

Country	Number of Companies	Country	Number of Companies	Country	Number of Companies	Country	Number of Companies
Argentina	11	Denmark	3	Israel	36	Peru	1
Australia	16	Finland	1	Italy	3	Philippines	2
Bahamas	5	France	9	Japan	10	Russia	2
Belgium	3	Germay	8	Lebanon	1	Singapore	6
Bermuda	12	Greece	6	Luxembourg	3	South Africa	6
Brazil	20	Hong Kong	18	malta	1	South Korea	3
Canada	311	Hungary	1	Mexico	6	Spain	4
Chile	12	India	13	Netherlands	16	Sweden	2
China	54	indonesia	1	Norway	1	Switzerland	8
Colombia	14	Ireland	13	Panama	1	United Kingdom	47

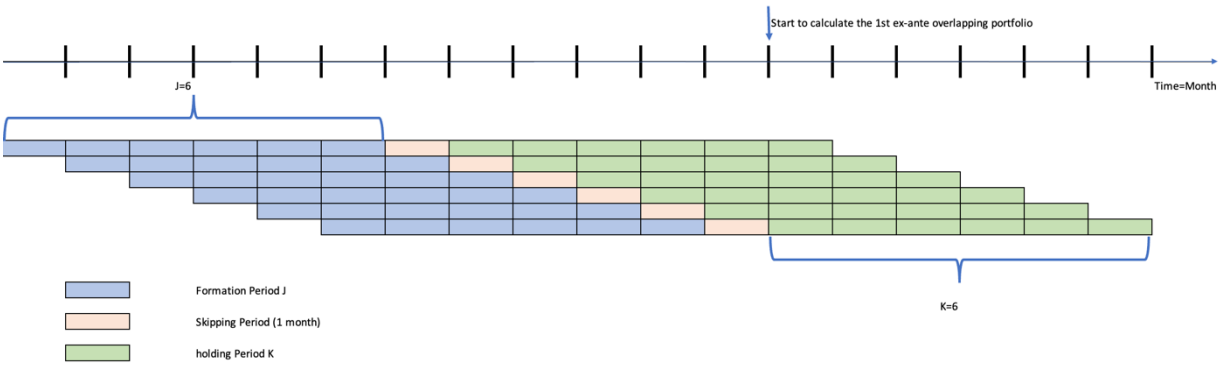
This figure shows numbers of cross-listed company observations in the United States by country. 40 countries and 690 companies. Source: SEC EDGAR.

Figure 2:

Country	Power Distance	Individualism	Masculinity	Uncertainty Avoidance	Long term Orientaton	Indulgence	Cultural Distance	Number of companies
Argentina	49	46	56	86	20	62	4.5228	11
Australia	38	90	61	51	21	71	0.0911	16
Belgium	65	75	54	94	82	57	9.1360	3
Brazil	69	38	49	76	44	59	6.2549	20
Canada	39	80	52	48	36	68	0.5886	311
Chile	63	23	28	86	31	68	11.3472	12
China	80	20	66	30	87	24	14.2656	54
Colombia	67	13	64	80	13	83	8.6310	14
Denmark	18	74	16	23	35	70	9.3860	3
Finland	33	63	26	59	38	57	5.8695	1
France	68	71	43	86	63	48	7.5440	9
Germay	35	67	66	65	83	40	6.1461	8
Greece	60	35	57	100	45	50	8.7091	6
Hong Kong	68	25	57	29	61	17	9.9783	18
Hungary	46	80	88	82	58	31	7.3451	1
India	77	48	56	40	51	26	6.7715	13
Indonesia	78	14	46	48	62	38	10.9813	1
Ireland	28	70	68	35	24	65	0.9401	13
Israel	13	54	47	81	38	0	10.3562	36
Italy	50	76	70	75	61	30	5.0339	3
Japan	54	46	95	92	88	42	14.7541	10
Lebanon	62	43	48	57	22	10	7.3882	1
Luxembourg	40	60	50	70	64	56	4.2033	3
Malta	56	59	47	96	47	66	6.4848	1
Mexico	81	30	69	82	24	97	9.0429	6
Netherlands	38	80	14	53	67	68	10.4038	16
Norway	31	69	8	50	35	55	11.0870	1
Panama	95	11	44	86	0	0	20.0300	1
Peru	64	16	42	87	25	46	10.2559	1
Philippines	94	32	64	44	27	42	8.5537	2
Russia	93	39	36	95	81	20	19.4069	2
Singapore	74	20	48	8	72	46	12.3308	6
South Africa	49	65	63	49	34	63	0.8352	6
South Korea	60	18	39	85	100	20	18.9082	3
Spain	57	51	42	86	48	44	6.9517	4
Sweden	31	71	5	29	53	78	13.3503	2
Switzerland	34	68	70	58	74	66	3.8910	8
United Kingdom	35	89	66	35	51	69	1.0830	47
							Total	**673**

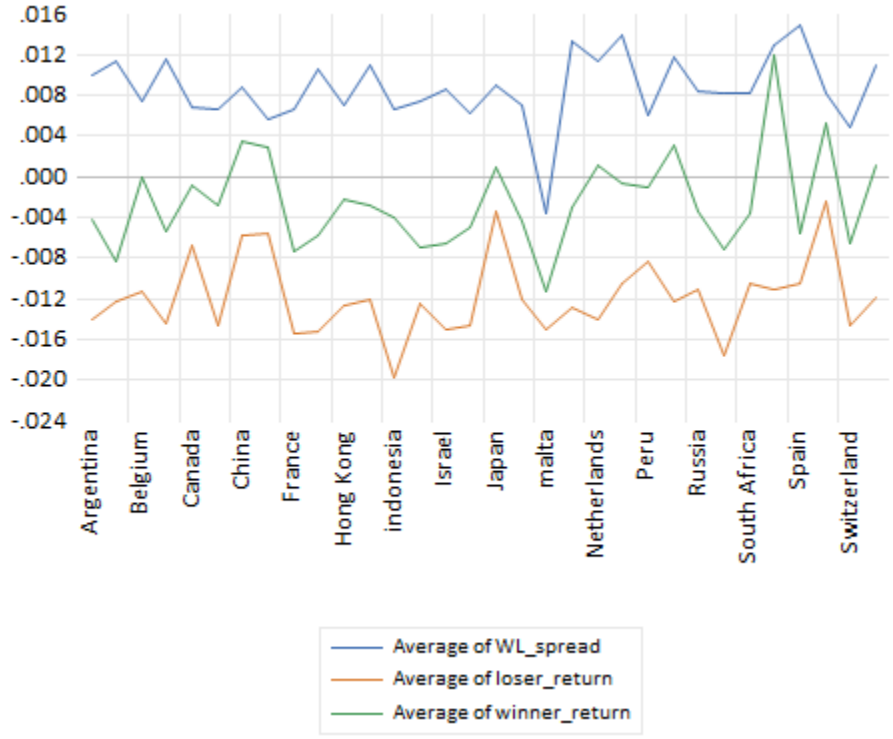
This figure shows the Hofstede cultural dimensions, cultural distance, and number of companies for each country. The sample set contains 38 countries and 673 companies.

Figure 3:



This figure shows the formation of overlapping winner and loser portfolios for momentum strategy. Six months ranking period and six months holding period with one month gap between them.

Figure 4:



This figure shows average winner returns, loser returns, and momentum returns by country from January 1980 to December 2022.

Table 1: Summary Statistics

	Observations	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis
Country level Variables								
Winner Return	32	-0.002484	-0.003252	0.011923	-0.01138	0.004648	0.871032	4.268421
loser Return	32	-0.011874	-0.012301	-0.002499	-0.019784	0.003868	0.680904	3.358061
Momentum Returns (W-L)	32	0.008695	0.008353	0.014937	-0.003631	0.003452	-1.061353	6.337225
CD_{iu}	32	8.481246	8.592346	20.02999	0.091141	5.378542	0.411593	2.675238
$INDI_i$	32	48.65625	49.5	90	11	24.59689	-0.02964	1.710217
$INDU_i$	32	49.625	56.5	97	0	23.48472	-0.383966	2.585292
LTO_i	32	50.21875	49.5	100	0	25.14055	0.093472	2.130791
$MASCU_i$	32	51.875	53	95	5	17.86102	-0.46917	3.857528
PD_i	32	56.46875	56.5	95	13	21.1797	0.094439	2.189096
UA_i	32	63.6875	67.5	96	8	24.25062	-0.404386	2.03857
LCD_{iu}	32	1.755535	2.150862	2.997231	-2.395351	1.177664	-1.84562	6.348142
$LINDI_i$	32	3.720424	3.901513	4.49981	2.397895	0.630807	-0.638317	2.103725
$LINDU_i$	30	3.880794	4.043051	4.574711	2.833213	0.457072	-0.84957	2.750393
$LLTO_i$	31	3.828908	3.931826	4.60517	2.564949	0.522549	-0.519565	2.408432
$LMASCU_i$	32	3.850893	3.970114	4.553877	1.609438	0.543677	-2.569488	10.67456
LPD_i	32	3.952664	4.034201	4.553877	2.564949	0.435841	-0.955364	4.25519
LUA_i	32	4.051152	4.211441	4.564348	2.079442	0.525591	-1.773469	7.12572
Firm Level Variables								
Momentum Returns (W-L)	13022	0.010519	0.00757	0.082658	-0.073822	0.022761	0.082524	3.479911
LSIZE	13022	12.35245	12.40171	18.14723	4.64957	2.264932	-0.031511	2.579004
CD	12732	5.840056	1.08296	20.02999	0.091141	5.760873	0.446113	1.517923
INDI	12732	62.99859	71	90	11	20.57411	-1.045774	2.957055
INDU	12732	58.03676	68	97	0	21.57323	-1.407403	4.107826
LTO	12732	45.99466	36	100	0	18.59054	1.105118	3.449284
MASCU	12732	48.82092	52	95	5	20.97315	-1.09489	3.378186
PD	12732	45.32681	39	95	13	17.46391	0.713256	3.217044
UA	12732	49.88894	48	100	8	18.26769	0.823905	2.836793
LCD	12732	0.945136	0.079698	2.997231	-2.395351	1.433779	-0.022058	1.429812
LINDI	12732	4.059167	4.26268	4.49981	2.397895	0.462846	-1.590365	4.330058
LINDU	11987	4.066963	4.219508	4.574711	2.833213	0.369026	-1.867039	5.375235
LLTO	12708	3.759009	3.583519	4.60517	2.564949	0.370645	0.345479	2.944932
LMASCU	12732	3.655377	3.951244	4.553877	1.609438	0.874812	-1.756344	4.380795
LPD	12732	3.735205	3.663562	4.553877	2.564949	0.414484	-0.752498	4.568116
LUA	12732	3.845783	3.871201	4.60517	2.079442	0.358012	-0.011802	3.333898

This table reports summary statistics for the variables used in the empirical analysis. Country level variables include 32 countries which represent the cross-listed companies headquarters locations. Firm level variables are used for equation 3 and equation 4 regression analysis.

Table 2: Momentum Portfolio Returns

Panel A: By Country				
Country	**Winner**	**Loser**	**W minus L**	
Argentina	-0.41(-1.44)	-1.397(3.96)	0.997***	(3.96)
Australia	-0.836(-2.67)	-1.232(4.47)	1.128***	(4.47)
Belgium	-0.014(-0.03)	-1.128(1.42)	0.741	(1.42)
Brazil	-0.541(-1.89)	-1.453(4.74)	1.16***	(4.74)
Canada	-0.091(-0.35)	-0.667(3.92)	0.692***	(3.92)
Chile	-0.279(-0.97)	-1.46(2.37)	0.663**	(2.37)
China	0.35(1.25)	-0.569(3.94)	0.876***	(3.94)
Colombia	0.282(0.62)	-0.56(1.18)	0.572	(1.18)
France	-0.726(-2.56)	-1.539(2.65)	0.667***	(2.65)
Germay	-0.581(-1.74)	-1.516(3.1)	1.065***	(3.1)
Hong Kong	-0.224(-0.7)	-1.268(2.53)	0.698***	(2.53)
India	-0.273(-0.96)	-1.204(4.19)	1.098***	(4.19)
indonesia	-0.395(-1.25)	-1.978(1.72)	0.67*	(1.72)
Ireland	-0.699(-2.22)	-1.255(2.82)	0.748***	(2.82)
Israel	-0.65(-2.21)	-1.494(3.44)	0.853***	(3.44)
Italy	-0.506(-1.4)	-1.465(1.7)	0.615*	(1.7)
Japan	0.1(0.41)	-0.336(3.96)	0.895***	(3.96)
Luxembourg	-0.44(-1.15)	-1.198(2.18)	0.695**	(2.18)
Malta	-1.138(-0.29)	-1.505(-0.09)	-0.363	(-0.09)
Mexico	-0.304(-0.96)	-1.295(2.42)	1.342**	(2.42)
Netherlands	0.106(0.41)	-1.402(4.46)	1.136***	(4.46)
Panama	-0.07(-0.17)	-1.053(2.48)	1.398***	(2.48)
Peru	-0.11(-0.24)	-0.824(1.08)	0.612	(1.08)
Philippines	0.307(1.01)	-1.229(4.87)	1.175***	(4.87)
Russia	-0.347(-1.1)	-1.102(2.62)	0.846***	(2.62)
Singapore	-0.718(-1.75)	-1.755(1.56)	0.824	(1.56)
South Africa	-0.355(-1.21)	-1.041(3.48)	0.817***	(3.48)
South Korea	1.192(2.61)	-1.118(2.73)	1.304***	(2.73)
Spain	-0.563(-1.9)	-1.06(3.93)	1.494***	(3.93)
Sweden	0.519(1.4)	-0.25(2.42)	0.82**	(2.42)
Switzerland	-0.647(-2.08)	-1.454(1.48)	0.488	(1.48)
United Kingdom	0.109(0.46)	-1.187(5.32)	1.096***	(5.32)
Panel B: All Countries				
Country	**Winner**	**Loser**	**W minus L**	
All Country Average	-0.248(-3.02)	-1.187(14.25)	**0.87*** **	(14.25)

This table reports winner portfolio, loser portfolio, and momentum portfolio returns.

At the end of each month, sort the companies in descending order based on their previous six month's cumulative returns. Assign the top 30% companies to "W" portfolio, and the bottom

30% to "L" portfolio. These equally weighted portfolios are held for 6 months, (1 month gap between ranking period and the holding period). To increase the power of the tests, overlapping portfolios are created. The winner portfolio is an overlapping portfolio that consists of "W" portfolios in the previous 6 ranking months. The returns of the Winner portfolio are measured 1 month after ranking. Returns on those "W" portfolios in month t are computed as

$$\frac{Average\ cumulative\ returns\ of\ the\ stocks\ in\ these\ portfolios\ in\ month\ (t)}{Average\ cumulative\ returns\ of\ these\ stocks\ in\ month\ (t-1)} - 1$$

Returns on the Winner portfolios are the simple average of the returns on the six "W" portfolios. If any stock during the holding period has a missing return, the corresponding value-weighted market return will be used to replace it. If a stock is delisted, at the end of the delisting month, do the rebalance for the portfolio. The momentum portfolio (W-L) is a zero-cost, winner-minus-loser portfolio.

Panel A of Table 2 reports the country-level monthly average returns (percentage) of the winner portfolio, loser portfolio, and the winner-minus-loser portfolio for each of the 32 countries. The profits in all but six countries (Belgium, Colombia, Malta, Peru, Singapore, Switzerland) are statistically significant. And panel B of Table 2 reports the returns on winner portfolio, loser portfolio, and winner-minus-loser portfolio at all country average base. T-statistics are in parenthesis *** p < 0.01, ** p < 0.05, * p < 0.1.

Table 3: Momentum Profits in Cultural distance sorted groups.

Cultural Distance Score	Winner	Loser	W Minus L
High	0.046	-1.066	1.112***
	-0.27	(-5.93)	(5.35)
2	-0.329	-1.209	0.985***
	(-2.71)	(-14.45)	(8.42)
Low	-0.446	-1.264	0.818***
	(-4.97)	(-15.35)	(5.71)

This table reports the winner portfolio, loser portfolio, and Winner-minus-loser portfolio's return by cultural distance sorted portfolios. Sort countries to three groups by their cultural distance score, the top 10 countries are assigned to Hight cultural distance score group, while the bottom 10 countries are assigned to Low cultural distance score group. T-statistics are in parenthesis *** p < 0.01, ** p < 0.05, * p < 0.1.

Table 4: Variance Inflation Factors Test Between Six Cultural Dimensions and Cultural Distance

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
Panel A			
CD	0.000	19.954	9.841
INDI	0.000	77.039	7.424
INDU	0.000	21.273	2.582
PD	0.000	28.932	3.739
LTO	0.000	25.006	3.511
MAS	0.000	31.017	4.832
UA	0.000	11.881	1.405
Panel B			
LCD	0.000	12.670	9.327
LINDIV	0.000	497.165	6.575
LINDU	0.000	660.307	5.392
LLTO	0.000	327.499	3.307
LMASC	0.000	130.598	7.514
LPD	0.000	923.661	5.963
LUA	0.000	283.821	2.250

Panel A of Table 4 reports the result of the variance inflation factors test between cultural distance and the six cultural dimensions and Panel B of Table 4 reports the result of Variance inflation factors test between logarithmic of cultural distance and the logarithmic of six cultural dimensions.

Table 5: Formation of Winner portfolio: results from Logit regression.

Dependent Variable	Panel A Winp		Panel A Loserp	
Intercept	-1.641***	(-12.065)	-1.272***	(-9.192)
CD	0.016***	(2.621)	0.010	(1.526)
INDI	0.000	(0.276)	0.001	(0.933)
INDU	0.002***	(3.228)	0.000	(-0.563)
LONG	-0.002***	(-2.578)	0.000	(0.034)
MASC	0.003***	(3.546)	0.001	(1.396)
POWER	-0.001	(-1.347)	-0.001	(-0.87)
UNCER	0.002	(2.251)	-0.003***	(-4.237)
Dependent Variable	**Panel B Winp**		**Panel B Loserp**	
Intercept	-2.768***	(-4.631)	2.319***	(3.850)
LCD	0.090***	(4.327)	-0.072***	(-3.423)
LINDI	0.058	(1.189)	-0.132***	(-2.696)
LINDU	0.215***	(-3.720)	-0.361***	(-6.307)
LLONG	-0.057	(-1.329)	0.006	(0.132)
LMASC	0.146***	(4.124)	-0.127***	(-3.560)
LPOWER	-0.039	(-0.490)	-0.313***	(-3.855)
LUNCER	0.022	(0.555)	0.027	(0.683)

Z-statistics in parenthesis *** p < 0.01, ** p < 0.05, * p < 0.1.

The dummy variable $WinP$ was regressed on cultural distance and six of Hofstede's cultural dimensions. Panel A of Table 5 reports the results of the logistic regression, and Panel B of Table 5 shows the results of the logistic regression by using the logarithmic of cultural distance and the logarithmic of six cultural dimensions scores as the independent variables.

Table 6: Momentum portfolio returns and cultural distance.

	Panel A		Panel B		Panel C	
Intercept	0.01177***	(3.8188)	0.001456	(0.9827)	0.008427***	(3.5916)
CD	*0.000318****	*(2.9042)*	0.000040	(0.7666)	-0.000127	(-1.165)
INDIV	*0.000022*	*(0.8158)*	0.000003	(0.2481)	-0.000006	(-0.3012)
INDUL	*0.00002*	*(1.3267)*	0.000003	(0.3488)	-0.000012	(-0.9376)
MASCU	*-0.000011*	*(-0.5091)*	-0.000002	(-0.1501)	-0.000021	(-1.2978)
PD	*-0.00002*	*(-0.9818)*	-0.000003	(-0.2933)	-0.000001	(-0.0612)
LTO	*-0.000023*	*(-1.0903)*	-0.000003	(-0.2619)	0.000039**	(2.3038)
UA	*-0.000061****	*(-4.6371)*	-0.000008	(-1.3062)	-0.000016	(-1.4723)
Mom_(t-1)			0.876857	(205.8393)	0.520786	(40.7363)
Mom_(t-2)					-0.062119	(-4.9737)
Mom_(t-3)					-0.047831	(-3.898)
Mom_(t-4)					-0.022965	(-1.9537)
Mom_(t-5)					-0.061661	(-4.9839)
Mom_(t-6)					-0.002984	(-0.268)
R-squared	0.010381		0.771484		0.2621	
Durbin-Watson stat	0.244399		2.077311		1.996709	
Starting Date	January 1982		January 1982		January 1982	
Ending Date	March 2020		March 2020		March 2020	
Observation	12732		12732		6272	

Panel A and panel B of table 6 report the result of ordinary least square (OLS) regression, and panel C of table 6 reports the result of panel data cross-section weights least square regression. T-statistics are in parenthesis *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 7: Momentum Portfolio Returns--Reduced Sample

Reduced Sample Panel A: By Country			
Country	**Winner**	**Loser**	**W minus L**
Argentina	-0.41(-1.44)	-1.397(3.96)	0.997(3.96)
Australia	-0.836(-2.67)	-1.232(4.47)	1.128(4.47)
Belgium	-0.014(-0.03)	-1.128(1.42)	0.741(1.42)
Brazil	-0.541(-1.89)	-1.453(4.74)	1.16(4.74)
Canada	-0.091(-0.35)	-0.667(3.92)	0.692(3.92)
Chile	-0.279(-0.97)	-1.46(2.37)	0.663(2.37)
Colombia	0.282(0.62)	-0.56(1.18)	0.572(1.18)
France	-0.726(-2.56)	-1.539(2.65)	0.667(2.65)
Germay	-0.581(-1.74)	-1.516(3.1)	1.065(3.1)
Ireland	-0.699(-2.22)	-1.255(2.82)	0.748(2.82)
Israel	-0.65(-2.21)	-1.494(3.44)	0.853(3.44)
Italy	-0.506(-1.4)	-1.465(1.7)	0.615(1.7)
Luxembourg	-0.44(-1.15)	-1.198(2.18)	0.695(2.18)
malta	-1.138(-0.29)	-1.505(-0.09)	-0.363(-0.09)
Mexico	-0.304(-0.96)	-1.295(2.42)	1.342(2.42)
Netherlands	0.106(0.41)	-1.402(4.46)	1.136(4.46)
Panama	-0.07(-0.17)	-1.053(2.48)	1.398(2.48)
Peru	-0.11(-0.24)	-0.824(1.08)	0.612(1.08)
Russia	-0.347(-1.1)	-1.102(2.62)	0.846(2.62)
South Africa	-0.355(-1.21)	-1.041(3.48)	0.817(3.48)
Spain	-0.563(-1.9)	-1.06(3.93)	1.494(3.93)
Sweden	0.519(1.4)	-0.25(2.42)	0.82(2.42)
Switzerland	-0.647(-2.08)	-1.454(1.48)	0.488(1.48)
United Kingdom	0.109(0.46)	-1.187(5.32)	1.096(5.32)
Reduced Sample Panel B: All Countries			
Country	**Winner**	**Loser**	**W minus L**
All Country Average	-0.345(-4.42)	-1.189(10.98)	0.845(10.98)

Notes: Table 7 reports the winner portfolio, loser portfolio, and Winner-minus-loser portfolio's return by country on reduced sample without eight Asian countries (China, Hong Kong, India, Indonesia, Japan, Philippines, Singapore, and South Korea (Chui et al. 2010). Total of 24 countries.

Table 8: Momentum Profits in Cultural Distance Group-Reduced Sample.

Cultural Distance Score	Winner	Loser	W Minus L
High	-0.105	-1.288	1.182
	(-0.87)	(-6.96)	(7.17)
2	-0.51	-1.359	0.849
	(-3.61)	(-23.58)	(5.53)
Low	-0.421	-1.208	0.787
	(-3.78)	(-12.97)	(4.39)

This table reports that the winner portfolio, loser portfolio, and Winner-minus-loser portfolio's return by cultural distance sorted momentum portfolios on reduced sample without eight countries (China, Hong Kong, India, Indonesia, Japan, Philippines, Singapore, and South Korea (Chui et al. 2010). Total of 24 countries.

Table 9: The relationship between momentum returns and cultural distance.

	Panel A		Panel B		Panel C	
Intercept	0.01217***	(3.939)	0.001489	(1.0026)	0.008513***	-3.6149
CD	0.00035***	(3.136)	0.000043	(0.8038)	-0.000120	(-1.1033)
INDIV	0.00003	(0.937)	0.000003	(0.2685)	-0.000001	(-0.0372)
INDUL	0.00002	(1.296)	0.000002	(0.3436)	-0.000015	(-1.18)
MASCU	-0.00002	(-1.061)	-0.000003	(-0.257)	-0.000021	(-1.2996)
PD	-0.00001	(-0.507)	-0.000002	(-0.1496)	0.000002	(0.1508)
LTO	-0.00002	(-1.198)	-0.000003	(-0.3293)	0.000036**	(2.2347)
UA	-0.00007***	(-4.925)	-0.000009	(-1.3462)	-0.000016	(-1.4683)
SIZE	-0.00088**	(-1.998)	-0.000072	(-0.3394)	-0.000856**	(-2.0902)
Mom_(t-1)			0.876831	(205.7908)	0.520223	(40.9054)
Mom_(t-2)					-0.063268	(-5.0916)
Mom_(t-3)					-0.047473	(-3.9286)
Mom_(t-4)					-0.023287	(-1.9722)
Mom_(t-5)					-0.061485	(-4.9867)
Mom_(t-6)					-0.003487	(-0.3152)
R-squared	0.0107		0.7715		0.2624	
Durbin-Watson	0.7016		2.0773		1.9972	
Starting Date	January 1982		January 1982		January 1982	
Ending Date	March 2020		March 2020		March 2020	
Observation	12732		12732		6272	

This table reports the regression results of the relationship between momentum returns and cultural distance is presented with the inclusion of a control variable for size. t-statistics are in parenthesis *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

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