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The Role of the UK in the Former British Colonies, Protectorates and Mandates

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Historical Relationships and International Market Return Predictability: The Role of the UK in the Former British Colonies, Protectorates and Mandates[*]

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Abstract

This study demonstrates that lagged UK stock returns predict stock returns in emerging markets that were previously colonies, protectorates, and mandates (CPMs). First, we evaluate the predictive power of lagged market returns from various advanced countries for the former CPMs. The results show that the UK 's lagged market returns have the highest predictive power. We then examine the performance of investment strategies that use the returns of advanced countries as predictors. We find that a strategy that uses UK returns significantly outperforms those that use returns from other advanced countries as predictors. We also analyze a model that includes a dummy variable for recessions. The results show that the strategy using UK returns is the best for terminal wealth, while the strategy using U.S. returns is the best for the Sharp ratio. These findings suggest that lagged UK returns have strong predictive power for former CPMs in normal times, while lagged U.S. returns are better predictors during recessions.

Keywords: Return predictability, Emerging market, Investment strategy
JEL Codes: G11, G15, G17

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1. Introduction

The predictability of stock returns is of interest to economists. Financial and macroeconomic variables have been the primary predictors in the literature, while another set of studies shows that the lagged market returns of advanced countries are good predictors of returns in other countries. These studies tend to emphasize that lagged U.S. returns are good predictors of returns in other countries, consistent with the leading role of the U.S. in international stock markets.

These results are consistent with Rizova (2010), theoretical analysis that shows that the market return in one country can predict that of its economic partner using a two-country Lucas tree model with gradual information diffusion. Since the U.S. stock market is the largest in the world, investors may focus more on it than on others. Consequently, global market-relevant information gradually diffuses from the U.S. to other countries. This explanation also implies that information related to stock markets spills over from one country to another if they have close socioeconomic ties; that is, investors in one country are more likely to focus on the market of another country if these two countries are economically or culturally linked.

This study contributes to the literature on the predictability of international market returns by examining the role of UK markets in emerging markets, with particular focus on developing countries heavily influenced by the UK: former colonies, protectorates, and mandates (CPMs) of the British Empire or the UK. We evaluate the lagged stock market returns of the UK as a predictor of the market returns of former CPMs. For comparison, we also consider the predictive power of other advanced countries: the U.S., France, Germany, Japan, China, and the European Union (EU) excluding the UK. The list includes Egypt, India, Malaysia, Pakistan, Qatar, South Africa, the United Arab Emirates (UAE), Bahrain, Jordan, Kenya, Kuwait, Mauritius, Nigeria, Oman, and Sri Lanka.

We consider two models for the predictive regression: a baseline model and a model with a recession dummy variable. Using the results of these predictive regression analyses, we analyze these in two ways. First, we use R^2_{OS}; that is, the out-of-sample R^2 statistic studied by Campbell and Thompson (2008). Second, based on the results of the predictive regression, we examine the performance of the investment strategy using short-term op-

timal investment vectors. We employed terminal wealth (TW) and the Sharpe ratio (SR) as performance measures.

In the analysis of R^2_{OS}, the baseline model shows that the lagged returns of the UK is the highest predictor, followed by those of the EU. Contrastingly, a model with a recession dummy shows that all predictors have negative values, and the highest among them is the EU. The results of the performance evaluations show that the investment strategy in the baseline model with lagged UK returns as predictors significantly outperforms the other investment strategies in terms of both TW and SR. The results of the recession dummy model show that the UK strategy has the highest TW, while the U.S. strategy has the best SR.

These results have key implications. First, lagged UK returns have strong predictive power for CPMs, especially in periods when the economy is not in a recession. Second, during recessions, lagged U.S. returns have strong predictive power for former CPMs. This finding is consistent with previous studies (e.g., Rapach et al. 2013), which shows that the predictive power of U.S. market returns becomes stronger during recessions. Our study contributes to the literature by demonstrating the importance of historical socioeconomic relationships in explaining variations in returns.

1.1. Literature Review

Empirical finance research has identified numerous predictors of future market returns. Much of the literature focuses on financial and macroeconomic variables (e.g., Ang and Bekaert 2007, Black et al. 2014 , Jacobsen et al. 2019, Campbell and Thompson 2008, Welch and Goyal 2008, Devpura et al. 2018, Wang et al. 2019). A branch of the literature (such as Appiah-Kusi and Menyah 2003, Bannigidadmath and Narayan 2016, and Sharma et al. 2019) focuses on developing countries' markets..

This study relates to the literature on predicting stock returns across different countries. Previous studies demonstrate that stock returns in the global market can predict stock returns in emerging markets (e.g., Harvey 1995, and Rahman et al. 2017). Masih and Masih (1999) provide evidence of dynamic linkages between leading and emerging Asian stock markets.

Several existing studies show the strong predictive power of U.S. market returns for other markets. Rapach et al. (2013) show that (i) lagged U.S. stock returns can predict stock returns in other markets, and (ii) their predictive power increases during recessions. Siliverstovs (2017) and Wen and Li (2020), support the findings of Rapach et al. (2013). Wen et al. (2015) examine the predictability of stock returns in the South African market using lagged returns from the U.S., the UK, Germany, and Japan from 1973 to 2014. They show that lagged U.S. market returns were the best predictor of the South African market from 1973 to 1996, while the predictive power declined after 1996. Contrastingly, this study provides evidence that UK stock returns play a significant role in former CPMs.

Finally, this study is also related to studies that examine the impact of cultural distance on stock markets. Flavin et al. (2002) examine the influence of geographic variables, including common language, on international stock market price correlations and find that overlapping borders and business hours positively affect correlations. Portes and Rey (2005) analyzed the determinants of international stock flows and showed that capital markets are fragmented by information asymmetries and familiarity effects and that the geographic location of information affects flows. Lucey and Zhang (2010) find that the smaller the cultural distance between two countries, the greater the stock market covariance. The primary method of examining the impact of cultural distance is to include a variable indicating cultural distance in the model.[2] In contrast to this literature, which examined contemporaneous correlations, this study examines the predictability of future market returns.

1.2. Historical Background

Many emerging markets are located in countries that once had close political ties with Western nations as CPMs. Economists have studied the impact of such historical experiences on contemporary economic conditions (e.g., Acemoglu et al. 2001). Britain is one such country that has exercised extensive political control and their economic influence on others. Britain established economic ties with dependent territories through economic

[2]However, Tihanyi et al. (2005) argues that the concept of cultural distance is ambiguous and there is no consensus on which variables should be included in the model.

policies and corporate activities. For economic gain, Britain controlled the trade and currencies of dependent countries and invested in them (Brown and Louis 1999; Hopkins 1993). British capital engaged in a wide range of activities in the territories it controlled such as the acquisition of natural resources, trade, railroads, and mining.

British rule expanded in the 19th century and declined after World War II. After the war, British colonies gradually gained independence (e.g., India, Pakistan, Ceylon, and Burma in the 1940s, Nigeria and Kenya in the 1960s). To establish a national identity, the governments of these newly independent countries restricted foreign investment, particularly in natural resources and public utilities. Nevertheless, links between the former colonies and the UK continued through trade, investment, and business activities. Companies, such as the United Africa Company and Lonrho, continued to operate extensively in Africa after World War II (Jones 2000).

While previous studies have shown economic links between the UK and dominant countries, the impact of this historical experience on the current stock market remains unclear. The relevance of global stock markets has been studied previously (Arshanapalli and Doukas 1993), and a link between price movements in developed and emerging markets has been identified (Wong et al. 2004). However, the relationship between the market returns of formerly colonized and developed countries has not been well studied.

2. Data and Methodologies

2.1. Data

We collected our market return data from the MSCI (Morgan Stanley Capital International). The predictor countries were the UK, the U.S., France, Germany, Japan, China, and the EU (excluding the UK). The former CPMs are Egypt, India, Malaysia, Pakistan, Qatar, South Africa, the UAE, Bahrain, Jordan, Kenya, Kuwait, Mauritius, Nigeria, Oman, and Sri Lanka. The sample period is from January 2006 to February 2021. We use the risk-free rate obtained from the K. French's website, specifically, the one-month T-bill rate. OECD Composite Leading Index (CLI) as an indicator of recession.

Table 1 presents the summary statistics of excess market returns. The mean excess market returns vary across countries, with the highest being 0.011 (China) and the lowest

being -0.008 (Jordan). The standard deviations varied from 0.043 (Japan) to 0.096 (Nigeria). Table 2 shows the correlation matrices of excess market returns.

2.2. Methodology

We run the following two predictive regression analyses for all former CPMs and predicting countries:

$$r_{CPM,t} = \alpha + \beta r^{p}_{Other,t-1} + \varepsilon_t, \tag{1}$$

$$r_{CPM,t} = \alpha + \beta r^{p}_{Other,t-1} + \lambda D_{Reccesion,t-1} \times r_{Other,t-1} + \varepsilon_t, \tag{2}$$

in which $r_{CPM,t}$ is the excess market return of a former CPM, $r^{p}_{Other,t-1}$ is the lagged excess market return of an advanced country that is used as a predictor, $D_{Recession,t-1}$ is a dummy variable that takes 1 if the value of the CLI is below the time-series average and 0 otherwise, and ε_t is the error term.

Eq. (1) is our baseline predictive regression model with lagged returns. Eq. (2) is another model with a dummy variable that controls for the predictive effect of a recession. The latter equation is considered because it is well studied in the literature that lagged U.S. market returns have stronger predictive power during recessions (e.g., Rapach et al. (2013), Siliverstovs (2017), and Wen and Li (2020)). If there is a similar phenomenon exists between the excess returns of the UK and the former CPMs, the predictive power of Eq. (2) should be greater than those in Eq. (1). The initial forecasting window was set at 120 months and the regression window was expanded thereafter.

2.2.1. Validation of out-of-sample predictive power

Following Cambell and Thompson (2008), we calculate R^2_{OS}, the out-of-sample R^2 statistics for each predictor country and for predictive regression analyses (1) and (2). R^2_{OS} is computed as follows:

$$R^2_{OS} = 1 - \frac{\sum_{k=121}^{T}(r_{CPM,k} - \hat{r}_{CPM,k})^2}{\sum_{k=121}^{T}(r_{CPM,k} - \bar{r}_{CPM,k})^2} \tag{3}$$

in which ($\hat{r}_{CPM,k}$) is the fitted value from the predictive regression estimated through period $k-1$, and $\bar{r}_{CPM,k}$ is the historical average excess returns estimated through period $k-1$. If the independent variable used in the regression analysis has useful information for future casting, the error from the realized value will be smaller $\hat{r}_{CPM,k}$ than $\bar{r}_{CPM,k}$. Thus, R^2_{OS} is positive.If historical relationships have led to the UK market having highly predictive power for the returns on former CPMs, we expect a high R^2_{OS} when the UK is the predicting country.

2.2.2. Investment Performance Evaluation

Given the results of the predictive regression analyses, we examine the performance of investment strategies that use the market returns of advanced countries as predictors of the market returns of former CPMs. Consider the short-term optimal investments of individuals with a constant relative risk-averse utility function. Suppose the returns follow a lognormal distribution. The optimal short-term portfolio weights are as follows:[3]

$$\boldsymbol{\alpha}_t = \frac{1}{\gamma}\boldsymbol{\Sigma}_t^{-1}(E\boldsymbol{r}_{t+1} - r_{f,t+1}\boldsymbol{\iota} + \boldsymbol{\sigma}_t^2/2), \tag{4}$$

in which $\boldsymbol{\alpha}_t$ is the vector of the optimal weight, γ is the relative risk aversion, $\boldsymbol{\Sigma_t}$ is the variance-covariance matrix of returns, $E\boldsymbol{r}_t$ is the vector of expected returns, $r_{f,t+1}$ is the risk free rate, $\boldsymbol{\iota}$ is the vector with all elements equal to 1, and $\boldsymbol{\sigma}$ is the variance of the returns (i.e., the diagonal components of $\boldsymbol{\Sigma}$).

We set the risk aversion to 5 ($\gamma = 5$). We approximate $E\boldsymbol{r}_{t+1} - r_{f,t+1}\boldsymbol{\iota}$ with the predicted values of the regressions, and $\boldsymbol{\Sigma_t}$ is the variance-covariance matrices of the error term of the predictive regression. The initial assets at the time of investment strategy execution are assumed to be 1. To evaluate investment performance, we consider the following common measures: the TW and the SR.

In our analysis, we first randomly select $n = \{4, 5, 6, 7\}$ countries from the 15 CPMs that comprise the portfolio. Then, we implement the investment strategy in Eq. (4) to

[3]The details of this optimal investment vector are explained in Chapter 2 of Campbell and Viceira 2002.

obtain wealth in the final period T, that is TW, and the SR of the monthly returns. This procedure was repeated 1000 times to obtain the distributions of TW and SR for each predictor. Distributions were used to test for differences in the means. For comparison, we consider a buy-and-hold strategy in which the portfolio comprises equally weighted market returns for the n countries extracted.

3. Results

3.1. Baseline Model

3.1.1. Predictive Regressions

Table 3 presents the results of the baseline predictive regression. The last column in the bottom row shows the mean of R^2_{OS} for each advanced country. The UK has the highest at 1%, implying that UK lagged returns have the strongest predictive power for the returns of the overall CPMs. The results also showed some cross-country heterogeneity. For some former CPMs – Bahrain, Jordan, Kuwait, Mauritius, Nigeria and Sri Lanka – the estimated value of R^2_{OS} is positive for all predictors. For the returns of these former CPMs, each with advanced market returns could have predictive power. By contrast, for some other former CPMs, such as Egypt, Malaysia, Pakistan, Qatar, South Africa, the UAE, and Kenya, the estimated value was negative for all predictors. The results imply that for the returns of these former CPMs, each of the advanced market returns did not have strong predictive power.

3.1.2. Terminal Wealth

We now examine the performance of investment strategies using developed market returns as predictors of CPMs. We call the strategy that uses advanced country i as predictor the "i strategy."

Table 4 lists the TW for each investment strategy. $E[w_i]$ is the mean of TW with the i strategy. The "t-stat of $E[w_{UK}] - E[w_i]$" shows the t-test statistic of the difference of the TWs between the UK and i strategies.

The TW of the UK strategy is significantly higher than any other predictors regardless of the number of assets comprising the portfolio; that is, n. For instance, when $n = 4$,

the UK strategy is 36% higher than the second-best strategy (Germany). This is consistent with any other n, and all differences from the other strategies are significant ($p < .01$). These result imply that the UK strategy significantly outperformed the other strategies in terms of TW.

Of the investment strategies, the TW of the buy-hold strategy was the lowest, with a net return of approximately 17%. Among the strategies with a predictor, the China strategy has the lowest TW, with a net return of approximately 20 to 30%. In addition, for any predictor, TW increased as n increased. This could be because a higher n implies that more assets are available for portfolio composition, allowing for the selection of assets with higher performance in the predictive regressions.

3.1.3. Sharp Ratio

While it is a common measure of investment strategies, evaluation with TW does not assess the risk in investments. To assess the strategies that consider risks, we use the SR of monthly returns as a risk-adjusted performance measure. Table 5 presents the estimated SR for each investment strategy. $E[SR_i]$ is the mean SR of i strategy. "t-stat of $E[SR_{UK}] - E[SR_i]$" represents the t-value of the difference of the SR between UK strategy and i strategy. Overall, the results are similar to those obtained using TW. The SR of the UK strategy was significantly higher than that of any other predictors for all n, and all differences from the other strategies were significant ($p < .01$). Therefore, the UK strategy significantly outperformed the other strategies, even in terms of SR.

Similar to the analysis, the buy-hold strategy was the lowest, and China strategy was the worst predictor. In addition, the SR values generally increased as n increased. A key difference between the results of TW and SR is the second-best strategy: Germany in terms of the TW and the U.S. in terms of SR. This might be owing to the lower return volatility of the U.S. strategy relative to that of German strategy.

3.2. Model with the Recession Dummy

3.2.1. Predictive Regressions

Table 6 lists the results of predictability with the recession dummy. The column "Mean" displays the mean of R^2_{OS} for each advanced country. Unlike the results obtained for the

baseline regressions, the mean of R^2_{OS} for each advanced country is negative, indicating that none of the advanced market returns have any predictive power for the returns of the former CPMs. Although there are some positive values, that is, UK returns for Egyptian returns, the overall results suggest that in the sample of this study, including the recession dummies does not increase the powers of predictors.

3.2.2. Terminal Wealth

Table 7 lists the TW for each investment strategy. Similar to the results of the baseline model, the TW of the UK strategy is significantly higher than that of the other strategies for all n. For example, in the case of $n = 4$, the UK strategy is approximately 20% higher than the second-best strategy (U.S.). All the differences from the other strategies were significant ($p < .01$).

Compared to the results of the baseline model, TW is higher for all investment strategies with a predictor. In particular, the TW of the U.S. strategy is much higher than that of the baseline case, which is consistent with the findings in the literature (e.g., Rapach et al. (2013)) that the predictive power of U.S. returns becomes stronger during recessions.

3.2.3. Sharp Ratio

Table 8 lists the SR of each investment strategy. In contrast to the baseline model, the U.S. strategy is the best, and the difference in means between the U.S. and UK strategies is significant ($p < .01$) for any n. The performance of the UK strategy is significantly lower than that of the strategies other than the U.S. strategy (e.g., the Japan strategy outperforms the UK strategy for all n). Compared to the estimated SR of the baseline model, the performance of the UK strategy is virtually unchanged, whereas the strategies with most other predictors significantly increases with the recession dummies. This finding suggests that the predictive power of the UK strategy is constant, regardless of economic conditions (whether it is in a recession or not). Thus, the results imply that the UK market has predictive power through a mechanism different from that of the rest of the leading markets: historical socioeconomic influence on the former CPMs.

4. Conclusion

This study contributes to the literature on the predictability of market returns by demonstrating the importance of historical ties between countries in explaining the predictability of market returns in emerging markets. We examine the predictive power of the lagged market returns of the UK and other advanced countries for the market returns of the former British CPMs.

We find that the market returns of former CPMs can be significantly predicted by lagged UK returns relative to those of other leading markets, including the U.S. We also show that an investment strategy using lagged UK returns as a predictor yields the highest TW and SR. We also examine a model with recession dummies and show that the UK strategy yields the highest TW, while the U.S. strategy yields the highest SR.

The current empirical results have several implications. First, lagged UK market returns have high predictive power for the returns of former CPMs in normal times. Second, the investment performance of the UK strategy does not improve when the effects of recessions are considered, suggesting that the predictive power of UK market returns is owing to a different mechanism (i.e., a historical relationship) compared to other leading markets. Third, the investment performance of the U.S. strategy improves when the effects of recessions are considered. This finding is consistent with the leading role of the U.S. in the international financial market and with previous empirical studies (e.g., Rapach et al. 2013).

For future work, analyzing the financial market linkages between former sovereigns (including countries other than the UK) and their colonies could shed light on the role of historical relationships in the current international financial market.

Author statement

Takuro Hidaka: Conceptualization, Methodology, Formal analysis, Investigation, Data Curation, Writing - original draft, Writing - review & editing, Project administration.
Yuta Saito: Conceptualization, Methodology, Formal analysis, Investigation, Writing - original draft, Writing - review & editing, Project administration.
Jun Sakamoto: Conceptualization, Methodology, Software, Validation, Formal analysis,

Investigation, Data curation, Writing - original draft, Writing - review & editing, Visualization, Project administration, Funding acquisition.

Declaration of competing interest

The authors state that there are no competing interests to declare.

Table 1: Summary Statistics of Excess Market Return

	N	Mean	Std,dev	Max	Min
UK	182	0.003	0.052	0.168	-0.190
USA	182	0.008	0.044	0.131	-0.172
FRANCE	182	0.005	0.062	0.229	-0.225
GERMANY	182	0.006	0.066	0.171	-0.230
JAPAN	182	0.003	0.043	0.125	-0.149
CHINA	182	0.011	0.072	0.196	-0.228
EU.ex.UK	182	0.003	0.058	0.170	-0.224
EGYPT	182	0.004	0.092	0.289	-0.335
INDIA	182	0.009	0.081	0.367	-0.286
MALAYSIA	182	0.005	0.049	0.161	-0.176
PAKISTAN	182	0.002	0.086	0.234	-0.500
QATAR	182	0.004	0.072	0.232	-0.266
SOUTH.AFRICA	182	0.005	0.075	0.178	-0.263
UAE	182	0.000	0.088	0.252	-0.334
BAHRAIN	182	-0.007	0.067	0.215	-0.277
JORDAN	182	-0.008	0.058	0.150	-0.369
KENYA	182	0.010	0.072	0.241	-0.288
KUWAIT	182	0.002	0.062	0.210	-0.229
MAURITIUS	182	0.007	0.070	0.244	-0.378
NIGERIA	182	0.003	0.096	0.474	-0.413
OMAN	182	0.001	0.053	0.143	-0.299
SRI.LANKA	182	0.005	0.087	0.601	-0.266

The table reports summary statistics of excess market returns in the advanced and former CPM countries. The sample period is from January 2006 to February 2021.

Table 2: Correlation Matrix of Excess Market Returns

	UK	USA	FRANCE	GERMANY	JAPAN	CHINA	EU.ex.UK	EGYPT	INDIA	MALAYSIA	PAKISTAN
UK	1.000	0.855	0.910	0.875	0.743	0.663	0.917	0.490	0.651	0.652	0.396
USA	0.855	1.000	0.842	0.861	0.741	0.608	0.865	0.454	0.651	0.589	0.354
FRANCE	0.910	0.842	1.000	0.943	0.721	0.618	0.981	0.498	0.655	0.631	0.301
GERMANY	0.875	0.861	0.943	1.000	0.741	0.657	0.966	0.541	0.695	0.663	0.318
JAPAN	0.743	0.741	0.721	0.741	1.000	0.557	0.753	0.470	0.566	0.514	0.203
CHINA	0.663	0.608	0.618	0.657	0.557	1.000	0.662	0.468	0.658	0.597	0.229
EU.ex.UK	0.917	0.865	0.981	0.966	0.753	0.662	1.000	0.536	0.696	0.674	0.318
EGYPT	0.490	0.454	0.498	0.541	0.470	0.468	0.536	1.000	0.557	0.471	0.288
INDIA	0.651	0.651	0.655	0.695	0.566	0.658	0.696	0.557	1.000	0.646	0.274
MALAYSIA	0.652	0.589	0.631	0.663	0.514	0.597	0.674	0.471	0.646	1.000	0.303
PAKISTAN	0.396	0.354	0.301	0.318	0.203	0.229	0.318	0.288	0.274	0.303	1.000
QATAR	0.456	0.445	0.439	0.472	0.407	0.429	0.468	0.505	0.458	0.397	0.160
SOUTH.AFRICA	0.737	0.691	0.715	0.729	0.637	0.699	0.739	0.539	0.700	0.662	0.291
UAE	0.548	0.514	0.516	0.504	0.373	0.393	0.529	0.515	0.501	0.406	0.397
BAHRAIN	0.388	0.418	0.363	0.340	0.274	0.294	0.366	0.399	0.233	0.231	0.282
JORDAN	0.166	0.158	0.108	0.159	0.129	0.109	0.156	0.261	0.200	0.120	0.070
KENYA	0.470	0.503	0.496	0.514	0.444	0.459	0.514	0.400	0.372	0.352	0.153
KUWAIT	0.485	0.478	0.436	0.434	0.387	0.320	0.462	0.363	0.385	0.330	0.377
MAURITIUS	0.542	0.484	0.537	0.538	0.427	0.374	0.553	0.407	0.478	0.441	0.270
NIGERIA	0.383	0.290	0.348	0.341	0.286	0.283	0.344	0.304	0.321	0.304	0.299
OMAN	0.491	0.462	0.459	0.439	0.433	0.358	0.466	0.466	0.411	0.384	0.376
SRI.LANKA	0.431	0.347	0.341	0.301	0.328	0.294	0.345	0.263	0.448	0.293	0.290

	QATAR	SOUTH.AFRICA	UAE	BAHRAIN	JORDAN	KENYA	KUWAIT	MAURITIUS	NIGERIA	OMAN	SRI.LANKA
UK	0.456	0.737	0.548	0.388	0.166	0.470	0.485	0.542	0.383	0.491	0.431
USA	0.445	0.691	0.514	0.418	0.158	0.503	0.478	0.484	0.290	0.462	0.347
FRANCE	0.439	0.715	0.516	0.363	0.108	0.496	0.436	0.537	0.348	0.459	0.341
GERMANY	0.472	0.729	0.504	0.340	0.159	0.514	0.434	0.538	0.341	0.439	0.301
JAPAN	0.407	0.637	0.373	0.274	0.129	0.444	0.387	0.427	0.286	0.433	0.328
CHINA	0.429	0.699	0.393	0.294	0.109	0.459	0.320	0.374	0.283	0.358	0.294
EU.ex.UK	0.468	0.739	0.529	0.366	0.156	0.514	0.462	0.553	0.344	0.466	0.345
EGYPT	0.505	0.539	0.515	0.399	0.261	0.400	0.363	0.407	0.304	0.466	0.263
INDIA	0.458	0.700	0.501	0.233	0.200	0.372	0.385	0.478	0.321	0.411	0.448
MALAYSIA	0.397	0.662	0.406	0.231	0.120	0.352	0.330	0.441	0.304	0.384	0.293
PAKISTAN	0.160	0.291	0.397	0.282	0.070	0.153	0.377	0.270	0.299	0.376	0.290
QATAR	1.000	0.491	0.678	0.384	0.344	0.277	0.447	0.423	0.281	0.490	0.154
SOUTH.AFRICA	0.491	1.000	0.441	0.298	0.130	0.458	0.392	0.472	0.210	0.374	0.314
UAE	0.678	0.441	1.000	0.510	0.334	0.297	0.530	0.435	0.411	0.586	0.378
BAHRAIN	0.384	0.298	0.510	1.000	0.216	0.306	0.586	0.375	0.336	0.453	0.163
JORDAN	0.344	0.130	0.334	0.216	1.000	0.147	0.193	0.214	0.243	0.220	0.162
KENYA	0.277	0.458	0.297	0.306	0.147	1.000	0.321	0.415	0.242	0.371	0.264
KUWAIT	0.447	0.392	0.530	0.586	0.193	0.321	1.000	0.457	0.345	0.519	0.327
MAURITIUS	0.423	0.472	0.435	0.375	0.214	0.415	0.457	1.000	0.308	0.499	0.426
NIGERIA	0.281	0.210	0.411	0.336	0.243	0.242	0.345	0.308	1.000	0.349	0.320
OMAN	0.490	0.374	0.586	0.453	0.220	0.371	0.519	0.499	0.349	1.000	0.337
SRI.LANKA	0.154	0.314	0.378	0.163	0.162	0.264	0.327	0.426	0.320	0.337	1.000

This table reports correlation matrix of excess market returns in the advanced and former CPM countries. The sample period is from January 2006 to February 2021.

Table 3: R^2_{OS}: Baseline Model

	EGYPT	INDIA	MALAYSIA	PAKISTAN	QATAR	SOUTH.AFRICA	UAE	BAHRAIN
UK	-0.003	0.003	-0.010	-0.016	-0.045	-0.013	-0.067	0.042
USA	-0.008	-0.017	-0.010	-0.021	-0.048	-0.013	-0.114	0.041
FRANCE	-0.015	-0.010	-0.009	-0.009	-0.042	-0.009	-0.081	0.030
GERMANY	-0.015	-0.006	-0.017	-0.009	-0.038	-0.009	-0.095	0.021
JAPAN	-0.020	-0.006	-0.032	-0.013	-0.024	-0.012	-0.093	0.006
CHINA	-0.001	-0.030	-0.029	-0.002	-0.023	-0.019	-0.042	0.008
EU.ex.UK	-0.011	-0.002	-0.010	-0.008	-0.048	-0.009	-0.083	0.038
	JORDAN	KENYA	KUWAIT	MAURITIUS	NIGERIA	OMAN	SRI.LANKA	$Mean$
UK	0.053	-0.004	0.030	0.060	0.045	-0.012	0.089	0.010
USA	0.005	-0.026	0.037	0.047	0.014	0.036	0.037	-0.003
FRANCE	0.014	-0.021	0.016	0.018	0.016	-0.003	0.065	-0.003
GERMANY	0.045	-0.025	0.018	0.017	0.024	-0.015	0.083	-0.001
JAPAN	0.026	-0.028	0.005	0.026	0.057	-0.030	0.043	-0.006
CHINA	-0.022	-0.000	-0.003	-0.017	0.010	-0.005	0.004	-0.011
EU.ex.UK	0.031	-0.022	0.023	0.024	0.027	-0.003	0.084	0.002

This table reports R^2_{OS} using equation (1) for the forecast model. R^2_{OS} is calculated for each former CPM. $Mean$ in the last column of the bottom row shows the arithmetic mean. The sample period is from January 2006 to February 2021.

Table 4: Terminal Wealth: Baseline Model

	w_{UK}	w_{US}	w_{FR}	w_{GE}	w_{JP}	w_{CH}	$w_{EU.ex.UK}$	$w_{buy-hold}$
				$n = 4$				
$E[w_j]$	2.214	1.787	1.683	1.857	1.792	1.192	1.856	1.169
t-stat of $E[w_{UK}] - E[w_j]$	NA	9.796	11.891	7.046	8.331	25.564	7.512	27.202
				$n = 5$				
$E[w_j]$	2.468	1.919	1.819	2.073	1.966	1.234	2.045	1.174
t-stat of $E[w_{UK}] - E[w_j]$	NA	11.081	12.817	6.759	8.704	27.038	7.78	29.872
				$n = 6$				
$E[w_j]$	2.703	2.032	1.938	2.281	2.143	1.271	2.225	1.172
t-stat of $E[w_{UK}] - E[w_j]$	NA	12.702	14.178	6.668	9.018	29.261	8.169	33.199
				$n = 7$				
$E[w_j]$	2.939	2.139	2.063	2.517	2.301	1.317	2.419	1.172
t-stat of $E[w_{UK}] - E[w_j]$	NA	14.186	15.237	6.176	9.728	30.912	8.291	35.954

This table reports the mean ($E[w_j]$) for the distribution of generated TW (Terminal Wealth). The t-stat of $E[w_UK]-E[w_j]$ shows the t-test statistic of the difference between the mean of the UK strategy and the other strategies. The calculation of the TW is as follows (1): Calculate the expected value of the excess market returns and the variance-covariance matrix of the randomly selected CPMs from the regression results of Eq. (1). (2): Using the results of (1), calculate the TW when the investment strategy is implemented based on Eq. (4). (3): Repeat this process 1000 times to generate the distribution of the TW. The sample period of the predictive regressions are recursively extended. The sample period of the first predictive regression is 120 months. All sample periods used for forecasting and evaluation are from January 2006 to February 2021.

Table 5: Sharp Ratio: Baseline Model

	SR_{UK}	SR_{US}	SR_{FR}	SR_{GE}	SR_{JP}	SR_{CH}	$SR_{EU.ex.UK}$	$SR_{buy-hold}$
				$n = 4$				
$E[SR_j]$	0.138	0.129	0.107	0.105	0.111	0.055	0.123	0.056
t-stat of $E[SR_{UK}] - E[SR_j]$	NA	2.802	8.24	8.687	6.217	19.556	4.157	26.482
				$n = 5$				
$E[SR_j]$	0.149	0.135	0.115	0.115	0.122	0.061	0.131	0.059
t-stat of $E[SR_{UK}] - E[SR_j]$	NA	4.296	9.209	8.951	6.222	20.489	4.745	30.782
				$n = 6$				
$E[SR_j]$	0.16	0.14	0.123	0.127	0.134	0.065	0.141	0.06
t-stat of $E[SR_{UK}] - E[SR_j]$	NA	6.228	10.573	9.184	6.289	22.383	5.28	37.534
				$n = 7$				
$E[SR_j]$	0.167	0.144	0.129	0.136	0.142	0.07	0.149	0.061
t-stat of $E[SR_{UK}] - E[SR_j]$	NA	7.575	11.423	8.784	6.441	23.35	5.308	42.449

This table reports the mean ($E[SR_j]$) for the distribution of generated SR (Sharp Ratio). The t-stat of $E[SR_UK] - E[SR_j]$ shows the t-test statistic of the difference between the mean of the UK strategy and the other strategies. The calculation of the SR is as follows (1): Calculate the expected value of the excess market returns and the variance-covariance matrix of the randomly selected former CPMs from the regression results of Eq. (1). (2): Using the results of (1), calculate the SR when the investment strategy is implemented based on Eq. (4). (3): Repeat this process 1000 times to generate the distribution of the SR. The sample period of the predictive regressions are recursively extended. The sample period of the first predictive regression is 120 months. All sample periods used for forecasting and evaluation are from January 2006 to February 2021.

Table 6: R^2_{OS}: Recession Dummy

	EGYPT	INDIA	MALAYSIA	PAKISTAN	QATAR	SOUTH.AFRICA	UAE	BAHRAIN
UK	0.004	-0.011	-0.036	-0.018	-0.102	-0.028	-0.277	0.031
USA	-0.019	-0.013	-0.041	-0.037	-0.078	-0.026	-0.238	-0.020
FRANCE	-0.031	-0.007	-0.022	-0.011	-0.038	-0.020	-0.210	0.033
GERMANY	-0.024	-0.026	-0.029	-0.012	-0.031	-0.028	-0.184	0.015
JAPAN	-0.048	0.027	-0.075	-0.011	-0.058	-0.020	-0.239	0.000
CHINA	-0.020	-0.031	-0.047	-0.005	-0.063	-0.043	-0.112	0.026
EU.ex.UK	-0.021	-0.008	-0.027	-0.010	-0.045	-0.025	-0.181	0.042
	JORDAN	KENYA	KUWAIT	MAURITIUS	NIGERIA	OMAN	SRI.LANKA	$Mean$
UK	0.048	-0.040	0.020	0.054	0.010	-0.030	0.017	-0.024
USA	0.001	-0.050	0.016	0.056	-0.005	-0.004	0.045	-0.028
FRANCE	0.010	-0.049	0.021	-0.013	0.008	-0.023	-0.017	-0.025
GERMANY	0.041	-0.050	0.033	-0.000	0.020	-0.034	0.034	-0.018
JAPAN	0.015	-0.106	0.030	0.022	0.063	-0.062	0.031	-0.029
CHINA	-0.051	-0.068	-0.010	-0.040	0.009	-0.008	-0.032	-0.033
EU.ex.UK	0.029	-0.041	0.030	0.007	0.023	-0.017	0.037	-0.014

This table reports R^2_{OS} using equation (2) for the forecast model. The R^2_{OS} is calculated for each CPM country, and the $Mean$ in the last column of the bottom row shows the arithmetic mean. The sample period is January 2006-February 2021.

Table 7: Terminal Wealth: Recession Dummy

	w_{UK}	w_{US}	w_{FR}	w_{GE}	w_{JP}	w_{CH}	$w_{EU.ex.UK}$	$w_{buy-hold}$
				$n = 4$				
$E[w_j]$	2.812	2.594	2.012	2.297	2.575	1.417	2.405	1.169
t-stat of $E[w_{UK}] - E[w_j]$	NA	3.331	13.094	7.254	3.062	25.433	6.043	31.076
				$n = 5$				
$E[w_j]$	3.321	3.018	2.249	2.652	2.986	1.522	2.76	1.174
t-stat of $E[w_{UK}] - E[w_j]$	NA	3.865	14.908	7.898	3.627	27.499	7.025	34.356
				$n = 6$				
$E[w_j]$	3.809	3.454	2.462	3.001	3.454	1.613	3.116	1.172
t-stat of $E[w_{UK}] - E[w_j]$	NA	4.131	17.231	8.595	3.433	30.572	7.873	38.805
				$n = 7$				
$E[w_j]$	4.348	3.932	2.692	3.394	3.931	1.72	3.512	1.172
t-stat of $E[w_{UK}] - E[w_j]$	NA	4.311	19.263	9.102	3.645	32.966	8.559	42.292

This table reports the mean ($E[w_j]$) for the distribution of generated TW (Terminal Wealth). The t-stat of $E[w_UK] - E[w_j]$ shows the t-test statistic of the difference between the mean of the UK strategy and the other strategies. The calculation of the TW is as follows (1): Calculate the expected value of the excess market returns and the variance-covariance matrix of the randomly selected CPMs from the regression results of Eq. (2). (2): Using the results of (1), calculate the TW when the investment strategy is implemented based on Eq. (4). (3): Repeat this process 1000 times to generate the distribution of the TW. The sample period of the predictive regressions are recursively extended. The sample period of the first predictive regression is 120 months. All sample periods used for forecasting and evaluation are from January 2006 to February 2021.

Table 8: Sharp Ratio: Recession Dummy

	SR_{UK}	SR_{US}	SR_{FR}	SR_{GE}	SR_{JP}	SR_{CH}	$SR_{EU.ex.UK}$	$SR_{buy-hold}$
				$n = 4$				
$E[SR_j]$	0.134	0.16	0.119	0.127	0.139	0.102	0.145	0.056
t-stat of $E[SR_{UK}] - E[SR_j]$	NA	-9.532	5.245	2.255	-1.521	9.409	-3.959	30.906
				$n = 5$				
$E[SR_j]$	0.146	0.175	0.131	0.14	0.155	0.112	0.158	0.059
t-stat of $E[SR_{UK}] - E[SR_j]$	NA	-11.098	5.626	1.879	-2.718	10.001	-4.32	38.722
				$n = 6$				
$E[SR_j]$	0.157	0.188	0.142	0.154	0.172	0.117	0.17	0.06
t-stat of $E[SR_{UK}] - E[SR_j]$	NA	-12.917	6.118	1.099	-4.864	11.921	-5.112	49.682
				$n = 7$				
$E[SR_j]$	0.165	0.198	0.15	0.165	0.185	0.123	0.18	0.061
t-stat of $E[SR_{UK}] - E[SR_j]$	NA	-14.102	6.422	0.149	-6.757	12.608	-5.961	58.81

This table reports the mean ($E[SR_j]$) for the distribution of generated SR (Sharp Ratio). The t-stat of $E[SR_UK] - E[SR_j]$ shows the t-test statistic of the difference between the mean of the UK strategy and the other strategies. The calculation of the SR is as follows (1): Calculate the expected value of the excess market returns and the variance-covariance matrix of the randomly selected former CPMs from the regression results of Eq. (2). (2): Using the results of (1), calculate the SR when the investment strategy is implemented based on Eq. (4). (3): Repeat this process 1000 times to generate the distribution of the SR. The sample period of the predictive regressions are recursively extended. The sample period of the first predictive regression is 120 months. All sample periods used for forecasting and evaluation are from January 2006 to February 2021.

References

Acemoglu, D., Johnson, S., Robinson, J.A., 2001. The colonial origins of comparative development: An empirical investigation. American Economic Review 91, 1369–1401.

Ang, A., Bekaert, G., 2007. Stock return predictability: Is it there? The Review of Financial Studies 20, 651–707.

Appiah-Kusi, J., Menyah, K., 2003. Return predictability in african stock markets. Review of Financial Economics 12, 247–270.

Arshanapalli, B., Doukas, J., 1993. International stock market linkages: Evidence from the pre-and post-october 1987 period. Journal of Banking & Finance 17, 193–208.

Bannigidadmath, D., Narayan, P.K., 2016. Stock return predictability and determinants of predictability and profits. Emerging Markets Review 26, 153–173.

Black, A.J., Klinkowska, O., McMillan, D.G., McMillan, F.J., 2014. Forecasting stock returns: do commodity prices help? Journal of Forecasting 33, 627–639.

Brown, J., Louis, W.R., 1999. The Oxford History of the British Empire: Volume IV: The Twentieth Century. OUP Oxford.

Campbell, J.Y., Thompson, S.B., 2008. Predicting excess stock returns out of sample: Can anything beat the historical average? The Review of Financial Studies 21, 1509–1531.

Campbell, J.Y., Viceira, L.M., 2002. Strategic asset allocation: portfolio choice for long-term investors. Clarendon Lectures in Economic.

Devpura, N., Narayan, P.K., Sharma, S.S., 2018. Is stock return predictability time-varying? Journal of International Financial Markets, Institutions and Money 52, 152–172.

Flavin, T.J., Hurley, M.J., Rousseau, F., 2002. Explaining stock market correlation: A gravity model approach. The Manchester School 70, 87–106.

Harvey, C.R., 1995. Predictable risk and returns in emerging markets. The Review of Financial Studies 8, 773–816.

Hopkins, P., 1993. Cain-ag: British imperialism crisis and deconstruction 1914-1990.

Jacobsen, B., Marshall, B.R., Visaltanachoti, N., 2019. Stock market predictability and industrial metal returns. Management Science 65, 3026–3042.

Jones, G., 2000. Merchants to Multinationals: British Trading Companies in the Nineteenth and Twentieth Centuries. Oxford University Press, USA.

Lucey, B.M., Zhang, Q., 2010. Does cultural distance matter in international stock market comovement? evidence from emerging economies around the world. Emerging Markets Review 11, 62–78.

Masih, A.M., Masih, R., 1999. Are asian stock market fluctuations due mainly to intra-regional contagion effects? evidence based on asian emerging stock markets. Pacific-Basin Finance Journal 7, 251–282.

Portes, R., Rey, H., 2005. The determinants of cross-border equity flows. Journal of international Economics 65, 269–296.

Rahman, M.L., Lee, D., Shamsuddin, A., 2017. Time-varying return predictability in south asian equity markets. International Review of Economics & Finance 48, 179–200.

Rapach, D.E., Strauss, J.K., Zhou, G., 2013. International stock return predictability: what is the role of the united states? The Journal of Finance 68, 1633–1662.

Rizova, S., 2010. Predictable trade flows and returns of trade-linked countries, in: AFA 2011 Denver Meetings Paper.

Sharma, S.S., Narayan, P.K., Thuraisamy, K., Laila, N., 2019. Is indonesia's stock market different when it comes to predictability? Emerging Markets Review 40, 100623.

Siliverstovs, B., 2017. International stock return predictability: on the role of the united states in bad and good times. Applied Economics Letters 24, 771–773.

Tihanyi, L., Griffith, D.A., Russell, C.J., 2005. The effect of cultural distance on entry mode choice, international diversification, and mne performance: A meta-analysis. Journal of International Business Studies 36, 270–283.

Wang, Y., Pan, Z., Liu, L., Wu, C., 2019. Oil price increases and the predictability of equity premium. Journal of Banking & Finance 102, 43–58.

Welch, I., Goyal, A., 2008. A comprehensive look at the empirical performance of equity premium prediction. The Review of Financial Studies 21, 1455–1508.

Wen, Y.C., Li, B., 2020. Lagged country returns and international stock return predictability during business cycle recession periods. Applied Economics 52, 5005–5019.

Wen, Y.C., Lin, P.T., Li, B., Roca, E., 2015. Stock return predictability in south africa: The role of major developed markets. Finance Research Letters 15, 257–265.

Wong, W.K., Penm, J., Terrell, R.D., Lim, K.Y.C., 2004. The relationship between stock markets of major developed countries and asian emerging markets. Advances in Decision Sciences 8, 201–218.