

Mispricing and Risk Premia in Currency Markets: Internet Appendix

Appendix A: Exchange Rate Forecasts Data

This appendix describes details and sources of the exchange rate forecast data we use to measure analysts' exchange rate expectations. All data sets are based on surveys of currency analysts. The appendix first describes our main data set, provided by Consensus Economics, a specialist firm who undertake a wide range of surveys. It subsequently contrasts it with two well-known alternative foreign exchange (FX) forecast survey data sets, Refinitiv Consensus FX Forecasts (Thomson Reuters Polls) and Bloomberg FX Forecasts, which are used for robustness checks. Table A1 summarizes some of the key features.

A.1 Consensus Economics Forecasts

Consensus Economics conduct a monthly survey asking FX analysts in financial markets and economic institutions for their currency exchange rate projections. At the beginning of each month, participants are asked for forecasts of their home country's nominal spot exchange rate, in most cases with respect to the U.S. Dollar (or the Euro). Analysts in larger, more internationally orientated contributing institutions may also provide forecasts for other currencies. Consensus Economics specify a day in the month by which a response is required, typically the same for all participants: the first Monday in each month until March 1994, and the second Monday since April 1994. Forecasts are made for 1, 3, 12, and 24 months ahead. The earliest date data is available is October 1989 for major currencies and (mostly) the mid to late 1990s otherwise. For each currency pair and horizon, the survey reports the mean, standard deviation (from January 2003), the highest and lowest predictions, and the number of forecasters.

The survey draws on around 250 forecasters in 27 countries covering up to 37 major and 56 additional currencies, mostly with respect to the U.S. Dollar and Euro. The number of survey participants ranges considerably according to the currency, from approximately 100 for the more traded currencies, to around 20 for the Chinese Renminbi and Indian Rupee. Numbers may be

lower for less liquid currencies such as Czech Koruna, Russian Rouble, Argentinian Peso, and Brazilian Real. Survey participants include a wide range of financial and economic institutions, e.g., BNP Paribas, Citigroup, Commerzbank, Deutsche Bank, EIU, Goldman Sachs, NIESR, Oxford Economics, Royal Bank of Canada, Royal Bank of Scotland, Santander, Société Générale, WIIW.

A.2 Refinitiv Consensus FX Forecasts (Thomson Reuters Polls)

The first of the alternative FX forecast data sources, Refinitiv Consensus FX Forecasts, provides FX forecasts based on Reuters polls, which are surveys of expert forecasts for bilateral exchange rates, mostly with respect to the U.S. Dollar. Refinitiv send an electronic questionnaire to a selected set of contributors asking for their forecast of the currency pairs. The poll is generally published during the first week of the month, although there are exceptions whereby the poll may be delayed to the middle of the month, or on rare occasions it may not be published if the response rate is very low. The Refinitiv survey is a snap poll, and a fresh or new poll is conducted every month. Respondents are required to provide their forecast only during the window while the poll is open. The responses are published once the poll is closed. Thus, participants cannot see other forecasts until the close of the poll. Unlike Bloomberg, surveys by Refinitiv (and Consensus Economics) do not use rolling time windows. Most of the currencies are polled once a month, though there are some that are polled once a quarter (13 out of the 61 currencies/currency pairs).

Forecasts are reported for horizons of 1, 3, 6, and 12 months ahead, where the earliest date data is available from is May 1993. The survey reports the mean, median, high, low, and standard deviation of the responses, as well as the number of forecasters. Refinitiv Forecasts have a narrower range of currencies compared to the Consensus Economics FX forecasts, with 36 currencies and 25 cross-currency pairs. The total number of contributors to the poll varies

across currencies, from approximately 85 for the major currencies, falling to as low as 5 for the less traded currencies for Vietnam, Kenya, or Zambia.

The participants are chosen in order to represent a wide range of views. They include economists and financial markets strategists from the sell-side as well as buy-side, plus independent researchers, and some academics. Some examples include ANZ, Barclays, Citigroup, Commerzbank, Continuum Economics, Desjardins, DNB, DZ Bank, JP Morgan, Julius Baer, MUFG, Rabobank, Société Générale, Wells Fargo, Westpac, ZKB, and many more.

A.3 Bloomberg FX Forecasts

The second set of alternative FX forecasts are those available from Bloomberg. On any given day, FX forecasts, produced by a wide range of major banks and financial institutions, are quoted on Bloomberg Terminals. Summary consensus measures on the last trading day of a month are calculated as the mean and median of all the contributors' forecasts reported on Bloomberg Terminals in the prior 36 days. The use of a rolling time window causes the aggregate measures to vary from day to day. The 36-day time frame also potentially increases the heterogeneity in the information set of the individual forecasters, as compared with the Consensus Economics and Refinitiv data sets that have much narrower time windows over which the forecasts are made.

In contrast to Consensus Economics and Refinitiv, the forecast horizons are for calendar quarters rather than months. Forecasts reported in March, June, September, and December are for the next four calendar quarters and those reported in the remaining months are for the current and next three calendar quarters. Forecasts for the next four years are also reported. The earliest date data is available from is December 2006. Surveys report the mean, median, high, and low forecasts. Bloomberg reports forecasts for more than 41 currencies (60 currency pairs), most with respect to the U.S. Dollar, including all major traded currencies. The number of participants varies over time and currencies. For major currencies, including the Euro, Pound, Yen, Australian Dollar, New Zealand Dollar, and Danish Krone with respect to the U.S. Dollar, the

approximate number of participants increases from around 30 in 2006 to 50 in 2012 and 75 in 2018.

As with Consensus Economics and Refinitiv, survey participants include a wide range of financial and economic institutions. Among many others, the range of contributing institutions include ABN Amro, Banco Santander, Bank of America, Barclays, BNP Paribas, Citigroup, China Construction Bank (Asia), Commerzbank, DZ Bank, Investment Capital Ukraine, JP Morgan Chase, Lloyds Bank Commercial, Maybank Singapore, Merrill Lynch, Mizuho Bank, Morgan Stanley, PKO Bank Polski, Standard Bank Group, Standard Chartered, Validus Risk Management, Vadilal Forex, X-Trade Brokers.

Appendix B: Instrumented Principal Component Analysis

This appendix summarizes the main features of Instrumented Principal Component Analysis (IPCA), developed in Kelly et al. (2019) and used, among other uses, for U.S. stock returns (Kelly et al. (2021), Gu et al. (2021), Kelly et al. (2019)), international stock returns (Bartram and Grinblatt (2021)), corporate bond returns (Kelly, Palhares, and Pruitt (2023)), and option returns (Büchner and Kelly (2022)).

The general IPCA model specifies an excess return as

$$(B.1) \quad \begin{aligned} r_{i,t+1} &= \alpha_{i,t} + \beta_{i,t} f_{t+1} + \varepsilon_{i,t+1}, \\ \alpha_{i,t} &= \tilde{z}'_{i,t} \Gamma_{\alpha} + v_{\alpha,i,t}, \quad \beta_{i,t} = \tilde{z}'_{i,t} \Gamma_{\beta} + v_{\beta,i,t}, \end{aligned}$$

where $r_{i,t+1}$ is the excess return of currency i ($i = 1, \dots, N$) in month $t+1$ ($t = 1, \dots, T$). A key feature is individual currencies having dynamic factor loadings, $\beta_{i,t}$, on a vector of K latent factors, f_{t+1} . Factor loadings are parameterized to depend on observable currency characteristics in the $L \times 1$ vector of instruments $\tilde{z}_{i,t}$ (which includes a constant). The use of time-varying instruments allows estimating dynamic factor loadings. The space of currency characteristics is reduced by the matrix Γ_{β} that maps a larger number of characteristics into a smaller number of risk exposures ($K < L$). The term $v_{\beta,i,t}$ allows for risk exposures that are not perfectly captured by observable characteristics. Analogously, the structure of $\alpha_{i,t}$ is a linear combination of the characteristics, where the weights are defined by the matrix Γ_{α} .

The IPCA framework can further accommodate observable factors to nest commonly studied factor models with pre-specified factors. A general specification of the resulting model augments equation (B.1) by an additional term capturing the return component related to observable factors:

$$(B.2) \quad \begin{aligned} r_{i,t+1} &= \alpha_{i,t} + \beta_{i,t} f_{t+1} + \delta_{i,t} g_{t+1} + \varepsilon_{i,t+1}, \\ \delta_{i,t} &= \tilde{z}'_{i,t} \Gamma_{\delta} + v_{\delta,i,t}, \end{aligned}$$

where g_{t+1} is an $M \times 1$ vector of observable factors. Currencies are allowed to have dynamic loadings $\delta_{i,t}$ on these factors conditional on the same set of instruments that are mapped into

loadings by the $L \times M$ matrix Γ_δ .

Table A1: Foreign Exchange Forecasts Data Sets

The table reports details on foreign exchange rate forecasts from alternative data sources (Consensus Economics, Refinitiv, Bloomberg).

	Consensus Economics	Refinitiv	Bloomberg
Number of Currencies	93 currencies (with respect to the dollar, Euro, or Yen)	36 currencies and 25 cross currency pairs (mostly with respect to US Dollar)	41 currencies (60 currency pairs)
Frequency	Monthly	Monthly	Daily/Real-time
Start Date	December 1989	May 1993	December 2006
Number of Participants	100 (for major traded currencies)	85 (for major traded currencies)	75 (for major traded currencies)
Forecasters' Time Window	First two weeks of the month	First week of the month	Prior 36 days
Forecast Horizons	1, 3, 12, and 24 months	1, 3, 6, and 12 months	1, 2, 3, and 4 quarters; 1, 2, 3, and 4 years
Statistics	Mean, high, low, standard deviation, number of forecasters	Mean, median, high, low, standard deviation, number of forecasters	Mean, median, high, low
Types of Participants	Financial and economic institutions	Financial and economic institutions	Financial and economic institutions
Common set of Currencies	Argentine Peso, Australian Dollar, Brazilian Real, Canadian Dollar, Chilean Peso, Chinese Renminbi, Colombian Peso, Czech Koruna, Egyptian Pound, Euro, Hong Kong Dollar, Hungarian Forint, Indian Rupee, Indonesian Rupiah, Japanese Yen, Kazakhstani Tenge, Malaysian Ringgit, Mexican Peso, New Zealand Dollar, Norwegian Krone, Peruvian New Sol, Philippine Peso, Polish Zloty, Romanian Leu, Russian Rouble, Serbian Dinar, Singaporean Dollar, South African Rand, South Korean Won, Swedish Krona, Swiss Franc, Taiwanese Dollar, Thai Baht, Turkish Lira, Ukrainian Hryvnia, United Kingdom Pound, Vietnamese Dong		
Additional Currencies	Austrian Schilling, Belgian Franc, Bulgarian Lev, Croatian Kuna, Cypriot Pound, Danish Krone, Deutschemark, Estonian Kroon, Finnish Markka, French Franc, Greek Drachma, Irish Punt, Israeli Shekel, Italian Lira, Latvian Lats, Lithuanian Litas, Netherlands Guilder, Nigerian Naira, Pakistani Rupee, Portuguese Escudo, Saudi Arabian Riyal, Slovakian Koruna, Slovenian Tolar, Spanish Peseta, Sri Lankan Rupee	Ghanaian Cedi, Kenyan Shilling, Nigeria Naira, Zambian Kwacha	Bulgarian Lev, Danish Krone, Israeli Shekel, Saudi Arabian Riyal

Table A2: Currency Sample Periods

The table reports details on currency data series. For each country, it reports the start date and end date of its currency data.

Country	Currency	Sample Period	
		Start Date	End Date
Argentina	Argentine Peso	March 2004	August 2022
Australia	Australian Dollar	December 1984	August 2022
Austria	Austrian Schilling	December 1970	December 1998
Bahrain	Bahrain Dinar	March 2004	August 2022
Belgium	Belgian Franc	December 1970	December 1998
Brazil	Brazilian Real	March 2004	August 2022
Bulgaria	Bulgarian Lev	March 2004	August 2022
Canada	Canadian Dollar	December 1970	August 2022
Chile	Chilean Peso	March 2004	August 2022
China	Chinese Renminbi	February 2002	August 2022
Colombia	Colombian Peso	March 2004	August 2022
Croatia	Croatian Kuna	March 2004	August 2022
Cyprus	Cypriot Pound	March 2004	December 2007
Czech Republic	Czech Koruna	December 1996	August 2022
Denmark	Danish Krone	December 1970	August 2022
Egypt	Egyptian Pound	March 2004	August 2022
Estonia	Estonian Kroon	March 2004	December 2010
Euro Area	Euro	January 1999	August 2022
Finland	Finnish Markka	December 1996	December 1998
France	French Franc	December 1970	December 1998
Germany	Deutschemerk	December 1970	December 1998
Ghana	Ghanaian Cedi	July 2011	August 2022
Greece	Greek Drachma	December 1996	December 2000
Hong Kong	Hong Kong Dollar	October 1983	August 2022
Hungary	Hungarian Forint	October 1997	August 2022
Iceland	Iceland Krona	March 2004	August 2022
India	Indian Rupee	October 1997	August 2022
Indonesia	Indonesian Rupiah	December 1996	August 2022
Ireland	Irish Punt	December 1970	December 1998
Israel	Israeli Shekel	March 2004	August 2022
Italy	Italian Lira	December 1970	December 1998
Japan	Japanese Yen	June 1978	August 2022
Jordan	Jordanian Dinar	March 2004	August 2022
Kazakhstan	Kazakhstani Tenge	March 2004	August 2022
Kenya	Kenyan Shilling	March 2004	August 2022
Kuwait	Kuwaiti Dinar	January 1994	August 2022
Latvia	Latvian Lats	March 2004	December 2013
Lithuania	Lithuanian Litas	March 2004	December 2014
Malaysia	Malaysian Ringgit	December 1996	August 2022

Country	Currency	Sample Period	
		Start Date	End Date
Malta	Maltese Lira	March 2004	December 2007
Mexico	Mexican Peso	December 1996	August 2022
Morocco	Moroccan Dirham	March 2004	August 2022
Netherlands	Netherlands Guilder	December 1970	December 1998
New Zealand	New Zealand Dollar	December 1984	August 2022
Nigeria	Nigerian Naira	April 2011	August 2022
Norway	Norwegian Krone	December 1970	August 2022
Oman	Omani Rial	March 2004	August 2022
Pakistan	Pakistani Rupee	March 2004	August 2022
Peru	Peruvian New Sol	March 2004	August 2022
Philippines	Philippine Peso	December 1996	August 2022
Poland	Polish Zloty	February 2002	August 2022
Portugal	Portuguese Escudo	January 1981	December 1998
Qatar	Qatari Rial	March 2004	August 2022
Romania	Romanian Leu	March 2004	August 2022
Russia	Russian Rouble	March 2004	August 2022
Saudi Arabia	Saudi Arabian Riyal	December 1996	August 2022
Serbia	Serbian Dinar	July 2011	August 2022
Singapore	Singaporean Dollar	December 1984	August 2022
Slovakia	Slovakian Koruna	February 2002	December 2008
Slovenia	Slovenian Tolar	March 2004	December 2006
South Africa	South African Rand	October 1983	August 2022
South Korea	South Korean Won	February 2002	August 2022
Spain	Spanish Peseta	December 1970	December 1998
Sri Lanka	Sri Lankan Rupee	July 2011	August 2022
Sweden	Swedish Krona	December 1970	August 2022
Switzerland	Swiss Franc	December 1970	August 2022
Taiwan	Taiwanese Dollar	December 1996	August 2022
Thailand	Thai Baht	December 1996	August 2022
Tunisia	Tunisian Dinar	March 2004	August 2022
Turkey	Turkish Lira	December 1996	August 2022
Uganda	Ugandan Shilling	July 2011	August 2022
Ukraine	Ukrainian Hryvnia	March 2004	August 2022
United Arab Emirates	UAE Dirham	December 1996	August 2022
United Kingdom	United Kingdom Pound	December 1970	August 2022
Vietnam	Vietnamese Dong	July 2011	August 2022
Zambia	Zambian Kwacha	July 2011	August 2022

Table A3: Variable Definitions

The table reports the definitions of the variables used in the study.

Variable	Definition
Currency Returns and Excess Returns	
Currency Return	Negative log difference of spot exchange rates in month $t+1$ and month t . Data are from Datastream.
Currency Excess Return	Log difference between the one-month forward exchange rate of month t and the spot exchange rate of month $t+1$. Data are from Datastream.
Forecast Currency Return	Negative log difference of a foreign currency's one-month forecast in month t and its spot rate in month t . Foreign currency's one-month ahead forecast data are from Consensus Economics. Spot exchange rates are from Datastream.
Forecast Currency Excess Return	Log difference between a foreign currency's one-month forecast in month t and the spot exchange rate of month $t+1$.
Interest Rate Differential	When Covered Interest Parity holds, the interest rate differential equals the forward discount. The forward discount is the log difference of a foreign currency's one-month forward rate in month t and its spot rate in month t . Data are from Datastream.
Mistakes	Forecast Currency Return – Currency Return.
Currency Predictors	
1-Month Momentum	At the end of each month, currencies are sorted into five quintiles (Q1 to Q5) from low to high based on lagged excess returns over the prior month, and combined into equally weighted portfolios. The 1-Month Momentum strategy goes long portfolio Q5 and short Q1 (e.g., Menkhoff et al. (2012a)).
3-Months Momentum	At the end of each month, currencies are sorted into five quintiles (Q1 to Q5) from low to high based on lagged excess returns over the prior three months and combined into equally weighted portfolios. The 3-Months Momentum strategy goes long portfolio Q5 and short Q1 (e.g., Menkhoff et al. (2012a)).
12-Months Momentum	At the end of each month, currencies are sorted into five quintiles (Q1 to Q5) from low to high based on lagged excess returns over the prior twelve months and combined into equally weighted portfolios. The 12-Months Momentum strategy goes long portfolio Q5 and short Q1 (e.g., Asness et al. (2013)).
Filter Rule Combination	At the end of each month, currencies are sorted into five quintiles (Q1 to Q5) from low to high based on the average percentile rank of 354 moving average rules (i.e., are combined using equal weights). The 354 moving average rules are based on the difference between short-run (SR) and long-run (LR) moving averages of currency returns, where SR ranges from 1–12 months and LR ranges from 2–36 months. The Filter Rule Combination strategy goes long portfolio Q5 and short Q1 (e.g., Okunev and White (2003)).
Carry Trade	At the end of each month, currencies are sorted into five quintiles (Q1 to Q5) from low to high based on forward discounts and combined into equally weighted portfolios. The Carry Trade strategy goes long portfolio Q5 and short Q1 (e.g., Lustig et al. (2011)).
Dollar Carry Trade	At the end of each month, we calculate the Average Forward Discount (AFD) of developed countries. We categorize a country as developed if it was considered “developed” by Morgan Stanley Capital International (MSCI) as of May 2018, which are Australia, Austria, Belgium, Canada, Denmark, Euro Area, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, United Kingdom, and United States. The Dollar Carry Trade strategy goes long all foreign (i.e., non-U.S.) currencies when the AFD is greater than zero and short all foreign currencies when the AFD is equal or less than zero (e.g., Lustig et al. (2014)). All currencies are equally weighted.
Dollar Exposures	At the end of each month, for each currency, the change in the exchange rate is regressed on a constant, the interest rate differential, the carry factor, the interaction between interest rate differential and carry factor, and the dollar factor using a 60-month rolling window. The carry factor is the average change in exchange rates between high interest rate countries and low interest rate countries based on quintiles. The dollar factor is the average change in exchange rates across all currencies. Currencies are sorted into five quintiles (Q1 to Q5), from low to high, based on the slope coefficients for the dollar factor and combined into equally weighted portfolios. Each month, for each quintile, the Dollar Exposures strategy goes long when the AFD of developed countries is positive and goes short otherwise (e.g., Verdelhan (2018)).

Variable	Definition
Term Spread	At the end of each month, currencies are sorted into five quintiles (Q1 to Q5) from low to high based on the difference between their long-term interest rates and short-term interest rates and combined into equally weighted portfolios. The Term Spread strategy goes long portfolio Q5 and short Q1 (e.g., Ang and Chen (2010)). Short-term rates are three months interest rates (interbank or Treasury bills) and long-term rates are ten year (or if unavailable five year) Government bond rates sourced from Datastream.
Currency Value	At the end of each month, currencies are sorted into five quintiles (Q1 to Q5) from low to high based on the real exchange rate return (RER) over the prior five years and combined into equally weighted portfolios. The log RER is given by $q_t = -s_t + p_t^k - p_t$ where s denotes the exchange rate (in foreign currency units per U.S. Dollar), p^k denotes the price level in country k , and p denotes the U.S. price level. All variables are in logs. Following Asness et al. (2013), we calculate the lagged five-year (5y) real exchange rate return as $\Delta^{(5y)} q_t = q_t - q_{t-5y} = -\Delta^{(5y)} s_t + \pi^{(5y),k} - \pi^{(5y)}$. The Currency Value strategy goes long portfolio Q5 and short Q1 (e.g., Menkhoff et al. (2017)). Real-time data on Consumer Price Indices (CPI) to calculate real exchange rates are from OECD's Original Release Data and Revisions Database.
Output Gap	At the end of each month, currencies are sorted into quintiles (Q1 to Q5) from low to high based on the output gap and combined into equally weighted portfolios. The output gap is calculated from detrending the monthly industrial production index (IPI) for each country. Specifically, the residuals from a regression of IPI_t on a constant and $IPI_{t-13}, IPI_{t-14}, \dots, IPI_{t-24}$ (corresponding to $p=12$ and $b=24$ in Hamilton (2018)) are a measure of detrended output gap. The procedure is implemented recursively conditioning on data available at the time of sorting. The Output Gap strategy goes long portfolio Q5 and short Q1 (e.g., Colacito et al. (2020)). Real-time data on industrial production are from OECD's Original Release Data and Revisions Database.
Taylor Rule	At the end of each month, currencies are sorted into quintiles (Q1 to Q5) from low to high based on 1.5 times inflation and 0.5 times the output gap, and combined into equally weighted portfolios. The output gap is calculated following the procedure in the Output Gap strategy. The Taylor Rule strategy goes long portfolio Q5 and short Q1 (e.g., Colacito et al. (2020)). Real-time data on CPI to calculate inflation and real time data on industrial production are from OECD's Original Release Data and Revisions Database.
Predictors	
Average Predictor	Average predictor is calculated as the average percentile rank of currencies with respect to the underlying predictors.
Extreme Predictor	Extreme predictor is calculated as the difference between the number of long and the number of short portfolios a currency belongs to in a given month across the underlying predictor strategies, divided by the number of predictors.
Profits	
Predictor Profit	Predictor profit in a month is the difference between the currency excess returns of portfolios Q5 and Q1 (Q5–Q1) based on an individual or aggregate predictor signal.
Control Variables	
Post-Sample	An indicator variable that takes the value one if the month is after the sample period used in the original study, but still pre-publication, and zero otherwise.
Post-Publication	An indicator variable that takes the value one if the month is after posting on SSRN, and zero otherwise.
Time	Time is equal to $1/100$ during the first month of the sample and increases by $1/100$ each month.
Level of Interest Rates	The average of the short-term interest rates of the currencies that are in the portfolios Q5 and Q1 for a predictor.
Exchange Rate Volatility	The average of the within-month standard deviation of the currencies that are in the portfolios Q5 and Q1 for a predictor using daily currency returns.
NBER U.S. Business Cycle Contractions	An indicator variable that takes the value one for U.S. recessions, and zero otherwise.

Variable	Definition
Crisis	The average of crisis indicator variables of the currencies in the long and short portfolios of a predictor that take the value of one in years with a financial crisis (currency, inflation, banking, or systemic as identified in the literature (Nguyen et al. (2022), Laeven and Valencia (2020), Reinhart and Rogoff (2014)) in the respective country and zero otherwise. In a very small number of cases, we extend crisis data due to missing observations. Results are similar for inclusion of individual or joint controls for different types of crises.
Dollar Risk Factor	At the end of each month, we take the average of currency excess returns. (Lustig et al. (2011)).
Carry Trade Risk Factor	At the end of each month, currencies are sorted into five quintiles (Q1 to Q5) from low to high based on forward discounts and combined into equally weighted portfolios. The Carry Trade Risk Factor is the difference between the currency excess returns of portfolios Q5 and Q1. (Lustig et al. (2011)).
Volatility Risk Factor	We calculate the absolute daily log return for each currency on each day, and average over all currencies available on any given day and average daily values up to the monthly. We then calculate volatility innovations by estimating an AR(1) for the average volatility level and take the residuals. To obtain the volatility risk factor, we regress volatility innovations on the five carry trade portfolio excess returns, and take the projections on the five portfolios (Menkhoff et al. (2012b)).
Skewness Risk Factor	At the end of each month, currencies are sorted into two groups: one with positive forward discounts and one with negative forward discounts. Next, we calculate the realized within-month skewness of the currencies in the first group, and the negative of the within-month skewness of the currencies in the second group. We take the average of the two skewness statistics across available currencies. To obtain skewness risk factor, we regress the average on the five carry trade portfolio excess returns, and take the projections on the five portfolios (Burnside (2012), Rafferty (2012)).
Political Risk Factor	We obtain monthly political risk measure from the International Country Risk Guide (ICRG) published by the PRS Group. We calculate the political risk measure as the standardized sum of differences in political risk between all countries and the United States. We then calculate political risk innovations by estimating an AR(1) for the political risk measure and take the residuals. To obtain the political risk factor, we regress political risk innovations on six momentum portfolio excess returns, and take the projections on the five portfolios (Filippou et al. (2018)).
International Correlation Risk Factor	We sort currencies into portfolios based on the exposure (beta) of currency excess returns to innovations in their dispersion measure. Then nine G10 currencies can be sorted into three portfolios according to their estimated exposure (beta). Finally, the international correlation risk factor is constructed by taking a long position in the top tercile and a short position in the bottom tercile (Mueller et al. (2017)).
Global Imbalance Risk Factor	We construct portfolios based on net foreign asset position and external liabilities in domestic currency. The global imbalance factor is the return difference between portfolio five and portfolio one (Della Corte et al. (2016)).
Network Centrality Risk Factor	We build four portfolios sorted by annual values of trade network centrality provided by Robert Richmond. The Network Centrality factor is the return difference between portfolio four and portfolio one (Richmond (2019)).
Global Equity Risk Factor	Monthly MSCI world market index return net of risk-free rate. The MSCI return data are from Datastream, risk-free rate data are from Ken French website.
Excess Return on Market Portfolio	Monthly U.S. market index return net of risk-free rate (Mkt_RF) (Ken French website).
SMB	Monthly Small Minus Big (SMB) portfolio return (size factor) (Ken French website).
HML	Monthly High Minus Low (HML) portfolio return (value factor) (Ken French website).
CMA	Monthly Conservative Minus Aggressive (CMA) portfolio return (investment factor) (Ken French website).
RMW	Monthly Robust Minus Weak (RMW) portfolio return (profitability factor) (Ken French website).
Momentum	Monthly Momentum (Mom) portfolio return (Ken French website).

Variable	Definition
Short-Term Reversal	Monthly Short-term Reversal (ST_Rev) portfolio return (Ken French website).
Long-Term Reversal	Monthly Long-term Reversal (LT_Rev) portfolio return (Ken French website).
Term Spread	Term Spread (TERM) is the difference between the monthly long-term government bond return (Amit Goyal website) and the one-month Treasury bill rate (Ken French website) (Fama and French (1993)).
Default Spread	Default Spread (DEF) is the difference between the return on a market portfolio of long-term corporate bonds and the long-term government bond return (Amit Goyal website) (Fama and French (1993)).
1-Month Predictor Profit	The quintile spread of the Predictor based on excess returns in the prior month.
12-Months Predictor Profit	The quintile spread of the Predictor based on excess returns in the prior 12 months.
Bid-Ask Spreads	At the end of each month, we take the average of bid-ask spreads of currencies that are in the portfolios Q5 and Q1 for a predictor. We calculate the average of each time-series over the in-sample period to estimate a single costly arbitrage variable for each Predictor.
Capital Restrictions	At the end of each month, we take the average of an index of limits to arbitrage of currencies that are in the portfolios Q5 and Q1 for a predictor. The index is the average percentile rank of an index of average money market restrictions for inflows and outflows (from Fernández et al. (2015)), and a measure of capital account openness (Chinn and Ito (2008)). We calculate the average of each time series over the in-sample period to estimate a single costly arbitrage variable for each Predictor.
Number of Forecasters	The number of analysts who provide forecasts for a currency. If the number of analysts is not available for a particular currency, we retrieve the number of analysts as reported by Consensus Economics in the section of forecasts for economic growth.
Single Forecast	Single Forecast is an indicator variable that takes the value one if there is only one forecast available for the currency in a month and zero otherwise. We assume that there is only a single forecast if the number of forecasts is not reported.

Table A4: Correlations of Currency Predictors

The table reports correlations between time series of monthly returns of trading strategies based on currency predictors. At the end of each month, all available currencies are sorted into quintiles from Q1 (short portfolio) to Q5 (long portfolio) based on different currency predictors and combined into equally weighted portfolios. The trading strategy return is the difference between the currency excess returns of portfolios Q5 and Q1 (Q5–Q1). Trading profits are gross of transaction costs. Individual predictors are 1-Month Momentum (momentum based on the currency excess return over the prior month), 3-Months Momentum (momentum based on the currency excess return over the prior three months), 12-Months Momentum (momentum based on the currency excess return over the prior twelve months), Filter Rule Combination, Carry Trade, Dollar Carry Trade, Dollar Exposures, Term Spread, Currency Value, Output Gap, and the Taylor Rule. Average predictor is the average of the percentile ranks of currencies with respect to the underlying predictors, while extreme predictor is the difference between the number of long and the number of short portfolios a currency belongs to in a given month across the underlying predictors, divided by the number of predictors. The sample includes 76 currencies. The sample period is from January 2000 to August 2022. Table A3 in the Appendix provides details on variable definitions.

	1-Month Momentum	3-Months Momentum	12-Months Momentum	Filter Rule Combination	Carry Trade	Dollar Carry Trade	Dollar Exposures	Term Spread	Currency Value	Output Gap	Taylor Rule	Average Predictor
3-Months Momentum	0.606											
12-Months Momentum	0.331	0.460										
Filter Rule Combination	0.697	0.748	0.567									
Carry Trade	-0.053	0.075	0.311	-0.134								
Dollar Carry Trade	0.084	0.110	0.073	0.070	0.175							
Dollar Exposures	0.045	0.053	0.068	0.075	0.099	0.920						
Term Spread	0.014	0.077	0.184	0.013	0.313	0.194	0.153					
Currency Value	-0.106	-0.150	-0.386	-0.238	-0.005	-0.036	-0.051	0.082				
Output Gap	0.148	0.115	0.121	0.152	-0.153	0.097	0.133	0.111	0.098			
Taylor Rule	-0.096	-0.041	0.201	-0.067	0.576	0.023	-0.010	0.356	0.143	0.126		
Average Predictor	0.544	0.628	0.632	0.633	0.344	0.188	0.138	0.378	-0.100	0.152	0.347	
Extreme Predictor	0.629	0.684	0.648	0.701	0.340	0.194	0.139	0.359	-0.107	0.149	0.342	0.890

Table A5: Summary Statistics

The table reports summary statistics on actual (i.e., realized) and forecast currency returns, analysts' mistakes (in percent per month), as well as average and extreme predictors. In particular, the table shows the means, standard deviations, skewness, kurtosis, minimum, maximum, and various percentiles. Currency returns are the negative log difference of spot exchange rates from month $t+1$ and month t . Currency excess returns are the log difference between the one-month forward exchange rate of month t and the spot exchange rate of month $t+1$. Forecast currency returns are the negative log difference of a foreign currency's one-month forecast in month t and its spot rate in month t . Forecast currency excess returns are the log difference between the one-month forward exchange rate of month t and the foreign currency's one-month forecast in month t . Mistakes are the difference between forecast currency returns and actual (i.e., realized) currency returns. Average predictor is the average of the percentile ranks of currencies with respect to the underlying predictors, while extreme predictor is the difference between the number of long and the number of short portfolios a currency belongs to in a given month across the underlying predictors, divided by the number of predictors. The analysis is based on the following eleven currency predictors: (i) momentum based on the currency excess return over the prior month, (ii) momentum based on the currency excess return over the prior three months, (iii) momentum based on the currency excess return over the prior twelve months, (iv) filter rule combination, (v) carry trade, (vi) dollar carry trade, (vii) dollar exposures, (viii) term spread, (ix) currency value, (x) output gap, and (xi) the Taylor Rule. The sample period starts in January 1971 for actual (excess) returns, in December 1989 for analysts' mistakes, and in January 1976 for average and extreme predictors. All series end in August 2022.

Table A3 in the Appendix provides details on variable definitions.

	Standard				Minimum	Percentiles							
	Mean	Deviation	Skewness	Kurtosis		1 st	5 th	25 th	Median	75 th	95 th	99 th	Maximum
Actual Currency Returns	-0.179	3.165	-2.332	39.54	-69.40	-9.754	-4.927	-1.317	0.000	1.125	4.395	7.193	34.21
Forecast Currency Returns	-0.158	3.044	0.529	12.150	-28.14	-8.202	-4.818	-1.545	-0.129	1.091	4.608	8.500	37.53
Actual Currency Excess Returns	0.107	3.178	-1.364	28.08	-63.94	-9.136	-4.658	-1.081	0.069	1.453	4.795	7.884	38.78
Forecast Currency Excess Returns	0.136	3.112	1.219	14.863	-22.38	-7.520	-4.483	-1.278	0.016	1.326	4.998	9.414	40.35
Analysts' Mistakes	0.043	4.420	1.223	16.76	-40.92	-10.13	-6.474	-2.118	-0.073	1.872	6.971	13.34	66.77
Average Predictor	0.520	0.154	0.129	2.708	0.068	0.194	0.270	0.411	0.516	0.625	0.781	0.883	1.000
Extreme Predictor	0.015	0.315	0.137	3.108	-1.000	-0.714	-0.500	-0.182	0.000	0.222	0.556	0.778	1.000

Table A6: Quintile Performance of Portfolios Sorted on Currency Predictors

The table reports actual (i.e., realized) excess returns (in percent per month) of portfolios sorted on currency predictors, alternatively gross of transaction costs and net of transaction costs. Transaction costs are calculated using bid and ask quotations. Individual predictors are 1-Month Momentum (momentum based on the currency excess return over the prior month), 3-Months Momentum (momentum based on the currency excess return over the prior three months), 12-Months Momentum (momentum based on the currency excess return over the prior twelve months), Filter Rule Combination, Carry Trade, Dollar Carry Trade, Dollar Exposures, Term Spread, Currency Value, Output Gap, and the Taylor Rule. At the end of each month, all available currencies are sorted into quintiles from Q1 (short portfolio) to Q5 (long portfolio) based on alternative currency predictors and combined into equally weighted portfolios. The table shows the time-series average of the currency excess returns of the quintile portfolios. It also shows the time-series average (in percent per month as well as annualized) and associated t -statistic (in square brackets) of the difference between the currency excess returns of portfolios Q5 and Q1 (Q5–Q1). The table does not report quintiles for the Dollar Carry Trade since the strategy goes long and short all foreign currencies based on average forward discount of developed countries. The sample includes 76 currencies. The sample period is from January 1971 to August 2022. Table A3 in the Appendix provides details on variable definitions.

	Currency Excess Returns Gross of Transaction Costs							Currency Excess Returns Net of Transaction Costs						
	Quintiles						Annualized	Quintiles						Annualized
	Q1 (Short)	Q2	Q3	Q4	Q5 (Long)	Q5-Q1		Q1 (Short)	Q2	Q3	Q4	Q5 (Long)	Q5-Q1	
1-Month Momentum	-0.186	0.020	0.132	0.159	0.381	0.567	6.803	0.012	-0.157	-0.063	-0.041	0.131	0.118	1.420
	[-1.66]	[0.20]	[1.37]	[1.68]	[3.74]	[5.44]		[0.11]	[-1.60]	[-0.65]	[-0.43]	[1.28]	[1.13]	
3-Months Momentum	-0.147	-0.071	0.094	0.174	0.461	0.608	7.300	0.028	-0.246	-0.091	-0.016	0.225	0.197	2.365
	[-1.29]	[-0.73]	[0.96]	[1.79]	[4.56]	[5.47]		[0.25]	[-2.53]	[-0.92]	[-0.16]	[2.22]	[1.76]	
12-Months Momentum	-0.058	-0.019	0.033	0.077	0.381	0.439	5.269	0.073	-0.167	-0.110	-0.077	0.167	0.094	1.127
	[-0.49]	[-0.19]	[0.31]	[0.76]	[3.71]	[3.66]		[0.62]	[-1.64]	[-1.03]	[-0.77]	[1.63]	[0.78]	
Filter Rule Combination	-0.101	-0.100	0.094	0.154	0.292	0.393	4.720	0.083	-0.286	-0.084	-0.022	0.116	0.033	0.393
	[-0.83]	[-0.96]	[0.94]	[1.60]	[2.97]	[3.42]		[0.68]	[-2.72]	[-0.84]	[-0.23]	[1.18]	[0.28]	
Carry Trade	-0.190	-0.048	0.110	0.216	0.563	0.753	9.034	-0.052	-0.190	-0.048	0.039	0.264	0.316	3.790
	[-2.09]	[-0.55]	[1.27]	[2.33]	[5.30]	[8.57]		[-0.57]	[-2.17]	[-0.55]	[0.42]	[2.48]	[3.58]	
Dollar Carry Trade						0.320	3.842						0.219	2.626
						[3.42]							[2.33]	
Dollar Exposures	0.059	0.203	0.267	0.426	0.378	0.319	3.826	0.159	0.054	0.133	0.330	0.293	0.134	1.608
	[1.56]	[2.74]	[2.31]	[3.23]	[2.44]	[2.02]		[4.14]	[0.73]	[1.15]	[2.50]	[1.89]	[0.84]	
Term Spread	0.021	-0.017	0.047	0.087	0.289	0.268	3.221	0.208	-0.171	-0.104	-0.077	0.100	-0.108	-1.297
	[0.22]	[-0.17]	[0.47]	[0.86]	[2.70]	[3.29]		[2.20]	[-1.70]	[-1.04]	[-0.76]	[0.93]	[-1.30]	
Currency Value	0.185	0.072	0.002	0.092	0.338	0.153	1.840	0.278	-0.010	-0.084	0.001	0.241	-0.036	-0.437
	[1.25]	[0.48]	[0.01]	[0.58]	[1.97]	[1.01]		[1.88]	[-0.07]	[-0.56]	[0.01]	[1.41]	[-0.24]	
Output Gap	0.069	0.007	0.029	0.298	0.314	0.245	2.943	0.155	-0.078	-0.063	0.188	0.222	0.067	0.805
	[0.40]	[0.05]	[0.17]	[1.70]	[1.89]	[1.79]		[0.92]	[-0.51]	[-0.37]	[1.08]	[1.34]	[0.50]	
Taylor Rule	0.067	-0.065	-0.002	0.195	0.549	0.481	5.777	0.141	-0.136	-0.081	0.101	0.426	0.285	3.418
	[0.48]	[-0.42]	[-0.01]	[1.14]	[2.78]	[2.82]		[0.99]	[-0.88]	[-0.51]	[0.59]	[2.17]	[1.68]	

Table A7: Predictors, Authors, and Details of Publication

The table reports the currency predictor, authors of the paper, and original sample period used in the paper as well as date of publication, alternatively on SSRN and peer-reviewed journal articles.

Predictor	Authors (Journal)	Working Paper			Journal Article		
		Sample Period		Date of First Posting on SSRN	Sample Period		Date of Journal Publication
		Start Date	End Date		Start Date	End Date	
1-Month Momentum	Menkhoff, Sarno, Schmeling, and Schrimpf (<i>Journal of Financial Economics</i>)	January 1976	January 2010	April 2011	January 1976	January 2010	December 2012
3-Months Momentum	Menkhoff, Sarno, Schmeling, and Schrimpf (<i>Journal of Financial Economics</i>)	January 1976	January 2010	April 2011	January 1976	January 2010	December 2012
12-Months Momentum	Asness, Moskowitz, and Pedersen (<i>Journal of Finance</i>)	January 1979	October 2008	March 2009	January 1979	July 2011	June 2013
Filter Rule Combination	Okunev and White (<i>Journal of Financial and Quantitative Analysis</i>)	January 1980	June 2000	June 2001	January 1980	June 2000	June 2003
Carry Trade	Lustig and Verdelhan (<i>American Economic Review</i>)	January 1971	December 2002	January 2005	January 1971	December 2002	March 2007
Dollar Carry Trade	Lustig, Roussanov, and Verdelhan (<i>Journal of Financial Economics</i>)	November 1983	January 2009	January 2010	November 1983	June 2010	March 2014
Dollar Exposures	Verdelhan (<i>Journal of Finance</i>)	November 1983	December 2010	November 2011	November 1983	December 2010	February 2018
Term Spread	Ang and Chen (Working Paper)	January 1975	August 2009	January 2010			
Currency Value	Asness, Moskowitz, and Pedersen (<i>Journal of Finance</i>)	January 1979	October 2008	March 2009	January 1979	July 2011	June 2013
Output Gap	Colacito, Riddiough and Sarno (<i>Journal of Financial Economics</i>)	October 1983	January 2016	January 2017	October 1983	January 2016	September 2020
Taylor Rule	Colacito, Riddiough and Sarno (<i>Journal of Financial Economics</i>)	October 1983	January 2016	January 2017	October 1983	January 2016	September 2020

Table A8: Quintile Performance of Portfolios Sorted on Average and Extreme Predictors

The table reports actual (i.e., realized) excess returns (in percent per month) of portfolios sorted on average and extreme predictors, alternatively gross of transaction costs and net of transaction costs. Transaction costs are calculated using bid and ask quotations. At the end of each month, all available currencies are sorted into quintiles from Q1 (short portfolio) to Q5 (long portfolio) based on alternatively average and extreme predictors and combined into equally weighted portfolios. The table shows the time-series average of the currency excess returns of the quintile portfolios. It also shows the time-series average of the difference between the currency excess returns of portfolios Q5 and Q1 (Q5–Q1). Average predictor is the average of the percentile ranks of currencies with respect to the following eleven currency predictors: (i) momentum based on the currency excess return over the prior month, (ii) momentum based on the currency excess return over the prior three months, (iii) momentum based on the currency excess return over the prior twelve months, (iv) filter rule combination, (v) carry trade, (vi) dollar carry trade, (vii) dollar exposures, (viii) term spread, (ix) currency value, (x) output gap, and (xi) the Taylor Rule. Extreme predictor is the difference between the number of long and the number of short portfolios a currency belongs to in a given month across the eleven strategies, divided by the total number of strategies. The table reports average returns and associated t -statistic (in square brackets). It also shows the Sharpe ratio, calculated as the average currency excess return divided by its standard deviation, as well as the standard deviation, skewness, and kurtosis of the portfolio returns, and the average level of the predictor variable. The sample includes 76 currencies. The sample period is from January 1976 to August 2022. Table A3 in the Appendix provides details on variable definitions.

	Gross of Transaction Costs						Net of Transaction Costs					
	Quintiles						Quintiles					
	Q1 (Short)	Q2	Q3	Q4	Q5 (Long)	Q5-Q1	Q1 (Short)	Q2	Q3	Q4	Q5 (Long)	Q5-Q1
Average Predictor												
Average Currency Excess Return ($t+1$)	-0.316	0.036	0.104	0.190	0.501	0.817	-0.164	-0.143	-0.078	-0.019	0.265	0.429
t -Statistic	[-3.23]	[0.38]	[1.09]	[1.88]	[4.90]	[8.64]	[-1.68]	[-1.48]	[-0.82]	[-0.18]	[2.59]	[4.53]
Sharpe Ratio	-0.136	0.016	0.046	0.080	0.207	0.365	-0.071	-0.063	-0.035	-0.008	0.109	0.191
Standard Deviation	2.314	2.287	2.247	2.390	2.421	2.236	2.311	2.281	2.254	2.404	2.424	2.243
Skewness	-0.610	-0.155	-0.215	-0.322	-0.301	0.083	-0.525	-0.200	-0.252	-0.375	-0.353	0.013
Kurtosis	6.713	5.381	4.482	4.669	4.514	5.284	6.657	5.357	4.454	4.784	4.569	5.418
Predictor (t)	0.321	0.435	0.527	0.616	0.740	0.419	0.321	0.435	0.527	0.616	0.740	0.419
Extreme Predictor												
Average Currency Excess Return ($t+1$)	-0.230	0.020	0.076	0.165	0.497	0.727	-0.071	-0.149	-0.104	-0.030	0.249	0.320
t -Statistic	[-2.37]	[0.21]	[0.80]	[1.63]	[4.96]	[7.65]	[-0.74]	[-1.57]	[-1.08]	[-0.30]	[2.48]	[3.35]
Sharpe Ratio	-0.100	0.009	0.034	0.069	0.210	0.323	-0.031	-0.066	-0.046	-0.013	0.105	0.141
Standard Deviation	2.296	2.257	2.271	2.394	2.370	2.250	2.292	2.257	2.281	2.397	2.379	2.264
Skewness	-0.470	-0.218	-0.348	-0.328	-0.213	0.125	-0.392	-0.255	-0.404	-0.356	-0.289	0.047
Kurtosis	6.485	5.007	4.963	4.403	4.863	5.608	6.484	5.001	5.047	4.398	4.920	5.678
Predictor (t)	-0.401	-0.131	0.019	0.170	0.465	0.866	-0.401	-0.131	0.019	0.170	0.465	0.866

Table A9: Publication Effects for Alternative Samples

The table reports results from regressions of currency predictor profits (in percent per month) on an indicator variable for post-sample periods, and an indicator variable for post-publication periods and its interaction with average in-sample profits. The regression specifications are the same as specifications 1 and 2 in Table 1, but for brevity, the table only displays the coefficients on selected variables. Results are shown alternatively for trading profits gross and net of transaction costs, which are calculated using bid and ask quotations. Separately for each predictor, all available currencies are sorted into quintiles from Q1 (short portfolio) to Q5 (long portfolio) at the end of each month and combined into equally weighted portfolios. The profit of a predictor in a month is the difference between the currency excess returns of portfolios Q5 and Q1 (Q5–Q1). The Post-Publication indicator takes the value one if the month is after the posting date on SSRN, and zero otherwise. The analysis is based on the following eleven currency predictors: (i) momentum based on the currency excess return over the prior month, (ii) momentum based on the currency excess return over the prior three months, (iii) momentum based on the currency excess return over the prior twelve months, (iv) filter rule combination, (v) carry trade, (vi) dollar carry trade, (vii) dollar exposures, (viii) term spread, (ix) currency value, (x) output gap, and (xi) the Taylor Rule. The table reports the regression coefficients and associated standard errors (in parentheses), and significance levels. Standard errors are computed using feasible generalized least squares under the assumption of contemporaneous cross-correlation between returns. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively. The sample includes alternatively 62 currencies, 54 currencies covered by the 2022 BIS Triennial Survey (BIS (2022)), 40 currencies with the most turnover according to the BIS Triennial Survey, and the G10 currencies (USD, EUR, DEM, GBP, JPY, AUD, NZD, CAD, CHF, NOK, SEK; see Ang and Chen (2010)). The sample period is from January 1971 to August 2022. Table A3 in the Appendix provides details on variable definitions. Table A7 in the Appendix provides details on the predictors' original sample period used in the paper as well as date of publication.

	Predictor Profits		Predictor Profits	
	Gross of Transaction Costs		Net of Transaction Costs	
	Table 1, Specification 1	Table 1, Specification 2	Table 1, Specification 1	Table 1, Specification 2
	(1)	(2)	(1)	(2)
62 Currencies				
Post-Publication	-0.375*** (0.102)	0.090 (0.193)	-0.308*** (0.101)	0.066 (0.096)
Post-Publication x Average Predictor In-Sample Profits		-0.824** (0.387)		-1.607*** (0.446)
54 Currencies				
Post-Publication	-0.476*** (0.106)	0.098 (0.178)	-0.297*** (0.106)	0.078 (0.094)
Post-Publication x Average Predictor In-Sample Profits		-0.971*** (0.354)		-1.493*** (0.419)
40 Currencies				
Post-Publication	-0.569*** (0.104)	0.141 (0.203)	-0.415*** (0.104)	0.069 (0.117)
Post-Publication x Average Predictor In-Sample Profits		-1.180*** (0.377)		-1.607*** (0.457)
10 Currencies				
Post-Publication	-0.533*** (0.116)	0.083 (0.159)	-0.404*** (0.116)	-0.085 (0.109)
Post-Publication x Average Predictor In-Sample Profits		-1.254*** (0.354)		-1.174*** (0.405)

Table A10: Currency Analysts' Mistakes and Predictors for Alternative Samples

The table reports results from regressions of analysts' mistakes (in percent per month) on predictors, the interaction of predictors with publication, and control variables. The regression specifications are the same as in Table 6, but for brevity, the table only displays the coefficients on the predictor variable. Mistakes are the difference between forecast currency returns and actual (i.e., realized) currency returns. Forecast currency returns are the negative log difference of a foreign currency's one-month forecast in month t and its spot rate in month t . Currency returns are the negative log difference of spot exchange rates from month $t+1$ and month t . Average predictor is the average of the percentile ranks of currencies with respect to the underlying predictors, while extreme predictor is the difference between the number of long and the number of short portfolios a currency belongs to in a given month across the underlying predictors, divided by the number of predictors. The analysis is based on the following eleven currency predictors: (i) momentum based on the currency excess return over the prior month, (ii) momentum based on the currency excess return over the prior three months, (iii) momentum based on the currency excess return over the prior twelve months, (iv) filter rule combination, (v) carry trade, (vi) dollar carry trade, (vii) dollar exposures, (viii) term spread, (ix) currency value, (x) output gap, and (xi) the Taylor Rule. Publication measures the fraction of predictors that have been published by posting the underlying research on SSRN. Regressions include the number of forecasters providing forecasts for a currency and an indicator for a single forecast as controls. All regressions also include month fixed effects. The table reports the regression coefficients and associated standard errors (in parentheses) and significance levels. Standard errors are clustered by country. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively. The sample includes 52 currencies that are covered in the 2022 BIS Triennial Survey (BIS (2022)), 40 currencies with the most turnover according to the BIS Triennial Survey, and the G10 currencies (USD, EUR, DEM, GBP, JPY, AUD, NZD, CAD, CHF, NOK, SEK; see Ang and Chen (2010)). The sample period is from December 1989 to August 2022. Table A3 in the Appendix provides details on variable definitions.

	Average Predictor		Extreme Predictor	
	Table 6, Specification 1	Table 6, Specification 2	Table 6, Specification 1	Table 6, Specification 2
52 Currencies				
Predictor	-10.30*** (0.681)	-9.585*** (0.915)	-4.806*** (0.328)	-4.652*** (0.450)
40 Currencies				
Predictor	-10.491*** (0.706)	-10.039*** (1.023)	-4.948*** (0.331)	-4.881*** (0.471)
10 Currencies				
Predictor	-8.051*** (0.688)	-8.762*** (0.918)	-4.054*** (0.378)	-4.441*** (0.465)