Currency Speculation*

Pasquale Della Corte
Imperial & CEPR

Steven J. Riddiough
University of Toronto

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Abstract

Over the past two decades, a growing body of research has documented profitable currency investment strategies. Beginning with the carry trade, the literature has expanded in multiple directions, uncovering diverse sources of excess return predictability linked to prices, trading volumes, and economic fundamentals. This article first reviews this burgeoning literature and provides a framework to organize its key strands for both academics and practitioners. We then turn to the often-overlooked issue of sample selection. Much of the existing work adopts an ad hoc approach to defining the currency universe. We show that strategy performance varies considerably across different currency subsamples. In particular, restricting the sample to countries with open capital accounts and liquid, floating currencies produces substantially weaker returns than when all currencies are included. Nonetheless, we find that combining strategies—regardless of the sample—yields improved and broadly comparable investment performance.

Keywords: Exchange rates, currency returns, return predictability, risk premia, and combined currency strategies.

JEL Classification: F31; G12; G15.

1 Introduction

Few prices are as important, and yet as little understood, as exchange rates. Exceeding $9.6 trillion in daily trading (BIS, 2025), the market for foreign exchange (FX) is the world's largest financial market, impacting global trade, capital flows, and geopolitics—making it vital to understand the determinants of exchange rate movements. At the heart of the inquiry rests a contentious question: Can exchange rates be predicted? Two sharply contrasting views have emerged in the academic literature.

From the perspective of international economists, exchange rates are notoriously difficult to predict. In the seminal work on the subject, Meese and Rogoff (1983) show that even *perfect foresight* of future economic conditions is insufficient to aid predictability. For many, this somewhat depressing finding entrenched the belief that exchange rates are best described as a random walk. While subsequent decades have made progress towards more positive findings—driven by richer datasets, new empirical techniques, and refined modelling—the case for bilateral *time-series* predictability remains contested, especially in the short run.[1]

In sharp contrast, financial economists paint a far rosier picture. Viewing the FX market from the perspective of a global investor, an abundance of research documents evidence of *cross-sectional* return predictability. Forming portfolios to exploit predictive signals across currencies is seen to offer substantial excess returns that outperform traditional asset classes, and are unrelated to risk factors documented in equity and bond markets.

While this literature initially focussed on signals stemming from interest rates, such as the widely-documented carry trade, it has rapidly expanded to include predictive information contained in, *inter alia*, past exchange rates, FX trading volume, and macroeconomic funda-

[1] See, for example, Mark (1995), Engel, Mark and West (2008), Chen and Tsang (2013), Rossi (2013), Londono and Zhou (2017), Kremens and Martin (2019), Eichenbaum, Johannsen and Rebelo (2021), Lilley et al. (2022), Engel and Wu (2023) and Stavrakeva and Tang (2024).

mentals. However, these findings often rest on analyses of different time periods, alternative currency sets, and quite different economic mechanisms, raising questions about the consistency, comparability, and the potential longevity of the signals.

The time is ripe for synthesis, which this article seeks to provide. We begin with a framework for conceptualizing the financial economist's perspective on predictability, detailing the sources of predictive information, and providing an account of the formation and economic mechanisms underpinning the currency strategies available to global investors. We then turn to the frequently overlooked issue of sample selection. The literature has developed in a haphazard fashion, with researchers making empirical choices on a largely ad-hoc basis. Instead, we seek to offer a point of standardization. Assembling and documenting the most comprehensive daily dataset of foreign exchange rates, ranging from 1976 to present, we compare and contrast the performance of a set of currency strategies documented in the literature. We detail each step of the data construction and cleaning process, providing justified criteria for any filters. Our goal is to enable future researchers to replicate and extend our work without ambiguity. We make all code and non-proprietary data available on our websites.

The article proceeds as follows, Section 2 reviews the literature on currency speculation. Section 3 introduces the dataset and examines the performance of key currency investment strategies. Section 4 concludes. A separate Internet Appendix provides full documentation of the dataset construction as well as additional empirical exercises.

2 Currency Speculation

We review studies introducing novel currency investment strategies. We categorize the literature into four major themes: (i) carry and the yield curve; (ii) prices and volume; (iii) country-level fundamentals; and (iv) signal combinations. We begin, however, by describing

foreign exchange returns, since the contrasting views between international economists and financial economists are driven by which returns are considered central to predictability.

2.1 Returns Predictability

In theory, when future exchange rate changes and current forward premia move one-for-one, exchange rates are predictable but average excess returns are zero. This is precisely what uncovered interest parity (UIP) suggests, meaning that, in an efficient market, investors should not earn systematic profits from currency speculation absent compensation for risk, behavioral biases, or market frictions. In practice, several studies have instead shown that exchange rates are well approximated by a naïve random walk, particularly at short horizons, and a lack of exchange rate predictability *implies* currency excess return predictability (see Internet Appendix A for more details). Indeed, if exchange rates genuinely behave as naïve random walks, the optimal investment strategy should maximally exploit differences in global interest rates. It is no surprise, therefore, that the majority of the currency speculation literature has chosen to focus on the ability of short rates to forecast currency excess returns, and it is here that we begin our discussion.

2.2 Carry and the Yield Curve

No currency investment strategy has generated as much attention as the currency carry trade. Yet, its level of recognition and popularity is matched by its simplicity: Buy currencies with the highest nominal short rates and sell those with the lowest, thus maximizing currency excess returns if exchange rates behave as driftless random walks. The strategy delivers an inherently positive "carry" component, the differential in short rates between the long and short currencies, and earns a positive return, therefore, providing the differential is not offset

by the realized depreciation in the high yielding currency.[2]

Lustig and Verdelhan (2007) mark a defining point in the study of the carry trade and, more generally, the literature on currency speculation. The authors are the first to study cross-sectional return predictability using currency portfolios. Specifically, eight portfolios are formed, and annually rebalanced, on the basis of nominal interest rates. The lowest interest rate currencies are, therefore, always in the first portfolio (P_1). Studying 81 currencies between 1953 and 2002, the authors document that currency excess returns line up, *almost* monotonically, with interest rate differentials. The very highest interest rate currencies (those contained in P_8) exhibit extreme levels of inflation and depreciate enough to largely offset interest-rate differentials. However, excluding this portfolio, the pattern is clear and consistent with the time-series evidence: High interest rate currencies are associated with high currency excess returns, and thus a carry trade strategy, short P_1 and long P_7, earns a high positive return—over 7% per annum, on average, from 1971 onwards.

The pertinent question is why these excess returns exist and, hence, whether they will *persist*. Lustig and Verdelhan (2007) attribute high currency returns to higher levels of US consumption growth risk. Since high interest rate currencies depreciate when US consumption growth is low, the US investor requires compensation, as they would any other asset that introduces higher risk exposure. The findings on consumption growth were critiqued by Burnside (2012) and responded to by Lustig, Roussanov and Verdelhan (2011). Either way, the findings present a challenge to theorists to explain why nominal interests *should* positively correlate with a currency's consumption growth beta. Various economic mechanisms have

[2]Carry is often framed as an exploitation of the forward premium puzzle (Bilson, 1981; Hansen and Hodrick, 1980; Fama, 1984). The puzzle does not imply, however, that high interest rate currencies appreciate but rather that currencies trading above their average forward premium tend to appreciate. Studies consistently show that high interest rate currencies tend to depreciate *on average*, just not enough to offset the interest rate differential (e.g., Hassan and Mano, 2019). The Fama regressions contain this component within the intercept term, but there is typically insufficient power to reject the null hypothesis of a zero intercept (e.g., Wagner, 2012).

been proposed, including models incorporating habits (Verdelhan, 2010; Heyerdahl-Larsen, 2014), long-run risks (Bansal and Shaliastovich, 2013; Colacito and Croce, 2011; Zviadadze, 2017; Colacito et al., 2018), and disasters (Farhi and Gabaix, 2016).[3]

Building on the risk-based interpretation, Lustig, Roussanov and Verdelhan (2011) study a smaller cross-section of monthly rebalanced emerging and developed market currencies, between 1983 and 2009. The currency carry trade is, once again, found to deliver high risk-adjusted returns, which the authors attribute to compensation US investors receive when holding riskier high-yielding currencies. The authors find that two factors, a "dollar" factor and a "slope" factor, can explain the time-series variation in the returns of interest-rate sorted currency portfolios, with the cross-sectional spread being accounted for specifically by the global "slope" factor.[4] Verdelhan (2018) finds the dollar factor can also be viewed as an independent source of global risk and accounts for a high share of bilateral exchange rate movements vis-à-vis the US dollar.

An exhaustive account of the literature supporting this risk-based interpretation falls outside the scope of this review (see, instead, Hassan and Zhang (2021)). However, while carry trade performance has been found to be unrelated to traditional risk factors (Burnside et al., 2011b), professional investors do appear to require a risk premium (Piatti, Whelan and Pesch, 2024) and the carry trade does deteriorate significantly during periods that could collectively be described as "bad times," when volatility rises (Christiansen, Ranaldo and Söderlind

[3] A dominant theoretical building block is the asset market view of the exchange rate (Brandt, Cochrane and Santa-Clara, 2006), that incorporates market completeness. See Burnside and Graveline (2020), and Hassan et al. (2024) for theoretical critiques and Bakshi, Cerrato and Crosby (2018) and Lustig and Verdelhan (2019) for studies incorporating market incompleteness.

[4] Jiang (2022) finds the heterogeneous exposure to the slope factor is related to a country's fiscal position, while Lustig and Richmond (2020) link exposure to the dollar factor to a country's geographical location through the lens of a gravity model. Maurer, To and Tran (2023) show that the slope factor can be further improved as a pricing factor when information on covariances and forward premia are incorporate, while Liu et al. (2023) find stronger pricing performance when risk exposures are allowed to vary over time. Moreover, Hassan, Mertens and Zhang (2023) investigate time-variation in systematic exposures using information contained in trade deals.

2011; Menkhoff et al. 2012a), belief dispersion grows (Beber, Breedon and Buraschi, 2010); macroeconomic uncertainty rises (Sarno, Schneider and Wagner, 2012); risk of sovereign default increases (Della Corte, Sarno, Schmeling and Wagner, 2022); dealers' risk limits are constrained (Gabaix and Maggiori, 2015; Fang and Liu, 2021; Du, Hébert and Huber, 2023; Reitz and Umlandt, 2021), liquidity falls (Mancini, Ranaldo and Wrampelmeyer, 2013; Karnaukh, Ranaldo and Söderlind, 2015), and funding costs rise (Brunnermeier, Nagel and Pedersen, 2009; Jylhä and Suominen, 2011). Indeed, forced carry-trade unwinding appears to make the trade more susceptible to a pronounced sell-off during these events, indicating an incremental source of downside (or "crash") risk (Ranaldo and Söderlind, 2010; Lettau, Maggiori and Weber, 2014; Burnside, Cerrato and Zhang, 2025), which is reinforced by the negative skewness of the strategy's returns (Brunnermeier, Nagel and Pedersen, 2009; Li, Sarno and Zinna, 2025).

It should also be noted, however, that alternative interpretations have been suggested, which are not necessarily mutually exclusive to an understanding of the strategy's returns. Price pressure (Burnside, Eichenbaum and Rebelo, 2007), dynamic co-ordination (Plantin and Shin, 2014), intermediaries' market power (Malamud, Schrimpf and Zhang, 2025), deviations from rationality (Burnside, Eichenbaum and Rebelo, 2011a; Ilut, 2012), infrequent portfolio rebalancing (Bacchetta and van Wincoop, 2010), information asymmetry (Bacchetta and van Wincoop, 2006), peso problems (Burnside et al., 2011b), transaction costs (Burnside, Eichenbaum and Rebelo, 2007; Evans and Rime, 2019), and investor sentiment (Yu, 2013) could aid in the explanation for why high interest rate currencies offer higher returns. Strikingly, a carry-trade strategy protected against large negative returns using option contracts still offers economically significant returns (Jurek, 2014), implying that downside risk is an incomplete explanation for the investment performance.

An intriguing question asked by Lustig, Roussanov and Verdelhan (2011) is whether the carry

trade delivers high returns because of dynamic rebalancing or because some currencies are *always* in the extreme portfolios. Their answer is *both*. A single, "unconditional," grouping of currencies based on their average interest rates during the first half of the sample, still delivers a high excess return during the second-half of the sample, equal to 52% of the total carry trade return. The authors find the higher average nominal interest rate differentials reflect higher *real* rate differentials, rather than average inflation differentials, leading researchers to separately study the persistence in real rates and *unconditional* carry trade returns.[5]

While debate exists surrounding the profitability of the currency carry trade when implemented in its most naïve form, the puzzle becomes more acute when authors consider alternative formulations of the strategy or condition on additional information. A particularly important strand of this literature centres on a dollar carry trade of Lustig, Roussanov and Verdelhan (2014), in which an investor enters a long position across *all* foreign currencies against the US dollar, whenever the average short rate is higher around the world than in the US, and a short position when US short rates are relatively high. This version of a carry trade is unrelated to the traditional long-minus-short version while offering significantly improved risk-adjusted performance. Chernov, Graveline and Zviadadze (2018) find the improved performance from switching between long and short US dollar positions could be driven by crash risk, however Daniel, Hodrick and Lu (2017) argue that allowing for long and short positions in the US dollar enhances the naïve carry trade by delivering higher returns, higher Sharpe ratios, but without the negative skewness typically associated with the naïve trade.

Building on these findings, researchers have found that the dollar carry strategy contains a

[5]Mechanisms include country size (Hassan, 2013), capital-output ratios (Hassan, Mertens and Zhang, 2016), trade-network centrality (Richmond, 2019), indirect financial connections (Bahaj et al., 2024), and industry composition (Ready, Roussanov and Ward, 2017). Söderlind and Somogyi (2025) also find liquidity risk is primarily related to the static component of carry trades. Hassan and Mano (2019) show that the traditional carry trade can be decomposed into three components: an unconditional static trade, a conditional dynamic trade, and a dollar trade.

predictable component when conditioned on US fiscal conditions (Jiang, 2021); US government policy approvals (Liu and Shaliastovich, 2022); housing cycles (Ma and Zhang, 2024), US presidential cycles (Della Corte and Fu, 2024) and FOMC announcement days (Mueller, Tahbaz-Salehi and Vedolin, 2017a).[6] Moreover, other studies have found that even the naïve carry trade can be predicted using commodity prices (Bakshi and Panayotov, 2013), FX volatility (Bakshi and Panayotov, 2013; Moreira and Muir, 2017), FX jumps (Lee and Wang, 2019), forward discounts (Dupuy, 2021), current account uncertainty (Della Corte and Krecetovs, 2024), and measures of financial market stress (Melvin and Taylor, 2009; Bakshi and Panayotov, 2013). Hence carry investors can use these predictors to dynamically adjust their positions and further enhance the investment performance of the strategies.

While most studies on currency speculation focus on the level of the short rate, a few studies consider other yield-curve signals. Ang and Chen (2010) form currency strategies based on term spreads and changes in interest rates, finding comparable or superior performance to the naïve carry strategy. Filippou and Taylor (2023) investigate forward looking interest rates, documenting incremental value over the short rate, while Antolin-Díaz et al. (2024) find currencies more exposed to US monetary policy shocks offer higher returns. Finally, Lustig, Stathopoulos and Verdelhan (2019) explore an alternative "slope carry" strategy that enters a long position in the long-term bonds of currencies exhibiting steeper yield curves. While the authors find the strategy offered negligible returns prior to the global financial crisis, Andrews et al. (2024) show the performance improved significantly in recent years. Extending the analysis to emerging-market currencies, Rebucci et al. (2025) find that excess returns linked to long-run UIP deviations are largely driven by credit-risk premia.

[6] Jiang et al. (2025) decompose movements in the US dollar across primitive economic factors and highlight the interaction between the specialness of the US dollar and demand for US assets. See also, Jiang, Krishnamurthy and Lustig (2021), Jiang, Krishnamurthy and Lustig (2024a), Jiang et al. (2024b) and Kekre and Lenel (2024), for a discussion on the specialness of the US dollar and the related convenience yield on US assets.

2.3 Past Prices and Volume

An efficient market should fully incorporate all relevant information. There is a voluminous literature, however, suggesting even the weakest form of efficiency is breached, such that past prices and volume can predict future market movements across different asset classes.

One of the primary methods for exploiting past prices is momentum, by which an investor simply buys past "winners" and sells past "losers". In currency markets, the literature on momentum is less developed but the core findings are similar to those for other asset markets. Menkhoff et al. (2012b) provide the defining study, taking into account a large cross-section of 48 currencies via the portfolio approach, from 1976 onwards.[7] Just as for other asset markets, the authors document high excess returns. The most extreme performance is observed at short formation and holdings periods—sorting currencies based on their excess return over the previous month, and holding for one month, generates an annualized return of 9.5%, and a Sharpe ratio of 0.95, an impressive performance that remains strong even after incorporating transaction costs.

The performance is driven by positive exchange rate returns and is largely uncorrelated with the carry trade, suggesting a separate explanation may be required to account for currency momentum. One possibility is offered by Filippou, Gozluklu and Taylor (2018), who argue that a priced global political risk factor explains the performance—"winner" currencies are more exposed to US political risk shocks, for which momentum investors are compensated. Moreover, Fan, Londono and Xiao (2022) find that both carry and momentum may be jointly

[7] See also Okunev and White (2003); Burnside, Eichenbaum and Rebelo (2011a) and Asness, Moskowitz and Pedersen (2013). The findings go against Novy-Marx (2012) who argues that momentum profitability in currency markets is stronger when conditioned on less recent past performance.

understood as compensation for investors bearing equity tail risk.[8]

Recently, Zhang (2022) provides a new insight into currency momentum, helping to unify the literature with the slope and dollar factors studied by Lustig, Roussanov and Verdelhan (2011) and Verdelhan (2018). Since both factors exhibit significant autocorrelation, currency momentum can be explained by currencies' exposure to these underlying factors. Currencies more exposed to the factors will mechanically exhibit a greater amount of momentum via the factors. Since idiosyncratic returns are not autocorrelated, *factor momentum* is therefore more profitable than a simple winners-minus-losers portfolio strategy.

Similar to currency momentum are strategies constructed using "technical" trading rules, in which investors buy and sell currencies using indicators such as filter rules, channel breakouts, and moving average cross-overs. While an earlier literature typically studied these rules using individual currencies, Hsu, Taylor and Wang (2016) study currency portfolios in which currencies are bought and sold based on the best performing technical indicator for that currency. While the profitability for developed market currencies is limited, for emerging market currencies the performance is substantial, with an annualized return of over 7.3% and Sharpe ratio of 1.8. Ivanova et al. (2021) find the returns to technical trading rules are unrelated to traditional risk factors and offer some support for a non-risk based explanation, in which market participants slowly learn about the underlying structure of the market.

Other studies have instead extracted predictive information contained in foreign exchange option prices. Della Corte, Sarno and Tsiakas (2011), for example, document the presence of predictable volatility term premiums in foreign exchange, while Della Corte, Ramadorai

[8] A growing body of literature seeks to rationalize multiple sources of currency excess returns simultaneously within a risk-based framework. See for example, Maurer, To and Tran (2019); Panayotov (2020); Aloosh and Bekaert (2022); Korsaye, Trojani and Vedolin (2023); Chernov, Dahlquist and Lochstoer (2023, 2025); Nucera, Sarno and Zinna (2024) and Dauber and Umlandt (2025). Indeed, Feng et al. (2025), argue that static models are inappropriate, since the pricing of risk and currency excess returns are macroeconomic regime specific, revealing a previously unidentified factor.

and Sarno (2016b) find that a strategy which conditions on the volatility risk premium can earn a sizeable return that is unrelated to traditional risk factors.[9]

Trading volume is not directly available in FX markets because of its opaque OTC structure. Compared to other asset markets, therefore, a comprehensive study of volume has only recently become possible following the release of new datasets. A key prediction from other asset markets is that trading volume sheds light on the structure of information in a market, which can help signpost future market movements. Building on these insights, Cespa et al. (2022) highlight that the FX market exhibits large price reversals following low volume days due to a high degree of information asymmetry in the market. A reversal trading strategy, implemented on currencies with the lowest prior volume, results in a Sharpe ratio over one. More recently, Czech et al. (2025) discover that information asymmetry leads to an alternative source of predictive information contained in FX option volume.

If certain investors possess more information than others, then FX dealers can potentially extract valuable predictive signals from their (signed) FX volume. Indeed, Menkhoff et al. (2016) show that the order flow of long-term and short-term investment managers contains predictive information for subsequent exchange rate movements. Moreover, Ranaldo and Somogyi (2021) show that banks' order flow exhibits a permanent price impact across almost all currencies, consistent with FX dealers obtaining information from informed customers. The authors also show that currencies subject to the highest levels of information asymmetry offer higher returns, providing compensation for adverse selection risk.

[9] Della Corte, Kozhan and Neuberger (2021) identify a profitable strategy based on forward volatility agreements, Mueller, Stathopoulos and Vedolin (2017b) document a premium for currencies exposed to higher correlation dispersion, and Della Corte et al. (2025) develop a global risk-on/risk-off measure using FX forecasts and option data.

2.4 Country-Level Fundamentals

A stronger form of market efficiency incorporates publicly available information, such as that contained in country-level economic fundamentals. In principal, conditioning on currently observable country-level aggregates should, just as with the short rate, be uninformative about future currency excess returns. Studies have found, however, that information contained in these country-level aggregates can predict future currency excess returns and that the information is incremental to that contained in short rates.

One of the most prevalent theories linking the economy with exchange rates is purchasing power parity (PPP). According to PPP, the real exchange rate, the nominal exchange rate adjusted for relative price levels, should be one. If deviations exist, they could reflect a source of mispricing, resulting in an eventual mean reversion. Menkhoff et al. (2017) study real exchange rates and find they contain information useful for predicting the cross-section of currency excess returns. However, the full predictive content of these currency "value" signals, becomes more apparent when purging them of economic information contained in productivity, exports, output gaps, and net foreign assets, and thus in isolating the information pertaining specifically to currency risk premia. Resulting portfolios generate comparatively small average returns, compared to, say, carry and momentum portfolios, but high Sharpe ratios—over 0.9 in some instances. Unsurprisingly, given the distributional differences, the returns are largely uncorrelated with either carry or momentum strategies. Other studies have focussed on the macroeconomic fundamentals that Menkhoff et al. (2017) purge from the real exchange rate. Della Corte, Riddiough and Sarno (2016a) sort currencies on both net foreign assets and the currency denomination of external debt, Colacito, Riddiough and Sarno (2020) sort on output gaps, Dahlquist and Hasseltoft (2020) sort based on macroeconomic momentum, which incorporates growth in industrial production, retail sales, and unemployment, and Fang et al. (2025) sort countries on capital controls, showing that tighter capital controls are associated with lower average currency returns in emerging mar-

kets. Furthermore, Della Corte, Jeanneret and Patelli (2023) explore sovereign credit quality, while Riddiough and Zhang (2025) construct an economy-wide measure of firms' cross-border merger and acquisition activity that can reveal real-time, firm-level, expectations about economic activity. In each case, the sorting procedures are found to imply profitable trading strategies that appear to have quite different return characteristics compared to carry or momentum.

There are good reasons, of course, for why exchange rates would be related to economic fundamentals. Most prominently, the exchange rate can be viewed as an asset price, equal to the discounted sum of future relative macroeconomic fundamentals (Balduzzi and Chiang, 2020). But why the currency excess return is predictable, however, remains a matter of debate. As with carry and momentum strategies, similar, non-mutually exclusive, explanations exist. Della Corte, Riddiough and Sarno (2016a) and Colacito, Riddiough and Sarno (2020), for example, rationalize the returns as the compensation investors receive for holding riskier currencies, while Riddiough and Zhang (2025) attribute the returns to a slow diffusion of information in FX market.

2.5 Signal Combinations

Given the range of predictive signals, it is only natural to ask whether combining the predictive information could generate further gains, akin to a mean-variance investor combining imperfectly correlated assets. Indeed, Della Corte, Sarno and Tsiakas (2009) and Ackermann, Pohl and Schmedders (2017) adopt a static mean-variance approach and uncover substantial investment benefits. Extending this approach, Maurer, To and Tran (2023) adopt a dynamic mean-variance setup and document further enhancements. In other studies, Jordà and Taylor (2012) find substantial gains to a carry trade that conditions on value signals, Asness, Moskowitz and Pedersen (2013) document diversification gains from combining value and momentum, while Barroso and Santa-Clara (2015) and Kroencke, Schindler and Schrimpf

(2014) find strong investment performance is achieved when combining currency carry, momentum, and value—either as independent currency portfolios or in conjunction with an underlying equity portfolio. Furthermore, Opie and Riddiough (2020) exploit the predictability of dollar and carry strategies to form optimal currency portfolios that offer superior hedging of international equity and bond portfolios. More recently Filippou et al. (2024) show that currency portfolios can provide impressive investment performance but need to condition on FX transaction costs to fully realize their potential.

In sum, from a financial economist's perspective, the past twenty years have yielded an embarrassment of riches in the study of currency excess return predictability. It may be wondered whether this is *too good* to be true. Indeed, since the global financial crisis there is evidence that currency excess returns have been lower, especially when employing traditional signals. Bartram et al. (2025) suggest the deterioration in performance is *because* the academic literature has documented these results, hinting at an informational friction that may lead predictability to disappear over time. As is so often the case, the tension between risk-based and alternative interpretations of predictability will continue to play a central role in shaping perceptions. One clear observation is that the number of studies has expanded rapidly. Much of the research is based, however, on ad-hoc choices around currency samples and time periods. It should be remembered that currencies offer a small cross section, meaning idiosyncratic shocks are more likely to impact results, even when using portfolios. Moreover, while the the FX market is enormous, it is also skewed—liquidity quickly disappears beyond a small set of developed market currencies. It is crucial, therefore, to understand the extent to which institutional forces impact predictability. For current and future scholars of currency markets, it seems only natural that a degree of standardization is warranted. Through consistent presentation of results using a standard set of currencies, time periods, and sources, results can be more naturally compared and contrasted. To this goal, we now turn.

3 Empirical Analysis

We first describe the construction of currency samples based on market openness, exchange rate regime, and liquidity, then evaluate a broad set of empirical currency strategies, and finally examine whether combining them improves performance over time.

3.1 Data on Spot and Forward Exchange Rates

We assemble a comprehensive dataset of daily spot and one-month forward exchange rates vis-à-vis the US dollar. Our sample starts in January 1976, which marks the adoption of the floating exchange rate system following the Rambouillet Summit (November 1975) and the Jamaica Agreement (January 1976), and extends to July 2025. The construction begins with the full universe of WMR exchange rates against the US dollar, which provides a broad coverage since 1996. After matching spot and future exchange rates, we backfill each series using additional data sources to increase the historical coverage. In particular, we first incorporate WMR spot and Datastream forward exchange rates against the British pound, converted into US dollar terms, and then add BBI spot and forward prices on currencies quoted against the US dollar. All these data are obtained from Datastream. In selected cases, we employ Refinitiv spot and forward exchange rates from LSEG Workspace to fill data gaps or correct possibly erratic observations. The final dataset includes mid, bid, and ask prices for up to 78 currencies and aims at providing a benchmark for future research in international finance. A detailed list of data codes and identifiers is reported in Internet Appendix Table A.1.[10]

We apply a minimal level of filtering to remove price inconsistencies and days with low market activity. First, we swap bid and ask quotes whenever a negative bid–ask spread is

[10]The Internet Appendix Figures A.1–A.5 illustrate missing data and irregularities for the Egyptian pound, Indonesian rupiah, Malaysian ringgit, Turkish lira, and Ukrainian hryvnia.

detected, which may arise from reporting errors in historical data. Second, we recompute the mid-quote whenever its value lies outside the corresponding bid–ask range. Third, we exclude all observations corresponding to US and UK holidays, as these two markets account for the lion's share of global FX trading activity and determine overall market liquidity. The Internet Appendix Tables A.2–A.3 report the complete list of holidays considered in our analysis.

Our full sample, denoted `All Currencies`, includes currencies operating under fixed exchange rate regimes, currencies with limited trading activity, and those from economies that impose restrictions on cross-border capital transactions. To account for this heterogeneity, we construct several subsamples. The first group consists of `Open Capital Account Currencies`, `Floating Regime Currencies`, and `High Turnover Currencies`, identified using the openness index of Chinn and Ito (2006), the exchange rate classification of Ilzetzki, Reinhart and Rogoff (2019), and historical BIS Triennial Surveys, respectively. The second group follows conventional classifications in the international finance literature, defining `Developed & Emerging Currencies` as the G20 exchange rates and `Developed Currencies` as the G10 exchange rates. Further details are provided in Internet Appendix B.

3.2 Currency Excess Returns

We sample spot and 1-month forward exchange rates at the end of each month, and express them in units of US dollars per unit of foreign currency. The spot rate at the end of month t is denoted by S_t, whereas the corresponding one-month forward rate agreed at the end of month t for delivery of a unit of foreign currency at the end of month $t+1$ is denoted by F_t. Using this convention and omitting the currency-specific subscript for notational simplicity, the excess return from buying one unit of foreign currency in the forward market at time t and selling it in the spot market at time $t+1$ is computed as $rx_{t+1} = (S_{t+1} - F_t)/S_t$, which equals the exchange rate return $ex_{t+1} = (S_{t+1} - S_t)/S_t$ minus the forward premium $fp_t = (F_t - S_t)/S_t$.

Under covered interest parity (CIP), the forward premium approximately equals the interest rate differential between the US dollar and the foreign currency. Thus, the excess return represents the payoff to an investor who borrows in US dollars, buys the foreign currency, invests locally at time t, and converts the proceeds back into dollars at the spot rate at time $t+1$. To account for trading costs, we use 25% of the quoted bid–ask spread on spot and forward rates as an estimate of the effective spread, since quoted spreads overstate actual costs (e.g., Cespa et al., 2022). The construction of excess returns net of effective spreads is shown in Internet Appendix C.

3.3 Currency Strategies

We consider various strategies proposed by recent literature, but restrict our analysis to those constructed solely from exchange rate data. This choice keeps the exercise simple and avoids issues related to data revisions and lack of real-time data that often affect macro variables. We examine the traditional dollar (`DOL`), dollar-carry (`CDOL`), carry (`CAR`), value (`VAL`), 1-month (`M1M`), 3-month (`M3M`), 6-month (`M6M`), and 1-year (`M1Y`) momentum. In addition, we also construct beta-sorted strategies to global volatility (`VOL`), skewness (`SKEW`), and kurtosis (`KURT`). With the exception of (`DOL`), we rank currencies at the end of each month t using a pre-determined sorting variable, form a given number of baskets, and then calculate the equally-weighted average excess return for each basket between months t and $t+1$. `CDOL` makes use of a single basket, while all other strategies are based on five baskets. To make our strategies more realistic, the sorting variable is lagged by one business day. These strategies are rebalanced monthly from January 1976 to July 2025, and a detailed description is provided in the Internet Appendix D.

TABLE 1 ABOUT HERE

Table 1 reports summary statistics for the excess returns of these 11 strategies, net of bid–ask

spreads, across six different currency samples. Means and standard deviations are in percent per annum, Sharpe ratios (SR) are annualized, and t-stats are in brackets.[11] Starting with Panel A (`All Currencies`), we show that most strategies, except `DOL`, `VOL`, and `KURT`, generate statistically significant excess returns, ranging from about 2.8% for `CDOL` to 7.3% for `CAR`. Most strategies, moreover, exhibit negative skewness, with the exceptions of `M1M`, `M3M`, and `SKEW`. In Panel B (`Open Capital Account Currencies`), on average, excess returns decline by roughly 8% and standard deviations rise by about 12% compared with the full sample. This happens for `CAR` and `M3M`, with SR dropping from 0.99 to 0.72, and 0.69 to 0.47, respectively. In contrast, `CDOL` and `SKEW` remain resilient, with SR increasing from 0.41 to 0.45, and 0.33 to 0.40, respectively. Greater capital account openness seems to compress profitability, while amplifying tail (higher kurtosis) and downside (more negative skewness) risk. In Panel C (`Floating Regime Currencies`), on average, excess returns fall by roughly 6% and standard deviations rise by about 29% compared the full sample. This deterioration in performance affects mostly the momentum strategies with their SR nearly halved. In contrast, `CDOL` and `VAL` slightly improve their performance, with SR moving from 0.41 to 0.55, and 0.40 to 0.49. Floating regimes seem linked to higher volatility and greater tail risk (higher kurtosis). Panel D (`High Turnover Currencies`) shows a 25% reduction in excess returns and a 16% increase in volatility compared to the full sample, confirming that more liquid currencies yield lower profitability. Panel E (`Developed & Emerging Currencies`) shows a 5% decline in excess returns and a 16% rise in volatility compared to the full sample. Several strategies continue to generate economically meaningful and statistically significant returns, suggesting that predictability is robust to differences in liquidity and openness. Finally, Panel F (`Developed Currencies`) explores a subset of highly liquid, open, and mostly floating currencies. Relative to the full sample, average excess returns decline by roughly 34%, while standard deviations increase by about 17%, leading to overall weaker performance. Only `CAR`, `CDOL`, and `VAL` continue to yield statistically significant excess returns.

[11] Detailed summary statistics are reported in the Internet Appendix Tables A.6–A.14.

FIGURE 1 ABOUT HERE

Figure 1 displays the cumulative excess returns and reveals striking differences across strategies and currency samples. `CAR` shows the strongest and most persistent gains, outperforming all others throughout the sample, although its profitability weakens in more open, floating, and developed markets. `VAL` performs similarly well, maintaining steady positive returns even in more open, floating, and developed markets. In contrast, momentum strategies exhibit cyclical performance, i.e., strong gains in the 1980s and 2000s followed by flatter returns thereafter. `SKEW` performs well from the mid-90s, whereas `VOL` and `KURT` generate modest or unstable profits, often reversing after financial crises.

3.4 Combination of Currency Strategies

So far, we have evaluated the performance of individual strategies. While we can always identify the best performer ex post, such comparison is of limited value to an investor making decisions in real time. Also, the relative ranking of strategies often changes over time, and a strategy that performs well in one sample may perform poorly in another. Given that many strategies are designed to exploit distinct features of exchange rate dynamics, an investor faces substantial model uncertainty ex ante.

TABLE 2 ABOUT HERE

A large literature shows that model combinations often outperform individual models (e.g., Della Corte and Tsiakas, 2012). Building on this evidence, we also examine whether portfolio performance can be improved by combining multiple strategies into a single portfolio. We implement several model-averaging methods that differ in how they assign weights across strategies: some rely on simple rules, while others place greater weight on strategies with

stronger past profitability. Specifically, we start with an equally-weighted combination (`1/N`), and then consider data-driven weighting schemes based on the historical mean returns (`MEAN`), the inverse of past volatilities (`VOL`), the historical Sharpe ratios of all strategies (`SR`) or best performing ones (`TOP3`). Finally, we include the maximum return portfolio targeting an ex-ante 10% annual volatility (`MaxRet`) and the minimum-variance portfolio (`MinVar`) that seeks to minimize risk irrespective of expected return. All portfolios are rebalanced monthly after a three-year estimation window and scaled ex-ante to 10% annual volatility. A detailed description of these weighting schemes is reported in the Internet Appendix E.

We combine the strategies described in Table 1 and report our results in Table 2. Across all weighting schemes, the combined strategies deliver higher SR and lower volatility than most of their constituents, confirming that pooling different strategies together generates substantial diversification benefits. Panel C (`Floating Regime Currencies`) shows, for example, that combining strategies can achieve an annualized Sharpe ratio of 0.83, substantially higher than the maximum Sharpe ratio of 0.49 obtained from the best-performing individual strategy.

4 Conclusions

The persistent difficulty in predicting exchange rate returns has long been a defining problem for international economists. For financial economists, however, this challenge has inspired a flourishing research agenda. A lack of exchange rate predictability implies that currency excess returns are predictable and equal to the interest rate differential. This insight gave rise to the canonical *carry trade*—going long in high-interest-rate currencies while borrowing in low-interest-rate ones. A vast literature has since evolved from this single idea.

Over the past two decades, the study of currency speculation has expanded well beyond the

carry trade. New signals extracted from exchange rate prices, trading volumes, and macroeconomic fundamentals reveal additional dimensions of predictability in the cross-section of currencies. Currency investors, therefore, no longer need to rely solely on the carry trade when forming portfolios. Future work will undoubtedly deepen and refine these insights—whether by providing stronger theoretical foundations, richer empirical implementations, or by employing alternative tools, such as machine learning, to uncover new return-predictive signals.

This article contributes to this growing body of research by synthesizing the literature on currency excess return predictability and by addressing an often-overlooked issue: sample selection. Which currencies should be included in a study of currency returns? The econometric instinct to use all available data may not be appropriate here. Many currencies are illiquid, heavily managed, or issued by countries with capital controls—characteristics that can distort inference and limit practical investability. Using a comprehensive dataset of 78 currencies from 1976 to the present, we document how the performance of standard currency investment strategies varies across subsamples. The general finding is intuitive: including more currencies boosts apparent performance, but once attention is restricted to tradable, liquid, and investible currencies, risk-adjusted returns decline. We therefore encourage researchers to demonstrate that their results are not driven by uninvestible segments of the currency universe. Encouragingly, we find that combining signals yields robust benefits. Across all subsamples and weighting schemes, portfolio performance improves markedly when multiple strategies are blended, with similar outcomes even in the most restrictive samples. This suggests that diversification across signals is key to capturing persistent currency premia.

Looking ahead, researchers may wish to move beyond the canonical trio of carry, value, and momentum, exploring how new signals and combination methods reshape our understanding

of currency markets. Whether these excess returns reflect risk compensation, gradually erode with investor awareness, or persist due to frictions remains an open and exciting question. We hope this article helps to clarify, consolidate, and inspire the next generation of research on currency speculation.

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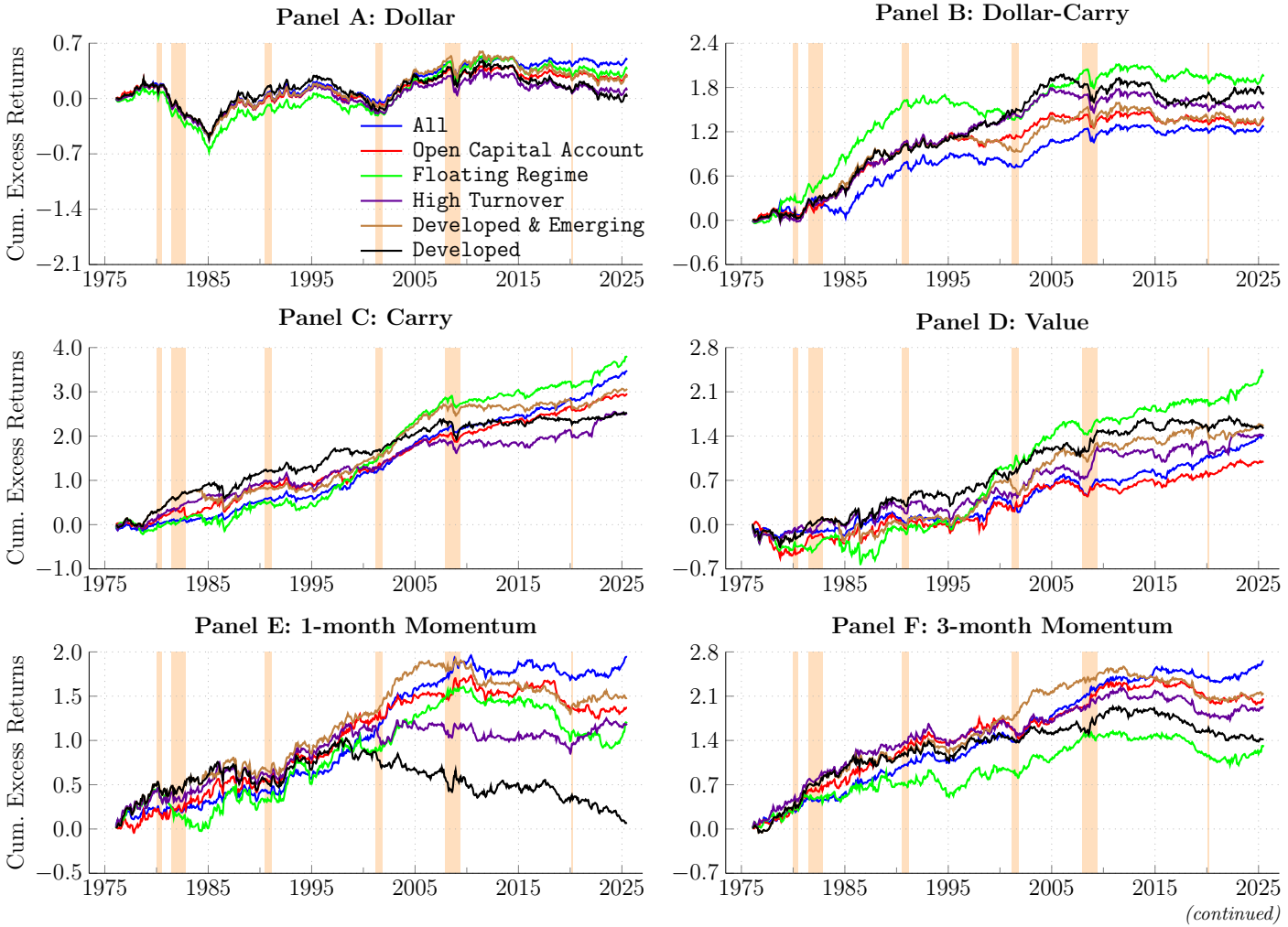

Figure 1. Currency Strategies: Cumulative Excess Returns

This figure reports cumulative excess returns for the strategies described in Table 1. Shaded areas denote NBER recession periods.

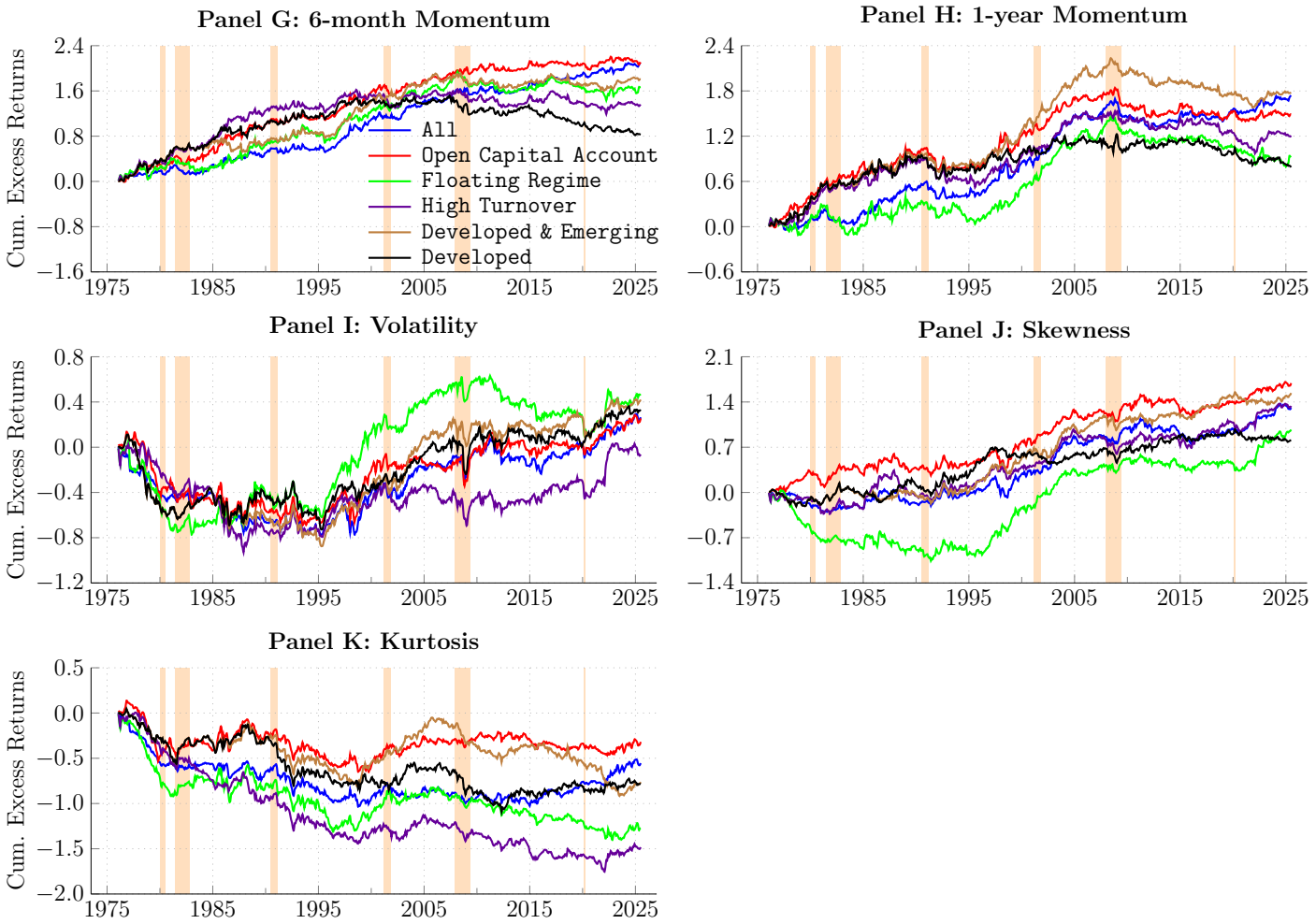

Figure 1. Currency Strategies: Cumulative Excess Returns (*continued*)

Table 1. Currency Strategies: Summary Statistics

This table reports summary statistics for excess returns on DOL (dollar), CDOL (dollar-carry), CAR (carry), VAL (value), M1M, M3M, M6M, and M1Y (1-month, 3-month, 6-month, and 1-year momentum), as well as VOL (volatility), SKEW (skewness), and KURT (kurtosis). The strategies are rebalanced monthly from January 1976 to July 2025 and excess returns are adjusted for effective bid–ask spreads, as described in the Internet Appendix D. Each panel corresponds to a currency sample, as described in the Internet Appendix B. The table reports mean and standard deviation in percent per annum, skewness and kurtosis, and annualized Sharpe ratio (SR). t-stats (in brackets) are based on Newey and West (1987) standard errors with Andrews (1991) optimal lag length. Data are described in Section 3.1.

	DOL	CDOL	CAR	VAL	M1M	M3M	M6M	M1Y	VOL	SKEW	KURT
Panel A: All Currencies											
Mean	1.23	2.79	7.33	3.19	4.24	5.71	4.56	3.89	0.95	3.07	−0.83
	[1.17]	[2.71]	[6.73]	[2.59]	[3.77]	[5.36]	[3.88]	[3.17]	[0.71]	[2.30]	[−0.77]
Sdev	6.93	6.88	7.37	7.90	7.93	8.27	8.40	8.56	9.11	9.20	7.57
Skew	−0.26	−0.14	−0.35	−0.26	0.07	0.08	−0.11	−0.39	−0.44	0.07	−0.28
Kurt	4.52	4.55	4.52	4.83	4.20	4.03	3.75	4.49	4.07	3.73	4.22
SR	0.18	0.41	0.99	0.40	0.54	0.69	0.54	0.45	0.10	0.33	−0.11
Panel B: Open Capital Account Currencies											
Mean	0.80	3.00	6.39	2.46	3.20	4.60	4.67	3.47	1.06	3.90	−0.25
	[0.82]	[3.22]	[4.84]	[1.77]	[2.43]	[3.56]	[3.63]	[2.55]	[0.70]	[2.75]	[−0.20]
Sdev	6.69	6.62	8.83	9.42	9.26	9.76	9.56	9.58	10.38	9.82	8.82
Skew	−0.18	−0.12	−1.14	−0.26	−0.04	0.13	−0.18	−0.31	−0.48	0.01	−0.28
Kurt	4.15	4.21	6.75	6.76	4.81	4.43	4.17	4.86	4.86	4.09	4.94
SR	0.12	0.45	0.72	0.26	0.35	0.47	0.49	0.36	0.10	0.40	−0.03
Panel C: Floating Regime Currencies											
Mean	1.06	4.24	8.37	5.51	2.99	3.28	3.97	2.49	1.61	2.58	−2.06
	[0.88]	[3.46]	[5.30]	[3.36]	[2.07]	[2.24]	[2.60]	[1.65]	[0.99]	[1.60]	[−1.43]
Sdev	7.83	7.71	11.33	11.36	10.40	10.92	10.87	10.87	11.43	11.14	9.97
Skew	−0.27	−0.06	−0.77	−0.49	−0.20	−0.10	−0.43	−0.20	−0.42	0.33	−0.25
Kurt	3.89	3.87	5.97	6.78	5.54	4.96	5.37	5.27	5.61	4.98	4.56
SR	0.14	0.55	0.74	0.49	0.29	0.30	0.37	0.23	0.14	0.23	−0.21

continued

Table 1. Currency Strategies: Summary Statistics (*continued*)

	DOL	CDOL	CAR	VAL	M1M	M3M	M6M	M1Y	VOL	SKEW	KURT
Panel D: High Turnover Currencies											
Mean	0.51	3.41	5.57	3.33	2.81	4.37	3.17	2.90	0.37	3.21	−2.61
	[0.46]	[3.21]	[3.80]	[2.16]	[2.12]	[3.35]	[2.31]	[2.09]	[0.26]	[2.17]	[−2.10]
Sdev	7.65	7.58	9.83	9.85	9.32	9.72	9.67	9.94	9.98	10.02	8.75
Skew	−0.24	−0.21	−0.46	−0.19	−0.11	0.12	−0.30	−0.17	0.03	0.21	0.12
Kurt	3.83	3.94	4.78	5.27	3.97	3.61	3.74	3.81	4.52	4.27	3.91
SR	0.07	0.45	0.57	0.34	0.30	0.45	0.33	0.29	0.04	0.32	−0.30
Panel E: Developed & Emerging Currencies											
Mean	0.85	3.08	6.76	3.67	3.43	4.81	4.11	4.06	1.34	3.54	−1.17
	[0.72]	[2.76]	[4.60]	[2.47]	[2.66]	[3.74]	[3.07]	[3.09]	[0.94]	[2.69]	[−0.94]
Sdev	7.93	7.87	10.33	10.07	9.34	9.72	9.59	9.65	9.84	9.28	8.66
Skew	−0.25	−0.21	−0.89	−0.72	0.01	0.07	−0.45	−0.26	−0.40	−0.21	0.13
Kurt	3.97	4.05	5.86	7.10	4.96	4.43	4.46	3.99	3.89	3.46	4.45
SR	0.11	0.39	0.65	0.36	0.37	0.49	0.43	0.42	0.14	0.38	−0.13
Panel F: Developed											
Mean	0.38	3.85	5.64	3.59	0.63	3.38	2.14	2.08	1.17	2.02	−1.19
	[0.31]	[3.31]	[3.90]	[2.51]	[0.45]	[2.53]	[1.56]	[1.52]	[0.82]	[1.63]	[−0.94]
Sdev	8.19	8.10	10.18	10.05	9.89	10.04	9.63	9.88	9.96	8.71	8.90
Skew	−0.05	−0.18	−0.91	−0.27	−0.03	0.07	−0.36	−0.09	−0.53	−0.02	0.04
Kurt	3.56	3.68	6.18	5.70	5.06	4.28	4.85	5.14	5.46	3.51	4.26
SR	0.05	0.47	0.55	0.36	0.06	0.34	0.22	0.21	0.12	0.23	−0.13

Table 2. Combined Strategies: Summary Statistics

This table combines the strategies described in Table 1. `1/N` assigns equal weights, whereas `MEAN`, `VOL`, `SR`, and `TOP3` set weights using their past mean, volatility, Sharpe ratio, and Sharpe ratio of the three best-performing strategies to set weights. `MaxRet` applies a mean–variance portfolio targeting a 10% annual volatility, while `MinVar` corresponds to the minimum-variance portfolio. All portfolios are rebalanced monthly after a three-year estimation window and scaled ex-ante to 10% annual volatility. A description is provided in the Internet Appendix E. Each panel corresponds to a currency sample, as described in the Internet Appendix B. The table reports mean and standard deviation in percent per annum, skewness and kurtosis, and annualized Sharpe ratio (SR). t-stats (in brackets) are based on Newey and West (1987) standard errors with Andrews (1991) optimal lag length. Data are described in Section 3.1.

	1/N	MEAN	VOL	SR	TOP3	MaxRet	MinVar
Panel A: All Currencies							
Mean	10.18	9.59	10.29	9.82	9.45	10.10	8.86
	[6.66]	[7.04]	[6.73]	[7.19]	[6.64]	[7.28]	[5.72]
Sdev	10.32	9.52	10.31	9.54	9.90	9.47	10.32
Skew	−0.07	0.02	−0.10	0.00	0.03	0.27	−0.04
Kurt	5.00	4.39	5.01	4.42	4.59	5.67	4.92
SR	0.99	1.01	1.00	1.03	0.95	1.07	0.86
Panel B: Open Capital Account Currencies							
Mean	7.19	6.52	7.28	6.55	5.51	5.48	5.67
	[5.13]	[5.22]	[5.14]	[5.22]	[4.60]	[4.53]	[3.55]
Sdev	9.57	8.92	9.67	8.90	8.60	8.26	10.25
Skew	−0.33	−0.23	−0.29	−0.22	−0.26	0.03	0.08
Kurt	6.81	4.97	6.61	4.94	5.04	4.66	5.91
SR	0.75	0.73	0.75	0.74	0.64	0.66	0.55
Panel C: Floating Regime Currencies							
Mean	7.05	7.54	7.27	7.61	8.10	6.75	6.79
	[4.74]	[5.57]	[4.77]	[5.62]	[5.69]	[5.29]	[4.03]
Sdev	10.38	9.51	10.52	9.47	9.72	8.60	10.84
Skew	−0.23	−0.12	−0.21	−0.08	−0.33	−0.13	0.28
Kurt	7.30	6.85	6.75	6.19	5.18	4.95	5.92
SR	0.68	0.79	0.69	0.80	0.83	0.78	0.63

continued

Table 2. Combined Strategies: Summary Statistics (*continued*)

	1/N	MEAN	VOL	SR	TOP3	MaxRet	MinVar
High Turnover Currencies							
Mean	7.03	6.00	7.11	6.11	5.45	6.02	6.67
	[4.29]	[4.18]	[4.28]	[4.22]	[3.98]	[4.26]	[3.65]
Sdev	11.01	9.80	11.09	9.86	9.34	9.53	11.41
Skew	−0.11	−0.16	−0.14	−0.21	−0.23	−0.07	0.00
Kurt	4.45	4.15	4.41	4.16	4.09	6.22	5.11
SR	0.64	0.61	0.64	0.62	0.58	0.63	0.58
Panel E: Developed & Emerging Currencies							
Mean	8.56	7.16	8.48	7.18	5.17	5.98	6.89
	[5.42]	[5.35]	[5.28]	[5.31]	[3.81]	[4.62]	[4.06]
Sdev	10.77	9.39	10.96	9.41	9.40	8.83	11.34
Skew	−0.38	−0.34	−0.38	−0.34	−0.07	−0.35	−0.16
Kurt	5.66	4.81	5.26	4.65	4.08	4.15	4.53
SR	0.79	0.76	0.77	0.76	0.55	0.68	0.61
Panel F: Developed							
Mean	6.00	5.08	6.04	5.20	5.25	5.35	5.26
	[3.95]	[3.73]	[3.89]	[3.76]	[3.57]	[3.84]	[3.29]
Sdev	10.49	9.49	10.59	9.58	9.87	9.41	10.78
Skew	−0.50	−0.64	−0.43	−0.61	−0.48	−0.50	0.06
Kurt	6.63	5.94	5.83	5.61	4.86	4.63	5.68
SR	0.57	0.54	0.57	0.54	0.53	0.57	0.49

Internet Appendix for

Currency Speculation*

Pasquale Della Corte
Imperial & CEPR

Steven J. Riddiough
University of Toronto

Abstract

This Internet Appendix complements the main paper by providing additional details and results. It describes how we construct the currency datasets, form currency samples, and adjust excess returns for effective bid-ask spreads. We also present the Fama regressions, outline the combined strategy construction, and report extended summary statistics and figures that support and expand the analysis in the main text.

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A Fama Regressions

Let S_t and F_t denote the the spot and forward exchange rates at time t, respectively, both expressed in units of domestic currency per unit of foreign currency. When the covered interest parity (CIP) holds, the validity of uncovered interest parity (UIP) can be tested using the standard Fama (1984) regression

$$ex_{t+1} = \alpha + \beta fp_t + u_{t+1}, \tag{A.1}$$

where $ex_{t+1} = (S_{t+1} - S_t)/S_t$ is the exchange rate return realized between times t and $t+1$, and $fp_t = (F_t - S_t)/S_t$ is the forward premium observed at time t. Subtracting fp_t from both sides of Internet Appendix Equation A.1 yields an equivalent specification given by

$$rx_{t+1} = \alpha + \gamma fp_t + u_{t+1}, \tag{A.2}$$

where $rx_{t+1} = (S_{t+1} - F_t)/S_t$ is the excess return between t and $t+1$ and $\gamma = \beta - 1$. If UIP holds, one should find $\alpha = 0$, $\beta = 1$, and $\gamma = 0$, with residuals that are serially uncorrelated.[12]

The regressions in Internet Appendix Equation A.1 and Internet Appendix Equation A.2 provide a simple framework to link exchange rate predictability to currency profitability. If UIP holds, the first regression implies that exchange rate returns are predictable ($\beta = 1$), while the second regression indicates that excess returns are zero on average ($\gamma = 0$). However, empirical studies often find that estimates of β are negative but statistically indistinguishable from zero due to very large standard errors. When UIP fails, the first regression shows that exchange rate returns are unpredictable ($\beta \approx 0$), while the second regression reveals that

[12]Fama regressions are typically estimated in log form, where $ex_{t+1} = s_{t+1} - s_t$, $rx_{t+1} = s_{t+1} - f_t$, $fp_t = f_t - s_t$, $s_t = \ln(S_t)$, and $f_t = \ln(F_t)$. We express them in discrete form to maintain consistency with the rest of the notation used throughout the paper.

excess returns are non-zero on average ($\gamma \approx -1$). Loosely speaking, in theory, exchange rate predictability coincides with lack of profitability. In practice, an investors loses predictability but gains profitability.

Following the description of exchange rate data in Section 3.1 and the construction of currency samples in the Internet Appendix B, the Internet Appendix Table A.5 reports summary statistics from Fama regressions estimated under both log (Panel A) and discrete (Panel B) specifications. Across samples, the slope coefficients (β) are generally negative but largely insignificant, in line with the existing literature on the forward premium puzzle.

B Currency Samples

The first group of subsamples isolates currencies based on capital account openness, exchange rate regime, and trading activity. Specifically, we identify the set of `Open Capital Account Currencies` using the openness index of Chinn and Ito (2006) and retaining currencies with a standardized index of at least 0.5. For Taiwan and Serbia, we use data from Kaminsky and Schmukler (2008) and Quinn and Toyoda (2008), whereas for the Eurozone, we use data for Germany. We then select the set of `Floating Regime Currencies` using the exchange rate classification index of Ilzetzki, Reinhart and Rogoff (2019) and keeping currencies with a fine index between 9 (i.e., currencies in a pre-announced crawling band that is wider than or equal to $\pm$ 2%) and 13 (freely floating currencies). Finally, we collect turnover data from historical BIS Triennial Surveys and maintain currencies accounting for at least 0.5% of total global turnover. This sample is labelled as `High Turnover Currencies`. The data to construct these subsamples are available only at low frequency and do not cover our entire sample period. We obtain daily observations by forward filling, i.e., by keeping the latest available observation constant until a new observation becomes available or until the end of the sample. For turnover data, which are available starting in 1989, we extend the series

backward to 1976 by holding the first set of values constant.

The second group of subsamples follows traditional classifications used in the international finance literature. We define the G10 currencies as `Developed Currencies`, i.e., Australian dollar, Canadian dollar, Swiss franc, German mark, euro, Danish krone, British pound, Japanese yen, Norwegian krone, New Zealand dollar, and Swedish krona. We then expand this set to include major and liquid emerging currencies, i.e., Brazilian real, Czech koruna, Hungarian forint, South Korean won, Mexican peso, Polish zloty, Singapore dollar, Turkish lira, Taiwanese dollar, and South African rand, forming the `Developed & Emerging Currencies` sample.

In all samples, we remove euro-related currencies starting from the date of euro adoption. The Internet Appendix Figure A.6 displays the number of currencies included in each subsample over time. For instance, the `All Currencies` sample starts with 14 currencies in 1976 and expands to 58 currencies by 2025. The `Open Capital Account Currencies` sample grows from 5 currencies in 1976 to 36 in 2025, the `Floating Regime Currencies` sample from 6 to 24, and the `High Turnover Currencies` sample from 8 in 1976 to 20 in 2025.

C Accounting for Transaction Costs

This Internet Appendix provides a detailed description of how we construct excess returns that account for bid-ask spreads. A proper assessment of return predictability requires accounting for transaction costs. Yet quoted bid-ask spreads often overstate actual trading costs. Cespa et al. (2022), for example, show that WMR spreads are over four times wider than those from Olsen or Dukascopy. Motivated by this evidence, we use 25% of the quoted bid-ask spread on spot and forward rates as an estimate of the effective spread and adjust prices accordingly.

Specifically, if an investor buys the foreign currency in the forward market at time t and sells it in the spot market at time $t+1$, the excess return net of round-trip transaction costs is given by

$$rx^l_{t+1} \simeq \frac{S^b_{t+1} - F^a_t}{S^m_t}, \tag{C.3}$$

where a denotes the ask price, b the bid price, m the mid-price, and l a long position in the foreign currency. If the investor initiates the position at time t but decides to hold it at $t+1$, the corresponding net excess return is computed as

$$rx^l_{t+1} \simeq \frac{S_{t+1} - F^a_t}{S^m_t}, \tag{C.4}$$

whereas if the investor closes at $t+1$ a position already established at time t, the net excess return accounts for the renewal of the forward contract and is given by

$$rx^l_{t+1} \simeq \frac{S^b_{t+1} - F^a_t}{S^m_t}. \tag{C.5}$$

Similarly, if an investor sells the foreign currency at time t in the forward market and reverse the position at time $t+1$ in the spot market, the excess return net of round-trip transaction costs is calculated as

$$rx^s_{t+1} \simeq \frac{F^b_t - S^a_{t+1}}{S^m_t}, \tag{C.6}$$

where s denotes a short position in the foreign currency. If the investor maintains a short position from t to $t+1$, the corresponding excess return is

$$rx^s_{t+1} \simeq \frac{F^b_t - S_{t+1}}{S^m_t}, \tag{C.7}$$

whereas if the investor closes at $t+1$ a short position already open at t, the excess return is

$$rx^s_{t+1} \simeq \frac{F^b_t - S^a_{t+1}}{S^m_t}. \tag{C.8}$$

We assume that the investor opens new positions in all currencies at the start of the allocation period and liquidates all positions at the end of the period.

D Construction of Currency Strategies

This Internet Appendix provides a description of the currency strategies considered in Section 3.3. Recall that we draw on a broad set of currency strategies introduced in the recent literature, but limit our analysis to those constructed exclusively from exchange rate data (e.g., Lustig, Roussanov and Verdelhan 2011; Burnside, Eichenbaum and Rebelo 2011a; Menkhoff et al. 2012a,b; Rafferty 2012; Lustig, Roussanov and Verdelhan 2014). We rank currencies at the end of each month t using a pre-determined sorting variable, form a given number of baskets, and then calculate the equally-weighted average excess return for each basket between months t and $t+1$. The dollar-carry strategy makes use of a single basket, while all other strategies are based on five portfolios. To make our strategies more realistic, the sorting variable is lagged by one business day. For instance, in March 2025, we measure the sorting signal on March 27, form the portfolios on March 28, and calculate their average excess return on April 30.

Dollar Strategy. This strategy, denoted as `DOL`, simply holds an equally weighted long position in all foreign currencies relative to the US dollar throughout the entire sample period. It is equivalent to a static strategy that continuously rolls over 1-month forward contracts.

Dollar-Carry Strategy. This strategy, labelled as `CDOL`, takes long or short positions on all foreign currencies, depending on whether the cross-currency average forward premium is negative or positive. Recall that a positive (negative) forward premium implies that the interest rate differential between the US dollar and the foreign currency is positive (negative).

Hence, this strategy buys all foreign currencies when their average interest rate exceeds the US interest rate, and sells all foreign currencies when their average interest rate falls below the US interest rate.

Carry Strategy. We sort currencies into five baskets based on their forward premia, so that the first basket contains currencies with the highest forward premia (*low-yielding*) and the last basket includes currencies with the lowest forward premia (*high-yielding*). The carry strategy, denoted as `CAR`, buys the last portfolio and sells the first portfolio. We present summary statistics for these portfolios in the Internet Appendix Table A.6.

Value Strategy. We allocate currencies to five portfolios according to their past 5-year exchange rate returns, with the first basket containing currencies with the highest past returns (*overvalued*) and the last basket including currencies with the lowest past returns (*undervalued*). Since mid-quotes on spot rates are extended back to January 1971, we can compute five-year return signals and form the value strategy starting in January 1976. The value strategy, denoted as `VAL`, goes long the last portfolio and short the first portfolio. We present summary statistics for these portfolios in the Internet Appendix Table A.7.

Momentum Strategy. We assign currencies to five portfolios based on their past k-month excess returns, where the first basket contains currencies with the lowest past returns (*losers*) and the last basket includes those with the highest past returns (*winners*). When past excess returns are unavailable, we use past exchange rate returns as the sorting signal. The k-month momentum strategy goes long the last portfolio and short the first portfolio. We build 1-month, 3-month, 6-month, and 1-year momentum strategies, denoted `M1M`, `M3M`, `M6M`, and `M1Y`, respectively. We present summary statistics for these portfolios in the Internet Appendix Tables A.8–A.11.

Volatility Strategy. We first estimate three-year rolling betas for each currency by running

contemporaneous regressions of monthly log exchange rate returns on global volatility. The latter is measured as the cross-currency average of monthly realized volatility, calculated from daily exchange rate returns within each month. Intuitively, currencies with high volatility betas serve as hedges against global volatility risk and should earn lower returns, whereas currencies with low volatility betas should offer higher returns as compensation for bearing that risk. On the basis of this interpretation, we form five baskets and currencies with the highest betas (*low volatility exposure*) are placed in the first basket, whereas currencies with the lowest beta (*high volatility exposure*) are assigned to the last basket. The volatility strategy, denoted as `VOL`, goes long the last basket and short the first basket. We present summary statistics for these portfolios in the Internet Appendix Table A.12.

Skewness Strategy. Similar to the volatility strategy, we estimate three-year rolling betas for each currency by running contemporaneous regressions of monthly log exchange rate returns on global skewness. The latter is measured by taking the cross-currency average of monthly realized skewness, calculated from daily exchange rate returns within each month. Unlike global volatility, before taking the cross-sectional average, each realized skewness for month t is multiplied by minus one if the forward premium in month $t-1$ is positive, and by one otherwise. This adjustment ensures that the interpretation of skewness is consistent across high- and low-yielding currencies.In particular, negative skewness signals downside risk for investors holding long positions on high-yielding currencies, but can be beneficial for investors holding short positions on low-yielding currencies. By flipping the sign of realized skewness for low-yielding currencies, we align the measure so that more negative skewness consistently indicates higher aggregate downside risk for carry investors. Following this interpretation, we construct five baskets and group currencies with the lowest betas (*low downside exposure*) in the first basket, whereas currencies the highest beta (*high downside exposure*) are allocated to the last basket. The skewness strategy, denoted as `SKEW`, goes

long the last basket and short the first basket.[13] We present summary statistics for these portfolios in the Internet Appendix Table A.13.

Kurtosis Strategy. Similar to the global volatility strategy, we estimate three-year rolling betas for each currency by running contemporaneous regressions of monthly log exchange rate returns on global kurtosis. The latter is measured as the cross-currency average of monthly realized kurtosis, calculated from daily exchange rate returns within each month. Intuitively, higher global kurtosis reflects a greater likelihood of extreme exchange rate movements, capturing exposure to tail risk in global currency markets. Following this interpretation, we form five portfolios and currencies with the highest betas (*low tail exposure*) are placed in the first basket, while those with the lowest betas (*high tail exposure*) are assigned to the last basket. The global kurtosis strategy, denoted as `KURT`, goes long the last basket and short the first basket. We present summary statistics for these portfolios in the Internet Appendix Table A.14.

E Combination of Currency Strategies

The excess return of a combined strategy can be viewed as

$$RX^{\star}_{t+1} = w_t' RX_{t+1},$$

where $w_t = \{w_{1,t}, \ldots, w_{N,t}\}$ is a N dimensional vector of combining weights determined at time t, $RX_{t+1} = \{RX_{1,t+1}, \ldots, RX_{N,t+1}\}$ is a N dimensional vector of excess returns realized between times t and $t+1$, and N is the number of combined strategies. Since N is constant throughout the sample period, we omit the time subscript on for notational simplicity.

[13] To construct the skewness strategy from January 1976 onward, we require a three-year history of realized moments prior to the first portfolio formation. As forward contracts are unavailable for this earlier period, we use 3-month interest rates from Global Financial Data to infer the sign of realized skewness.

To facilitate comparison across combination rules, we impose an ex-ante volatility target of 10% per annum on all combined portfolios. Specifically, after computing the raw weights under each combination method, we rescale them as

$$w_t = \frac{\sigma^\star}{\sqrt{\omega_t' \Sigma_t \omega_t}} \omega_t,$$

where $\sigma^\star$ denotes the target volatility, ω_t is the vector of raw combining weights from a given weighting scheme, and Σ_t is the sample covariance matrix of excess returns at time t. To reduces estimation error and improve numerical stability of Σ_t, we employ the shrinkage estimator of Ledoit and Wolf (2004).

All combined portfolios are rebalanced monthly, starting after an initial three-year estimation window used to compute the historical moments underlying the combining weights. Thereafter, the estimation window expands over time as new data become available. We construct seven types of combined strategies based on alternative weighting schemes, which we summarize below.

Naïve Combination. This weighting scheme, denoted `1/N`, applies simple model averaging by assigning equal weights to all strategies. The raw weight on each strategy s is computed as

$$\omega_{s,t} = \frac{1}{N}.$$

where N denotes the total number of strategies in the sample. This approach treats all strategies as equally important, without attempting to exploit differences in past performance or risk.

Mean Combination. This weighting scheme, denoted `MEAN`, allocates weights in proportion to each strategy's historical mean excess return. The raw weight on each strategy s is

computed as

$$\omega_{s,t} = \frac{\mu_{s,t}}{\sum_{j=1}^{N} \mu_{j,t}},$$

where $\mu_{s,t}$ is the average excess return of strategy s computed at time t. This approach assigns larger weights to strategies that have performed better on average in the past.

Volatility Combination. This weighting scheme, denoted `VOL`, down-weights more volatile strategies by setting weights inversely proportional to their past volatility. The raw weight on each strategy s is computed as

$$\omega_{s,t} = \frac{1/\sigma_{s,t}}{\sum_{j=1}^{N} 1/\sigma_{j,t}},$$

where $\sigma_{s,t}$ is the standard deviation of excess returns for strategy sm calculated at time t. This rule gives more importance to strategies with lower historical volatility.

Sharpe Ratio Combination. This weighting scheme, denoted `SR`, assigns weights proportional to each strategy's historical Sharpe ratio. The raw weight on each strategy s is computed as

$$\omega_{s,t} = \frac{SR_{s,t}}{\sum_{j=1}^{N} SR_{j,t}},$$

where $SR_{s,t}$ is the Sharpe ratio of strategy s calculated at time t. This rule rewards strategies that have achieved higher risk-adjusted performance in the past.

Top-Three Combination. This weighting scheme, denoted `TOP3`, concentrates weights on the three best-performing strategies in terms of their past Sharpe ratios. The raw weight on

each strategy s is computed as

$$\omega_{s,t} = \begin{cases} \dfrac{SR_{s,t}}{\sum_{j \in \mathcal{T}_t} SR_{j,t}}, & \text{if } s \in \mathcal{T}_t, \\ 0, & \text{otherwise,} \end{cases}$$

where $\mathcal{T}_t$ denotes the set of the top three strategies with the highest Sharpe ratios at time t. This rule focuses on the most successful recent strategies, while excluding the rest.

Maximum Return Combination. This weighting scheme, denoted `MaxRet`, maximizes the historical excess return of the combined strategy subject to the target volatility $\sigma^\star$. Formally, the combining weights are obtained by solving the following mean-variance problem

$$\begin{aligned} \max_{w_t} \quad & w_t' \mu_t \\ \text{s.t.} \quad & \sqrt{w_t' \Sigma_t w_t} = \sigma^\star, \\ & w_t' \iota = 1, \end{aligned}$$

where μ_t is the vector of average excess returns at time t, Σ_t is the covariance matrix of historical excess returns at time t based on Ledoit and Wolf (2004), and ι is a vector of ones. In this case, the combining weights need no rescaling and we obtain directly w_t rather than ω_t.

Minimum Variance Combination. Finally, we consider the minimum-variance portfolio, denoted `MinVar`, which minimizes the portfolio variance without imposing a return target. Formally, the raw weights are obtained in closed-form as

$$\omega_t = \frac{\Sigma_t^{-1} \iota}{\iota' \Sigma_t^{-1} \iota},$$

where Σ_t is the covariance matrix of historical excess returns at time t based on Ledoit and

Wolf (2004), and ι is a vector of ones.

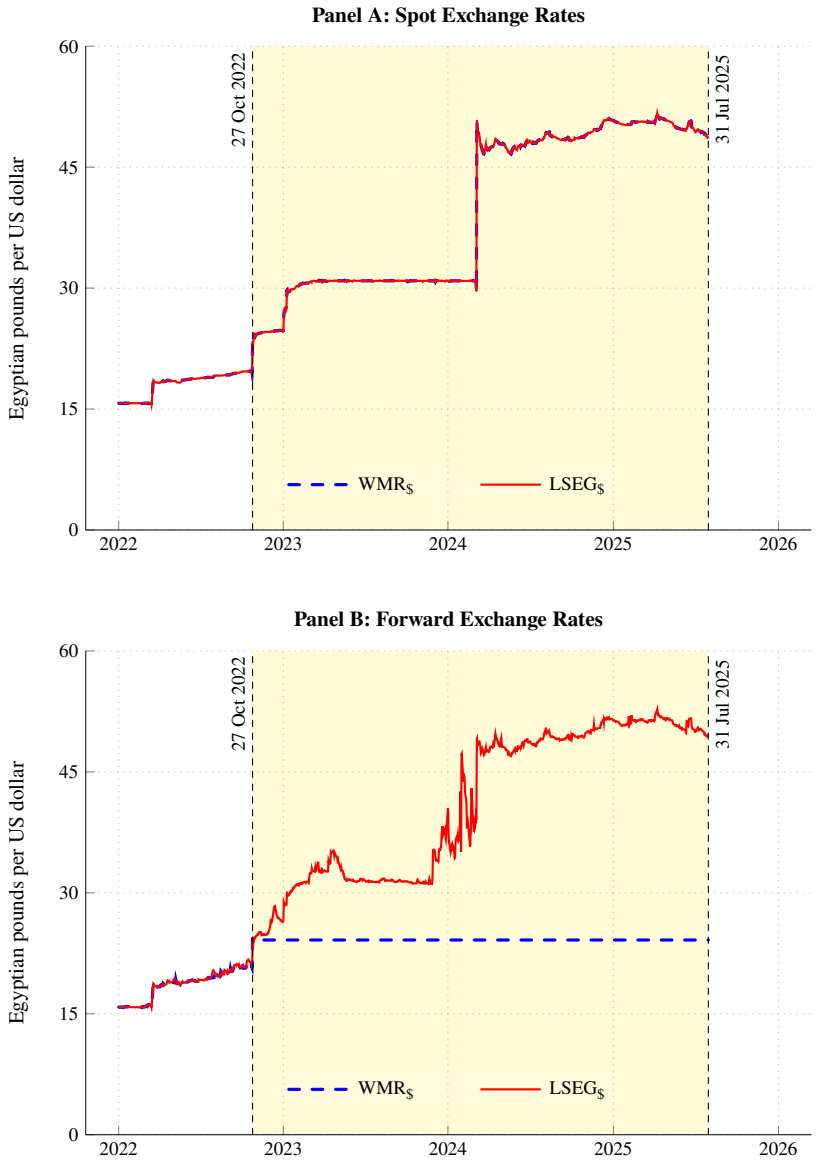

Figure A.1. Egyptian Pound

This figure displays spot and one-month forward exchange rates for the Egyptian pound against the US dollar. $\text{WMR}_\$$ denotes WMR mid-quotes from Datastream, while $\text{LSEG}_\$$ refers to Refinitiv mid-quotes from LSEG Workspace. Starting from October 27, 2022, and until the end of the sample, the $\text{WMR}_\$$ forward exchange rate is replaced by the $\text{LSEG}_\$$ (non-deliverable) forward exchange rate.

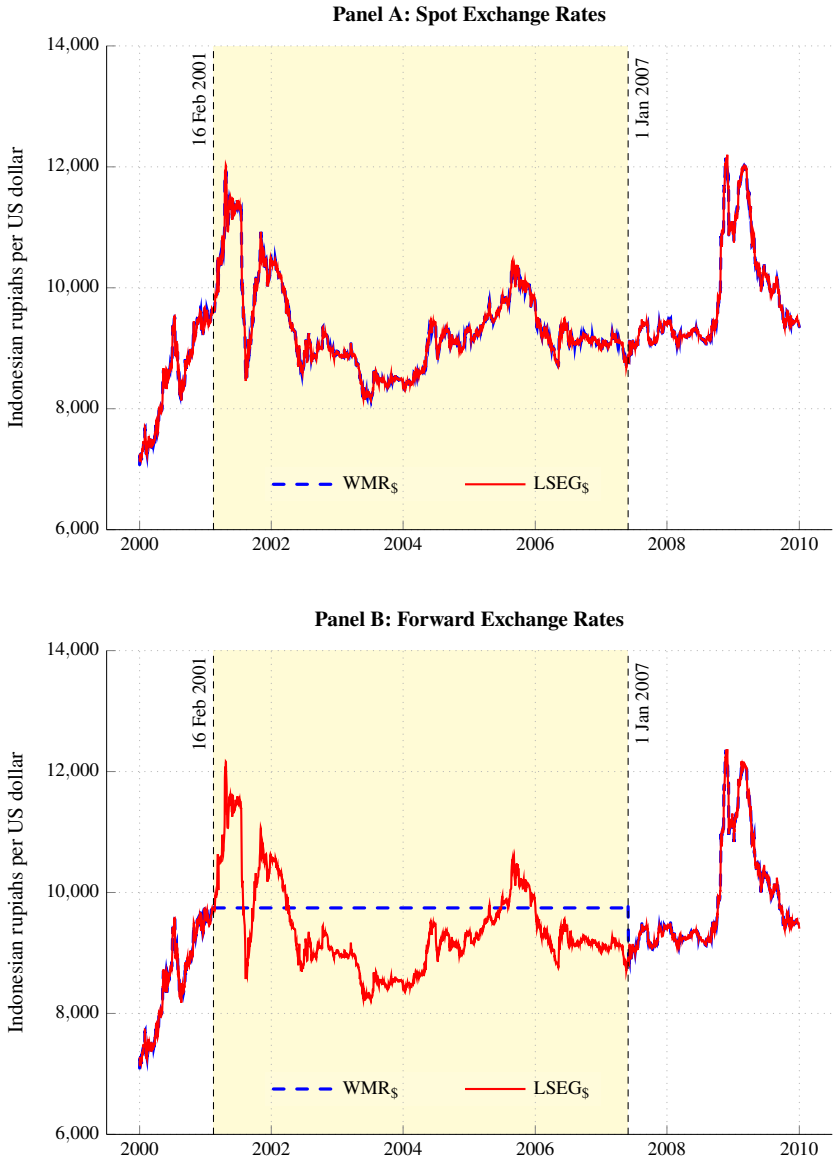

Figure A.2. Indonesian Rupiah

This figure displays spot and one-month forward exchange rates for the Indonesian rupiah (IDR) against the U.S. dollar (USD). $\text{WMR}_\$$ denotes mid-quotes from Datastream, while $\text{LSEG}_\$$ refers to Refinitiv mid-quotes from LSEG Workspace. Between February 16, 2001, and June 1, 2007, the $\text{WMR}_\$$ spot and forward series are replaced by the corresponding $\text{LSEG}_\$$ exchange rates.

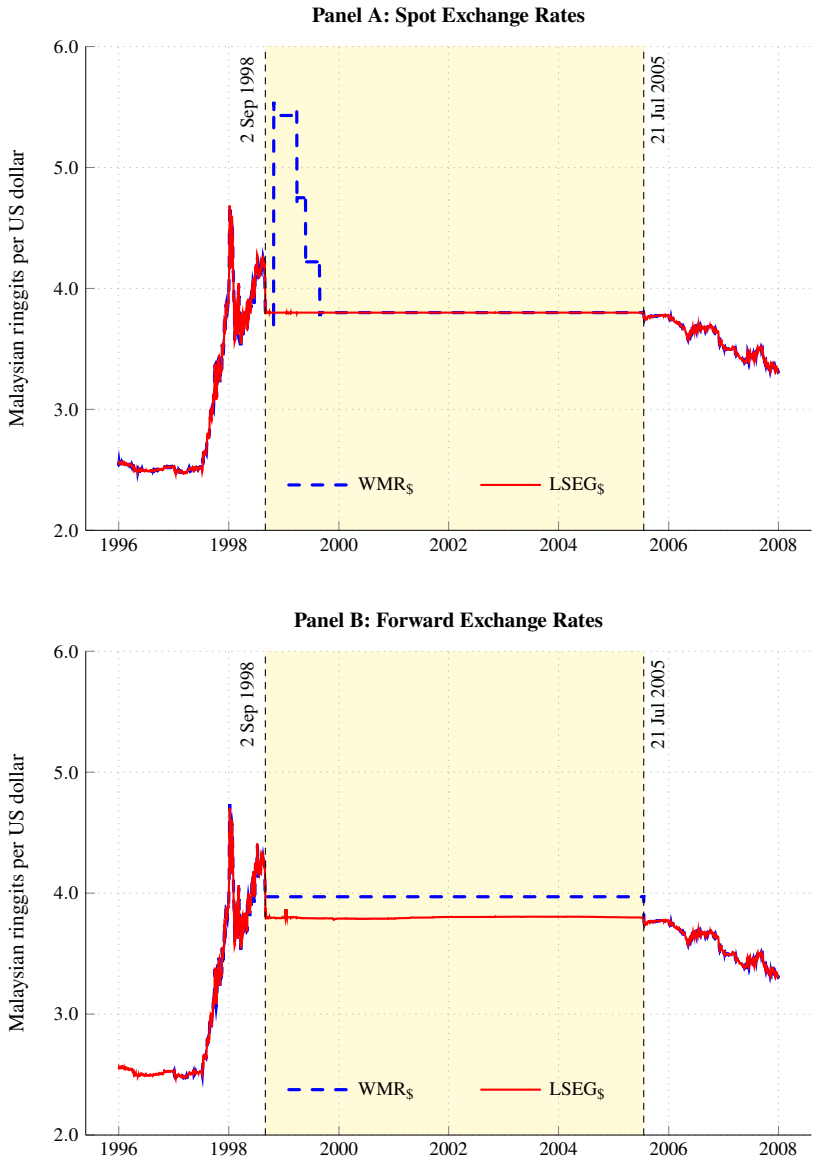

Figure A.3. Malaysian Ringgit

This figure displays spot and one-month forward exchange rates for the Malaysian ringgit against the US dollar. $WMR_{\$}$ denotes WMR mid-quotes from Datastream, while $LSEG_{\$}$ refers to Refinitiv mid-quotes from LSEG Workspace. Between September 2, 1998, and July 21, 2005, the $WMR_{\$}$ spot and forward series are replaced by the corresponding $LSEG_{\$}$ exchange rates.

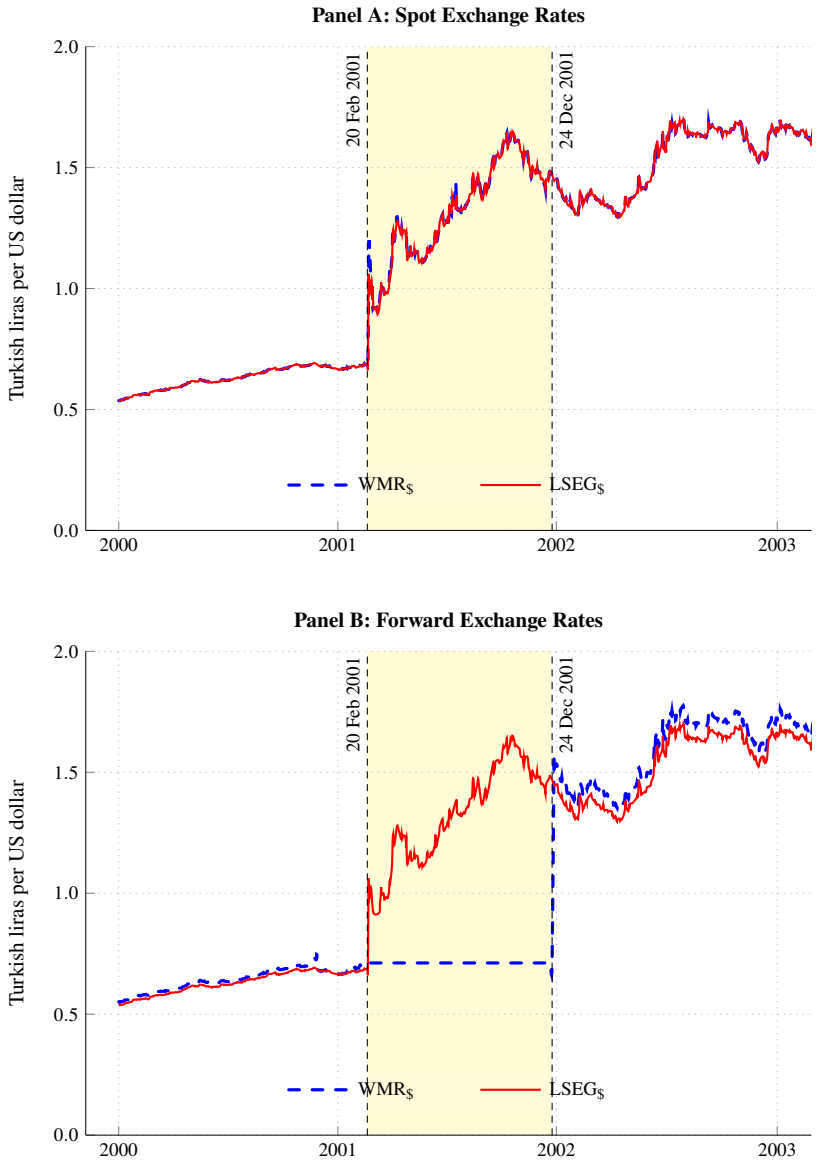

Figure A.4. Turkish Lira

This figure displays spot and one-month forward exchange rates for the Turkish Lira against the US dollar. $\text{WMR}_\$$ denotes WMR mid-quotes from Datastream, while $\text{LSEG}_\$$ refers to Refinitiv mid-quotes from LSEG Workspace. Between February 20, 2001, and December 24, 2001, the $\text{WMR}_\$$ spot and forward series are replaced by the corresponding $\text{LSEG}_\$$ exchange rates.

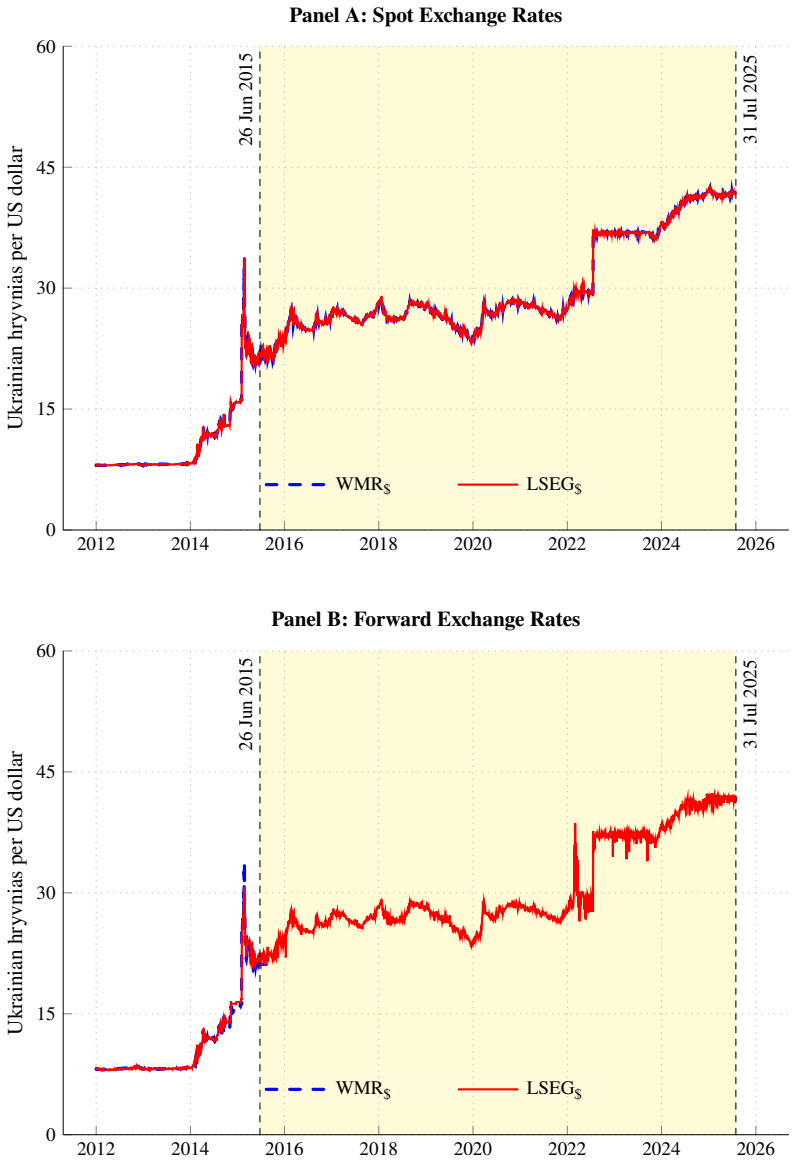

Figure A.5. Ukrainian Hryvnia

This figure displays spot and one-month forward exchange rates for the Ukrainian hryvnia against the US dollar (USD). $\text{WMR}_\$$ denotes WMR mid-quotes from Datastream, while $\text{LSEG}_\$$ refers to Refinitiv mid-quotes from LSEG Workspace. Starting from June 26, 2015, and until the end of the sample, the $\text{WMR}_\$$ forward exchange rate is replaced by the $\text{LSEG}_\$$ (non-deliverable) forward exchange rate.

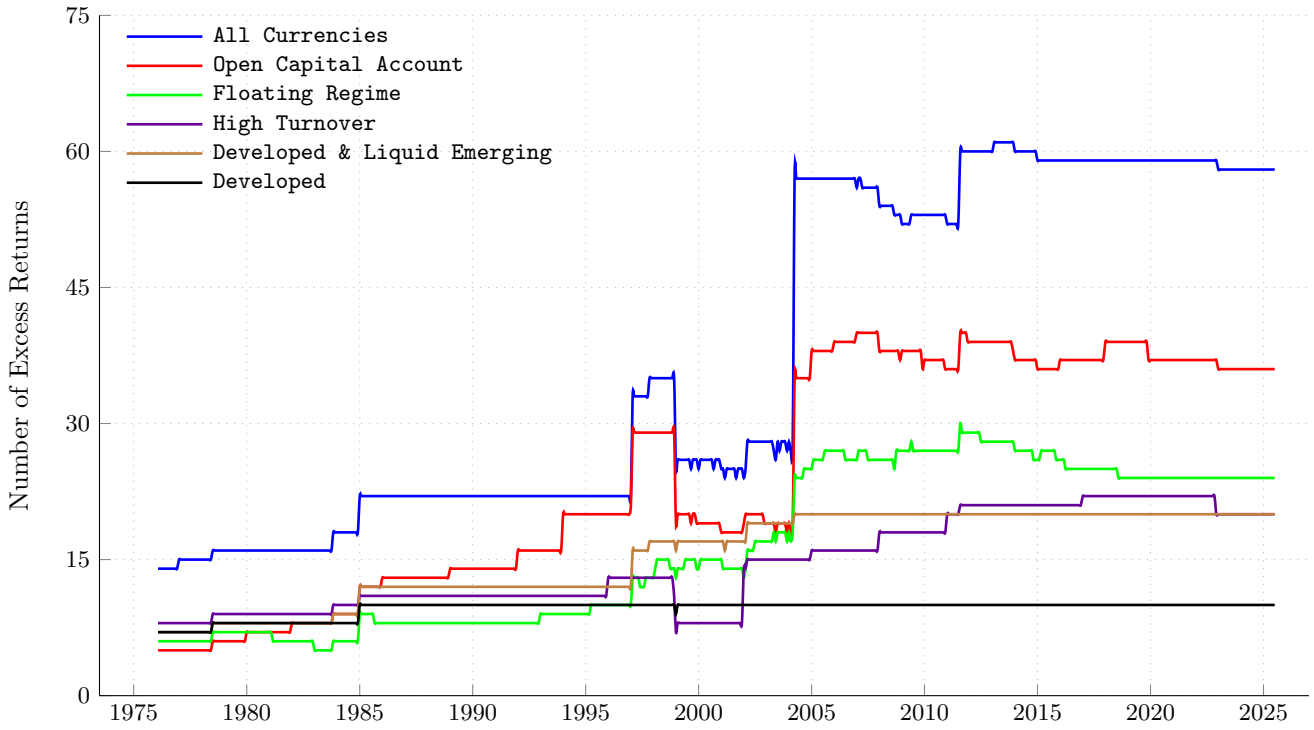

Figure A.6. Number of Currencies

This figure displays the number of currencies for which we have both spot and one-month forward exchange rates across different currency samples. *All Currencies* denotes the full sample of currencies quoted against the US dollar in our sample. `Open Capital Account`, `Floating Regime`, and `High Turnover` currencies are subsamples identified using Chinn and Ito (2006), Ilzetzki, Reinhart and Rogoff (2019), and historical BIS Triennial Surveys, respectively. `Developed currencies` denote G10 exchange rates, while `Developed & Liquid Emerging Currencies` refer to G20 exchange rates. Exchange rates are recorded at the end of each month. Spot and 1-month forward rates are from Datastream and LSEG Workspace.

Table A.1. Mnemonics for Exchange Rates

This table reports the ISO code, country name, currency name, and the corresponding identifiers used to retrieve mid-quotes on 78 spot and one-month forward exchange rates. Bid and ask quotes can be obtained by appending the suffixes (EB) and (EO), respectively. $\text{WMR}_{\$}$ and $\text{BBI}_{\$}$ denote closing mid-quotes for currencies quoted against the US dollar, while $\text{WMR}_{£}$ and $\text{DTS}_{£}$ refer to closing mid-quotes for currencies quoted against the British pound, all obtained from LSEG Datastream. The dataset is constructed starting from $\text{WMR}_{\$}$ data, and then extended backward using $\text{WMR}_{£}$ data for spot rates and $\text{DTS}_{£}$ data for forward rates (converted into US dollar terms), and finally adding $\text{BBI}_{\$}$ data. In selected cases, to fill data gaps or correct erratic observations, we use Refinitiv closing mid, bid, and ask quotes from LSEG Workspace, denoted $\text{LSEG}_{\$}$. The combined sample runs from January 1976 to July 2025 at the daily frequency and includes mid, bid, and ask quotes for both spot and one-month forward exchange rates. For spot rates, mid-quotes are extended back to January 1971.

	ISO	Country	Currency	Spot Rates				Forward Rates			
				$\text{WMR}_{\$}$	$\text{WMR}_{£}$	$\text{BBI}_{\$}$	$\text{LSEG}_{\$}$	$\text{WMR}_{\$}$	$\text{DTS}_{£}$	$\text{BBI}_{\$}$	$\text{LSEG}_{\$}$
1	AED	UAE	UAE dirham	UAEDIR$				USAED1F			
2	ARS	Argentina	Argentine peso	ARGPES$				USARS1F			
3	ATS	Austria	Austrian schilling	AUSTSC$	AUSTSCH			USATS1F	AUSTS1F		
4	AUD	Australia	Australian dollar	AUSTDO$	AUSTDOL	BBAUDSP		USAUD1F		BBAUD1F	
5	BEF	Belgium	Belgian franc	BELGLU$	BELGLUX			USBEF1F	BELXF1F		
6	BGN	Bulgaria	Bulgarian lev	BULGLV$				USBGN1F			
7	BHD	Bahrain	Bahraini dinar	BAHRDI$				USBHD1F			
8	BRL	Brazil	Brazilian real	BRACRU$				USBRL1F			
9	BWP	Botswana	Botswana pula	BOTSWP$				BWPUS1M			
10	CAD	Canada	Canadian dollar	CNDOLL$	CNDOLLR			USCAD1F	CNDOL1F		
11	CHF	Switzerland	Swiss franc	SWISSF$	SWISSFR			USCHF1F	SWISF1F		
12	CLP	Chile	Chilean peso	CHILPE$				USCLP1F			
13	CNH	China	Chinese yuan (offshore)	CNHDOL$				CNHUS1M			
14	COP	Colombia	Colombian peso	COLUPE$				USCOP1F			
15	CYP	Cyprus	Cypriot pound	CYPRUS$				USCYP1F			
16	CZK	Czechia	Czech koruna	CZECHC$				USCZK1F			
17	DEM	Germany	German mark	DMARKE$	DMARKER			USDEM1F	DMARK1F		
18	DKK	Denmark	Danish krone	DANISH$	DANISHK			USDKK1F	DANIS1F		
19	EEK	Estonia	Estonian kroon	ESTOKR$				USEEK1F			
20	EGP	Egypt	Egyptian pound	EGYPTN$				USEGP1F			EGP1MNDFOR=
21	ESP	Spain	Spanish peseta	SPANPE$	SPANPES			USESP1F	SPANP1F		
22	EUR	Eurozone	euro	USEURSP				USEUR1F			
23	FIM	Finland	Finnish markka	FINMAR$				USFIM1F			
24	FRF	France	French franc	FRENFR$	FRENFRA			USFRF1F	FRENF1F		
25	GBP	UK	British pound	USDOLLR				USGBP1F	USDOL1F		

continued

Table A.1. Mnemonics for Exchange Rates (*continued*)

	ISO	Country	Currency	Spot Rates				Forward Rates			
				$WMR_{\$}$	$WMR_{£}$	$BBI_{\$}$	$LSEG_{\$}$	$WMR_{\$}$	$DTS_{£}$	$BBI_{\$}$	$LSEG_{\$}$
26	GHS	Ghana	Ghanaian cedi	GHANCE$				GHSUS1M			
27	GRD	Greece	Greek drachma	GREDRA$				USGRD1F			
28	HKD	Hong Kong	Hong Kong dollar	HKDOLL$		BBHKDSP		USHKD1F		BBHKD1F	
29	HRK	Croatia	Croatian kuna	CROATK$				USHRK1F			
30	HUF	Hungary	Hungarian forint	HUNFOR$				USHUF1F			
31	IDR	Indonesia	Indonesian rupiah	INDORU$			IDR=	USIDR1F			IDR1MV=
32	IEP	Ireland	Irish pound	IPUNTE$	IPUNTER			USIEP1F	IPUNT1F		
33	ILS	Israel	Israeli shekel	ISRSHE$				USILS1F			
34	INR	India	Indian rupee	INDRUP$				USINR1F			
35	ISK	Iceland	Icelandic krona	ICEKRO$				USISK1F			
36	ITL	Italy	Italian lira	ITALIR$	ITALIRE			USITL1F	ITALY1F		
37	JOD	Jordan	Jordanian dinar	JORDIN$				USJOD1F			
38	JPY	Japan	Japanese yen	JAPAYE$	JAPAYEN			USJPY1F	JAPYN1F		
39	KES	Kenya	Kenyan shilling	KENSHI$				USKES1F			
40	KRW	South Korea	South Korean won	KORSWO$				USKRW1F			
41	KWD	Kuwait	Kuwaiti dinar	KUWADI$				USKWD1F			
42	KZT	Kazakhstan	Kazakhstani tenge	KAZAKT$				USKZT1F			
43	LKR	Sri Lanka	Sri Lankan rupee	SRIRUP$				LKRUS1M			
44	LTL	Lithuania	Lithuanian lita	LITITA$				USLTL1F			
45	LVL	Latvia	Latvian lat	LATVLA$				USLVL1F			
46	MAD	Morocco	Moroccan dirham	MOROCD$				USMAD1F			
47	MTL	Malta	Maltese lira	MALTES$				USMTL1F			
48	MXN	Mexico	Mexican peso	MEXPES$				USMXN1F			
49	MYR	Malaysia	Malaysian ringgit	MALADL$		BBMYRSP	MYR=	USMYR1F		BBMYR1F	MYR1MV=
50	NGN	Nigeria	Nigerian naira	NIGNAI$				USNG1MF			

continued

Table A.1. Mnemonics for Exchange Rates (*continued*)

	ISO	Country	Currency	Spot Rates				Forward Rates			
				$WMR_{\$}$	$WMR_{£}$	$BBI_{\$}$	$LSEG_{\$}$	$WMR_{\$}$	$DTS_{£}$	$BBI_{\$}$	$LSEG_{\$}$
51	NLG	Netherlands	Dutch guilder	GUILDE$	GUILDER			USNLG1F	GUILD1F		
52	NOK	Norway	Norwegian krone	NORKRO$	NORKRON			USNOK1F	NORKN1F		
53	NZD	New Zealand	New Zealand dollar	NZDOLL$	NZDOLLR	BBNZDSP		USNZD1F		BBNZD1F	
54	OMR	Oman	Omani rial	OMANRI$				USOMR1F			
55	PEN	Peru	Peruvian sol	PERUSO$				USPEN1F			
56	PHP	Philippines	Philippine peso	PHILPE$				USPHP1F			
57	PKR	Pakistan	Pakistani rupee	PAKRUP$				USPKR1F			
58	PLN	Poland	Polish zloty	POLZLO$				USPLN1F			
59	PTE	Portugal	Portuguese escudo	PORTES$	PORTESC			USPTE1F	PORTS1F		
60	QAR	Qatar	Qatari riyal	QATARL$				USQAR1F			
61	RON	Romania	Romanian leu	ROMALE$				USRON1F			
62	RSD	Serbia	Serbian dinar	SERBDN$				RSDUS1M			
63	RUB	Russia	Russian ruble	CISRUB$				USRUB1F			
64	SAR	Saudi Arabia	Saudi riyal	SAUDRI$				USSAR1F			
65	SEK	Sweden	Swedish krona	SWEKRO$	SWEKRON			USSEK1F	SWEDK1F		
66	SGD	Singapore	Singaporean dollar	SINGDO$		BBSGDSP		USSGD1F		BBSGD1F	
67	SIT	Slovenia	Slovenian tolar	SLOVTO$				USSIT1F			
68	SKK	Slovakia	Slovak koruna	SLOVKO$				USSKK1F			
69	THO	Thailand	Thai baht (offshore)	THABAX$				USTHB1F			
70	TND	Tunisia	Tunisian dinar	TUNISD$				USTND1F			
71	TRY	Türkiye	Turkish lira	TURKLI$			TRY=	USTRY1F			TRY1MV=
72	TWD	Taiwan	Taiwanese dollar	TAIWDO$				USTWD1F			
73	UAH	Ukraine	Ukrainian hryvnia	UKRAHY$				USUAH1F			UAH1MNDFOR=
74	UGX	Uganda	Ugandan shilling	UGANSH$				UGKUS1M			
75	VEF	Venezuela	Venezuelan bolívar	VENEBO$				USVEF1F			
76	VND	Vietnam	Vietnamese dong	VIETDN$				VNDUS1M			
77	ZAR	South Africa	South African rand	COMRAN$		BBZARSP		USZAR1F		BBZAR1F	
78	ZMW	Zambia	Zambian kwacha	ZAMKWA$				ZMKUS1M			

Table A.2. US Holidays

This table reports the list of US holidays used to filter spot and forward exchange rates. Panel A lists recurring holidays that correspond to regular market closures, while Panel B includes one-off events such as national days of mourning or exceptional shutdowns.

Holiday	When	e.g., 2024	Observed	Note
		Panel A: Recurring Holidays		
New Year's Day	January 1st	01/01/2024	Always from 1970	Observed on the nearest weekday if it falls on a weekend (e.g., Friday for Saturday, and Monday for Sunday).
Martin Luther King Jr. Day	3rd Monday in January	15/01/2024	Observed since 1986	
Washington's Birthday	3rd Monday in February	19/02/2024	Observed from 1971	Held on February 22nd before 1971.
Good Friday	Friday before Easter	29/03/2024	Always from 1970	
Memorial Day	Last Monday in May	27/05/2024	Observed from 1971	Held on May 30th before 1971.
Juneteenth	June 19th	19/06/2024	Observed from 2021	Observed on the nearest weekday if it falls on a weekend (e.g., Friday for Saturday, and Monday for Sunday).
Independence Day	July 4th	04/07/2024	Always from 1970	Observed on the nearest weekday if it falls on a weekend (e.g., Friday for Saturday, and Monday for Sunday).
Labor Day	1st Monday in September	02/09/2024	Always from 1970	
Thanksgiving Day	4th Thursday in November	28/11/2024	Always from 1970	
Christmas Day	December 25th	25/12/2024	Always from 1970	Observed on the nearest weekday if it falls on a weekend (e.g., Friday for Saturday, and Monday for Sunday).

continued

Table A.2. US Holidays (*continued*)

Holiday	When	Note
	Panel B: One-Off Events	
National Day of Mourning – President Lyndon B. Johnson	30/01/1973	Proclaimed by President Richard Nixon
National Day of Mourning – President Richard Nixon	30/04/1994	Proclaimed by President Bill Clinton
Hurricane Gloria	27/09/1985	
Terrorist Attacks on US	11/09/2001	
	12/09/2001	
	13/09/2001	
	14/09/2001	
National Day of Mourning – President Ronald Reagan	11/06/2004	Proclaimed by President George W. Bush
Hurricane Sandy	29/10/2012	
	30/10/2012	
National Day of Mourning – President Gerald Ford	02/01/2007	Proclaimed by President George W. Bush
National Day of Mourning – President George H.W. Bush	05/12/2018	Proclaimed by President Donald Trump

Table A.3. UK Holidays

This table reports the list of UK holidays used to filter spot and forward exchange rates. Panel A lists recurring bank holidays corresponding to regular market closures, while Panel B includes one-off events such as national days of mourning, Royal celebrations, and exceptional closure.

Holiday	When	e.g., 2024	Observed	Note
		Panel A: Recurring Holidays		
New Year's Day	January 1	01/01/2024	Observed since 1974.	If it falls on a weekend, it is observed on the next available business day.
Good Friday	Friday before Easter	29/03/2024	Always from 1970	
Easter Monday	Monday after Easter	01/04/2024	Always from 1970	
Early May Bank Holiday	First Monday in May	06/05/2024	Observed since 1978	Moved to Monday 8th in 1995 and 2020 to celebrate the 50th and 75th anniversary of the Victory in Europe Day.
Spring Bank Holiday	Last Monday in May	27/05/2024	Observed since 1971	Moved to Monday 6 June 1977, Tuesday 4 June 2002, Monday 4 June 2012, and Thursday 2 June 2022 to mark Queen Elizabeth II's Jubilees.
Summer Bank Holiday	Last Monday in August	26/08/2024	Observed since 1971	
Christmas Day	December 25	25/12/2024	Always from 1970	If it falls on a weekend, it is observed on the next available business day.
Boxing Day	December 26	26/12/2024	Always from 1970	If it falls on a weekend, it is observed on the next available business day.

continued

Table A.3. UK Holidays (*continued*)

Holiday	When	Note
Panel B: One-Off Events		
Royal Wedding of Princess Anne and Captain Mark Phillips	14/11/1973	Declared a one-off bank holiday.
Queen Elizabeth II's Silver Jubilee	07/06/1977	Additional bank holiday for the Jubilee celebrations.
Royal Wedding of Prince Charles and Lady Diana Spencer	29/07/1981	Official national holiday.
Queen Elizabeth II's Golden Jubilee	03/06/2002	Additional bank holiday for the Jubilee celebrations.
Royal Wedding of Prince William and Catherine Middleton	29/04/2011	Declared a one-off bank holiday.
Queen Elizabeth II's Diamond Jubilee	05/06/2012	Additional bank holiday for the Jubilee celebrations.
Queen Elizabeth II's Platinum Jubilee	03/06/2022	Additional bank holiday for the Jubilee celebrations.
State Funeral of Queen Elizabeth II	19/09/2022	National day of mourning and full bank holiday.
Coronation of King Charles III	08/05/2023	Declared an additional bank holiday.

Table A.4. Summary Statistics

This table presents summary statistics of exchange rate returns (ex) and currency excess returns (rx). The exchange rate return is calculated as $(S_{t+1} - S_t)/S_t$, whereas the currency excess return is computed as $(S_{t+1} - F_t)/S_t$, with S_t denoting the spot exchange rate at the end of month t and F_t is the 1-month forward exchange rate agreed at the end of month t for delivery of a unit of foreign currency at the end of month $t+1$. Both S_t and F_t are expressed in units of US dollars per unit of foreign currency. The table reports mean and standard deviation in percent per annum, skewness and kurtosis, and first order autocorrelation (AC_1). `Open capital account`, `floating regime`, and `high turnover currencies` are identified using Chinn and Ito (2006), Ilzetzki, Reinhart and Rogoff (2019), and historical BIS Triennial Surveys, respectively. `Developed & Emerging` and `Developed Currencies` denote G20 and G10 exchange rates, respectively. The sample runs at the monthly frequency from January 1976 to July 2025. Spot and 1-month forward rates are from Datastream and LSEG Workspace (see the Internet Appendix Table A.1 for more details).

	All Currencies		Open Capital Account Currencies		Floating Regime Currencies	
	ex	rx	ex	rx	ex	rx
Mean	−1.69	1.81	−0.22	1.16	−0.71	1.96
Sdev	10.91	10.94	9.87	9.99	11.61	11.79
Skew	−1.23	−0.36	−0.60	−0.18	0.03	0.28
Kurt	27.25	21.86	19.78	20.78	10.98	11.83
AC_1	0.05	0.06	0.05	0.06	0.03	0.05
	High Turnover Currencies		Developed & Emerging Currencies		Developed Currencies	
	ex	rx	ex	rx	ex	rx
Mean	−0.36	0.81	−0.71	1.36	0.48	0.80
Sdev	10.77	10.86	11.15	11.19	10.54	10.63
Skew	−0.30	−0.09	−0.44	−0.29	−0.05	−0.03
Kurt	8.32	8.77	6.94	6.49	4.73	4.55
AC_1	0.03	0.04	0.04	0.04	0.01	0.03

Table A.5. Fama Regressions

This table reports summary statistics from Fama regressions estimated across multiple currency samples:

$$ex_{t+1} = \alpha + \beta fp_t + u_{t+1},$$

where ex_{t+1} is the exchange rate return between months t and $t+1$, and fp_t is the forward premium observed at time t. Panel A employs log exchange rate returns and forward premia, computed as $ex_{t+1} = \ln(S_{t+1}/S_t)$ and $fp_t = \ln(F_t/S_t)$, respectively. Panel B uses discrete returns and forward premia, calculated as $ex_{t+1} = (S_{t+1} - S_t)/S_t$ and $fp_t = (F_t - S_t)/S_t$, respectively. S_t denotes the spot exchange rate at the end of month t, and F_t is the one-month forward exchange rate agreed at the end of month t for delivery of one unit of foreign currency at the end of month $t+1$. Both S_t and F_t are expressed in US dollars per unit of foreign currency. For each currency sample, we first estimate currency-specific regressions and then compute summary statistics across the individual estimates. The table reports the mean, median, standard deviation, and the percentage of significant estimates, defined as those with an absolute t-stat of at least 2. t-stats based on Newey and West (1987) standard errors with Andrews (1991) optimal lag length are reported in brackets. `Open capital account`, `floating regime`, and `high turnover currencies` are identified using Chinn and Ito (2006), Ilzetzki, Reinhart and Rogoff (2019), and historical BIS Triennial Surveys, respectively. `Developed & Emerging` and `Developed Currencies` denote G20 and G10 exchange rates, respectively. Spot and 1-month forward rates are from Datastream and LSEG Workspace (see the Internet Appendix Table A.1 for more details). The sample runs at the monthly frequency from January 1976 to July 2025. Spot and 1-month forward rates are from Datastream and LSEG Workspace (see the Internet Appendix Table A.1 for more details).

	α				β				$R^2(\%)$		
	mean	*med*	*sdev*	*%sign*	*mean*	*med*	*sdev*	*%sign*	*mean*	*med*	*sdev*
Panel A: Fama Regressions with log changes											
All Currencies	−0.03	−0.02	0.97	7.69	−0.55	−0.04	4.50	14.29	2.26	0.39	7.52
Open Capital Account Currencies	−0.03	0.00	1.52	3.23	−0.85	−0.21	5.57	14.52	1.91	0.66	3.76
Floating Regime Currencies	−0.45	−0.12	0.91	13.16	−0.50	−0.54	1.38	15.79	1.95	0.40	3.95
High Turnover Currencies	−0.08	−0.05	0.71	11.11	−1.13	−0.53	3.11	11.11	0.53	0.31	0.83
High Turnover Currencies	−0.09	−0.09	0.29	4.76	−0.40	−0.57	0.69	19.05	0.63	0.35	0.96
Developed	0.02	−0.08	0.24	9.09	−0.80	−0.78	0.52	18.18	0.46	0.35	0.26
Panel B: Fama Regressions with discrete changes											
All Currencies	0.00	0.00	0.94	7.69	−0.57	−0.05	4.44	12.99	2.07	0.40	6.24
Open Capital Account Currencies	0.01	0.00	1.45	3.23	−0.90	−0.25	5.50	12.90	1.90	0.64	3.69
Floating Regime Currencies	−0.42	−0.10	0.92	10.53	−0.54	−0.52	1.39	15.79	2.01	0.42	4.05
High Turnover Currencies	−0.04	−0.01	0.70	11.11	−1.15	−0.49	3.04	7.41	0.54	0.31	0.83
Developed & Emerging Currencies	−0.04	−0.06	0.28	4.76	−0.40	−0.54	0.68	14.29	0.63	0.38	0.99
Developed	0.06	−0.06	0.24	9.09	−0.81	−0.81	0.51	9.09	0.47	0.38	0.28

Table A.6. Portfolios Sorted by Forward Premia

This table presents summary statistics of currency excess returns for five portfolios sorted by their forward premia at the end of each month. $\texttt{P}_\text{S}$ contains currencies with the highest forward premia (i.e., low yielding) and $\texttt{P}_\text{L}$ currencies with the lowest forward premia (i.e., high yielding). `CAR` denotes the carry strategy that is long $\texttt{P}_\text{L}$ and short $\texttt{P}_\text{S}$, while $\texttt{CAR}_\text{net}$ is adjusted for effective bid–ask spreads, set as 25% of quoted spreads. The table reports mean and standard deviation in percent per annum, skewness and kurtosis, Sharpe ratio (*SR*) and Sortino ratio (*SO*) per annum, first order autocorrelation (AC_1), frequency of portfolio switches (*Freq*), average exchange rate return (*FXR*) and average difference between foreign and US interest rates (*IRD*). *t*-stats based on Newey and West (1987) standard errors with Andrews (1991) optimal lag length are reported in brackets. `Open capital account`, `floating regime`, and `high turnover currencies` are identified using Chinn and Ito (2006), Ilzetzki, Reinhart and Rogoff (2019), and historical BIS Triennial Surveys, respectively. `Developed & Emerging` and `Developed Currencies` denote G20 and G10 exchange rates, respectively. Portfolios are rebalanced monthly from January 1976 to July 2025, using sorting signals lagged by one trading day. Spot and 1-month forward rates are from Datastream and LSEG Workspace (see the Internet Appendix Table A.1 for more details).

	$\texttt{P}_\text{S}$	$\texttt{P}_2$	$\texttt{P}_3$	$\texttt{P}_4$	$\texttt{P}_\text{L}$	`CAR`	$\texttt{CAR}_\text{net}$
				`Panel A: All Currencies`			
Mean	−1.71	0.26	1.20	2.38	7.11	8.82	7.33
	[−1.56]	[0.25]	[1.07]	[2.05]	[4.93]	[8.17]	[6.73]
Sdev	7.70	7.06	7.46	8.01	8.56	7.34	7.37
Skew	0.05	−0.35	−0.13	−0.27	−0.41	−0.32	−0.35
Kurt	4.94	5.04	5.81	4.93	4.82	4.52	4.52
SR	−0.22	0.04	0.16	0.30	0.83	1.20	0.99
SO	−0.34	0.05	0.22	0.41	1.13	1.65	1.35
AC_1	0.01	0.03	0.06	0.04	0.17	0.05	0.06
Freq	0.13	0.27	0.31	0.30	0.16	0.15	0.15
FXR	0.57	0.38	−0.46	−1.78	−6.57	−7.15	−7.31
IRD	−2.29	−0.13	1.66	4.15	13.68	15.97	14.63
				`Panel B: Open Capital Account Currencies`			
Mean	−1.84	−0.01	0.29	2.76	5.42	7.26	6.39
	[−1.68]	[−0.01]	[0.27]	[2.53]	[3.47]	[5.51]	[4.84]
Sdev	7.69	7.30	7.27	7.68	9.73	8.83	8.83
Skew	0.15	−0.19	−0.26	−0.11	−0.64	−1.14	−1.14
Kurt	4.59	5.83	4.66	7.54	5.65	6.73	6.75
SR	−0.24	0.00	0.04	0.36	0.56	0.82	0.72
SO	−0.37	0.00	0.05	0.49	0.72	0.92	0.82
AC_1	0.00	−0.01	0.04	0.01	0.14	0.06	0.06
Freq	0.15	0.29	0.31	0.28	0.14	0.15	0.15
FXR	0.53	0.88	−0.28	0.56	−2.01	−2.54	−2.69
IRD	−2.37	−0.89	0.57	2.20	7.43	9.80	9.08

continued

Table A.6. Portfolios Sorted by Forward Premia (*continued*)

	P_S	P_2	P_3	P_4	P_L	CAR	CAR_{net}
				Panel C: Floating Regime Currencies			
Mean	−1.52	0.41	1.03	1.29	8.48	10.01	8.37
	[−1.12]	[0.34]	[0.75]	[0.87]	[4.86]	[6.34]	[5.30]
Sdev	8.96	8.57	9.19	9.91	11.47	11.27	11.33
Skew	0.08	0.02	−0.69	−0.21	−0.52	−0.77	−0.77
Kurt	4.94	3.78	5.91	4.42	6.08	6.09	5.97
SR	−0.17	0.05	0.11	0.13	0.74	0.89	0.74
SO	−0.26	0.08	0.15	0.19	0.96	1.05	0.88
AC_1	0.05	0.02	0.05	0.08	0.08	−0.05	−0.04
Freq	0.13	0.22	0.24	0.26	0.13	0.13	0.13
FXR	1.30	1.07	−0.74	−3.18	−3.60	−4.90	−5.04
IRD	−2.82	−0.65	1.77	4.47	12.08	14.90	13.41
				Panel D: High Turnover Currencies			
Mean	−2.20	0.18	0.86	2.26	4.02	6.22	5.57
	[−1.73]	[0.15]	[0.72]	[1.77]	[2.59]	[4.24]	[3.80]
Sdev	8.98	8.17	8.29	9.00	10.33	9.83	9.83
Skew	0.09	−0.11	−0.10	−0.55	−0.43	−0.46	−0.46
Kurt	4.97	4.14	4.40	4.89	4.77	4.78	4.78
SR	−0.25	0.02	0.10	0.25	0.39	0.63	0.57
SO	−0.38	0.03	0.15	0.33	0.52	0.84	0.75
AC_1	0.02	0.05	0.04	0.01	0.07	0.06	0.06
Freq	0.09	0.21	0.23	0.25	0.13	0.11	0.11
FXR	0.56	1.12	0.08	−0.55	−2.72	−3.29	−3.37
IRD	−2.76	−0.94	0.78	2.80	6.74	9.51	8.94

continued

Table A.6. Portfolios Sorted by Forward Premia (*continued*)

	P_S	P_2	P_3	P_4	P_L	CAR	CAR_{net}
			Panel E: Developed & Emerging Currencies				
Mean	−2.00	0.11	0.11	3.21	5.50	7.50	6.76
	[−1.56]	[0.09]	[0.09]	[2.24]	[3.40]	[5.11]	[4.60]
Sdev	8.94	8.00	8.62	10.11	11.22	10.33	10.33
Skew	0.08	0.03	−0.13	−0.64	−0.73	−0.87	−0.89
Kurt	4.87	3.27	4.73	6.44	5.99	5.81	5.86
SR	−0.22	0.01	0.01	0.32	0.49	0.73	0.65
SO	−0.35	0.02	0.02	0.43	0.61	0.88	0.79
AC_1	0.02	0.06	0.07	0.01	0.03	0.00	0.00
Freq	0.10	0.22	0.29	0.26	0.13	0.12	0.12
FXR	0.82	0.59	−1.16	0.02	−5.08	−5.89	−5.99
IRD	−2.81	−0.48	1.27	3.19	10.58	13.39	12.75
			Panel F: Developed Currencies				
Mean	−1.59	−0.28	0.53	0.82	4.70	6.29	5.64
	[−1.11]	[−0.22]	[0.40]	[0.60]	[2.99]	[4.34]	[3.90]
Sdev	10.05	8.68	8.64	9.55	10.95	10.19	10.18
Skew	0.24	0.10	−0.13	−0.45	−0.20	−0.90	−0.91
Kurt	4.33	3.71	4.14	5.18	4.53	6.15	6.18
SR	−0.16	−0.03	0.06	0.09	0.43	0.62	0.55
SO	−0.26	−0.05	0.09	0.12	0.63	0.75	0.68
AC_1	0.02	0.05	0.08	−0.01	0.02	0.01	0.01
Freq	0.09	0.24	0.29	0.25	0.12	0.10	0.10
FXR	1.39	0.57	−0.06	−1.02	0.81	−0.58	−0.68
IRD	−2.97	−0.85	0.59	1.84	3.89	6.87	6.32

Table A.7. Portfolios Sorted by Value

This table presents summary statistics of currency excess returns for five portfolios sorted by their past 5-year exchange rate returns at the end of each month. $\texttt{P}_\text{S}$ contains currencies with the highest past 5-year exchange rate returns (i.e., overvalued) and $\texttt{P}_\text{L}$ currencies with the lowest past 5-year exchange rate returns (i.e., undervalued). `VAL` denotes the value strategy that is long $\texttt{P}_\text{L}$ and short $\texttt{P}_\text{S}$, while $\texttt{VAL}_\text{net}$ is adjusted for effective bid–ask spreads, set as 25% of quoted spreads. The table reports mean and standard deviation in percentage per annum, skewness and kurtosis, Sharpe ratio (*SR*) and Sortino ratio (*SO*) per annum, first order autocorrelation (AC_1), frequency of portfolio switches (*Freq*), average exchange rate return (*FXR*) and average difference between foreign and US interest rates (*IRD*). *t*-stats based on Newey and West (1987) standard errors with Andrews (1991) optimal lag length are reported in brackets. `Open capital account`, `floating regime`, and `high turnover currencies` are identified using Chinn and Ito (2006), Ilzetzki, Reinhart and Rogoff (2019), and historical BIS Triennial Surveys, respectively. `Developed & Emerging` and `Developed Currencies` denote G20 and G10 exchange rates, respectively. Portfolios are rebalanced monthly from January 1976 to July 2025, using sorting signals lagged by one trading day. Spot and 1-month forward rates are from Datastream and LSEG Workspace (see the Internet Appendix Table A.1 for more details).

	$\texttt{P}_\text{S}$	$\texttt{P}_2$	$\texttt{P}_3$	$\texttt{P}_4$	$\texttt{P}_\text{L}$	`VAL`	$\texttt{VAL}_\text{net}$
				`Panel A: All Currencies`			
Mean	0.05	1.42	0.63	2.22	4.57	4.52	3.19
	[0.04]	[1.19]	[0.57]	[2.09]	[3.48]	[3.68]	[2.59]
Sdev	8.15	8.26	7.60	7.14	8.16	7.91	7.90
Skew	−0.46	0.02	0.01	−0.06	−0.16	−0.26	−0.26
Kurt	5.84	5.52	4.81	4.11	4.86	4.83	4.83
SR	0.01	0.17	0.08	0.31	0.56	0.57	0.40
SO	0.01	0.25	0.12	0.45	0.76	0.81	0.57
AC_1	0.06	0.04	0.04	0.06	0.13	0.12	0.12
Freq	0.10	0.21	0.23	0.19	0.07	0.09	0.09
FXR	0.24	0.59	−1.30	−1.35	−5.97	−6.21	−6.29
IRD	−0.19	0.83	1.94	3.56	10.54	10.72	9.48
				`Panel B: Open Capital Account Currencies`			
Mean	0.09	0.71	1.45	0.85	3.34	3.25	2.46
	[0.08]	[0.60]	[1.26]	[0.79]	[2.57]	[2.34]	[1.77]
Sdev	8.09	8.30	7.97	7.47	8.64	9.42	9.42
Skew	−0.32	−0.15	0.05	−0.57	0.13	−0.25	−0.26
Kurt	5.68	5.37	6.39	8.15	6.63	6.75	6.76
SR	0.01	0.09	0.18	0.11	0.39	0.35	0.26
SO	0.01	0.12	0.26	0.15	0.55	0.47	0.36
AC_1	0.03	0.02	0.04	0.04	0.09	0.07	0.07
Freq	0.14	0.25	0.25	0.22	0.11	0.12	0.12
FXR	0.28	0.85	0.65	−0.78	−0.91	−1.19	−1.29
IRD	−0.19	−0.13	0.80	1.63	4.25	4.44	3.75

continued

Table A.7. Portfolios Sorted by Value (*continued*)

	P_S	P_2	P_3	P_4	P_L	VAL	VAL_{net}
				Panel C: Floating Regime Currencies			
Mean	−0.86	0.93	0.82	1.90	6.22	7.08	5.51
	[−0.61]	[0.70]	[0.62]	[1.33]	[3.78]	[4.36]	[3.36]
Sdev	9.19	9.13	9.09	9.54	11.06	11.31	11.36
Skew	−0.28	0.15	−0.23	−0.25	−0.33	−0.47	−0.49
Kurt	4.96	4.31	5.41	4.40	6.08	6.87	6.78
SR	−0.09	0.10	0.09	0.20	0.56	0.63	0.49
SO	−0.13	0.16	0.13	0.28	0.76	0.81	0.63
AC_1	0.07	0.04	0.04	0.07	0.07	0.02	0.03
Freq	0.11	0.23	0.25	0.22	0.10	0.11	0.11
FXR	−0.16	0.53	−0.55	−2.11	−2.78	−2.62	−2.78
IRD	−0.70	0.40	1.36	4.00	9.00	9.70	8.29
				Panel D: High Turnover Currencies			
Mean	−0.56	0.01	0.30	1.59	3.36	3.92	3.33
	[−0.44]	[0.01]	[0.24]	[1.26]	[2.26]	[2.55]	[2.16]
Sdev	8.87	9.21	8.40	8.74	9.97	9.85	9.85
Skew	−0.31	−0.08	−0.19	−0.01	−0.08	−0.18	−0.19
Kurt	5.77	4.39	4.75	4.16	4.66	5.26	5.27
SR	−0.06	0.00	0.04	0.18	0.34	0.40	0.34
SO	−0.09	0.00	0.05	0.28	0.49	0.56	0.47
AC_1	0.04	0.02	0.04	0.05	0.07	0.10	0.10
Freq	0.11	0.25	0.25	0.22	0.10	0.11	0.11
FXR	0.28	0.26	−0.29	−0.46	−1.00	−1.28	−1.35
IRD	−0.84	−0.25	0.59	2.05	4.36	5.20	4.68

continued

Table A.7. Portfolios Sorted by Value (*continued*)

	P_S	P_2	P_3	P_4	P_L	VAL	VAL_{net}
			Panel E: Developed & Emerging Currencies				
Mean	−0.70	0.82	1.18	0.98	3.70	4.40	3.67
	[−0.51]	[0.63]	[0.92]	[0.69]	[2.43]	[2.96]	[2.47]
Sdev	9.07	9.00	8.92	9.54	10.07	10.07	10.07
Skew	−0.31	0.01	−0.01	−0.25	−0.56	−0.70	−0.72
Kurt	5.12	4.23	4.83	4.95	6.82	7.06	7.10
SR	−0.08	0.09	0.13	0.10	0.37	0.44	0.36
SO	−0.11	0.14	0.20	0.15	0.48	0.54	0.45
AC_1	0.06	0.03	0.03	0.06	0.08	0.06	0.06
Freq	0.11	0.24	0.27	0.22	0.09	0.10	0.10
FXR	0.25	0.34	−0.06	−1.19	−4.28	−4.53	−4.61
IRD	−0.96	0.48	1.24	2.17	7.97	8.93	8.28
			Panel F: Developed Currencies				
Mean	−1.30	0.64	0.17	0.69	2.88	4.18	3.59
	[−0.93]	[0.46]	[0.12]	[0.48]	[2.08]	[2.92]	[2.51]
Sdev	9.68	9.64	9.37	9.94	9.24	10.06	10.05
Skew	−0.07	−0.02	−0.20	−0.17	0.25	−0.26	−0.27
Kurt	4.90	4.14	4.72	4.96	3.55	5.67	5.70
SR	−0.13	0.07	0.02	0.07	0.31	0.42	0.36
SO	−0.20	0.10	0.03	0.10	0.54	0.60	0.51
AC_1	0.03	0.02	0.03	0.04	0.08	0.01	0.01
Freq	0.13	0.27	0.28	0.28	0.14	0.14	0.14
FXR	−0.02	0.64	−0.90	−0.37	1.79	1.81	1.74
IRD	−1.28	0.00	1.07	1.05	1.09	2.36	1.85

Table A.8. Portfolios Sorted by 1-month Momentum

This table presents summary statistics of currency excess returns for five portfolios sorted by their past 1-month excess returns at the end of each month. $\texttt{P}_\text{S}$ contains currencies with the lowest past 1-month excess returns (i.e., losers) and $\texttt{P}_\text{L}$ currencies with the highest past 1-month excess returns (i.e., winners). `M1M` denotes the 1-month momentum strategy that is long $\texttt{P}_\text{L}$ and short $\texttt{P}_\text{S}$, while $\texttt{M1M}_\text{net}$ is adjusted for effective bid-ask spreads, set as 25% of quoted spreads. The table reports mean and standard deviation in percent per annum, skewness and kurtosis, Sharpe ratio (*SR*) and Sortino ratio (*SO*) per annum, first order autocorrelation (AC_1), frequency of portfolio switches (*Freq*), average exchange rate return (*FXR*) and average difference between foreign and US interest rates (*IRD*). *t*-stats based on Newey and West (1987) standard errors with Andrews (1991) optimal lag length are reported in brackets. `Open capital account`, `floating regime`, and `high turnover currencies` are identified using Chinn and Ito (2006), Ilzetzki, Reinhart and Rogoff (2019), and historical BIS Triennial Surveys, respectively. `Developed & Emerging` and `Developed Currencies` denote G20 and G10 exchange rates, respectively. Portfolios are rebalanced monthly from January 1976 to July 2025, using sorting signals lagged by one trading day. When past excess returns are unavailable, we use past exchange rate returns for the sorting signal. Spot and 1-month forward rates are from Datastream and LSEG Workspace (see the Internet Appendix Table A.1 for more details).

	$\texttt{P}_\text{S}$	$\texttt{P}_2$	$\texttt{P}_3$	$\texttt{P}_4$	$\texttt{P}_\text{L}$	M1M	$\texttt{M1M}_\text{net}$
				Panel A: All Currencies			
Mean	−0.86	0.37	2.23	2.58	4.77	5.63	4.24
	[−0.72]	[0.31]	[1.93]	[2.28]	[4.02]	[5.01]	[3.77]
Sdev	8.45	7.86	7.53	7.86	7.96	7.91	7.93
Skew	−0.29	−0.47	−0.03	0.19	−0.17	0.08	0.07
Kurt	4.84	6.26	4.55	5.83	4.15	4.19	4.20
SR	−0.10	0.05	0.30	0.33	0.60	0.71	0.54
SO	−0.14	0.06	0.43	0.48	0.88	1.12	0.84
AC_1	0.00	0.06	0.08	0.03	0.07	0.00	−0.01
Freq	0.70	0.75	0.76	0.78	0.72	0.71	0.71
FXR	−3.07	−1.59	−0.27	−0.35	−1.77	1.30	0.55
IRD	2.21	1.96	2.50	2.94	6.53	4.32	3.69
				Panel B: Open Capital Account Currencies			
Mean	−0.48	0.21	0.97	2.33	3.71	4.19	3.20
	[−0.40]	[0.18]	[0.81]	[2.07]	[3.05]	[3.19]	[2.43]
Sdev	8.38	7.73	7.80	7.92	8.56	9.24	9.26
Skew	−0.17	−0.55	0.06	−0.10	0.20	−0.02	−0.04
Kurt	5.48	6.49	5.52	5.79	5.01	4.79	4.81
SR	−0.06	0.03	0.12	0.29	0.43	0.45	0.35
SO	−0.08	0.03	0.18	0.40	0.67	0.68	0.52
AC_1	−0.01	0.08	0.08	0.01	−0.01	−0.01	−0.01
Freq	0.70	0.74	0.77	0.77	0.75	0.73	0.73
FXR	−1.16	−0.29	0.28	1.33	0.72	1.88	1.26
IRD	0.68	0.50	0.69	1.00	2.99	2.30	1.94

continued

Table A.8. Portfolios Sorted by 1-month Momentum (*continued*)

	P_S	P_2	P_3	P_4	P_L	M1M	$M1M_{net}$
			Panel C: Floating Regime Currencies				
Mean	0.23	1.30	1.72	0.91	4.70	4.47	2.99
	[0.16]	[0.91]	[1.21]	[0.71]	[3.12]	[3.10]	[2.07]
Sdev	10.07	8.84	8.88	8.97	10.03	10.39	10.40
Skew	−0.24	−0.50	0.07	−0.03	0.02	−0.15	−0.20
Kurt	4.47	5.85	4.51	3.90	4.08	5.44	5.54
SR	0.02	0.15	0.19	0.10	0.47	0.43	0.29
SO	0.03	0.20	0.30	0.16	0.73	0.64	0.42
AC_1	0.01	0.09	0.10	−0.01	0.05	−0.05	−0.06
Freq	0.72	0.76	0.76	0.81	0.78	0.75	0.75
FXR	−1.49	−0.07	−0.14	−1.53	0.07	1.56	0.68
IRD	1.72	1.37	1.86	2.43	4.63	2.91	2.31
			Panel D: High Turnover Currencies				
Mean	−1.05	0.61	0.73	2.17	2.55	3.60	2.81
	[−0.81]	[0.47]	[0.52]	[1.79]	[1.94]	[2.72]	[2.12]
Sdev	9.16	8.98	8.90	8.74	9.08	9.31	9.32
Skew	−0.18	−0.43	−0.14	0.18	−0.11	−0.08	−0.11
Kurt	4.34	5.47	4.14	4.71	3.85	3.93	3.97
SR	−0.11	0.07	0.08	0.25	0.28	0.39	0.30
SO	−0.17	0.09	0.12	0.38	0.42	0.59	0.45
AC_1	−0.01	0.04	0.09	−0.04	0.04	0.00	0.00
Freq	0.69	0.77	0.77	0.80	0.78	0.74	0.74
FXR	−1.57	0.16	−0.07	1.03	0.49	2.06	1.55
IRD	0.52	0.45	0.80	1.15	2.07	1.54	1.26

continued

Table A.8. Portfolios Sorted by 1-month Momentum (*continued*)

	P_S	P_2	P_3	P_4	P_L	M1M	$M1M_{net}$
			Panel E: Developed & Emerging Currencies				
Mean	−0.76	0.82	1.43	1.91	3.58	4.35	3.43
	[−0.55]	[0.62]	[1.02]	[1.49]	[2.68]	[3.37]	[2.66]
Sdev	9.56	9.21	8.86	9.04	9.41	9.32	9.34
Skew	−0.21	−0.58	−0.10	0.02	−0.06	0.04	0.01
Kurt	4.37	5.71	4.59	4.71	3.65	4.91	4.96
SR	−0.08	0.09	0.16	0.21	0.38	0.47	0.37
SO	−0.12	0.12	0.25	0.33	0.58	0.73	0.56
AC_1	0.03	0.03	0.09	0.01	−0.01	−0.08	−0.08
Freq	0.71	0.75	0.76	0.81	0.76	0.73	0.73
FXR	−2.09	−0.19	0.03	−0.42	−0.35	1.74	1.15
IRD	1.33	1.01	1.40	2.33	3.93	2.61	2.28
			Panel F: Developed Currencies				
Mean	−0.39	0.45	0.78	2.11	1.03	1.41	0.63
	[−0.26]	[0.33]	[0.57]	[1.59]	[0.75]	[1.01]	[0.45]
Sdev	9.72	9.71	9.17	9.37	9.56	9.88	9.89
Skew	−0.13	−0.22	0.01	0.08	0.05	0.00	−0.03
Kurt	4.35	4.30	4.00	3.89	3.65	5.02	5.06
SR	−0.04	0.05	0.08	0.23	0.11	0.14	0.06
SO	−0.06	0.07	0.13	0.36	0.17	0.21	0.09
AC_1	0.07	0.01	0.06	0.01	0.00	−0.01	−0.01
Freq	0.73	0.78	0.74	0.79	0.77	0.75	0.75
FXR	−0.08	0.33	0.33	1.50	0.20	0.28	−0.26
IRD	−0.30	0.13	0.45	0.61	0.83	1.13	0.89

Table A.9. Portfolios Sorted by 3-month Momentum

This table presents summary statistics of currency excess returns for five portfolios sorted by their past 3-month excess returns at the end of each month. $\texttt{P}_\text{S}$ contains currencies with the lowest past 3-month excess returns (i.e., losers) and $\texttt{P}_\text{L}$ currencies with the highest past 1-month excess returns (i.e., winners). `M3M` denotes the 3-month momentum strategy that is long $\texttt{P}_\text{L}$ and short $\texttt{P}_\text{S}$, while $\texttt{M3M}_\text{net}$ is adjusted for effective bid–ask spreads, set as 25% of quoted spreads. The table reports mean and standard deviation in percent per annum, skewness and kurtosis, Sharpe ratio (*SR*) and Sortino ratio (*SO*) per annum, first order autocorrelation (AC_1), frequency of portfolio switches (*Freq*), average exchange rate return (*FXR*) and average difference between foreign and US interest rates (*IRD*). *t*-stats based on Newey and West (1987) standard errors with Andrews (1991) optimal lag length are reported in brackets. `Open capital account`, `floating regime`, and `high turnover currencies` are identified using Chinn and Ito (2006), Ilzetzki, Reinhart and Rogoff (2019), and historical BIS Triennial Surveys, respectively. `Developed & Emerging` and `Developed Currencies` denote G20 and G10 exchange rates, respectively. Portfolios are rebalanced monthly from January 1976 to July 2025, using sorting signals lagged by one trading day. When past excess returns are unavailable, we use past exchange rate returns for the sorting signal. Spot and 1-month forward rates are from Datastream and LSEG Workspace (see the Internet Appendix Table A.1 for more details).

	$\texttt{P}_\text{S}$	$\texttt{P}_2$	$\texttt{P}_3$	$\texttt{P}_4$	$\texttt{P}_\text{L}$	M3M	$\texttt{M3M}_\text{net}$
				Panel A: All Currencies			
Mean	−1.07	0.03	2.01	2.36	5.94	7.00	5.71
	[−0.88]	[0.02]	[1.80]	[2.13]	[5.12]	[6.58]	[5.36]
Sdev	8.40	7.81	7.80	7.64	7.99	8.25	8.27
Skew	−0.28	−0.24	0.20	−0.13	−0.11	0.10	0.08
Kurt	5.18	5.54	5.27	4.96	4.97	4.03	4.03
SR	−0.13	0.00	0.26	0.31	0.74	0.85	0.69
SO	−0.17	0.00	0.39	0.43	1.06	1.35	1.09
AC_1	0.04	0.05	0.02	0.04	0.04	−0.11	−0.11
Freq	0.41	0.61	0.68	0.64	0.41	0.41	0.41
FXR	−3.29	−1.56	−0.12	−0.61	−1.37	1.92	1.49
IRD	2.23	1.59	2.13	2.96	7.31	5.08	4.21
				Panel B: Open Capital Account Currencies			
Mean	−1.06	−0.42	1.89	2.06	4.43	5.49	4.60
	[−0.88]	[−0.37]	[1.70]	[1.78]	[3.75]	[4.25]	[3.56]
Sdev	8.34	7.93	7.82	8.13	8.44	9.74	9.76
Skew	−0.26	−0.07	0.05	−0.25	0.16	0.14	0.13
Kurt	6.05	5.59	5.66	8.07	4.87	4.42	4.43
SR	−0.13	−0.05	0.24	0.25	0.52	0.56	0.47
SO	−0.17	−0.07	0.35	0.34	0.80	0.89	0.74
AC_1	0.03	0.03	0.00	0.01	−0.03	−0.09	−0.09
Freq	0.42	0.61	0.67	0.63	0.44	0.43	0.43
FXR	−1.69	−0.73	1.20	0.95	1.22	2.90	2.53
IRD	0.62	0.31	0.68	1.11	3.21	2.59	2.08

continued

Table A.9. Portfolios Sorted by 3-month Momentum (*continued*)

	P_S	P_2	P_3	P_4	P_L	M3M	$M3M_{net}$
			Panel C: Floating Regime Currencies				
Mean	0.44	−0.01	0.78	3.04	5.08	4.65	3.28
	[0.30]	[−0.01]	[0.62]	[2.20]	[3.45]	[3.17]	[2.24]
Sdev	9.96	9.04	8.70	9.51	10.38	10.90	10.92
Skew	0.03	−0.54	−0.08	−0.06	−0.15	−0.05	−0.10
Kurt	4.15	7.48	4.02	4.90	4.78	4.88	4.96
SR	0.04	0.00	0.09	0.32	0.49	0.43	0.30
SO	0.07	0.00	0.14	0.47	0.73	0.66	0.45
AC_1	0.05	0.04	0.03	0.05	−0.01	−0.12	−0.12
Freq	0.43	0.65	0.69	0.65	0.46	0.44	0.44
FXR	−1.11	−1.18	−0.95	0.48	−0.14	0.97	0.45
IRD	1.55	1.17	1.73	2.57	5.23	3.68	2.83
			Panel D: High Turnover Currencies				
Mean	−1.00	−0.09	1.06	1.29	4.07	5.07	4.37
	[−0.78]	[−0.07]	[0.86]	[0.98]	[3.16]	[3.87]	[3.35]
Sdev	9.03	9.09	8.66	8.86	9.06	9.71	9.72
Skew	−0.22	−0.19	0.08	−0.40	0.03	0.14	0.12
Kurt	4.78	4.14	4.28	4.97	4.07	3.60	3.61
SR	−0.11	−0.01	0.12	0.15	0.45	0.52	0.45
SO	−0.16	−0.01	0.19	0.20	0.69	0.89	0.76
AC_1	0.01	0.03	−0.01	0.06	0.01	−0.08	−0.08
Freq	0.41	0.64	0.67	0.66	0.45	0.43	0.43
FXR	−1.48	−0.30	0.28	−0.06	1.84	3.32	3.03
IRD	0.48	0.21	0.77	1.35	2.23	1.74	1.35

continued

Table A.9. Portfolios Sorted by 3-month Momentum (*continued*)

	P_S	P_2	P_3	P_4	P_L	M3M	$M3M_{net}$
			Panel E: Developed & Emerging Currencies				
Mean	−0.75	1.10	0.28	1.53	4.88	5.63	4.81
	[−0.56]	[0.83]	[0.22]	[1.11]	[3.58]	[4.35]	[3.74]
Sdev	9.23	9.18	9.02	9.49	9.58	9.72	9.72
Skew	−0.10	−0.16	−0.15	−0.62	−0.04	0.09	0.07
Kurt	4.42	4.41	4.42	6.17	4.32	4.42	4.43
SR	−0.08	0.12	0.03	0.16	0.51	0.58	0.49
SO	−0.12	0.18	0.05	0.22	0.76	0.93	0.79
AC_1	0.03	0.05	0.02	0.05	0.00	−0.10	−0.10
Freq	0.43	0.64	0.71	0.66	0.45	0.44	0.44
FXR	−2.02	0.39	−1.17	−0.30	0.09	2.11	1.77
IRD	1.27	0.71	1.45	1.83	4.79	3.52	3.04
			Panel F: Developed Currencies				
Mean	−1.38	1.63	0.86	0.17	2.68	4.06	3.38
	[−1.00]	[1.15]	[0.61]	[0.12]	[1.95]	[3.02]	[2.53]
Sdev	9.47	9.74	9.26	10.12	9.70	10.04	10.04
Skew	−0.18	0.14	−0.20	−0.37	0.17	0.09	0.07
Kurt	4.51	4.16	3.98	5.22	4.05	4.26	4.28
SR	−0.15	0.17	0.09	0.02	0.28	0.40	0.34
SO	−0.22	0.27	0.14	0.03	0.44	0.64	0.53
AC_1	0.04	0.04	0.05	0.02	−0.01	−0.10	−0.10
Freq	0.43	0.62	0.67	0.66	0.48	0.45	0.45
FXR	−1.00	1.69	0.35	−0.42	1.64	2.63	2.32
IRD	−0.38	−0.07	0.50	0.59	1.05	1.43	1.06

Table A.10. Portfolios Sorted by 6-month Momentum

This table presents summary statistics of currency excess returns for five portfolios sorted by their past 6-month excess returns at the end of each month. $\texttt{P}_\text{S}$ contains currencies with the lowest past 6-month excess returns (i.e., losers) and $\texttt{P}_\text{L}$ currencies with the highest past 1-month excess returns (i.e., winners). `M6M` denotes the 6-month momentum strategy that is long $\texttt{P}_\text{L}$ and short $\texttt{P}_\text{S}$, while $\texttt{M6M}_\text{net}$ is adjusted for effective bid–ask spreads, set as 25% of quoted spreads. The table reports mean and standard deviation in percent per annum, skewness and kurtosis, Sharpe ratio (*SR*) and Sortino ratio (*SO*) per annum, first order autocorrelation (AC_1), frequency of portfolio switches (*Freq*), average exchange rate return (*FXR*) and average difference between foreign and US interest rates (*IRD*). *t*-stats based on Newey and West (1987) standard errors with Andrews (1991) optimal lag length are reported in brackets. `Open capital account`, `floating regime`, and `high turnover currencies` are identified using Chinn and Ito (2006), Ilzetzki, Reinhart and Rogoff (2019), and historical BIS Triennial Surveys, respectively. `Developed & Emerging` and `Developed Currencies` denote G20 and G10 exchange rates, respectively. Portfolios are rebalanced monthly from January 1976 to July 2025, using sorting signals lagged by one trading day. When past excess returns are unavailable, we use past exchange rate returns for the sorting signal. Spot and 1-month forward rates are from Datastream and LSEG Workspace (see the Internet Appendix Table A.1 for more details).

	$\texttt{P}_\text{S}$	$\texttt{P}_2$	$\texttt{P}_3$	$\texttt{P}_4$	$\texttt{P}_\text{L}$	`M6M`	$\texttt{M6M}_\text{net}$
				`Panel A: All Currencies`			
Mean	−0.64	0.77	1.57	2.24	5.17	5.82	4.56
	[−0.51]	[0.65]	[1.37]	[1.91]	[4.49]	[4.98]	[3.88]
Sdev	8.55	7.87	8.04	7.75	7.70	8.38	8.40
Skew	−0.07	0.09	−0.08	−0.21	−0.56	−0.10	−0.11
Kurt	4.58	5.28	5.31	5.16	5.44	3.76	3.75
SR	−0.08	0.10	0.19	0.29	0.67	0.69	0.54
SO	−0.11	0.14	0.27	0.39	0.84	1.04	0.81
AC_1	0.06	0.06	−0.01	0.07	0.06	−0.04	−0.03
Freq	0.28	0.52	0.56	0.52	0.29	0.29	0.29
FXR	−2.89	−1.07	−0.23	−0.40	−2.52	0.37	0.05
IRD	2.25	1.85	1.80	2.63	7.69	5.45	4.50
				`Panel B: Open Capital Account Currencies`			
Mean	−1.11	0.36	1.62	1.45	4.39	5.50	4.67
	[−0.89]	[0.31]	[1.43]	[1.25]	[3.65]	[4.27]	[3.63]
Sdev	8.47	7.97	7.97	7.96	8.45	9.55	9.56
Skew	0.02	0.13	−0.02	−0.65	−0.23	−0.17	−0.18
Kurt	5.54	6.09	5.17	8.44	5.49	4.16	4.17
SR	−0.13	0.04	0.20	0.18	0.52	0.58	0.49
SO	−0.18	0.06	0.30	0.23	0.70	0.85	0.72
AC_1	0.06	0.01	0.01	0.04	−0.01	−0.05	−0.05
Freq	0.30	0.51	0.55	0.52	0.31	0.30	0.30
FXR	−1.49	−0.12	1.04	0.36	0.90	2.39	2.12
IRD	0.37	0.47	0.58	1.09	3.49	3.11	2.55

continued

Table A.10. Portfolios Sorted by 6-month Momentum (*continued*)

	P_S	P_2	P_3	P_4	P_L	M6M	$M6M_{net}$
			Panel C: Floating Regime Currencies				
Mean	0.58	0.59	0.66	1.33	5.77	5.20	3.97
	[0.39]	[0.43]	[0.51]	[0.98]	[3.87]	[3.41]	[2.60]
Sdev	9.94	9.37	8.65	9.15	10.37	10.86	10.87
Skew	0.11	−0.43	−0.17	−0.28	−0.40	−0.40	−0.43
Kurt	3.93	6.99	3.80	4.21	6.02	5.35	5.37
SR	0.06	0.06	0.08	0.15	0.56	0.48	0.37
SO	0.09	0.09	0.11	0.21	0.75	0.66	0.50
AC_1	0.09	0.04	0.05	0.05	0.03	−0.03	−0.03
Freq	0.30	0.54	0.60	0.55	0.33	0.32	0.32
FXR	−1.00	−0.71	−0.59	−1.07	0.12	1.12	0.78
IRD	1.58	1.29	1.26	2.40	5.65	4.07	3.19
			Panel D: High Turnover Currencies				
Mean	−0.75	0.17	1.24	0.77	3.06	3.81	3.17
	[−0.56]	[0.13]	[1.01]	[0.60]	[2.30]	[2.77]	[2.31]
Sdev	9.26	8.78	8.71	8.78	9.19	9.67	9.67
Skew	0.21	−0.16	−0.15	−0.38	−0.40	−0.29	−0.30
Kurt	3.86	4.49	3.92	4.83	5.82	3.71	3.74
SR	−0.08	0.02	0.14	0.09	0.33	0.39	0.33
SO	−0.13	0.03	0.21	0.12	0.44	0.58	0.48
AC_1	0.04	0.06	−0.02	0.05	0.04	0.00	0.00
Freq	0.27	0.55	0.59	0.57	0.34	0.31	0.31
FXR	−1.19	−0.12	0.39	−0.28	0.79	1.99	1.79
IRD	0.45	0.29	0.85	1.06	2.26	1.82	1.39

continued

Table A.10. Portfolios Sorted by 6-month Momentum (*continued*)

	P_S	P_2	P_3	P_4	P_L	M6M	$M6M_{net}$
			Panel E: Developed & Emerging Currencies				
Mean	−0.73	0.90	0.81	1.52	4.17	4.90	4.11
	[−0.52]	[0.69]	[0.64]	[1.08]	[3.02]	[3.66]	[3.07]
Sdev	9.45	9.10	8.84	9.32	9.70	9.58	9.59
Skew	0.02	0.00	−0.27	−0.42	−0.77	−0.43	−0.45
Kurt	3.78	4.42	4.26	5.35	6.57	4.41	4.46
SR	−0.08	0.10	0.09	0.16	0.43	0.51	0.43
SO	−0.12	0.15	0.13	0.23	0.54	0.72	0.60
AC_1	0.05	0.02	0.02	0.08	0.01	−0.03	−0.04
Freq	0.29	0.53	0.60	0.56	0.33	0.31	0.31
FXR	−1.99	0.13	−0.19	−0.17	−1.06	0.93	0.67
IRD	1.26	0.77	1.01	1.68	5.23	3.97	3.45
			Panel F: Developed Currencies				
Mean	−1.02	0.53	1.22	1.44	1.75	2.77	2.14
	[−0.73]	[0.37]	[0.92]	[1.00]	[1.29]	[2.03]	[1.56]
Sdev	9.28	9.92	9.25	9.93	9.57	9.64	9.63
Skew	0.09	0.13	−0.13	−0.35	−0.14	−0.34	−0.36
Kurt	4.00	4.54	3.72	5.09	5.01	4.79	4.85
SR	−0.11	0.05	0.13	0.15	0.18	0.29	0.22
SO	−0.18	0.09	0.20	0.21	0.27	0.41	0.32
AC_1	0.08	0.04	0.02	0.04	0.00	0.00	−0.01
Freq	0.30	0.53	0.58	0.57	0.36	0.33	0.33
FXR	−0.53	0.47	0.88	0.83	0.68	1.21	0.98
IRD	−0.49	0.06	0.34	0.61	1.07	1.56	1.16

Table A.11. Portfolios Sorted by 1-year Momentum

This table presents summary statistics of currency excess returns for five portfolios sorted by their past 1-year excess returns at the end of each month. $\texttt{P}_\text{S}$ contains currencies with the lowest past 1-year excess returns (i.e., losers) and $\texttt{P}_\text{L}$ currencies with the highest past 1-month excess returns (i.e., winners). `M1Y` denotes the 1-year momentum strategy that is long $\texttt{P}_\text{L}$ and short $\texttt{P}_\text{S}$, while $\texttt{M1Y}_\text{net}$ is adjusted for effective bid–ask spreads, set as 25% of quoted spreads. The table reports mean and standard deviation in percent per annum, skewness and kurtosis, Sharpe ratio (*SR*) and Sortino ratio (*SO*) per annum, first order autocorrelation (AC_1), frequency of portfolio switches (*Freq*), average exchange rate return (*FXR*) and average difference between foreign and US interest rates (*IRD*). *t*-stats based on Newey and West (1987) standard errors with Andrews (1991) optimal lag length are reported in brackets. `Open capital account`, `floating regime`, and `high turnover currencies` are identified using Chinn and Ito (2006), Ilzetzki, Reinhart and Rogoff (2019), and historical BIS Triennial Surveys, respectively. `Developed & Emerging` and `Developed Currencies` denote G20 and G10 exchange rates, respectively. Portfolios are rebalanced monthly from January 1976 to July 2025, using sorting signals lagged by one trading day. When past excess returns are unavailable, we use past exchange rate returns for the sorting signal. Spot and 1-month forward rates are from Datastream and LSEG Workspace (see the Internet Appendix Table A.1 for more details).

	$\texttt{P}_\text{S}$	$\texttt{P}_2$	$\texttt{P}_3$	$\texttt{P}_4$	$\texttt{P}_\text{L}$	`M1Y`	$\texttt{M1Y}_\text{net}$
				Panel A: All Currencies			
Mean	−0.14	1.12	1.53	1.58	5.00	5.14	3.89
	[−0.11]	[0.99]	[1.36]	[1.38]	[4.31]	[4.20]	[3.17]
Sdev	8.61	7.83	7.84	7.92	7.64	8.55	8.56
Skew	0.04	0.09	0.00	−0.09	−0.74	−0.38	−0.39
Kurt	5.89	4.93	5.22	5.73	6.06	4.49	4.49
SR	−0.02	0.14	0.20	0.20	0.65	0.60	0.45
SO	−0.02	0.21	0.29	0.28	0.81	0.85	0.63
AC_1	0.10	0.03	0.02	0.04	0.07	0.02	0.02
Freq	0.21	0.41	0.45	0.41	0.20	0.20	0.20
FXR	−2.48	−0.83	−0.23	−0.92	−2.62	−0.14	−0.35
IRD	2.34	1.95	1.76	2.50	7.63	5.28	4.24
				Panel B: Open Capital Account Currencies			
Mean	−0.41	0.48	1.55	1.11	3.88	4.29	3.47
	[−0.30]	[0.44]	[1.31]	[0.97]	[3.53]	[3.15]	[2.55]
Sdev	8.82	7.68	8.17	8.07	7.81	9.57	9.58
Skew	0.07	−0.04	0.10	−0.21	−0.37	−0.30	−0.31
Kurt	6.74	4.64	5.84	6.01	5.92	4.86	4.86
SR	−0.05	0.06	0.19	0.14	0.50	0.45	0.36
SO	−0.06	0.09	0.28	0.18	0.64	0.63	0.51
AC_1	0.09	0.00	0.02	0.00	−0.02	−0.01	−0.01
Freq	0.22	0.40	0.46	0.41	0.22	0.22	0.22
FXR	−0.79	0.16	0.88	0.19	0.30	1.09	0.90
IRD	0.39	0.32	0.67	0.91	3.58	3.20	2.58

continued

Table A.11. Portfolios Sorted by 1-year Momentum (*continued*)

	P_S	P_2	P_3	P_4	P_L	M1Y	$M1Y_{net}$
			Panel C: Floating Regime Currencies				
Mean	0.23	0.90	1.54	1.76	4.00	3.77	2.49
	[0.16]	[0.68]	[1.16]	[1.29]	[2.70]	[2.51]	[1.65]
Sdev	9.82	9.20	8.79	9.44	10.18	10.86	10.87
Skew	−0.05	−0.15	0.03	−0.32	−0.25	−0.18	−0.20
Kurt	4.42	5.45	4.38	5.48	5.37	5.30	5.27
SR	0.02	0.10	0.17	0.19	0.39	0.35	0.23
SO	0.04	0.14	0.27	0.26	0.54	0.49	0.32
AC_1	0.08	0.03	0.05	0.04	0.05	−0.05	−0.05
Freq	0.21	0.44	0.50	0.47	0.27	0.24	0.24
FXR	−1.51	−0.29	0.13	−0.08	−1.97	−0.46	−0.76
IRD	1.74	1.19	1.41	1.83	5.97	4.23	3.24
			Panel D: High Turnover Currencies				
Mean	−0.98	0.27	1.62	1.30	2.53	3.50	2.90
	[−0.71]	[0.21]	[1.28]	[1.04]	[2.01]	[2.52]	[2.09]
Sdev	9.34	9.21	8.92	8.66	8.99	9.93	9.94
Skew	0.12	−0.21	−0.10	−0.32	−0.35	−0.16	−0.17
Kurt	4.01	5.32	4.20	5.07	4.81	3.81	3.81
SR	−0.10	0.03	0.18	0.15	0.28	0.35	0.29
SO	−0.16	0.04	0.27	0.21	0.37	0.53	0.43
AC_1	0.08	0.02	0.02	0.03	−0.03	−0.03	−0.03
Freq	0.20	0.43	0.47	0.45	0.25	0.22	0.22
FXR	−1.58	−0.05	0.83	0.26	0.35	1.94	1.78
IRD	0.60	0.32	0.79	1.03	2.17	1.57	1.12

continued

Table A.11. Portfolios Sorted by 1-year Momentum (*continued*)

	P_S	P_2	P_3	P_4	P_L	M1Y	$M1Y_{net}$
			Panel E: Developed & Emerging Currencies				
Mean	−1.02	0.61	1.90	1.55	3.77	4.79	4.06
	[−0.72]	[0.46]	[1.42]	[1.16]	[2.78]	[3.63]	[3.09]
Sdev	9.55	9.25	8.83	9.42	9.38	9.65	9.65
Skew	−0.07	−0.01	0.01	−0.37	−0.57	−0.24	−0.26
Kurt	4.59	4.80	3.95	5.26	5.27	3.97	3.99
SR	−0.11	0.07	0.22	0.16	0.40	0.50	0.42
SO	−0.16	0.10	0.34	0.23	0.52	0.73	0.62
AC_1	0.07	0.00	0.06	−0.01	0.04	−0.06	−0.06
Freq	0.20	0.41	0.50	0.45	0.24	0.22	0.22
FXR	−2.43	−0.12	0.60	0.20	−1.36	1.07	0.89
IRD	1.41	0.72	1.31	1.34	5.13	3.72	3.18
			Panel F: Developed Currencies				
Mean	−1.10	0.73	1.59	0.89	1.56	2.67	2.08
	[−0.76]	[0.51]	[1.12]	[0.64]	[1.18]	[1.94]	[1.52]
Sdev	9.35	10.04	9.38	9.98	9.33	9.88	9.88
Skew	0.05	−0.04	−0.01	−0.23	−0.13	−0.07	−0.09
Kurt	4.14	4.51	3.91	4.63	4.46	5.11	5.14
SR	−0.12	0.07	0.17	0.09	0.17	0.27	0.21
SO	−0.18	0.11	0.27	0.13	0.25	0.40	0.31
AC_1	0.10	0.03	0.05	−0.02	−0.01	−0.04	−0.04
Freq	0.24	0.43	0.47	0.47	0.26	0.25	0.25
FXR	−0.52	0.79	1.06	0.52	0.24	0.76	0.59
IRD	−0.58	−0.05	0.53	0.38	1.32	1.91	1.49

Table A.12. Portfolios Sorted by Global Volatility Beta

This table presents summary statistics of currency excess returns for five portfolios sorted by their exposure to global volatility at the end of each month. Global volatility is constructed as the cross-currency average of monthly realized volatility. while currency exposure corresponds to the beta from 36-month rolling regressions of exchange rate returns on global volatility. $\texttt{P}_\text{S}$ contains currencies with the highest betas (i.e., low volatility risk) and $\texttt{P}_\text{L}$ currencies with the lowest beta (i.e., high volatility risk)). `VOL` denotes the volatility strategy that is long $\texttt{P}_\text{L}$ and short $\texttt{P}_\text{S}$, while $\texttt{VOL}_\text{net}$ is adjusted for effective bid–ask spreads, set as 25% of quoted spreads. The table reports mean and standard deviation in percent per annum, skewness and kurtosis, Sharpe ratio (*SR*) and Sortino ratio (*SO*) per annum, first order autocorrelation (AC_1), frequency of portfolio switches (*Freq*), average exchange rate return (*FXR*) and average difference between foreign and US interest rates (*IRD*). *t*-stats based on Newey and West (1987) standard errors with Andrews (1991) optimal lag length are reported in brackets. `Open capital account`, `floating regime`, and `high turnover currencies` are identified using Chinn and Ito (2006), Ilzetzki, Reinhart and Rogoff (2019), and historical BIS Triennial Surveys, respectively. `Developed & Emerging` and `Developed Currencies` denote G20 and G10 exchange rates, respectively. Portfolios are rebalanced monthly from January 1976 to July 2025, using sorting signals lagged by one trading day. Spot and 1-month forward rates are from Datastream and LSEG Workspace (see the Internet Appendix Table A.1 for more details).

	$\texttt{P}_\text{L}$	$\texttt{P}_2$	$\texttt{P}_3$	$\texttt{P}_4$	$\texttt{P}_\text{L}$	`VOL`	$\texttt{VOL}_\text{net}$
				`Panel A: All Currencies`			
Mean	1.33	1.47	1.18	1.91	3.52	2.19	0.95
	[1.12]	[1.30]	[1.04]	[1.54]	[2.36]	[1.64]	[0.71]
Sdev	7.71	7.53	8.02	8.19	9.41	9.08	9.11
Skew	0.12	−0.15	−0.02	−0.27	−0.37	−0.44	−0.44
Kurt	4.84	5.15	5.62	5.58	4.59	4.07	4.07
SR	0.17	0.20	0.15	0.23	0.37	0.24	0.10
SO	0.25	0.27	0.21	0.32	0.51	0.33	0.14
AC_1	0.07	0.05	0.01	0.06	0.12	0.07	0.07
Freq	0.12	0.25	0.27	0.24	0.12	0.12	0.12
FXR	−0.06	−0.59	−1.28	−1.27	−3.57	−3.50	−3.63
IRD	1.39	2.07	2.46	3.18	7.09	5.70	4.59
				`Panel B: Open Capital Account Currencies`			
Mean	0.90	0.67	1.16	1.24	2.71	1.81	1.06
	[0.78]	[0.62]	[0.96]	[1.05]	[1.61]	[1.20]	[0.70]
Sdev	8.03	7.67	8.41	8.37	10.21	10.38	10.38
Skew	0.25	0.11	−0.17	−0.60	−0.26	−0.47	−0.48
Kurt	5.06	5.83	5.93	8.46	5.07	4.87	4.86
SR	0.11	0.09	0.14	0.15	0.27	0.17	0.10
SO	0.17	0.12	0.19	0.19	0.37	0.23	0.13
AC_1	0.03	−0.01	0.03	−0.02	0.17	0.05	0.05
Freq	0.14	0.24	0.26	0.24	0.12	0.13	0.13
FXR	0.83	0.62	0.24	0.10	−1.36	−2.19	−2.31
IRD	0.07	0.05	0.92	1.13	4.07	4.00	3.37

continued

Table A.12. Portfolios Sorted by Global Volatility Beta (*continued*)

	P_L	P_2	P_3	P_4	P_L	VOL	VOL_{net}
			Panel C: Floating Regime Currencies				
Mean	1.18	1.39	1.35	1.33	4.08	2.90	1.61
	[0.85]	[1.07]	[0.98]	[0.85]	[2.38]	[1.79]	[0.99]
Sdev	8.69	8.85	9.68	9.96	11.79	11.36	11.43
Skew	−0.01	0.36	−0.22	−0.45	−0.33	−0.38	−0.42
Kurt	3.39	4.58	7.04	5.63	4.91	5.41	5.61
SR	0.14	0.16	0.14	0.13	0.35	0.25	0.14
SO	0.22	0.26	0.19	0.18	0.48	0.35	0.19
AC_1	0.10	0.05	0.00	0.09	0.04	0.00	0.00
Freq	0.12	0.24	0.29	0.23	0.11	0.11	0.11
FXR	0.63	0.43	−1.20	−1.64	−1.17	−1.80	−1.92
IRD	0.55	0.97	2.55	2.97	5.24	4.69	3.53
			Panel D: High Turnover Currencies				
Mean	0.10	0.82	1.00	0.79	1.05	0.95	0.37
	[0.09]	[0.65]	[0.76]	[0.59]	[0.71]	[0.66]	[0.26]
Sdev	8.41	8.72	9.18	9.27	10.27	9.98	9.98
Skew	0.05	−0.03	−0.39	−0.36	0.03	0.04	0.03
Kurt	3.63	4.14	4.85	5.60	4.75	4.54	4.52
SR	0.01	0.09	0.11	0.08	0.10	0.09	0.04
SO	0.02	0.14	0.15	0.11	0.15	0.14	0.06
AC_1	0.04	0.03	0.02	0.04	0.02	0.02	0.03
Freq	0.13	0.25	0.28	0.26	0.12	0.12	0.12
FXR	0.98	0.60	−0.47	−0.72	−1.77	−2.75	−2.84
IRD	−0.87	0.22	1.47	1.51	2.82	3.69	3.21

continued

Table A.12. Portfolios Sorted by Global Volatility Beta (*continued*)

	P_L	P_2	P_3	P_4	P_L	VOL	VOL_{net}
			Panel E: Developed & Emerging Currencies				
Mean	0.65	1.01	1.30	0.63	2.69	2.04	1.34
	[0.49]	[0.81]	[0.96]	[0.41]	[1.67]	[1.44]	[0.94]
Sdev	8.82	8.64	9.05	10.09	10.27	9.82	9.84
Skew	0.14	−0.13	−0.25	−0.54	−0.25	−0.40	−0.40
Kurt	3.46	4.54	4.96	5.70	4.47	3.89	3.89
SR	0.07	0.12	0.14	0.06	0.26	0.21	0.14
SO	0.12	0.17	0.20	0.08	0.38	0.29	0.19
AC_1	0.05	0.03	0.05	0.07	0.09	0.03	0.03
Freq	0.12	0.25	0.27	0.23	0.11	0.12	0.12
FXR	0.72	−0.09	−0.29	−1.34	−2.22	−2.94	−3.04
IRD	−0.07	1.10	1.59	1.97	4.91	4.98	4.37
			Panel F: Developed Currencies				
Mean	−0.07	0.40	0.64	−0.06	1.69	1.75	1.17
	[−0.05]	[0.30]	[0.46]	[−0.04]	[1.11]	[1.23]	[0.82]
Sdev	9.43	9.45	9.49	10.13	10.16	9.94	9.96
Skew	0.16	0.10	−0.05	−0.41	0.00	−0.51	−0.53
Kurt	3.29	4.32	3.73	5.14	5.05	5.48	5.46
SR	−0.01	0.04	0.07	−0.01	0.17	0.18	0.12
SO	−0.01	0.07	0.10	−0.01	0.25	0.24	0.16
AC_1	0.07	0.00	0.04	0.05	0.06	0.03	0.03
Freq	0.10	0.20	0.23	0.21	0.10	0.10	0.10
FXR	1.26	0.54	0.26	−0.79	−0.04	−1.30	−1.37
IRD	−1.33	−0.14	0.37	0.73	1.73	3.05	2.54

Table A.13. Portfolios Sorted by Global Skewness Beta

This table presents summary statistics of currency excess returns for five portfolios sorted by their exposure to global skewness at the end of each month. Global skewness is constructed as the cross-currency average of monthly realized skewness, each signed by its lagged forward premium, while currency exposure corresponds to the beta from 36-month rolling regressions of exchange rate returns on global skewness. $\texttt{P}_\text{S}$ contains currencies with the lowest betas (i.e., low downside risk) and $\texttt{P}_\text{L}$ currencies with the highest beta (i.e., high downside risk). `SKEW` denotes the skewness strategy that is long $\texttt{P}_\text{L}$ and short $\texttt{P}_\text{S}$, while $\texttt{SKEW}_\text{net}$ is adjusted for effective bid–ask spreads, set as 25% of quoted spreads. The table reports mean and standard deviation in percent per annum, skewness and kurtosis, Sharpe ratio (*SR*) and Sortino ratio (*SO*) per annum, first order autocorrelation (AC_1), frequency of portfolio switches (*Freq*), average exchange rate return (*FXR*) and average difference between foreign and US interest rates (*IRD*). *t*-stats based on Newey and West (1987) standard errors with Andrews (1991) optimal lag length are reported in brackets. `Open capital account`, `floating regime`, and `high turnover currencies` are identified using Chinn and Ito (2006), Ilzetzki, Reinhart and Rogoff (2019), and historical BIS Triennial Surveys, respectively. `Developed & Emerging` and `Developed Currencies` denote G20 and G10 exchange rates, respectively. Portfolios are rebalanced monthly from January 1976 to July 2025, using sorting signals lagged by one trading day. Spot and 1-month forward rates are from Datastream and LSEG Workspace (see the Internet Appendix Table A.1 for more details).

	$\texttt{P}_\text{S}$	$\texttt{P}_2$	$\texttt{P}_3$	$\texttt{P}_4$	$\texttt{P}_\text{L}$	SKEW	$\texttt{SKEW}_\text{net}$
				Panel A: All Currencies			
Mean	−0.18	2.18	1.90	1.48	4.05	4.23	3.07
	[−0.17]	[1.93]	[1.60]	[1.13]	[2.72]	[3.17]	[2.30]
Sdev	6.25	7.39	8.36	9.23	9.82	9.20	9.20
Skew	−0.31	−0.09	−0.24	−0.16	−0.16	0.07	0.07
Kurt	4.90	5.13	5.30	4.75	4.21	3.76	3.73
SR	−0.03	0.30	0.23	0.16	0.41	0.46	0.33
SO	−0.04	0.41	0.32	0.22	0.60	0.74	0.53
AC_1	0.14	0.08	0.01	0.01	0.08	0.04	0.04
Freq	0.08	0.17	0.22	0.21	0.10	0.09	0.09
FXR	−1.84	−0.88	−0.28	−1.29	−2.33	−0.50	−0.60
IRD	1.66	3.06	2.19	2.77	6.38	4.72	3.67
				Panel B: Open Capital Account Currencies			
Mean	−1.12	2.54	1.09	0.65	3.45	4.57	3.90
	[−1.18]	[2.14]	[0.87]	[0.50]	[2.19]	[3.22]	[2.75]
Sdev	6.12	7.82	8.79	9.24	10.26	9.82	9.82
Skew	−0.09	0.17	−0.31	−0.16	−0.03	0.01	0.01
Kurt	5.53	6.39	5.77	4.55	5.06	4.10	4.09
SR	−0.18	0.32	0.12	0.07	0.34	0.47	0.40
SO	−0.23	0.48	0.17	0.10	0.49	0.73	0.62
AC_1	0.12	0.08	−0.01	−0.02	0.09	0.06	0.06
Freq	0.08	0.17	0.21	0.20	0.10	0.09	0.09
FXR	−1.20	1.78	0.51	−0.29	−0.22	0.98	0.90
IRD	0.08	0.76	0.58	0.94	3.68	3.59	3.01

continued

Table A.13. Portfolios Sorted by Global Skewness Beta (*continued*)

	P_S	P_2	P_3	P_4	P_L	SKEW	$SKEW_{net}$
			Panel C: Floating Regime Currencies				
Mean	0.99	2.00	−0.33	1.51	4.87	3.88	2.58
	[0.71]	[1.50]	[−0.23]	[1.05]	[2.92]	[2.41]	[1.60]
Sdev	8.71	8.67	9.68	10.01	11.29	11.14	11.14
Skew	−0.26	0.03	−0.35	−0.22	0.04	0.41	0.33
Kurt	5.18	4.54	5.14	4.47	4.45	5.16	4.98
SR	0.11	0.23	−0.03	0.15	0.43	0.35	0.23
SO	0.17	0.36	−0.05	0.22	0.67	0.59	0.38
AC_1	0.10	0.10	0.05	0.03	0.05	0.04	0.03
Freq	0.12	0.20	0.24	0.21	0.11	0.11	0.11
FXR	−0.68	0.54	−1.80	−0.43	0.22	0.89	0.75
IRD	1.66	1.46	1.47	1.95	4.65	2.99	1.83
			Panel D: High Turnover Currencies				
Mean	−1.11	0.86	1.28	0.57	2.64	3.75	3.21
	[−1.08]	[0.64]	[0.95]	[0.38]	[1.73]	[2.54]	[2.17]
Sdev	6.55	9.08	9.42	10.34	10.52	10.00	10.02
Skew	−0.19	−0.24	−0.16	−0.41	−0.06	0.23	0.21
Kurt	3.96	4.99	4.24	4.43	4.09	4.28	4.27
SR	−0.17	0.09	0.14	0.06	0.25	0.37	0.32
SO	−0.24	0.14	0.20	0.08	0.37	0.62	0.52
AC_1	0.09	0.06	0.00	0.03	0.05	0.07	0.07
Freq	0.09	0.19	0.23	0.20	0.08	0.08	0.08
FXR	−0.96	0.94	0.28	−0.87	−0.58	0.38	0.31
IRD	−0.15	−0.08	1.00	1.44	3.22	3.37	2.90

continued

Table A.13. Portfolios Sorted by Global Skewness Beta (*continued*)

	P_S	P_2	P_3	P_4	P_L	SKEW	$SKEW_{net}$
			Panel E: Developed & Emerging Currencies				
Mean	0.62	1.36	−0.38	0.60	4.83	4.21	3.54
	[0.47]	[1.02]	[−0.27]	[0.43]	[3.53]	[3.20]	[2.69]
Sdev	8.51	9.24	9.38	9.77	9.62	9.26	9.28
Skew	0.11	−0.18	−0.21	−0.20	−0.19	−0.20	−0.21
Kurt	3.46	4.52	4.16	4.90	4.50	3.43	3.46
SR	0.07	0.15	−0.04	0.06	0.50	0.45	0.38
SO	0.12	0.22	−0.06	0.09	0.74	0.70	0.59
AC_1	0.10	0.04	0.05	0.04	0.01	−0.01	−0.01
Freq	0.08	0.18	0.23	0.20	0.09	0.09	0.09
FXR	1.42	−0.05	−2.46	−1.94	−0.26	−1.68	−1.75
IRD	−0.80	1.41	2.08	2.54	5.09	5.89	5.30
			Panel F: Developed Currencies				
Mean	−0.16	0.37	0.05	0.92	2.41	2.56	2.02
	[−0.11]	[0.28]	[0.04]	[0.64]	[1.81]	[2.07]	[1.63]
Sdev	9.21	9.42	9.86	9.93	9.23	8.70	8.71
Skew	0.07	−0.04	−0.08	−0.07	−0.01	−0.01	−0.02
Kurt	3.74	3.77	3.82	4.52	4.81	3.48	3.51
SR	−0.02	0.04	0.01	0.09	0.26	0.29	0.23
SO	−0.03	0.06	0.01	0.14	0.39	0.48	0.38
AC_1	0.08	0.03	0.03	0.02	0.02	0.00	0.00
Freq	0.11	0.20	0.17	0.14	0.06	0.09	0.09
FXR	0.98	0.40	−0.16	−0.27	0.59	−0.39	−0.45
IRD	−1.14	−0.03	0.22	1.19	1.82	2.95	2.47

Table A.14. Portfolios Sorted by Global Kurtosis Beta

This table presents summary statistics of currency excess returns for five portfolios sorted by their exposure to global kurtosis at the end of each month. Global kurtosis is constructed as the cross-currency average of monthly realized kurtosis, while currency exposure corresponds to the beta from 36-month rolling regressions of exchange rate returns on global kurtosis. $\texttt{P}_\text{S}$ contains currencies with the highest betas (i.e., low tail risk) and $\texttt{P}_\text{L}$ currencies with the lowest beta (i.e., high tail risk). `KURT` denotes the kurtosis strategy that is long $\texttt{P}_\text{L}$ and short $\texttt{P}_\text{S}$, while $\texttt{KURT}_\text{net}$ is adjusted for effective bid–ask spreads, set as 25% of quoted spreads. The table reports mean and standard deviation in percent per annum, skewness and kurtosis, Sharpe ratio (*SR*) and Sortino ratio (*SO*) per annum, first order autocorrelation (AC_1), frequency of portfolio switches (*Freq*), average exchange rate return (*FXR*) and average difference between foreign and US interest rates (*IRD*). *t*-stats based on Newey and West (1987) standard errors with Andrews (1991) optimal lag length are reported in brackets. `Open capital account`, `floating regime`, and `high turnover currencies` are identified using Chinn and Ito (2006), Ilzetzki, Reinhart and Rogoff (2019), and historical BIS Triennial Surveys, respectively. `Developed & Emerging` and `Developed Currencies` denote G20 and G10 exchange rates, respectively. Portfolios are rebalanced monthly from January 1976 to July 2025, using sorting signals lagged by one trading day. Spot and 1-month forward rates are from Datastream and LSEG Workspace (see the Internet Appendix Table A.1 for more details).

	$\texttt{P}_\text{S}$	$\texttt{P}_2$	$\texttt{P}_3$	$\texttt{P}_4$	$\texttt{P}_\text{L}$	`KURT`	$\texttt{KURT}_\text{net}$
				`Panel A: All Currencies`			
Mean	2.14	1.27	1.53	1.79	2.58	0.44	−0.83
	[1.79]	[0.98]	[1.29]	[1.66]	[2.11]	[0.42]	[−0.77]
Sdev	8.29	8.12	8.22	7.43	7.98	7.56	7.57
Skew	−0.17	−0.21	−0.17	−0.07	−0.37	−0.25	−0.28
Kurt	4.62	4.33	5.48	5.36	5.00	4.20	4.22
SR	0.26	0.16	0.19	0.24	0.32	0.06	−0.11
SO	0.36	0.22	0.25	0.33	0.43	0.08	−0.16
AC_1	0.03	0.10	0.03	0.04	0.08	−0.02	−0.02
Freq	0.13	0.25	0.28	0.25	0.13	0.13	0.13
FXR	−0.73	−0.90	−1.22	−0.49	−3.57	−2.84	−2.98
IRD	2.86	2.17	2.75	2.28	6.15	3.28	2.15
				`Panel B: Open Capital Account Currencies`			
Mean	1.34	0.98	1.73	0.72	1.83	0.49	−0.25
	[1.11]	[0.77]	[1.40]	[0.65]	[1.27]	[0.39]	[−0.20]
Sdev	8.47	8.50	8.10	7.80	8.89	8.82	8.82
Skew	−0.15	−0.16	0.04	−0.11	−0.25	−0.26	−0.28
Kurt	5.37	5.35	4.46	5.85	5.73	4.92	4.94
SR	0.16	0.12	0.21	0.09	0.21	0.06	−0.03
SO	0.22	0.16	0.32	0.12	0.28	0.08	−0.04
AC_1	−0.01	0.06	0.08	−0.02	0.10	0.03	0.03
Freq	0.15	0.27	0.29	0.24	0.14	0.14	0.14
FXR	−0.08	0.25	1.15	0.25	−0.77	−0.69	−0.82
IRD	1.41	0.74	0.58	0.47	2.60	1.18	0.57

continued

Table A.14. Portfolios Sorted by Global Kurtosis Beta (*continued*)

	P_S	P_2	P_3	P_4	P_L	KURT	$KURT_{net}$
				Panel C: Floating Regime Currencies			
Mean	3.43	0.72	2.04	−0.58	2.69	−0.74	−2.06
	[2.55]	[0.51]	[1.52]	[−0.39]	[1.62]	[−0.52]	[−1.43]
Sdev	9.32	9.27	9.20	9.76	10.64	9.93	9.97
Skew	0.07	−0.13	−0.04	−0.63	−0.08	−0.22	−0.25
Kurt	3.72	4.07	4.50	6.06	4.87	4.63	4.56
SR	0.37	0.08	0.22	−0.06	0.25	−0.07	−0.21
SO	0.59	0.12	0.33	−0.08	0.37	−0.11	−0.29
AC_1	0.03	0.07	0.04	0.07	0.09	0.03	0.04
Freq	0.16	0.28	0.30	0.26	0.13	0.14	0.14
FXR	0.99	−0.47	0.81	−3.04	−1.14	−2.13	−2.30
IRD	2.44	1.19	1.23	2.46	3.83	1.39	0.23
				Panel D: High Turnover Currencies			
Mean	1.29	0.55	1.64	0.51	−0.71	−2.00	−2.61
	[1.09]	[0.38]	[1.23]	[0.39]	[−0.51]	[−1.60]	[−2.10]
Sdev	8.41	9.11	9.20	9.11	9.58	8.75	8.75
Skew	−0.22	−0.22	−0.03	−0.28	−0.23	0.15	0.12
Kurt	4.60	3.76	4.16	5.68	4.90	3.93	3.91
SR	0.15	0.06	0.18	0.06	−0.07	−0.23	−0.30
SO	0.22	0.09	0.27	0.08	−0.10	−0.36	−0.47
AC_1	−0.02	0.12	0.05	−0.02	0.02	−0.02	−0.01
Freq	0.14	0.27	0.28	0.26	0.14	0.14	0.14
FXR	0.04	−0.40	0.91	0.19	−2.13	−2.17	−2.28
IRD	1.25	0.95	0.73	0.32	1.42	0.17	−0.33

continued

Table A.14. Portfolios Sorted by Global Kurtosis Beta (*continued*)

	P_S	P_2	P_3	P_4	P_L	KURT	$KURT_{net}$
			Panel E: Developed & Emerging Currencies				
Mean	1.75	1.96	0.27	0.77	1.25	−0.50	−1.17
	[1.35]	[1.42]	[0.21]	[0.57]	[0.86]	[−0.40]	[−0.94]
Sdev	8.70	9.26	9.04	9.44	9.48	8.66	8.66
Skew	−0.23	−0.23	−0.05	−0.25	−0.19	0.14	0.13
Kurt	4.09	4.06	4.31	4.86	4.57	4.47	4.45
SR	0.20	0.21	0.03	0.08	0.13	−0.06	−0.13
SO	0.31	0.31	0.05	0.11	0.19	−0.09	−0.21
AC_1	0.06	0.05	0.03	0.01	0.07	0.02	0.02
Freq	0.13	0.27	0.28	0.25	0.13	0.13	0.13
FXR	0.08	0.44	−1.36	−0.60	−1.80	−1.88	−1.98
IRD	1.66	1.52	1.63	1.37	3.05	1.38	0.82
			Panel F: Developed Currencies				
Mean	1.00	0.56	0.73	0.29	0.37	−0.63	−1.19
	[0.76]	[0.42]	[0.50]	[0.19]	[0.26]	[−0.50]	[−0.94]
Sdev	8.94	9.38	9.91	10.19	9.57	8.90	8.90
Skew	0.15	−0.09	−0.12	−0.13	−0.07	0.06	0.04
Kurt	4.02	3.87	3.98	5.05	4.10	4.31	4.26
SR	0.11	0.06	0.07	0.03	0.04	−0.07	−0.13
SO	0.19	0.09	0.11	0.04	0.06	−0.11	−0.21
AC_1	0.06	0.00	0.06	0.02	0.07	0.01	0.01
Freq	0.13	0.27	0.28	0.24	0.13	0.13	0.13
FXR	1.26	0.46	0.06	0.06	−0.40	−1.66	−1.75
IRD	−0.26	0.10	0.67	0.23	0.77	1.03	0.56