U.S. Populist Rhetoric and Currency Returns

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Abstract

We develop a novel measure of U.S. populist rhetoric by extending an existing populist dictionary to capture the new form of populism via social media. Aggregate Populist Rhetoric (APR) Index spikes around well-known events that spur populist sentiment. We show that APR Index is priced in the cross-section of currency excess returns. Currencies that perform well (badly) when U.S. populist rhetoric is high yield low (high) expected excess returns. Investors require a risk premium for holding currencies that underperform in times of rising U.S. populist rhetoric. Centrality in a trade network partly explains our results and why friction to globalization in the form of populism affects the cross-section of currency returns.

Keywords: populism, foreign exchange market, textual analysis.

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"There is a historic battle going on across the west, in Europe, America, and elsewhere. It is globalism against populism. And you may loathe populism, but I'll tell you a funny thing. It is becoming very popular! And it has great benefits." Nigel Farage (2020)

1 Introduction

'Populism' was the Word of the year in 2017 based on the word searches in Cambridge University Press. This confirms the enormous public attention surrounding this topic following a range of recent unexpected political events worldwide, such as the election of Donald Trump as the 45th president of the U.S. or the U.K.'s vote to exit from the European Union. A rapidly growing number of papers have investigated populism and its consequences, mostly in political science and economics literature (see, for example, Guriev and Papaioannou (2022)). However, its effect on financial markets remains unexplored.[1] One of the key challenges to conducting empirical work remains to be quantifying this somewhat elusive concept in a relatively high-frequency (e.g., monthly data) environment to assess the asset pricing implications.

In the foreign exchange market, currencies issued on behalf of sovereign entities are intertwined with politics (e.g., the effect of Brexit on the British Pound).[2] The high trading volume and globally integrated characteristics make the foreign exchange market particularly sensitive to global events. The political climate in the U.S. should be of particular relevance for this market due to the size and importance of the U.S. economy and the intensive use of USD as a vehicle currency (Maggiori, Neiman, and Schreger (2019)). The victory of Donald Trump in the 2016 U.S. presidential election gives us a perfect example showing the extent to which U.S. politics, in general, and contemporary U.S. populism

[1] One exception is the theory proposed by Pástor and Veronesi (2021), which we discuss in detail to motivate our empirical analysis.

[2] The foreign exchange market is the biggest asset market in the world in terms of the trading volume. More than 6.6 trillion USD are traded on average every day based on the BIS (2019) survey.

(Hawkins and Littvay, 2019), can impact the foreign exchange market. Following the election outcome, the Mexican Peso hit its lowest performance against the USD in 20 years. However, some currencies, such as British Pound, showed resilience against the USD, reaching its best fortnight performance in eight years at some point during that period. This motivates us to investigate the question as to how U.S. populism, which is a growing political tendency and arguably with a broader audience thanks to the use of social media, is linked to the cross-section of currency excess returns.

The main contribution of our paper to the literature is twofold. First, we construct a novel index of U.S. populism by assessing the overall populist rhetoric reported by the leading U.S. newspaper - The New York Times. Some ongoing large-scale projects are trying to quantify populism by measuring populist characteristics of specific political leaders based on campaign speeches (Hawkins, Aguilar, Silva, Jenne, Kocijan, and Kaltwasser 2019; TeamPopulism 2023) or the demand for populism based on vote shares for populist leaders or parties (Bayerlein, Funke, and Trebesch (2019); Rooduijn, Van Kessel, Froio, Pirro, De Lange, Halikiopoulou, Lewis, Mudde, and Taggart (2019)). We differentiate our work from those projects as we aim to assess the populist rhetoric in U.S. politics using leading newspapers, not the populist characteristics of any particular political leader or party. Although "populism" has become the catchword in current global affairs, it is not easy to define (Mudde (2004)), and it can be found in all ideological cleavages, including left or right-wing politics. In more recent work, Müller (2017) highlights a prominent feature of populism: "anti, such as anti-pluralist, anti-establishment, anti-globalization, and anti-immigration. Several papers propose some limitations of defining populism as an ideology (Gidron and Bonikowski 2013, Aslanidis 2016). Populist characteristic of political actors or parties is likely to vary over time, whereas their ideologies are much more stable. Therefore, considering populism as an ideology limits the ability to capture the time variation of this concept. Hence, we consider populism as a political style or rhetoric (Jagers and Walgrave (2007), Bonikowski and Gidron (2015)).

We follow the methodology in Baker, Bloom, and Davis (2016) to construct our Aggregate Populist Rhetoric (APR) Index. In particular, we start with an already existing dictionary containing populist terms constructed by Bonikowski and Gidron (2015) to identify populist articles, which contain terms in this dictionary from the New York Times (Jan 1984 - Dec 2020) and five major newspapers, including The Washington Post, The New York Daily News, The New York Post, USA Today, and The New York Times (Jan 2000 - Dec 2020). We extend the populist dictionary using bi-term topic modeling (Yan, Guo, Lan, and Cheng, 2013; Filippou, Gozluklu, T Nguyen, and Viswanath-Natraj, 2021) with Donald Trump's Twitter data both during his candidacy and presidency. We label the populist rhetoric index based on the dictionary containing terms from tweets as 'Populism 2.0' following the literature on the interaction of populism and the use of social media (Gerbaudo, 2018; Kioupkiolis, 2019). The APR index is based on the augmented dictionary containing terms from both Bonikowski and Gidron (2015) dictionary and the terms we identify from Trump tweets. We construct the populist rhetoric indices by scaling the raw count of populist articles by the number of politics and economics articles reported by The New York Times (and four other newspapers in the recent sample). Our APR Index spikes around key events featuring populism in the U.S. politics, such as Ross Perot's presidential campaign, Seattle WTO protests, the Tea Party movement, and Donald Trump's presidency.

Second, our paper is the first major empirical work to investigate the link between populism and the foreign exchange market to the best of our knowledge. Our empirical analysis is guided by the theory put forward by Pástor and Veronesi (2021). According to the model, an expectation of a populist regime, that is, a shift from globalization to autarky results in higher valuations in U.S. stock and bond markets through a risk channel. However, the model in its original form has no predictions about the foreign exchange market. We extend the idea of these valuation effects to the currency market and explore the channels through which changes in populist rhetoric in the U.S. media affect foreign exchange markets.

Currencies with negative U.S. populist rhetoric beta yield low excess returns in times of rising U.S. populist rhetoric. Hence they are considered relatively risky assets by U.S. investors. By contrast, currencies with positive exposure to U.S. populist rhetoric beta yield high excess returns when U.S. populist rhetoric is high so that investors can see them as a hedge against U.S. populist rhetoric. Therefore investors demand higher expected returns for holding currencies with low U.S. populist rhetoric beta and are willing to pay higher prices and accept lower returns from currencies with high U.S. populist rhetoric beta. We demonstrate the economic value of such exposure via a trading strategy that buys (sells) currencies with low (high) exposure to U.S. populism. We rationalize our findings within the models that highlight the important role of gravity effect in determining the currency return factor structure (Hassan, Loualiche, Reggi Pecora, and Ward, 2022; Lustig and Richmond, 2020; Richmond, 2019). In particular, we show that U.S. populist rhetoric betas are positively correlated with countries' centrality in the global trade network.[3] Peripheral countries are most vulnerable to an increase in populist rhetoric in the U.S. media and hence offer a higher currency risk premium.

We also examine the robustness of our results after controlling for other determinants of currency premia and find similar results. In particular, portfolio sorts are nonparametric as we do not impose a functional form in the relation between the U.S. populist rhetoric beta and future currency excess returns. On the other hand, portfolio analysis does not take into consideration a large part of the information in the cross-section because of aggregation, and it is more challenging to control for other factors that simultaneously drive the cross-section of currency returns (e.g., Bali, Brown, and Tang, 2017). To this end, we also investigate the cross-sectional predictive ability of the U.S. populist rhetoric beta for expected currency returns at the currency level by applying Fama and MacBeth (1973) regressions. We control for FX volatility and FX illiquidity. Consistent with our previous

[3]U.S. populist rhetoric betas are also positively correlated with the distance to the U.S. country size, globalization index, and negatively correlated with the country populism score. However, trade network centrality seems to have the dominant effect.

findings, we find that the U.S. populist rhetoric beta is a strong negative predictor of the cross-section of currency returns.

In the Pástor and Veronesi (2021) model, a shift to a populist regime is captured by a move to autarky from globalization. To validate our measure of populist rhetoric, we also test its sensitivity through a firm's exposure to globalization. We measure exposure to globalization using equity data following Barrot, Loualiche, and Sauvagnat (2019) and then sort stock returns of U.S. manufacturing firms into quintiles based on shipping costs. Firms in the low (high) shipping cost portfolio are more (less) exposed to globalization. We show that there is a positive correlation between the low shipping cost portfolio returns and APR Index. This is consistent with the rationale that an increase in the APR Index signals a switch from integrated markets to autarky in the U.S., so firms with high exposure to globalization should offer a higher return as compensation for the risk of a U.S. populist regime. Importantly, we find an almost monotonically decreasing pattern as we go from most integrated to least integrated firms. In other words, holding a portfolio of firms with low exposure to globalization offers a hedge in times of rising U.S. populist rhetoric.

We also perform additional robustness tests, and our results still hold. In particular, we control for additional factors that drive the cross-section of currency returns, such as a dollar factor and a carry trade factor, and find similar results. We also conduct Fama-Macbeth asset pricing tests and three-pass Fama-Macbeth regressions (Giglio and Xiu, 2021) and find that the APR factor is priced in the cross-section of currency returns. A three-factor model (Nucera, Sarno, and Zinna, 2022) including APR, carry, and momentum improves the pricing performance of the benchmark three-factor model consisting of the dollar, carry, and momentum factors. Our results are robust when we consider transaction costs.

The rest of the paper is structured as follows. Section 2 summarizes related literature. Section 3 outlines the theoretical framework for our empirical work in detail. Section 4 describes the methodology implemented to extend the dictionary to 'Populism 2.0' and to construct the APR Index Section 5 describes the data and portfolio construction. Section 6

discusses the empirical findings. Section 7 discussed the relationship between globalization and U.S. populist rhetoric. Section 8 offers robustness checks. Section 9 concludes.

2 Literature Review

Our paper is related to several strands of literature. First, it is closely related to political science literature investigating different methodologies to measure populism. The traditional approach is to apply the populist label without any systematic empirical justifications (Hawkins 2009). Alternatively, one can assess populism on a scale basis rather than classifying political parties or actors as *populist*. Textual analysis has been a popular method to measure populism because the input is usually spoken or written statements by political actors. The majority of papers rely on classical manual textual analysis (Jagers and Walgrave 2007, Rooduijn and Pauwels 2011, Balcere 2014, Bos and Brants 2014) to measure populism. The labor-intensive nature of human coding significantly limits the sample size and raises reliability issues. Therefore a growing number of papers have shifted their approach to computer-based textual analysis, which is also widely used in economics. For example, Baker et al. (2016) constructs economic policy uncertainty indices by counting the number of uncertainty-related words in newspaper articles. Caldara and Iacoviello (2022) also follow a similar methodology, but their interest is in a different type of risk, which is geopolitical risk. None of these papers focus on the rising political tendency in the form of populist rhetoric.

Rhodes and Johnson (2017) use a dictionary to identify statements mentioning the wealthy from Democratic presidential campaigns speeches, then create an index of frequency of these statements over time, and analyze the tone of these statements. Its limitation is the narrow focus on left-wing populism. Rooduijn and Pauwels (2011) develop a dictionary containing anti-elitism words and count the frequency of these words as an index of populism. Bonikowski and Gidron (2015), on the other hand, developed a dictionary of

populist terms based on more than 2,400 U.S. presidential campaign speeches between 1952 and 1996. By employing a sophisticated algorithm to construct this dictionary, the authors capture general and U.S.-specific context words and validate their dictionary by manually reading 40.1% of their total dataset and hand-coding excerpts from 890 speeches. These merits of their populist dictionary make it an ideal starting point for our purpose of searching for newspaper articles with populist rhetoric. However, one shortcoming of the dictionary is that it does not include in its corpus short texts from a new form of campaigning through social media (Gerbaudo, 2018; Kioupkiolis, 2019). Therefore we extend the populist dictionary using bi-term topic modeling (Yan et al., 2013; Filippou et al., 2021) with Donald Trump's Twitter data both during his candidacy and presidency. Our index of populism deviates from previous works using the dictionary-based method in several ways. We do not aim to measure the populism of any particular party or leader but the overall populist rhetoric used in U.S. politics. We also choose newspaper articles to get a time-varying index of populism at a higher frequency and continuously track the time-variation in populist rhetoric in a relatively long time series.

Our paper is also related to papers studying populism in the economics literature investigating the reasons for the rise of populism (Guriev and Papaioannou (2022)). For example, Rodrik (2018) suggests that globalization's shock is one of the reasons for political backlash by increasing domestic inequality. Globalization creates gaps in society, e.g., between skilled and unskilled workers, globally mobile professionals and local producers, elites, and ordinary people. This explanation has been supported by empirical evidence (Guiso, Herrera, Morelli, and Sonno 2018, Colantone and Stanig 2018). Another strand of literature studies the effects of populism on the macroeconomy, e.g., growth and income distribution (Sachs 1989, Dornbusch and Edwards 2007). In a recent paper, Pástor and Veronesi (2021) establishes the link between populism and asset prices in a model containing elements from both strands of economic literature regarding inequality and the macroeconomic

implications of populism. We discuss the details of the model in the next section as part of the motivation for our empirical study.

Our paper is also related to broad research investigating the effects of politics on asset prices. Sattler (2013) suggests that stocks decrease considerably after a left party's election and increase after a right party's election in countries with low political constraints. Santa-Clara and Valkanov (2003), examine the stock market's performance during Democratic and Republican presidencies between 1927 and 1998. They find the presidential puzzle, which shows that the excess return of stocks is higher when the Democratic president is in power. Booth and Booth (2003) also confirm this pattern for a small stock portfolio, but it is not the case for a large stock portfolio. Other studies also find that this presidential puzzle exists in other countries outside the U.S., such as Germany (Döpke and Pierdzioch 2006), New Zealand (Cahan, Malone, Powell, and Choti 2005), Australia (Worthington 2009). We differ from these existing papers since our focus is the effect of populist rhetoric in media on currency markets rather than the bipartisan effect on stock returns.

Last but not least, a vast literature has examined foreign exchange predictability in the cross-section of currency excess returns. Predictability has been shown using investment strategies, such as carry (Koijen, Moskowitz, Pedersen, and Vrugt 2018; Lustig, Roussanov, and Verdelhan 2011), momentum (Asness, Moskowitz, and Pedersen 2013; Menkhoff, Sarno, Schmeling, and Schrimpf 2012b), and value (Asness et al., 2013; Menkhoff, Sarno, Schmeling, and Schrimpf, 2017). Although these papers document the predictability of currency excess returns, the fundamental forces behind them are still unclear. Della Corte, Riddiough, and Sarno (2016) suggest that global imbalance is a risk factor that can be used to explain returns to carry trade. Also, taking a macroeconomic perspective, Riddiough and Sarno (2016) suggest the output gap as the risk factor. Filippou and Taylor (2022) find that forward-looking policy rules are priced in the cross-section of currency returns. Some papers suggest risk factors based on properties of FX returns, such as correlation risk (Mueller, Stathopoulos, and Vedolin 2017) and global FX volatility risk (Menkhoff,

Sarno, Schmeling, and Schrimpf 2012a). Nucera et al. (2022) show that currency pricing kernel consists of at least three latent factors, including a strong U.S. dollar factor. On the other hand, nascent literature highlights the importance of the gravity effect in currency return factor structure focusing on trade network centrality (Hassan et al., 2022; Lustig and Richmond, 2020; Richmond, 2019). Filippou, Taylor, and Wang (2021) show that media sentiment is a strong negative predictor of the cross-section of currency returns. Linking political risk to currency returns, Filippou, Gozluklu, and Taylor (2018) suggest that global political risk explains returns to momentum strategy.

3 Theoretical Motivation and Testable Hypotheses

Our empirical work is largely motivated by the theoretical framework established in Pástor and Veronesi (2021). In their model, agents in two countries, the U.S. and the rest of the world (RoW) dislike inequality within their countries. U.S. agents are less risk-averse (capturing the fact that the U.S. markets are more financially developed) than RoW agents. Under globalization, agents in two countries trade freely, increasing aggregate consumption in the U.S. and its domestic inequality. The reverse is the case under financial autarky, where U.S. aggregate consumption decreases, but the gap between the rich and the poor is narrower. A presidential candidate is populist if he or she promises to end globalization as soon as elected. The model suggests that when U.S. output is large enough, more than half of U.S. agents will vote for a populist candidate due to their inequality aversion, which shifts the U.S. to financial autarky. An important prediction from the model regarding the anticipation of a populist victory and asset valuations is crucial for our paper.

According to the model, as the probability of a populist victory increases, the U.S. market price of risk goes down. As a result, U.S. asset market valuations increase. The intuition is as follows: Under autarky, the risk associated with U.S. output is borne by U.S. agents only, while under globalization, this risk is borne by both U.S. and the rest of the world (RoW)

agents. As U.S. agents are assumed to be less risk-averse (i.e. the U.S. financial markets are more developed), they demand a lower compensation for risk regardless of the global output level. The model also predicts that U.S. bond yields could be lower, even possibly negative, as anticipation for populist victory escalates, however, that prediction depends on the global output level (See Figure 13 of Pástor and Veronesi (2021)). The intuition underlying this prediction is that as moving to autarky decreases U.S. agents' consumption, marginal utility to U.S. agents is high in this case. Therefore U.S. bonds are more valuable under the expectation of a populist regime, as they provide future consumption when its marginal utility of consumption to U.S. agents is high.

Under the asset market view of exchange rates (Chernov and Creal, 2023; Burnside and Graveline, 2020), the no-arbitrage condition implies the following equation for the pricing kernels:

$$\mathbb{E}_t(M^*_{t,t+1}R^*_{t+1}) = \mathbb{E}_t(M_{t,t+1}\frac{S_{t+1}}{S_t}R^*_{t+1}) \tag{1}$$

where R^*_{t+1} is the foreign currency-denominated gross return on a risky asset, $M_{t,t+1}$ and $M^*_{t,t+1}$ are the domestic (U.S) and the foreign pricing kernels, respectively and S_t the USD value of one unit of foreign currency. Unlike Pástor and Veronesi (2021) who focus on the U.S. versus RoW, we are interested in the cross-sectional asset pricing implications of U.S. populist rhetoric as a signal of trade friction in the form of a shift from globalization to financial autarky vis-à-vis a large set of foreign countries. Following Chernov and Creal (2023), we can conjecture a pricing kernel in USD and the depreciation rate as functions of at least two types of shocks, i) (temporary) shocks (ϵ_{t+1}) that capture the risk exposure in the bond market, ii) (persistent) shocks (η_{t+1}) that only affect exchange rates:

$$-logM_{t,t+1} = f(x_t, \varepsilon_{t+1}, \eta_{t+1}), \tag{2}$$

$$\Delta s_{t+1} = g(x_t, \varepsilon_{t+1}, \eta_{t+1}), \tag{3}$$

where x_t is a state variable that affects the dynamics of the U.S. interest rate and the market prices of both types of risks.

Based on the predictions of Pástor and Veronesi (2021) model, we test whether the U.S. populist rhetoric index (APR) captures the threat of a populist victory as a good observable proxy for the martingale component of the pricing kernel (Chernov and Creal, 2023), beyond other risk factors such dollar, carry, and momentum factors (Lustig et al., 2011; Asness et al., 2013; Koijen et al., 2018; Menkhoff et al., 2017; Nucera et al., 2022). Given that media coverage, and in particular, newspapers and social media, is an important source of information for investors, when there is a rise in populist rhetoric –as reported by leading newspapers and used on Twitter– U.S. investors are likely to consider it as a signal that the U.S. economy is moving from an integrated world to autarky.

Hypothesis 1 (H1)**.** *Countries with high (low) exposure to U.S. populism experience currency depreciation (appreciation) when there is an increase in the perceived threat of a populist victory.*

(a.) U.S. populism is a strong negative predictor of the cross-section of currency returns.

(b.) Investors require a risk premium for holding currencies that underperform in times of rising U.S. populist rhetoric.

We expect the U.S. populist tone, captured by our APR Index, to negatively affect the cross-section of currency excess returns. It is based on the key intuition that U.S. populism leads to lower U.S. consumption, increasing marginal utility consumption to U.S. agents, linking consumption growth to the priced component of currency returns (Chernov, Dahlquist, and Lochstoer, 2023). Investors value currencies that give U.S. investors high excess returns in times of rising populist rhetoric. Thus, they are willing to pay higher prices and accept lower returns from these currencies. By contrast, they demand higher excess returns as compensation for holding currencies that underperform during rising

populist rhetoric. Therefore we expect U.S. populist media tone to be negatively priced in the cross-section of currency excess returns.

Hypothesis 2 (H2)**.** *U.S. populism signals friction to financial globalization that drives currency returns of peripheral countries.*
(a.) peripheral countries (e.g., with a low trade network centrality, less integrated) demonstrate lower (higher) exposure to U.S. populism.
(b.) Currencies of peripheral countries depreciate most in times of rising U.S. populist rhetoric.

Lustig and Richmond (2020) show the importance of the gravity effects in the factor structure of exchange rates. Using different distance measures (e.g., cultural, physical, or institutional) across countries, they find that distant countries are more exposed to systematic currency risk. Specifically, peripheral countries are more vulnerable to systematic currency risk and hence offer higher expected currency returns. An important predictor of a currency's exposure to such risk is the trade centrality (Hassan et al., 2022; Lustig and Richmond, 2020; Richmond, 2019).

We conjecture that trade centrality is a key channel through which U.S. populism drives the cross-section of currency returns. Thus, peripheral countries with a low trade network centrality score have lower (higher) exposure to U.S. populism. In other words, they depreciate most in times of rising U.S. populist rhetoric.

4 U.S. Populist Rhetoric Index

This section introduces the Bi-term topic modeling algorithm to extend an existing populist dictionary to capture the new form of populism via social media and describes the methodology we use to construct our Aggregate Populist Rhetoric Index from the U.S. leading newspapers.

4.1 Newspapers

We rely on digital archives of The New York Times from Factiva. The New York Times has been regarded as a national 'newspaper of record,' so our index should reach most U.S. readers. This is also the only leading U.S. newspaper to which we have access to the data from January 1984 to December 2020. We also constructed a shorter time series index based on five newspapers, including The Washington Post, The New York Daily News, The New York Post, USA Today, and The New York Times, starting from January 2000 to December 2020.

4.2 Populist Dictionary by Bonikowski and Gidron (2015)

An existing populist dictionary was constructed by Bonikowski and Gidron (2015). To minimize the risk of finding articles incorrectly classified as populist by the algorithm (false positives), we rely on the short version of their dictionary. The authors have eliminated all underperforming terms. This final dictionary we use contains 26 terms ranging from unigrams to four-grams+. There might be potential concerns that there are populist articles not detected for not containing any terms in the populist dictionary (false negatives). Bonikowski and Gidron (2015) claim in their paper that this number is expected to be low due to their extensive search for relevant populist terms. The list of populist terms from this dictionary is in Panel A of Table 1. One can argue the dictionary does not contain

some economically relevant terms, e.g., tariffs, tax cuts, and immigration which one would expect in a populist narrative. (Rodrik, 2021).

[TABLE 1 ABOUT HERE]

4.3 New Dictionary of Populism 2.0

4.3.1 Donald Trump's Tweets

Bonikowski and Gidron (2015) construct their dictionary using texts from an archival presidential campaign discourse dataset. However, social media has been extensively used as a campaign tool in modern U.S. politics, especially by populist candidates (Bode, Budak, Ladd, Newport, Pasek, Singh, Soroka, and Traugott, 2020). To capture this new form of communication of populist presidential candidates, Populism 2.0 (Gerbaudo, 2018; Kioupkiolis, 2019), we obtain an archive of Donald Trump's tweets from thetrumparchive, which collects all tweets from the account @realDonaldTrump. We are interested in the period starting from 16^{th} of June 2015, as it is the day when Donald Trump announced his presidential campaign. Our sample ends in 20^{th} of August 2019.

4.3.2 Bi-term topic modeling (BTM) approach

Bi-term topic modeling (BTM) is a word co-occurrence-based topic model that learns topics by modeling word-by-word co-occurrence patterns (e.g., bi-terms). It was developed by Yan et al. (2013) to address shortcomings associated with conventional topic modeling approaches, such as Latent Dirichlet Allocation (LDA) and Latent Semantic Indexing (LSI) when it comes to discovering the content of short texts.

Two sets of input are required from the BTM approach. The first is the collection of words, which is the corpus. We apply the BTM approach to our full sample of tweets after these tweets are cleaned with standard text-cleaning procedures, such as lower

capitalization and removing numbers and English stop words. The second input required is the number of topics, which we set as 10.

Two sets of output are generated from the BTM algorithm. The first set of outputs includes the list of top keywords in each topic and the respective probabilities of observing each word in the topic. For each topic n, there is a set of vectors $\hat{\beta}_n = [\hat{\beta}_{n,1},..., \hat{\beta}_{n,J}]'$, in which $\hat{\beta}_{n,j}$ is the probability that the word j belongs to topic n. A full list of top keywords for all ten topics can be found in Figure A2 and Figure A3 in the Appendix. We summarise the keywords for the five topics we identify as having populism-related content in Figure 1.

[FIGURE 1 ABOUT HERE]

We pick the populism keywords from these five topics by filtering out those with many false positives. For example, we remove words such as news, fake, and media and keep bigrams 'fake news' and trigrams 'fake news media' instead. The list of populist terms from this dictionary can be found in Panel B of Table 1. As one can see, the new terms include "tariffs", "border security," or "illegal immigration," which are tightly linked to (frictions to) globalization. Another common term is "make America great again (maga)." Although Donald Trump has extensively used the phrase, it is hardly novel. Previous presidents such as Ronald Reagan and Bill Clinton have also used the same slogan (NBC News, 2016).

4.4 U.S. Aggregate Populist Rhetoric Index

We aim to search for articles containing populist rhetoric published in The New York Times newspapers. We define an article as populist if it falls under the U.S. politics or economics category and contains at least one term in the populist dictionary constructed by Bonikowski and Gidron (2015) and the 'Populism 2.0' dictionary either in its title or main content. We search for populist articles from five newspapers on the Factiva database by entering 26 populist terms in the search box and applying restrictions to filter out non-U.S. politics and

economics articles. This allows us to obtain the count of populist articles from newspapers over our sample period.

Previous studies following similar methodologies, such as Baker et al. (2016), have pointed out a problem related to the focus on the raw counts of articles, as the volume of articles tends to vary over time and across newspapers. Therefore, we are interested in the ratio of the raw counts of populist articles divided by the total number of U.S. political and economic articles published monthly. This ratio gives us the Aggregate Populist Rhetoric (APR) Index. Figure 2 shows our APR Index plot.

[FIGURE 2 ABOUT HERE]

We evaluate our APR Index by uncovering events underlying their patterns. The plot of our APR Index displays several spikes over this sample period. The first spike was recorded in the late 1980s, featuring Reagan's presidency. The index then goes up around the 2000s, reflecting two notable political events featuring populism surrounding this time frame. The first event was the Seattle WTO protests on 30 November 1999. The second event is the run-up to the 2000 presidential election, with several candidates emphasizing economic inequality in their campaigns, such as Al Gore and John McCain. Our indices exhibit some significant jumps again between 2010 and 2012. This corresponds to the emergence of the Tea Party movement opposing big government intervention in the economy and the burst of Occupy Wall Street protests against financial greed and corruption. Finally, our indices' spike during the recent period is associated with the remarkable 2016 presidential campaigns, which observed two candidates from both left-wing (Bernie Sanders) and right-wing (Donald Trump) claiming to represent the interests of the American people. The ultimate victory of Donald Trump, together with his populist rhetoric, explains the rise in the index even after the election in November 2016.

We also show plots of the index (PR BG index) constructed using the populist dictionary by Bonikowski and Gidron (2015) and the 'Populism 2.0' dictionary (PR P2.0 Index)

separately in Figure 3. We note that both series have different time-series dynamics confirming that they capture different dimensions of populist rhetoric. Notably, the PR BG index spiked around Seattle WTO protests in the late nineties, while PR P2.0 Index spiked earlier during the rise of populist conservative personalities (history.com, 2018) in mid-nineties and reached its peak during Donald Trump's presidency.

[FIGURE 3 ABOUT HERE]

We report summary statistics of the APR index, its sub-indices, and their changes (i.e., ΔAPR) in Table 2. Both the APR index and the sub-indices are similar in terms of the first two moments, while the PR P2.0 index exhibits larger skewness and kurtosis. All indices and their changes are stationary according to the augmented Dickey-Fuller test.

[TABLE 2 ABOUT HERE]

In *Panel A* of Table 3, we report the correlation between our populist rhetoric indices and some (geo-)political risk and uncertainty measures in the literature. APR index and the sub-indices show a mild negative correlation with the Geopolitical Risk Index constructed by Caldara and Iacoviello (2022). The reason behind this negative correlation is likely to be due to the fundamental differences in index construction. Geopolitical Risk Index captures events associated with wars, terrorist acts, and some events that do not feature U.S. involvement.

Our populist rhetoric indices are unrelated to the Macroeconomics Uncertainty Index (Jurado, Ludvigson, and Ng, 2015) and Economic Policy Uncertainty Index (Baker et al., 2016), while the APR index has a mild positive correlation with VIX Index and Trade Policy Uncertainty (TPU) Index (Caldara, Iacoviello, Molligo, Prestipino, and Raffo, 2020). However, it is interesting to note that the BG PR and P2.0 PR indices are correlated with these uncertainty measures, namely VIX, EPU and TPU, showing opposite signs confirming

the distinct information content of both indices.[4] Overall, correlation results suggest that our APR Index captures a different dimension than the existing economic and political uncertainty indices.

[TABLE 3 ABOUT HERE]

5 Currency Data and Portfolio Construction

This section discusses the exchange rate data and the construction of populism portfolios.

5.1 Currency Data

Our data focuses on a rich set of developed and developing economies. Our sample includes Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Egypt, Europe, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Japan, Kuwait, Malaysia Mexico, Netherlands, Norway, Philippines, Poland, Portugal, Russia, Saudi Arabia, Singapore, South Korea, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, Ukraine and United Kingdom.[5] We remove the euro-area countries after they adopt the euro. Our monthly data covers the period from January 1984 to December 2020.

[4] P2.0 PR and TPU indices have a relatively high correlation of 0.74. However, in Appendix A1 we show that TPU does not have the same asset pricing implications for currency returns.

[5] We also eliminate observations of currencies that exhibit significant deviations from CIP.

5.2 Currency Excess Returns

Our exchange rate data are collected from Barclays and Reuters *via* Thompson Reuters Datastream (Eikon). We denote by S_t (F_t) the level of the spot exchange rate and the 1-month forward rate at time t, which are expressed in units of foreign currency per U.S. dollar, meaning that an increase in S_t implies an appreciation of U.S. Dollar. The realised currency excess return at time t+1 (rx_{t+1}) is computed as follows:

$$rx_{t+1} = f_t - s_{t+1}, \tag{4}$$

in which s_{t+1} is the log spot exchange rate at time $t+1$ and f_t the log 1-month forward rate at time t. In other words, the currency excess return can be decomposed into the rate of depreciation of the foreign currency subtracted from the forward discount at time t (e.g., $rx_{t+1} = f_t - s_t - (s_{t+1} - s_t)$). Assuming that the Covered Interest Rate Parity (CIP) holds, the above equation can be expressed as $rx_{i,t+1} \simeq i_t^* - i_t - (s_{t+1} - s_t)$, where i_t^* and i_t are the foreign and domestic risk-free interest rates, respectively.[6]

5.3 Portfolios sorted on APR betas

One way to test the role of U.S. populist rhetoric as a pricing factor for the cross-section of currency excess returns is to sort currencies into portfolios based on their exposure to U.S. populist rhetoric. If U.S. populist rhetoric is a pricing factor for the cross-section of currencies, there should be a significant dispersion in excess returns between low-beta and high-beta portfolios. Thus, the corresponding spread portfolio (LMH) should generate statistically significant excess returns.

Rolling Betas. Our proxy for U.S. populist rhetoric is the APR Index. To measure the exposure of each currency to these two proxies of U.S. populist rhetoric, we regress individual

[6] We include the Euro in our sample following its launch in January 1999.

currency excess returns at time t on a constant and the APR Index. The estimation is based on a 60-month rolling window (with a minimum of 36 observations). The time-varying slope coefficient obtained from this regression is $\beta_{i,t}^{APR}$. Intuitively, currencies with negative betas exhibit higher exposure to U.S. populism, as an increase in populism is associated with negative currency excess returns.

Populism Portfolios. At time t, we sort currencies into portfolios based on their past (i.e. $t-1$) betas with APR Index. We limit the number of portfolios to five to have a reasonable number of currencies in each portfolio. We rebalance our portfolios monthly. The first portfolio (P_1) includes currencies with the lowest betas, while the fifth portfolio (P_5) covers currencies with the highest betas. We then construct a zero-cost portfolio (LMH), which goes long the first portfolio (P_1) and short the high beta portfolio (P_5).

6 Empirical Results

In this section, we empirically investigate the link between U.S. populist rhetoric and the cross-section of currency excess returns. We then show the results of the country-level asset pricing test.

6.1 Populism-sorted Portfolios

We next attempt to understand the role of U.S. populism in the foreign exchange market. We allocate currencies into portfolios based on their exposure to populism, as was analyzed in the previous section. Table 4 reports summary statistics of portfolios sorted on Full Sample (*Panel A*) and Recent Sample (*Panel B*).

[TABLE 4 ABOUT HERE]

Panel A shows that there is a significant dispersion with a monotonic pattern in terms of average betas when moving from P_1 to P_5. It increases from -0.47% to 0.30% between these two extreme portfolios. Investing in currencies with the lowest (highest) APR Index beta yields average positive (negative) excess returns. Average portfolio returns are monotonically decreasing in the APR beta. Average excess returns of the first portfolio (P_1) are positive (3.09%) and statistically significant with a Newey and West (1987) t-statistic. The average excess returns to LMH portfolio is of particular interest, which is also positive and statistically significant with a Newey and West (1987) t-statistic of 2.19. The populism portfolio yields an annualized average excess return of 3.19% with a Sharpe ratio of 0.38. When we decompose the portfolio return into the exchange rate and forward discount components, we see that the portfolio return is entirely driven by exchange rate changes in line with our conjecture that the APR index captures only the risks associated with the currency markets.

These results can be interpreted as follows. Currencies in P_1 have negative APR betas, meaning their returns decrease when APR Index increases. An increase in U.S. populist rhetoric, which is proxied by the APR index, is a bad state variable in terms of aggregate consumption for U.S. investors (Pástor and Veronesi, 2021). Therefore currencies generating low excess returns in times of rising APR are considered risky by investors. Hence, they require a higher expected return to holding currencies with negative APR betas. By contrast, currencies in P_5 have positive APR betas. As a result, they yield high excess returns in rising APR times and are considered relatively safe assets by investors. As a result, investors are willing to pay a higher price and accept lower expected returns from these currencies. This finding aligns with our hypothesis H1, which states that U.S. populism should be a negative predictor of the cross-section of currency returns and that investors require a risk premium for holding currencies that are exposed to U.S. populism.

Panel B also suggests a negative link between average portfolio excess returns and APR betas for the recent sample from 2000. Average excess returns are monotonically decreasing from P_1 to P_5. The LMH portfolio now generates even better performance than in *Panel A* in terms of Sharpe ratio. This portfolio yields 3.19% excess returns annually on average (with a Newey and West (1987) t-statistic of 2.63) and a Sharpe ratio of 0.62. The decomposition of the excess portfolio returns, however, suggests that only half of the portfolio return comes from exchange rate changes. We can also interpret this result through the lenses of Pástor and Veronesi (2021) model, which suggests that a threat of a populist regime implies both a lower market price of risk for U.S. investors and a lower U.S. bond yield beyond a certain threshold of global output. This is likely to be the case only in the recent sample.

As we would like to explore further which currencies drive the profit of the populism portfolio strategy found in Table 4, we plot each currency's frequency at the two extreme portfolios in Figure A1 of the Internet Appendix.

Panel A and of Figure A1 suggest that the top 3 currencies that are frequently entering the low beta portfolios based on APR Index betas are Hungary, Iceland, and New Zealand. These currencies typically have negative betas, so they tend to generate low excess returns when U.S. populist rhetoric is high. By contrast, *Panel B* of the same figure reveals the top 3 currencies in high beta portfolios based on APR Index. These currencies include Japan, Australia, and Hong Kong. Due to their positive betas on average, they generally yield high excess returns when there is an increase in U.S. populist rhetoric.

We show the plot of cumulative return to LMH portfolio in Figure 4. The cumulative return is adjusted by volatility. In particular, the return to the LMH portfolio is multiplied by the ratio of annual S&P500 Index volatility and LMH portfolio volatility. It is worth noticing that the APR strategy generates better performance during Republican presidencies, in particular when George W. Bush and Donald Trump were in power.

[Figure 4 ABOUT HERE]

6.2 Populism-sorted Portfolios and Other Investment Strategies

We investigate the link between other conventional investment strategies (i.e., market, carry trade, and momentum) and Populism-sorted portfolios. In particular, we examine whether the LMH Populism portfolio can generate significant alphas after controlling for these strategies. We run contemporaneous regressions of the LMH Populism portfolio on the market, carry trade, and momentum portfolios to see if these conventional investment portfolios can explain the returns generated by the LMH Populism portfolio.

The first column in Panel A of Table 5 shows results for univariate regression in which market portfolio is the only independent variable. The coefficient of the market portfolio is negative but statistically insignificant, whereas the alpha is 0.3% and statistically significant with a t-statistic of 2.08. These findings suggest that the market factor cannot explain our LMH Populism portfolios. In the next column, we add the carry trade factor to

the regression and find the same pattern. The coefficient of the market is statistically significant, whereas the coefficient of the carry trade factor is only marginally significant. On the other hand, the regression's alpha remains economically and statistically significant at a 1% significance level. In the last regression, we augment the previous model with the momentum factor, and the coefficient of this factor is not significant. The alpha in this regression maintains its positive sign with a t-statistic of 3.44. Overall, we find that the LMH Populism strategy can generate a positive and statistically significant alpha even after considering conventional asset pricing factors. We find similar results for the Recent Sample in Panel B.

[TABLE 5 ABOUT HERE]

6.3 Country-level asset pricing tests

After documenting the significant excess returns of LMH portfolios sorted on U.S. populist rhetoric, we now investigate the risk price of this factor.

Test assets. Our test assets are individual currencies rather than portfolios. Ang, Liu, and Schwarz (2018) suggest that grouping stocks into portfolios shrinks the betas' cross-sectional dispersion, which leads to a less efficient estimate of factor risk premia. Bali et al. (2017) estimate the risk price of economic uncertainty using individual stocks. In the context of currencies, Barroso, Kho, Rouxelin, and Yang (2018) test the risk price of global imbalances using individual currencies.

U.S. Populist Rhetoric Betas. To estimate the exposure of each currency to U.S. populist rhetoric proxy $\beta_{i,t}^{APR}$, we run the following time-series regressions based on a 60-month rolling window with a minimum number of 36 observations in each regression:

$$rx_{i,t} = \alpha_{i,t} + \beta_{i,t}^{APR} APR_t + \epsilon_{i,t+1} \tag{5}$$

where $rx_{i,t}$ is the realised excess return on currency i in month t, and APR_t is the APR Index in month t.

Cross-sectional Regressions. Having estimated $\hat{\beta}_{APR,i}$, we investigate the cross-sectional relation between U.S. populist rhetoric betas and expected currency excess returns at the country level (Bali et al., 2017). In particular, we run monthly cross-sectional regressions at each time t:

$$rx_{i,t+1} = \lambda_{0,t} + \lambda_{1,t}\hat{\beta}_{i,t}^{APR} + \lambda_{2,t}X_{i,t} + \epsilon_{i,t+1} \tag{6}$$

where $X_{i,t}$ are currency-specific control variables at time t for currency i (volatility, illiquidity). These two variables are constructed as in Menkhoff et al. (2012a). We then take the time-series average of slope coefficients $\lambda_{1,t}$ and report its Newey and West (1987) t-statistic and average adjusted R^2.

Table 6 summarises results regarding the estimation of risk prices of the APR Index betas from regressions (2) and (3).

In this table, we report results for Full Sample in *Panel A*. The univariate regression results shown in the first column suggest a negatively significant link between the APR betas and the cross-section of future currency excess returns. The market price of risk λ associated with the APR beta is -0.006, with a t-statistic of -2.94. This negative coefficient for APR betas implies that taking a long position in currencies with lower APR betas predicts positive returns in the following period. To examine the economic significance of this result, we compute the difference in average β^{APR} between P_1 and P_5 from Table 4, which is 0.77% [=0.30% - 0.47%]. If a currency were to move from P_1 to P_5, its expected return would decrease by 0.46% [=0.77% × -0.006] per month. Therefore, the risk price of the APR Index betas is not only statistically significant but also economically significant.

In the second column, when we control for the volatility of individual currencies, the risk price of APR beta remains negative and statistically significant with a Newey and West

(1987) *t*-statistic of -2.64, and the risk price of volatility factor is negative and marginally statistically significant. The third column controls for the illiquidity of individual currencies, and it still gives us a negative and statistically significant risk price of APR beta. On the other hand, the illiquidity factor's risk price is statistically insignificant. In the fourth column, when controlling for both illiquidity and volatility of individual currencies simultaneously, we still get a strongly significant risk price of APR betas with a Newey and West (1987) *t*-statistic of -2.64.

In the same table, we report results for the Recent Sample in *Panel B*. The APR beta coefficient is also negative and strongly significant in the univariate regression in the first column. This result holds when adding volatility and illiquidity separately and simultaneously, even though its statistical significance is weaker.

[TABLE 6 ABOUT HERE]

7 Globalization and U.S. Populist Rhetoric

In the Pástor and Veronesi (2021) model, a shift to a populist regime is captured by a move to autarky from globalization. Therefore, if our measure of populist rhetoric is well identified, it should be sensitive to exposure to globalization. We measure exposure to globalization using equity data following Barrot et al. (2019), and then sort stock returns of U.S. manufacturing firms into quintiles based on their exposure to globalization, the proxy being shipping cost. Shipping cost is computed as a percentage of the price paid by importers. Firms in the low shipping cost portfolio are more exposed to globalization, whereas firms in the high shipping cost portfolio are more local. We then examine the correlation between these portfolios and our APR Index and show results in Table 7.

[TABLE 7 ABOUT HERE]

In *Panel A*, we report the pairwise correlations between the returns of 5 portfolios and the LMH portfolio and APR Index. There is a positive correlation between the low shipping cost portfolio and APR Index for equally weighted portfolios. This is consistent with the rationale that an increase in APR Index signals a switch from integrated to the autarkic regime for the U.S., so firms with low shipping costs (i.e. those with high exposure to globalization) should be positively correlated with our index. We also find an almost monotonically decreasing pattern in terms of this correlation as we go from P_1 to P_5. The negative correlation between P_5 with our index suggests that this portfolio of firms with low exposure to globalization can be a hedge in times of rising U.S. populist rhetoric. This result is consistent for value-weighted portfolios and when we control for Fama-French 3 factors in *Panel B* and Fama-French 5 factors in *Panel C*.

Channels of currency exposures to U.S. Populist Rhetoric. We now explore the channels through which U.S. populist rhetoric, a strong signal on the switch from globalization to autarky, could affect currency returns. We follow the recent literature on the gravity effect in the factor structure of exchange rates (Lustig and Richmond, 2020). The key insight from this literature is that peripheral countries in a network of global economies are more vulnerable to systematic currency risk and hence offer higher expected currency returns. In particular, trade network centrality is a key driver of currency risk premium (Hassan et al., 2022; Lustig and Richmond, 2020; Richmond, 2019).

We provide a scatter plot between average APR betas and trade network centrality measure from Richmond (2019) in Figure 5a. The positive slope coefficient (t-stat= 4.05) suggests that peripheral countries with a low trade network centrality score have lower (higher) APR betas (in magnitude); that is, they depreciate most in times of rising U.S. populist rhetoric. This finding is in line with our hypothesis H2, which states that U.S. populism is a friction to globalization and affects more peripheral economies.

[FIGURE 5a ABOUT HERE]

We also show scatter plots between average APR betas and other country characteristics such as geographic distance to the U.S. (Lustig and Richmond, 2020), country size (Hassan, 2013), country populism score (Hawkins et al., 2019) and different dimensions of institutional quality (accountability, regulatory quality, government effectiveness and the rule of law) in Appendix A. While geographically distant (to the U.S.), smaller and more populist countries, on average, experience currency depreciation in response to an increase in populist rhetoric in the U.S. media, trade centrality seems to be the main channel through which political risk in the form of increased U.S. populist rhetoric affects the currencies of other countries.

In Panel A of Table 8, we run contemporaneous cross-sectional regressions of average APR betas on trade network centrality controlling for other country characteristics. The multivariate setting confirms the important role of network centrality as the key mechanism behind the cross-sectional differences in exposure to U.S. populist rhetoric.

[Table 8 ABOUT HERE]

Globalization is a complex term with many dimensions, including economic, social, and political globalization (Dreher, 2006; Gygli, Haelg, Potrafke, and Sturm, 2019). Dreher (2006) construct an index of globalization which is further developed by Gygli et al. (2019) to capture different layers of globalization. For instance, economic globalization can be measured either through the trade channel (trade in goods and services) or financial channel (e.g., foreign direct investment, portfolio investment, international debt). We also check the link between average APR betas and different dimensions of globalization. Figure 5b shows the average APR betas mostly correlated with the countries' financial globalization index (we report other dimensions of globalization in Appendix Figure A6). Panel B of Table 8 shows this result in a multi-variate setting with country-specific controls.

[FIGURE 5b ABOUT HERE]

8 Robustness

Alternative pricing factors. To test for the robustness of our findings, we also control for two prominent factors used in FX literature, which are DOL and CAR. DOL is the average excess return from a strategy that goes long in all foreign currencies and short in the domestic currency. CAR is the excess return to carry trade strategy as in Lustig et al. (2011). With these two factors, our regressions (2) and (3) become:

$$rx_{i,t} = \alpha_{i,t} + \beta_{i,t}^{APR} APR_t + \beta_{i,t}^{DOL} DOL_t + \beta_{i,t}^{CAR} CAR_t + \epsilon_{i,t} \tag{7}$$

$$rx_{i,t+1} = \lambda_{0,t} + \lambda_{1,t}\hat{\beta}_{i,t}^{APR} + \lambda_{2,t}\hat{\beta}_{i,t}^{DOL} + \lambda_{3,t}\hat{\beta}_{i,t}^{CAR} + \epsilon_{i,t+1} \tag{8}$$

We report our regression results for APR Index in Table 9.

[TABLE 9 ABOUT HERE]

The results for Full Sample are reported in *Panel A*. The first column's result with univariate regression suggests a negative and statistically significant link between APR beta and future currency excess returns. The risk price of APR beta is -0.007 with a Newey and West (1987) *t*-statistic of -2.44. In the second column, when we control for the DOL factor, the risk price of APR beta remains negative and even more statistically significant with a Newey and West (1987) *t*-statistic of -2.67. The DOL factor is statistically insignificant, which is consistent with the literature. In the third column, DOL and CAR factors are controlled simultaneously. The coefficient of APR beta is negative and maintains its statistical significance with a *t*-statistic of -3.37. This highlights an important finding. APR beta predicts future currency excess returns beyond DOL and CAR factors.

We report the recent sample results in *Panel B*. When both CAR and DOL factors are controlled, the APR beta coefficients remain negative and statistically significant. Overall, findings in this section suggest the important role of U.S. populist rhetoric in predicting the cross-sectional variation in individual currency excess returns beyond prominent predictors.

Filtered Sample. A potential concern associated with our broad sample is that market frictions may impede investors from trading particular currencies, affecting the validity of our findings. To address this problem, we follow Della Corte, Sarno, Schmeling, and Wagner (2022) and apply two filters. In particular, we start with a large sample of 48 countries and eliminate month/country observations of countries that implement fixed or quasi-fixed exchange rate regimes and those imposing restrictions on their capital account (e.g., a negative Chin Ito index). Portfolio sorting results for this filtered sample are reported in Table A6. The average excess return to the LMH portfolio is positive and statistically significant both in Panel A (Full Sample) and Panel B (Recent Sample).

Fama-Macbeth Asset Pricing Test. Table 10 provides asset pricing results for a two-factor model that consists of the dollar factor (DOL) and the APR factor and three-factor model consisting of the dollar, carry (HML) and momentum factors versus APR, carry and momentum factors. We use as test assets six currency portfolios sorted based on lagged APR. Thus, in the case of the two-factor model, we employ an SDF of the following form:

$$M_{t+1} = 1 - b_{DOL}(DOL_{t+1} - \mu_{DOL}) - b_F(F_{t+1} - \mu_F) \tag{9}$$

where DOL represents the dollar factor and F is the APR risk factor (HML_{APR}). In the case of the three-factor model, we compare two specifications

$$M_{t+1} = 1 - b_{HML}(HML_{t+1} - \mu_{HML}) - b_{MOM}(MOM_{t+1} - \mu_{DOL}) - b_F(F_{t+1} - \mu_F) \tag{10}$$

where HML (MOM) represents the carry (momentum) factor, and F is either the dollar or the APR risk factor (HML_{APR}).

The table provides results for the second pass of the FMB regression. We provide estimates for the implied risk factor (λ) and the corresponding Newey and West (1987) t-statistic. The cross-sectional performance of the models is also evaluated based on root

mean square error (RMSE), cross-sectional R-squared, and GRS. In Panel A, we report the results for the two-factor model in the Full Sample. We find that the APR factor strongly predicts the cross-section of currency returns, while the dollar factor is insignificant.

In Panel B, we compare two asset pricing models, DOL-HML-MOM and APR-HML-MOM. It can be seen from this panel replacing the APR factor for DOL in the benchmark three-factor model (Nucera et al., 2022) improves the results, both in terms of better R^2 and lower GRS. The results are even stronger in the Recent Sample reported in Panel C and Panel D.

[TABLE 10 ABOUT HERE]

Three-pass Fama-Macbeth Asset Pricing Test. We also follow the methodology by Giglio and Xiu (2021) to run a three-pass Fama-Mabeth Asset Pricing Test to deal with potential measurement error and omitted variable problems in our asset pricing tests (Nucera et al., 2022). Our 48 test assets include six carry portfolios, six short-term momentum portfolios, six long-term momentum portfolios, six APR portfolios, six value portfolios, six global volatility portfolios, six global liquidity portfolios, and six uncertainty portfolios. We report the two-factor (three-factor) model results based on the Full Sample in Panel A (Panel B). We find that the APR factor is a significant predictor of the cross-section of FX portfolio returns. In Panel B, we compare two asset pricing models, DOL-HML-MOM and APR-HML-MOM. We find that the dollar factor only is marginally significant, whereas the APR factor does a much better job with an R^2_{FPR} equal to 0.96 compared to R^2_{DOL} of 0.07. We also report the results for the Recent Sample in Panel C and Panel D. The APR factor results are stronger than the Full Sample results.

[TABLE 11 ABOUT HERE]

Transaction Costs. The primary purpose of the APR portfolios is to illustrate the strong cross-sectional predictive ability of U.S. populism for currency returns. However, we do

not view the APR portfolio as a new trading strategy –even though it is highly profitable and unrelated to other currency investment strategies. Our main focus is understanding the economic drivers through which U.S. populism affects currency returns. Nevertheless, we consider the implementation cost of the APR strategy. It is highlighted in the literature that quoted spreads are much higher than the effective spreads actually paid in the FX market. To guard against this issue, researchers employ arbitrary scaling of the quoted bid-ask spread to obtain a more realistic value for the effective spread (Menkhoff et al., 2012b, 2017). Gilmore and Hayashi (2011) show that bid-ask spreads are likely much lower than 50% of the quoted spread for emerging market currencies. Cespa, Gargano, Riddiough, and Sarno (2022) show that even a 50% scaling of the WM/R spread is still around twice the actual market spread. This finding suggests that a 25% scaling provides a good approximation of the effective spread. Thus, we calculate transaction costs based on the 25% of the quoted spread.

Panel A of Table 12 shows results of cross-sectional regressions of currency excess returns at time $t+1$ on the APR Index beta at time t. In line with our previous findings, the APR Index beta is a strong negative predictor of currency excess returns. We find a similar pattern in *Panel B* where we show spread portfolios that go long currencies with low APR betas and short currencies with low APR betas. We find very positive and significant payoffs.

[TABLE 12 ABOUT HERE]

9 Conclusions

In this paper, we have constructed a novel index of U.S. populism based on an improved dictionary, including populist terms from social media. The proposed aggregate populist index captures the overall populist rhetoric reported by the New York Times (1985-2020) and the other four leading newspapers (2000-2020). Our Aggregate Populist Rhetoric (APR) Index spikes around a range of well-known populist events in the U.S. We sort currencies into portfolios based on their exposure to U.S. populist rhetoric, proxied by our APR Index and find a positive and significant spread between low and high beta portfolios. This trading strategy can generate highly statistically significant average excess returns. We then find solid empirical evidence that U.S. populist rhetoric, proxied by the APR Index, is negatively priced in the cross-section of currency excess returns. Currencies that generate high (low) excess returns in times of rising U.S. populist rhetoric generate lower (higher) expected excess returns.

This empirical evidence is consistent with theoretical work, suggesting that rising populism leads to lower aggregate consumption for U.S. investors, increasing their marginal utility. Therefore, assets that generate high excess returns during this state of the world are valued by U.S. investors and are willing to accept lower expected returns for holding them. By contrast, assets that generate low returns in times of rising populism are considered risky, so investors demand higher expected returns for holding them. Our results can be extended to construct a similar index in different countries, which are particularly relevant to the current political climate of rising populism in many parts of the world.

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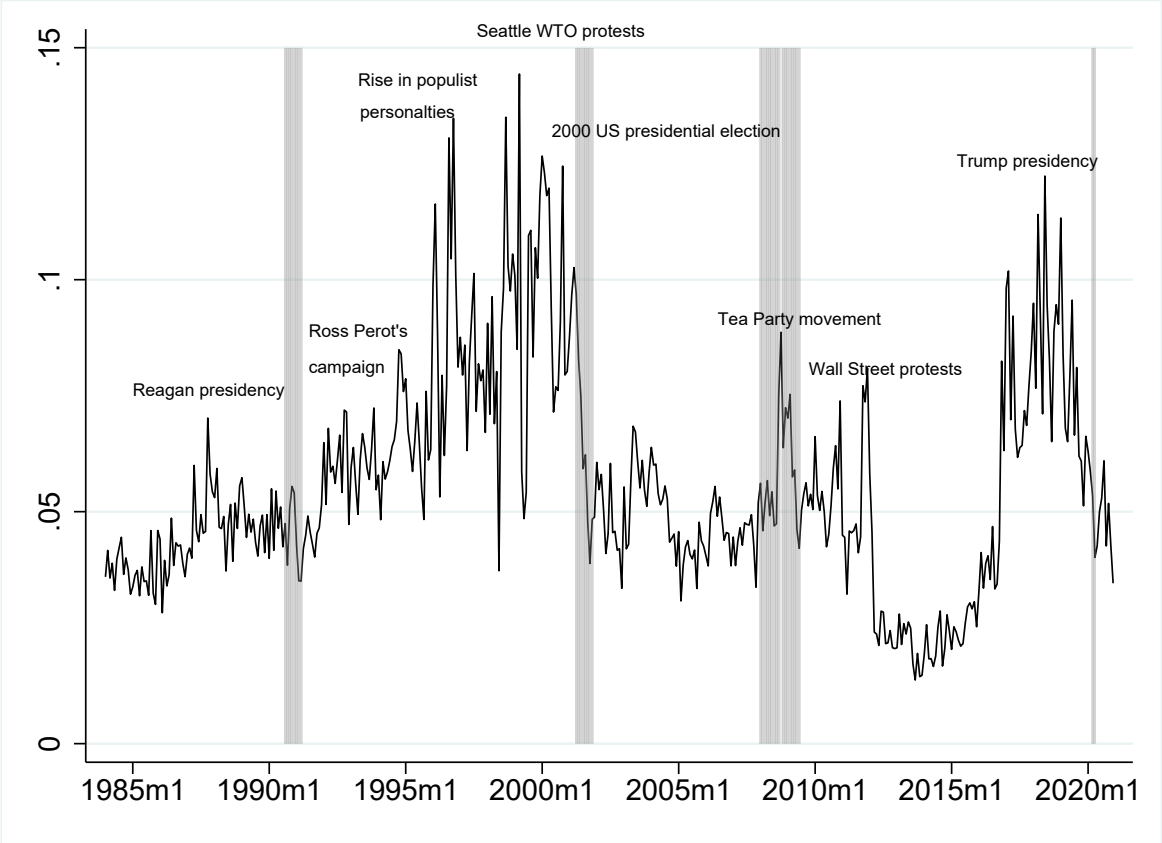
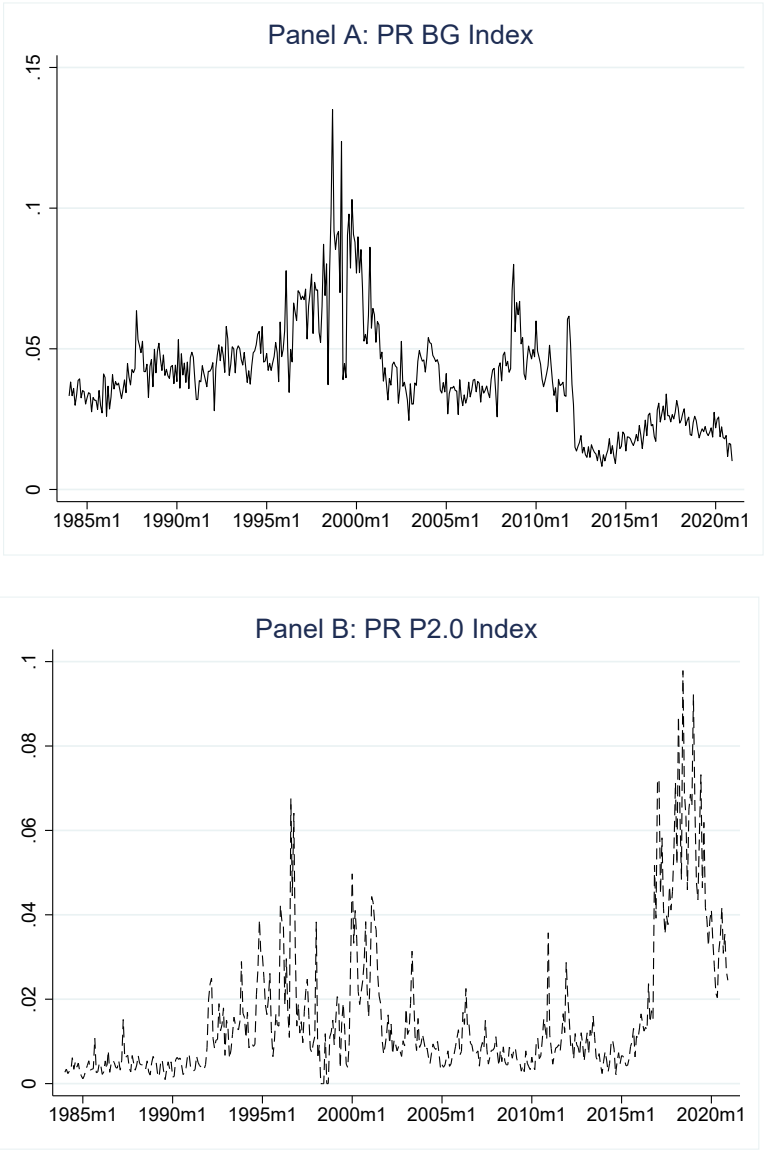
Figure 1. Top Keywords from Populism Topics

Figure 2. U.S. Aggregate Populist Rhetoric (APR) Index



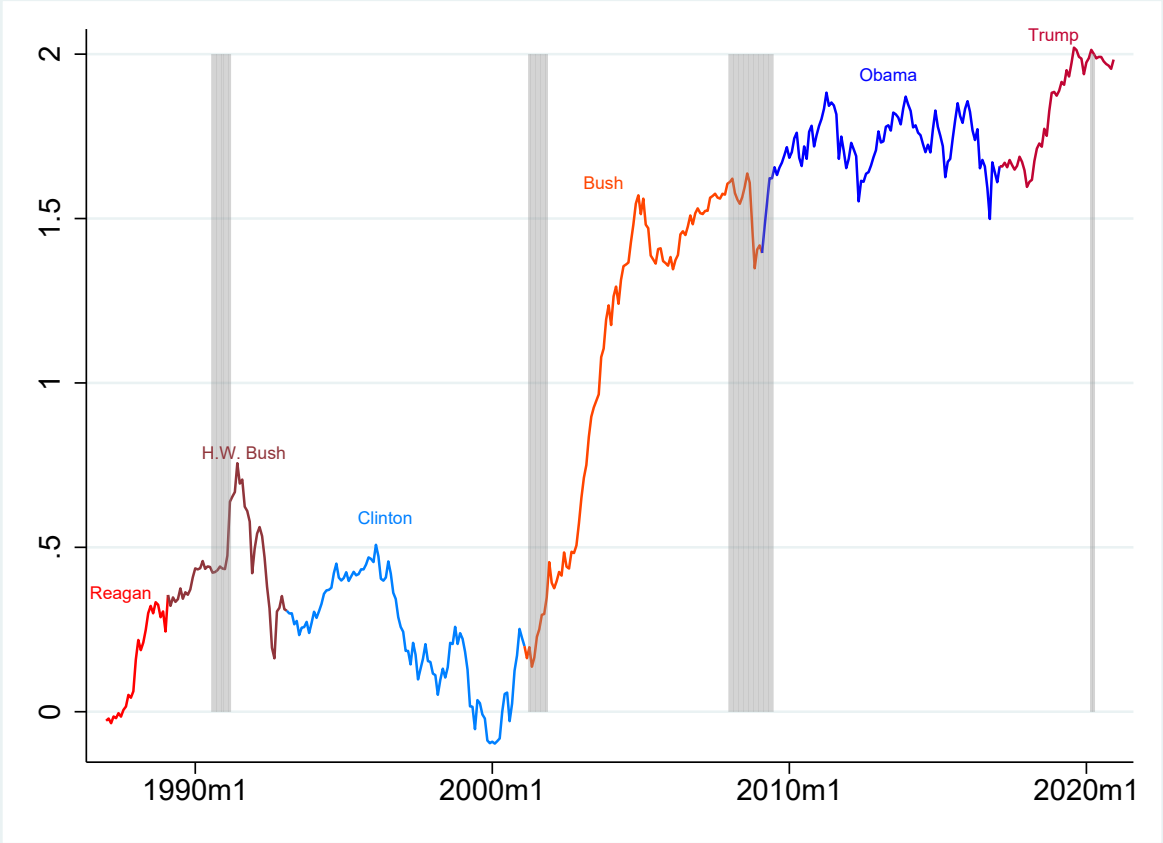
The figure reports our U.S. Aggregate Populist Rhetoric (APR) Index. The index is based on scaled monthly counts of articles containing populist rhetoric reported by The New York Times between 1984 and December 2020.

Figure 3. Populist Rhetoric Index based on Bonikowski and Gidron (2015) dictionary (PR BG Index) and the new dictionary based on Tweets (PR P2.0 Index)



Populist Rhetoric Index based on Bonikowski and Gidron (2015) dictionary (PR BG Index) (Panel A) and the new dictionary based on Tweets (PR P2.0 Index) (Panel B). The data are from January 1984 to December 2020.

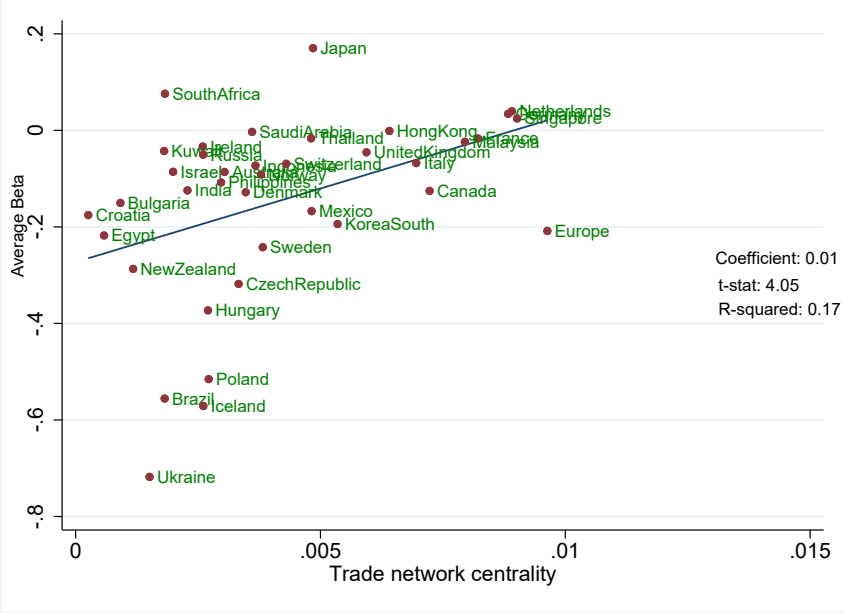
Figure 4. Cumulative return of the APR portfolio



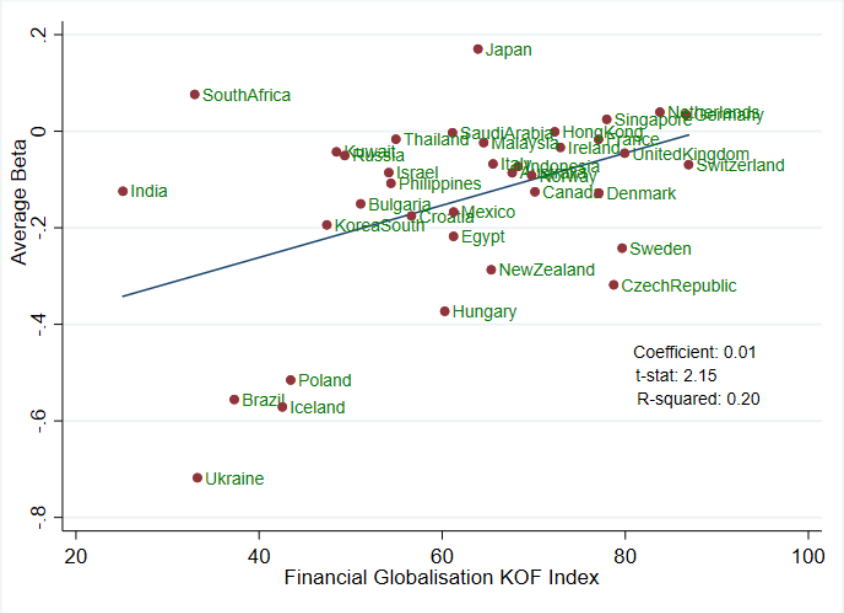
The figure shows the cumulative return of the APR portfolio adjusted for volatility. In particular, we multiply the raw return of the APR portfolio by the ratio of annual market stock return to the annual APR portfolio volatility. The data are from January 1984 to December 2020.

Figure 5. Average Beta and Country Characteristics (Trade network centrality and Financial Globalization

(a) Panel A: Average Beta and Trade network centrality



(b) Panel B: Average Beta and Financial Globalization



The figure shows average beta APR and trade network centrality (Richmond, 2019) (Panel A), average beta APR and KOF financial Globalization Index (Dreher, 2006; Gygli et al., 2019) (Panel B). The data are from January 1984 to December 2020.

Table 1. Populist Dictionary

This table reports the populist terms identified in the dictionary by Bonikowski and Gidron (2015) (Panel A), and the new populist terms used in social media, which we extract from Trump tweets. We label the latter as Populism 2.0 dictionary (Panel B). We use this dictionary to identify newspaper articles containing populist rhetoric.

Bonikowski and Gidron (2015)'s Populist Dictionary	
N-grams	Words
Unigrams	bureaucrat OR millionaire OR baron OR venal OR crooked OR unresponsive OR arrogant
Bigrams	special interests OR Wall Street OR Main Street OR big corporations OR ordinary taxpayer OR wealthy few OR professional politician OR big interest OR big money OR Washington elite OR rich friend OR power monger OR power grabbing OR easy street OR privileged few OR forgotten Americans OR long nose
Trigrams	top 1 percent OR average American taxpayer
Four-grams+	government is too big OR government that forgets the people
(New) Populism 2.0 Dictionary	
N-grams	Words
Unigrams	tariffs OR maga
Bigrams	tax cuts OR fake news OR border security OR illegal immigration OR American first
Trigrams	fake news media
Four-grams+	make America great again

Table 2. Summary Statistics of APR Index and PR Sub-Indices

This table reports summary statistics of Aggregate Populist Rhetoric Index (APR) and its sub-indices based Bonikowski and Gidron (2015) dictionary (BG dictionary) and the new dictionary based on tweets (P2.0 dictionary). We report mean, standard deviation, minimum and maximum values, skewness, kurtosis, autocorrelation (AC(1)) and augmented Dickey-Fuller *t*-statistic of APR, changes in APR (i.e.ΔAPR). *** indicates significance at the 1% level, ** at the 5% level, and * at the 10% level. Monthly data are from January 1984 to December 2020.

	Populism Indices					
	APR Index	ΔAPR Index	PR BG Index	ΔPR BG Index	PR P2.0 Index	ΔPR P2.0 Index
Mean	0.05	0.02	0.04	0.02	0.01	0.13
Std	0.02	0.22	0.02	0.22	0.02	0.63
Min	0.01	-0.59	0.01	-0.68	0.00	-1.00
Max	0.14	1.38	0.14	1.28	0.10	5.17
Skewness	1.03	1.21	1.20	1.14	2.25	2.39
Kurtosis	4.14	7.03	5.97	7.02	8.40	13.87
AC(1)	0.82	-0.32	0.82	-0.35	0.85	-0.23
Dickey Fuller *t*-statistic	-3.58***	-12.52***	-3.64***	-13.24***	-3.47***	-15.80***

Table 3. Correlations with Economic Uncertainty and Political Risk Indices

This table reports correlations between APR Index and various indices capturing economic uncertainty and political risks. EPU is the Economic Policy Uncertainty from Baker et al. (2016); UNC^m, UNC^q, UNC^y are 1-month-ahead, 3-month-ahead and 12-month-ahead macroeconomic uncertainty indices respectively from Jurado et al. (2015), GPR is the geopolitical risk index from Caldara and Iacoviello (2022), VIX is the CBOE Volatility Index, TPU is the Trade Policy Uncertainty from Caldara et al. (2020). We report results for both index level (*Panel A*) and its percentage change (*Panel B*). *** indicates significance at the 1% level, ** at the 5% level, and * at the 10% level. Monthly data are from January 1984 to December 2020.

Panel A: Index Level

	APR index	P2.0 PR Index	BG PR Index	EPU	UNC^m	UNC^m	UNC^y	GPR	VIX	TPU
APR index	1									
P2.0 PR Index	0.59***	1								
BG PR Index	0.73***	-0.10*	1							
EPU	-0.05	0.26***	-0.29***	1						
UNC^m	-0.05	-0.05	-0.02	0.56***	1					
UNC^q	-0.04	-0.05	-0.01		0.53***	0.99***	1			
UNC^y	0.00	-0.03	0.03	0.50***	0.98***	0.98***	1			
GPR	-0.23***	-0.11*	-0.19***	0.14**	0.01	0.02	0.00	1		
VIX	0.18***	-0.14**	0.34***	0.42***	0.59***	0.60***	0.60***	0.05	1	
TPU	0.31***	0.74***	-0.24***	0.33***	-0.01	-0.02	0.00	-0.03	-0.14**	1

Panel B: Index Change

	ΔAPR Index	ΔP2.0 PR Index	ΔBG PR Index	ΔEPU	Δ UNC^m	ΔUNC^q	Δ UNC^y	ΔGPR	ΔVIX	ΔTPU
Δ APR Index	1									
ΔP2.0 PR Index	0.55***	1								
ΔBG PR Index	0.76***	0.04	1							
ΔEPU	0.06	0.04	0.00	1						
ΔUNC^m	0.01	-0.01	0.04	0.23***	1					
ΔUNC^q	0.01	-0.02	0.06	0.24***	0.98***	1				
ΔUNC^y	0.02	-0.04	0.07	0.22***	0.93***	0.97***	1			
ΔGPR	-0.08	-0.06	-0.08	0.29***	0.12*	0.12*	0.08	1		
ΔVIX	0.06	-0.04	0.11*	0.23***	0.23***	0.26***	0.27***	0.08	1	
DeltaTPU	0.22***	0.19***	0.06	0.12*	-0.13*	-0.12*	-0.09	-0.09	0.05	1

Table 4. Portfolios sorted on APR Betas

This table reports summary statistics for the excess returns of three currency portfolios sorted on exposure to APR Index for the Full sample (Jan 1984- Dec 2020, *Panel A*), Recent sample (Jan 2000- Dec 2020, *Panel B*). We construct the APR index in the full sample based on The New York Times articles, while the APR index in the recent sample is based on five newspapers, including The Washington Post, The New York Daily News, The New York Post, USA Today, and The New York Times. Portfolio 1 (P_1) contains currencies with the lowest APR Index betas, and Portfolio 5 (P_5) contains currencies with the highest APR Index betas. LMH represents the portfolios that have a short position in the high beta portfolio (P_5) and a long position in the low beta portfolio (P_1). For each portfolio, we report annualized mean and its t-statistics (reported in squared brackets), standard deviation (Std) and Sharpe ratios (SR), and average betas of individual currencies(β), all in percentage points. We also report skewness and kurtosis. The data are monthly from January 1984 (January 2000, Panel B) to December 2020.

Panel A: Full Sample: New York Times						
	P_1	P_2	P_3	P_4	P_5	LMH_{APR}
Mean	3.09	2.90	0.60	0.12	-0.10	3.19
	[2.19]	[2.11]	[0.43]	[0.10]	[-0.07]	[2.19]
Std	8.23	8.01	8.15	7.54	7.82	8.49
Skewness	-0.53	-0.09	-0.50	-0.56	-0.72	-0.16
Kurtosis	4.86	4.46	5.28	5.45	6.16	4.37
Exchange rate change	-0.36	-2.22	0.68	1.43	3.03	-3.40
	[-0.25]	[-1.56]	[0.46]	[1.04]	[2.15]	[-2.40]
Forward discount	2.72	0.68	1.28	1.56	2.94	-0.22
	[6.96]	[3.33]	[4.28]	[6.10]	[9.47]	[-0.37]
SR	0.38	0.36	0.07	0.02	-0.01	0.38
β^{APR}	-0.47	-0.20	-0.06	0.07	0.30	
Panel B: Recent Sample: Five Newspapers						
	P_1	P_2	P_3	P_4	P_5	LMH_{APR}
Mean	4.48	1.81	0.41	1.41	-0.73	5.21
	[2.20]	[0.89]	[0.22]	[0.87]	[-0.43]	[2.63]
Std	8.63	8.63	7.80	6.85	7.18	8.41
Skewness	-0.53	-0.09	-0.50	-0.56	-0.72	-0.16
Kurtosis	4.86	4.46	5.28	5.45	6.16	4.37
Exchange rate change	0.30	-1.00	0.47	0.06	2.93	-2.63
	[0.14]	[-0.49]	[0.25]	[0.03]	[1.76]	[-1.38]
Forward discount	4.79	0.81	0.87	1.47	2.24	2.55
	[7.79]	[3.85]	[3.75]	[4.42]	[5.31]	[2.98]
Exchange rate change	0.11	-1.82	0.22	1.63	2.62	-2.51
(New York Times)	[0.05]	[-0.92]	[0.12]	[0.98]	[1.40]	[-1.32]
Forward discount	4.43	0.79	1.11	1.25	2.66	1.78
(New York Times)	[7.17]	[4.57]	[4.49]	[4.91]	[6.04]	[2.57]
SR	0.52	0.21	0.05	0.21	-0.10	0.62
β^{APR}	-0.58	-0.33	-0.17	-0.01	0.24	

Table 5. Trading strategy based on U.S. Populist Rhetoric and Other Investment Strategies

This table reports contemporaneous time-series regressions of APR portfolio on the dollar, carry trade, and momentum factors. Newey and West (1987) t-statistics are reported in brackets, where *** indicates significance at the 1% level, ** at the 5% level, and * at the 10% level. We report the Full (Recent) sample results in Panel A (B). The data are monthly from January 1984 (January 2000, in Panel B) to December 2020.

Panel A: Full Sample: New York Times			
	(1)	(2)	(3)
Constant	0.003**	0.004***	0.004***
	(2.08)	(2.61)	(3.44)
λ_{DOL}	-0.002	0.029	0.026
	(-0.03)	(0.43)	(0.42)
λ_{CAR}		-0.149**	-0.157**
		(-1.99)	(-2.22)
λ_{MOM}			0.122
			(1.54)
Obs	408	408	408
Adj R^2	0.00	0.02	0.04
Panel B: Recent Sample: Five Newspapers			
	(1)	(2)	(3)
Constant	0.004**	0.004*	0.005**
	(2.50)	(1.85)	(2.41)
λ_{DOL}	0.057	0.052	0.047
	(0.56)	(0.55)	(0.58)
λ_{CAR}		0.037	-0.002
		(0.24)	(-0.02)
λ_{MOM}			0.259**
			(2.02)
Obs	216	216	216
Adj R^2	0.00	0.00	0.07

Table 6. Cross-sectional FX Asset Pricing with U.S. Populist Rhetoric

This table reports regression results for the estimation of the market price of APR index betas. The control variables are volatility ($\lambda_{Volatility}$) and illiquidity ($\lambda_{Illiquidity}$) as in Menkhoff et al. (2012a). Newey and West (1987) t-statistics are reported in brackets, where *** indicates significance at the 1% level, ** at the 5% level, and * at the 10% level. We report the Full (Recent) sample results in Panel A (B). The data are monthly from January 1984 (January 2000, in Panel B) to December 2020.

Panel A: Full Sample: New York Times				
	(1)	(2)	(3)	(4)
λ_{APR}	-0.006***	-0.006***	-0.005**	-0.006***
	(-2.94)	(-2.64)	(-2.23)	(-2.64)
$\lambda_{Volatility}$		0.238*		0.274*
		(1.85)		(1.94)
$\lambda_{Illiquidity}$			-0.000	-0.000
			(-0.77)	(-0.16)
Constant	0.001	0.000	-0.000	-0.000
	(0.69)	(0.48)	(-0.23)	(-0.50)
Obs	9,868	9,020	9,025	9,020
R^2	0.16	0.22	0.27	0.32
Panel B: Recent Sample: Five Newspapers				
	(1)	(2)	(3)	(4)
λ_{APR}	-0.012***	-0.008**	-0.007**	-0.007**
	(-3.12)	(-2.18)	(-2.06)	(-2.04)
$\lambda_{Volatility}$		0.131		0.143
		(1.06)		(1.14)
$\lambda_{Illiquidity}$			0.000	0.000
			(0.09)	(0.49)
Constant	0.001	0.001	0.000	0.000
	(0.53)	(0.56)	(0.32)	(0.14)
Obs	6,665	5,843	5,845	5,843
R^2	0.13	0.17	0.21	0.25

Table 7. Portfolios of stocks sorted by shipping cost and APR Index

This table reports correlations between portfolios of stock returns sorted by shipping cost and APR Index. Portfolio 1 (P_1) contains stocks with the lowest shipping cost, and Portfolio 5 (P_5) contains stocks with the highest shipping cost. LMH represents the portfolios that have a long position in the low shipping cost portfolio (P_1) and a short position in the high shipping cost portfolio (P_5). We report p-values in parenthesis. The data are monthly from January 1984 (January 2000) to December 2020.

Panel A: Pairwise correlations

	Equally-weighted portfolios						Value-weighted portfolios					
	P_1	P_2	P_3	P_4	P_5	LMH	P_1	P_2	P_3	P_4	P_5	LMH
APR Index	0.04	0.03	-0.02	-0.04	-0.05	0.14 (0.00)	0.10	0.04	0.05	-0.01	-0.01	0.15 (0.00)

Panel B: Pairwise correlations controlling for Fama-French 3 factors

	Equally-weighted portfolios						Value-weighted portfolios					
	P_1	P_2	P_3	P_4	P_5	LMH	P_1	P_2	P_3	P_4	P_5	LMH
APR Index	0.13	0.11	0.00	-0.06	-0.10	0.18 (0.00)	0.23	0.09	0.12	0.004	0.00	0.18 (0.00)

Panel C: Pairwise correlations controlling for Fama-French 5 factors

	Equally-weighted portfolios						Value-weighted portfolios					
	P_1	P_2	P_3	P_4	P_5	LMH	P_1	P_2	P_3	P_4	P_5	LMH
APR Index	0.12	0.10	-0.00	-0.07	-0.10	0.19 (0.00)	0.23	0.09	0.12	0.00	-0.01	0.18 (0.00)

Table 8. Average Beta and Country Characteristics

This table reports contemporaneous cross-sectional regressions of average betas on trade network centrality (Panel A), KOF financial globalization (Panel B) with other controls including log GDP share, log distance to the U.S., institutional quality (e.g., government effectiveness) and populism score of each country i. Robust t-statistics are reported in brackets, where *** indicates significance at the 1% level, ** at the 5% level, and * at the 10% level. The data are monthly from January 1984 to December 2020.

	Panel A: Trade network centrality				
	(1)	(2)	(3)	(4)	(5)
Trade network centrality$_i$	0.003***	0.003**	0.003**	0.003**	0.003**
	(3.07)	(2.13)	(2.13)	(2.57)	(2.11)
Log GDP share$_i$		0.028	0.028	0.042	0.016
		(0.98)	(0.98)	(1.50)	(0.55)
Log distance to U.S.$_i$		0.126**	0.126**	0.121**	0.054
		(2.46)	(2.46)	(2.40)	(1.02)
Government Effectiveness$_i$				-0.015	-0.035
				(-0.46)	(-0.72)
Populism Score$_i$					-0.438*
					(-1.73)
Constant	-0.273***	-1.264**	-1.264**	-1.185**	-0.581
	(-4.40)	(-2.68)	(-2.68)	(-2.52)	(-1.12)
Observations	38	38	38	36	26
R^2	0.17	0.28	0.28	0.38	0.52
	Panel B: KOF Financial Globalization				
	(1)	(2)	(3)	(4)	(5)
KOF Financial Globalization$_i$	0.005**	0.004*	0.005**	0.007***	0.006**
	(2.15)	(1.78)	(2.20)	(2.73)	(2.00)
Log GDP share$_i$		0.048**	0.055***	0.051**	0.037
		(2.09)	(2.79)	(2.45)	(1.57)
Log distance to U.S.			0.144**	0.126**	0.071
			(2.57)	(2.55)	(1.35)
Government Effectiveness$_i$				-0.015	-0.035
				(-0.46)	(-0.72)
Populism Score$_i$					-0.412*
					(-1.73)
Constant	-0.273***	-1.264**	-1.264**	-1.185**	-0.581
	(-4.40)	(-2.68)	(-2.68)	(-2.52)	(-1.12)
Observations	37	37	37	36	26
R^2	0.19	0.29	0.40	0.47	0.56

Table 9. Cross-sectional FX Asset Pricing with U.S. Populist Rhetoric: DOL, CAR and MOM

This table reports regressions results for the estimation of the market price of APR index betas (λ_{APR}). The control variables are Dollar factor (λ_{DOL}), Carry factor (λ_{CAR}) as in Lustig et al. (2011). Newey and West (1987) t-statistics are reported in brackets, where *** indicates significance at the 1% level, ** at the 5% level, and * at the 10% level. We report the Full (Recent) sample results in Panel A (B). The data are monthly from January 1984 (January 2000, in Panel B) to December 2020.

Panel A: Full Sample: New York Times				
	(1)	(2)	(3)	(4)
λ_{APR}	-0.007**	-0.008***	-0.008***	-0.008***
	(-2.44)	(-2.67)	(-2.85)	(-3.37)
λ_{DOL}		0.004	0.001	0.001
		(1.46)	(0.56)	(0.52)
λ_{CAR}			0.003*	0.002
			(1.84)	(1.34)
λ_{MOM}				0.003
				(-0.72)
Constant	0.001	0.001	0.001	0.000
	(1.15)	(0.98)	(0.93)	(0.55)
Obs	9,810	9,810	9,810	9,810
R^2	0.16	0.24	0.37	0.45
Panel B: Recent Sample: Five Newspapers				
	(1)	(2)	(3)	(4)
λ_{APR}	-0.012***	-0.012***	-0.011***	-0.012***
	(-2.83)	(-2.87)	(-2.61)	(-2.83)
λ_{DOL}		0.003	0.001	0.001
		(0.99)	(0.20)	(0.23)
λ_{CAR}			0.003*	0.003*
			(1.76)	(1.74)
λ_{MOM}				0.005*
				(1.84)
Constant	0.001	0.001	0.001	0.001
	(0.82)	(0.80)	(0.85)	(1.12)
Obs	6711	6711	6711	6711
R^2	0.14	0.20	0.33	0.39

Table 10. FX Asset Pricing Tests

This table reports regressions results for the two-factor model, including the DOL and APR risk factors. Test assets used are 6 APR portfolios. Portfolios are rebalanced monthly. Newey and West (1987) t-statistics are reported in squared brackets, where *** indicates significance at the 1% level, ** at the 5% level, and * at the 10% level. We also report R^2, Root Mean Squared Error (RMSE). We report the Full (Recent) sample results in Panel A,B (C,D). The data are monthly from January 1984 (January 2000, in Panel C,D) to December 2020.

Panel A: : Two-factor model: Full Sample: New York Times					
	λ_{DOL}	λ_{APR}	RMSE	R^2	GRS
FMB	0.003	-0.003**	0.000	0.68	7.87
(NW)	[0.43]	[-2.04]			

Panel B: : Three-factor model: Full Sample: New York Times						
	λ_{DOL}	λ_{HML}	λ_{MOM}	RMSE	R^2	GRS
FMB	0.026	-0.012	-0.000	0.000	0.60	18.95
(NW)	[0.99]	[-1.09]	[-0.03]			
	λ_{APR}	λ_{HML}	λ_{MOM}	RMSE	R^2	GRS
FMB	-0.003**	0.003	-0.01	0.001	0.72	9.31
(NW)	[2.07]	[0.61]	[-1.05]			

Panel C: Two-factor model: Recent Sample: Five Newspapers					
	λ_{DOL}	λ_{APR}	RMSE	R^2	GRS
FMB	0.015	-0.005**	0.000	0.99	6.39
(NW)	[1.44]	[-2.36]			

Panel D: : Three-factor model: Recent Sample: Five Newspapers						
	λ_{DOL}	λ_{HML}	λ_{MOM}	RMSE	R^2	GRS
FMB	0.011	0.004	0.014	0.000	0.93	7.58
(NW)	[0.99]	[-1.09]	[-0.03]			
	λ_{APR}	λ_{HML}	λ_{MOM}	RMSE	R^2	GRS
FMB	-0.004**	0.007*	0.006	0.000	0.95	2.62
(NW)	[2.28]	[1.64]	[0.45]			

Table 11. Three Pass Fama Macbeth FX Asset Pricing Tests

This table reports three pass Fama Macbeth regressions (Giglio and Xiu, 2021) results for the two-factor model, including the DOL and FPR risk factors. Test assets used are six carry portfolios, six short-term momentum portfolios, six long-term momentum portfolios, 6 APR portfolios, six value portfolios, six global volatility portfolios, six global liquidity portfolios, and six uncertainty portfolios. Portfolios are rebalanced monthly. Newey and West (1987) t-statistics are reported in squared brackets, where *** indicates significance at the 1% level, ** at the 5% level, and * at the 10% level. We also report R^2_{DOL} and R^2_{FRP}. We report the Full (Recent) sample results in Panel A, B (C, D). The data are monthly from January 1984 (January 2000, in Panel C, D) to December 2020.

Panel A: Two-factor model: Full Sample: New York Times

	λ_{DOL}	λ_{APR}		R^2_{DOL}	R^2_{APR}
FMB	0.001	-0.003**		0.07	0.96
(NW)	[1.67]	[-2.0]			

Panel B: Three-factor model: Full Sample: New York Times

	λ_{DOL}	λ_{HML}	λ_{MOM}	R^2_{DOL}	R^2_{HML}	R^2_{MOM}
FMB	0.001*	0.005***	-0.006***	0.07	0.94	0.89
(NW)	[1.67]	[3.31]	[-3.56]			
	λ_{APR}	λ_{HML}	λ_{MOM}	R^2_{APR}	R^2_{HML}	R^2_{MOM}
FMB	-0.003**	0.005***	-0.006***	0.96	0.94	0.89
(NW)	[-2.0]	[3.31]	[-3.56]			

Panel C: Two-factor model: Recent Sample: Five Newspapers

	λ_{DOL}	λ_{FPR}		R^2_{DOL}	R^2_{FPR}
FMB	0.008	-0.005**		0.13	0.93
(NW)	[0.72]	[-2.27]			

Panel D: Three-factor model: Recent Sample: Five Newspapers

	λ_{DOL}	λ_{HML}	λ_{MOM}	R^2_{DOL}	R^2_{HML}	R^2_{MOM}
FMB	0.001	0.005***	-0.003	0.14	0.93	0.88
(NW)	[0.72]	[2.84]	[-1.47]			
	λ_{FRP}	λ_{HML}	λ_{MOM}	R^2_{FPR}	R^2_{HML}	R^2_{MOM}
FMB	-0.005**	0.005***	-0.003	0.93	0.93	0.88
(NW)	[-2.27]	[2.84]	[-1.47]			

Table 12. Cross-section FX Asset Pricing with Transaction Cost

This table reports regressions results and portfolio sorts for the estimation of the price of APR index betas (λ_{APR}) and LMH Portfolio. *Panel A* shows cross-sectional regressions of currency excess returns at time $t+1$ on the APR index at time t. *Panel B* displays the spread of portfolios that are sorted based on APR betas. We consider as transaction cost 25% of the quoted spread. Newey and West (1987) t-statistics are reported in brackets, where *** indicates significance at the 1% level, ** at the 5% level, and * at the 10% level. We report the results for the Full and Recent samples. The data are monthly from January 1984 (January 2000, in Panel B) to December 2020.

Panel A: Cross-sectional Regressions

	Full Sample Risk premium (1)	Recent Sample Risk premium (2)
λ_{APR}	-0.006**	-0.010***
	(-2.07)	(-2.69)
Constant	0.00	0.00
	(0.01)	(0.65)
Obs	8,405	5,441
R^2	0.17	0.12

Panel B: Portfolio Sorts

	Full Sample LMH (1)	Recent Sample LMH (2)
Mean	2.96*	4.23**
	(1.66)	(2.14)
SR	0.34	0.50

Internet Appendix to

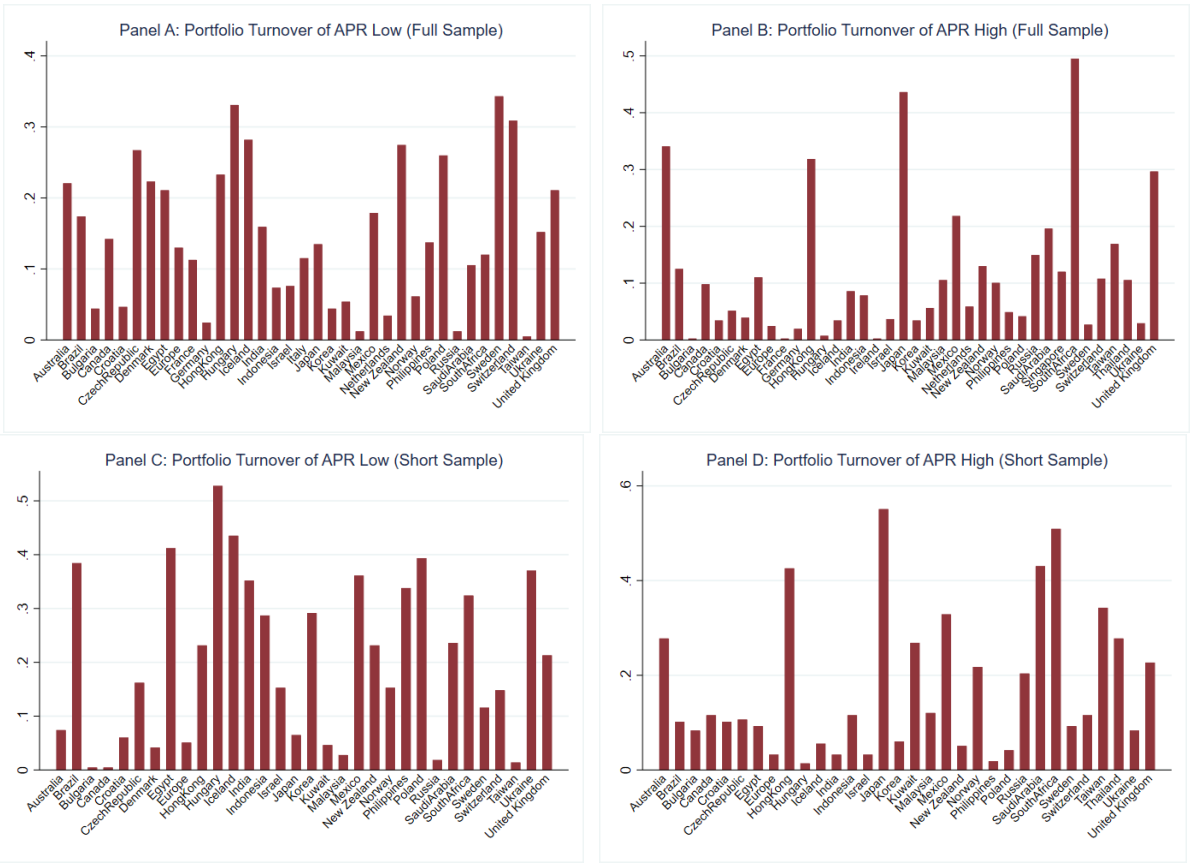
"U.S. Populist Rhetoric and Currency Returns"

by

ILIAS FILIPPOU ARIE GOZLUKLU MY T. NGUYEN MARK P. TAYLOR

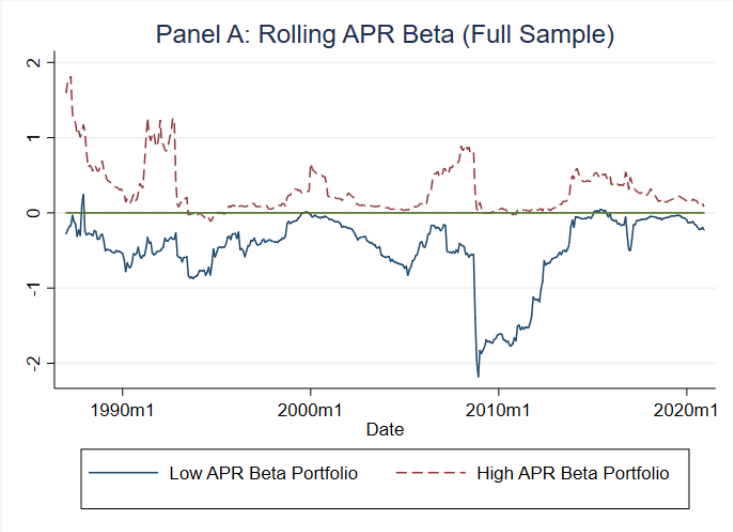
(Not for publication)

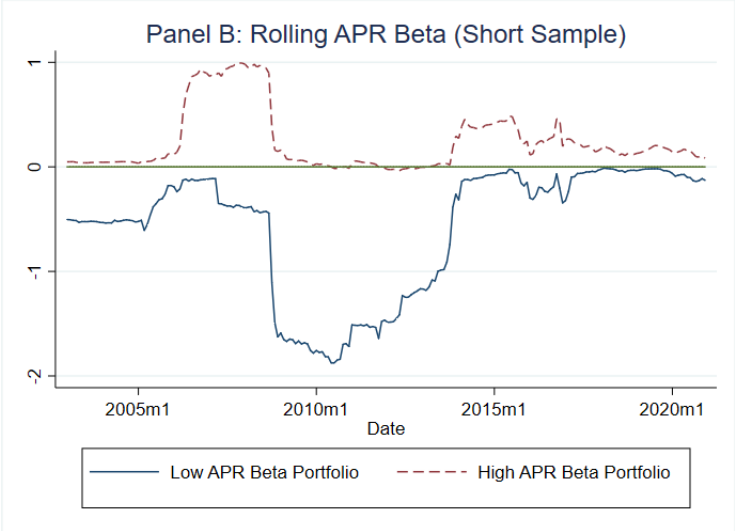
Figure A1. Portfolio Turnover



The figure shows the portfolio turnover of currency portfolios sorted on APR Index for the Full Sample (*Panel A* and *Panel B*), and for the Short Sample (*Panel C* and *Panel D*). The monthly data are from January 1984 to December 2020 (Panel A, Panel B) and from January 2000 to December 2020 (Panel C, Panel D).

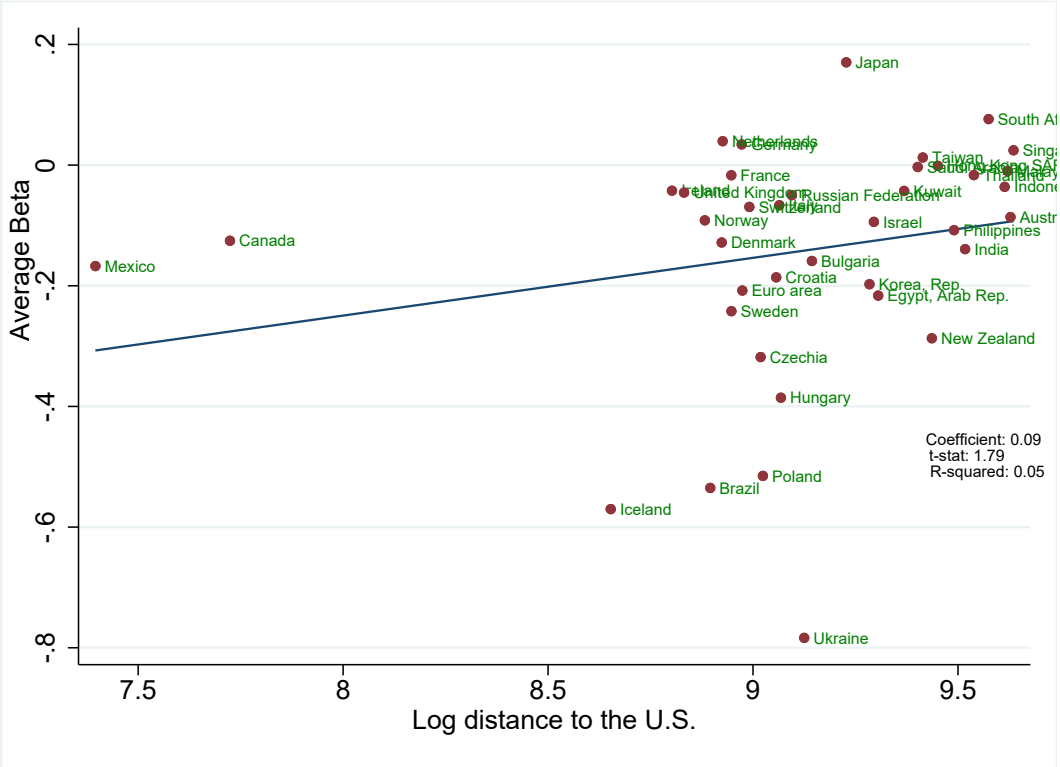
Figure A2. Rolling APR Betas of Portfolios





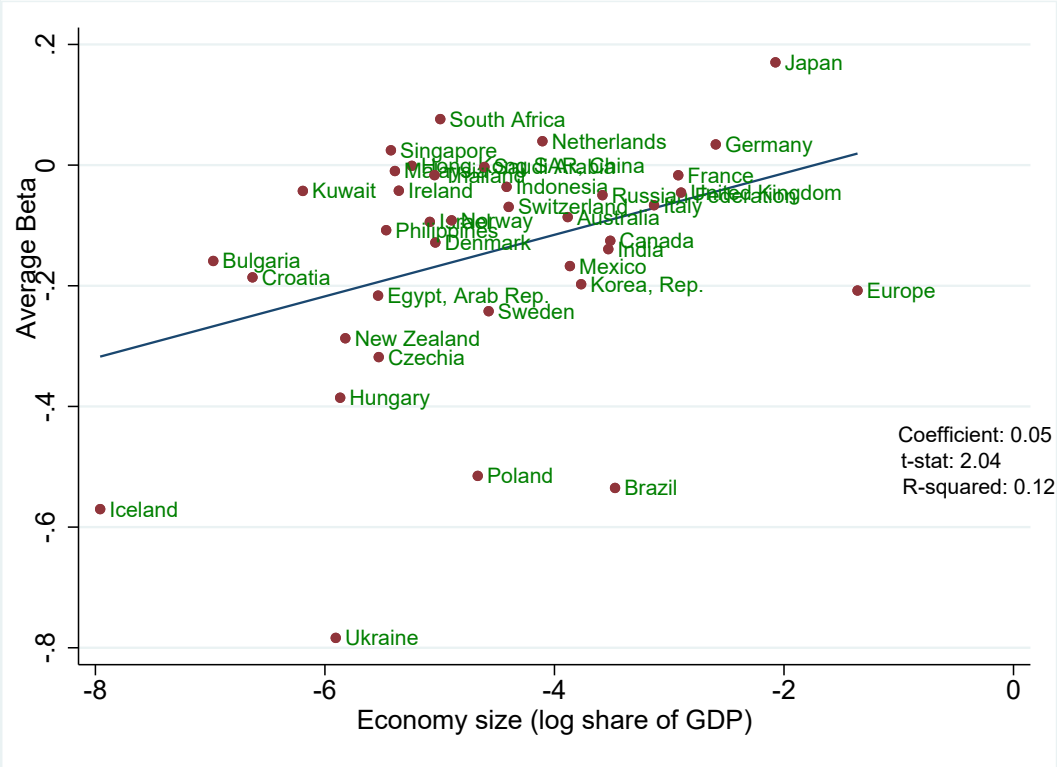
The figure shows the rolling betas of APR Full Sample (*Panel A*) and APR Short Sample (*Panel B*). In each panel, we plot the rolling betas of the low and high beta portfolios.The monthly data are from January 1984 to December 2020 (Panel A, Panel B) and from January 2000 to December 2020 (Panel C, Panel D).

Figure A3. Average Beta and Distance to the U.S.



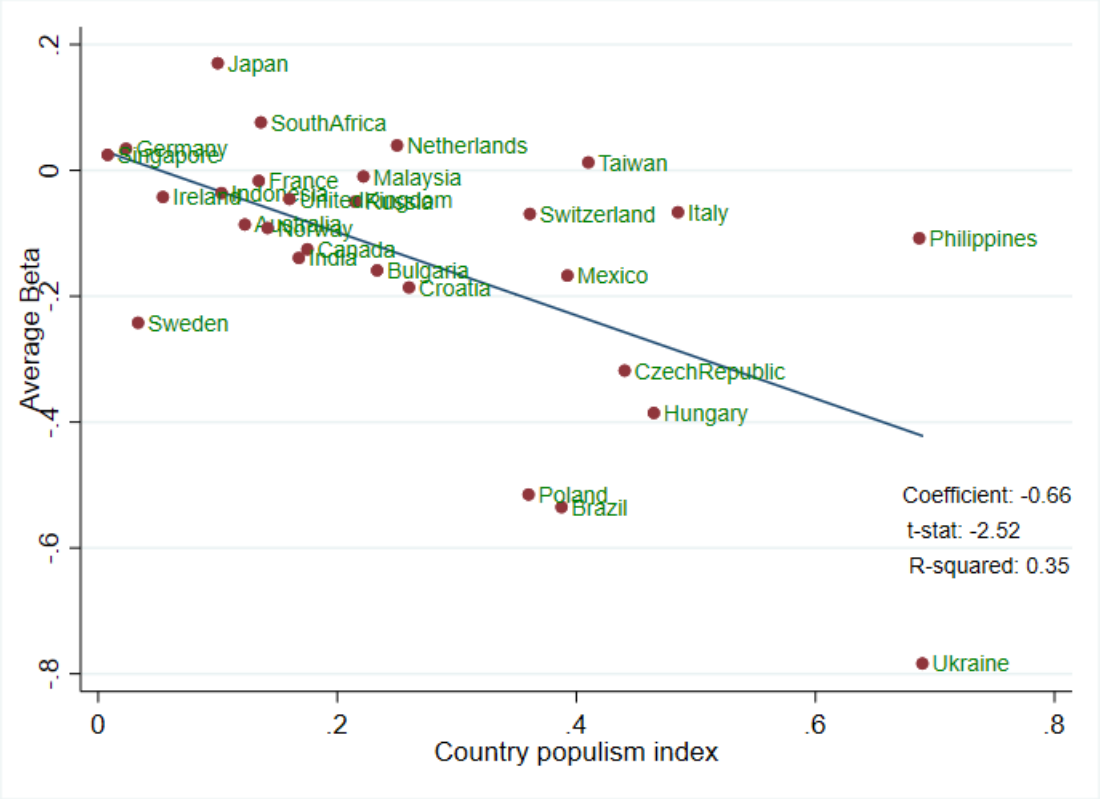
The figure shows the average beta APR and geographic distance to the U.S. (log kilometers). The data are from January 1984 to December 2020.

Figure A4. Average Beta and Country Size



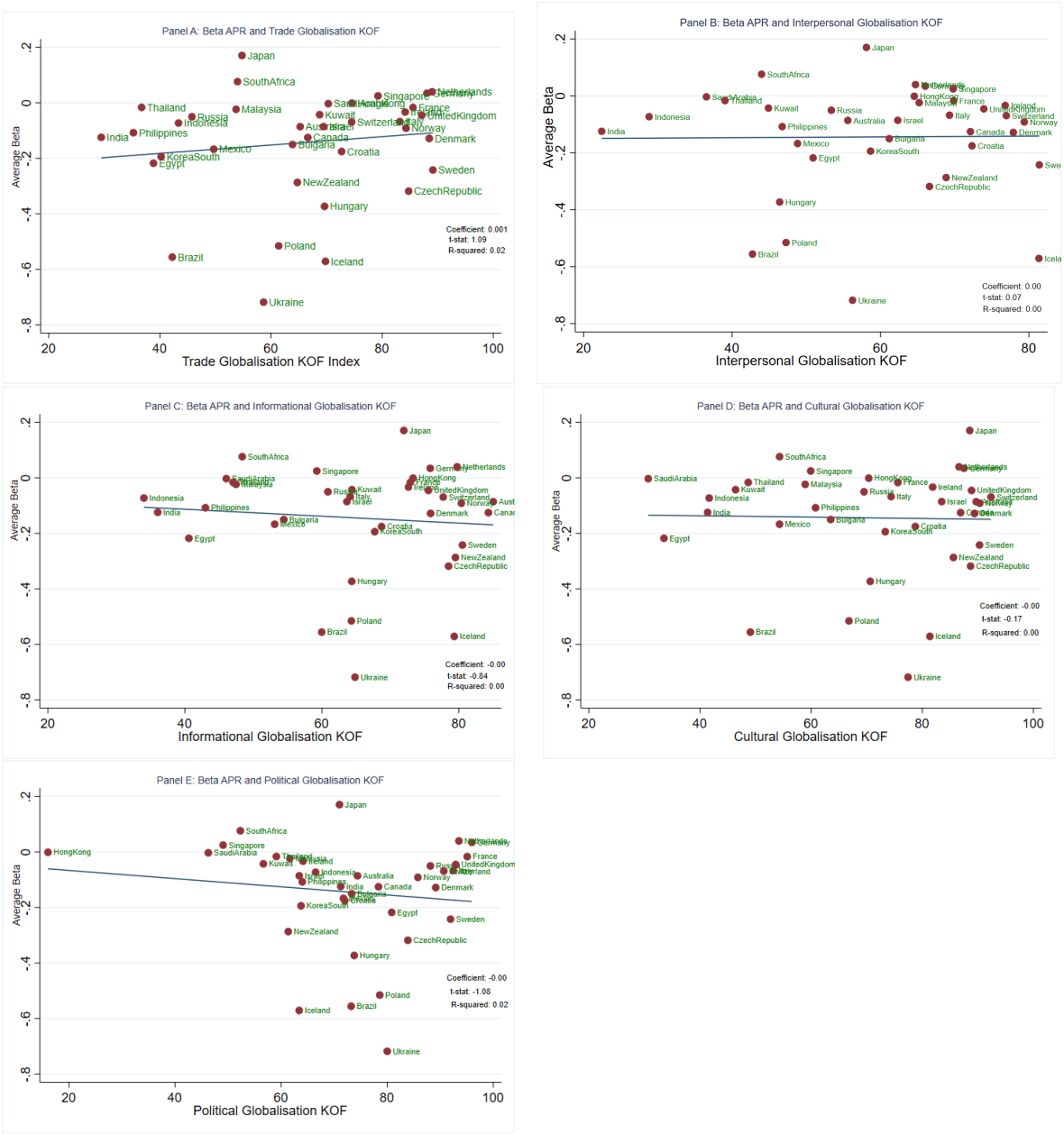
The figure shows average beta APR and country size (log share of GDP). The data are from January 1984 to December 2020.

Figure A5. Average Beta and Country Populism Score



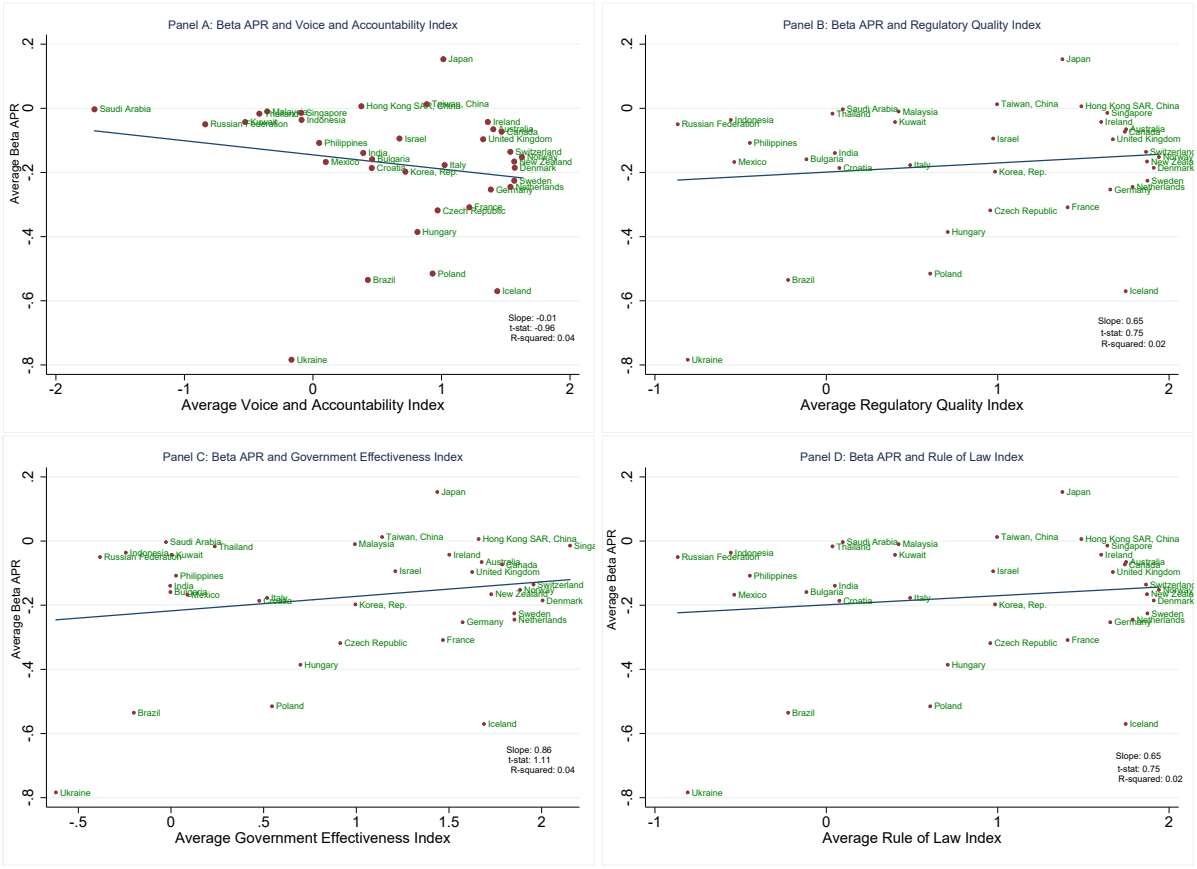
The figure shows average beta APR and Country Populism Score based on Hawkins et al. (2019). The data are from January 1984 to December 2020.

Figure A6. Average APR Beta and KOF Globalization Index



The figure shows average APR beta and a range of Globalization KOF Index (*Panel A*: Trade, *Panel B*: Interpersonal, *Panel C*: Information, *Panel D*: Cultural),*Panel E*: Political). The monthly data are from January 1998 to December 2020.

Figure A7. Average APR Beta and Institutional Quality



The figure shows average APR beta and a range of institutional quality dimensions provided by World Bank (*Panel A*: Voice and Accountability, *Panel B*: Regulatory Quality, *Panel C*: Government Effectiveness, *Panel D*: Rule Of Law). The monthly data are from January 1998 to December 2020.

Table A2. Distribution of Populism Topic Keywords by Bi-term Topic Modelling

The table reports results from Bi-term topic modelling implemented on Trump Twitter. These are the 5 populism topics. For each topic, the top 20 key words are reported.

Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
american again	tax	news	china	border
america	jobs	fake	trade	wall
join	american	media	deal	democrats
vote	economy	fake news	president	security
maga	cuts	news media	korea	country
crowd	obamacare	fake news media	united	immigration
carolina	republicans	story	north	illegal
floria	senate	jobs	north korea	mexico
rally	court	country	tariffs	border security
love	democrats	failing	meeting	southern
iowa	tax cuts	house	country	crime
amazing	country	election	iran	southern border
south	america	cnn	dollars	stop
live	healthcare	dishonest	prime	borders
day	supreme	president	minister	laws
ohio	supreme court	press	billion	republicans
hshire	bill	market	prime minister	strong
forward	vote	stock	deals	national
poll	house	white	farmers	dems
south carolina	taxes	bad	world	illegal immigration

Table A3. Distribution of Non-Populism Topic Keywords by Bi-term Topic Modelling

The table reports results from Bi-term topic modelling implemented on Trump Twitter. These are the 5 non-populism topics. For each topic, the top 20 key words are reported.

Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
hillary	party	honor	cruz	collusion
clinton	republicans	american	ted	fbi
crooked	america	law	poll	hunt
crooked hillary	job	america	president	witch
hillary clinton	republican party	happy	bush	witch hunt
endorsement	congratulations	world	ted cruz	democrats
interviewed	democrat	enforcement	jeb	russia
win	money	nation	wow	mueller
enjoy	president	women	rubio	caign
vote	record	law enforcement	john	hillary
job	country	day	debate	clinton
crime	governor	country	nice	comey
bernie	leadership	gold	caign	report
crooked hillary clinton	puerto rico	united	joe	russian
total	rico	attach	radical	crooked
bad	york	americans	failed	election
strong	jobs	heros	marco	obama
president	dollars	national	money	investigation
governer	left	prayers	watch	obstruction

Table A1. Portfolios sorted on Trade Policy Uncertainty Betas

This table reports summary statistics for the excess returns of three currency portfolios sorted on exposure to APR Index for the Full sample (Jan 1984- Dec 2020, *Panel A*), Trade Policy Uncertainty from Caldara et al. (2020) *Panel B*). We construct the APR index in the full sample based on The New York Times articles, while the APR index in the recent sample is based on five newspapers, including The Washington Post, The New York Daily News, The New York Post, USA Today, and The New York Times. Portfolio 1 (P_1) contains currencies with the lowest APR Index betas, and Portfolio 5 (P_5) contains currencies with the highest APR Index betas. LMH represents the portfolios that have a short position in the high beta portfolio (P_5) and a long position in the low beta portfolio (P_1). For each portfolio, we report annualized mean and its t-statistics (reported in squared brackets), standard deviation (Std) and Sharpe ratios (SR), and average betas of individual currencies(β), all in percentage points. We also report skewness and kurtosis. The data are monthly from January 1984 (January 2000, Panel B) to December 2020.

Panel A: PR P2.0 Index

	P_1	P_2	P_3	P_4	P_5	LMH_{APR}
Mean	3.08	2.14	1.58	0.31	-0.47	3.55
	[2.38]	[1.67]	[1.22]	[0.22]	[-0.31]	[2.50]
Std	7.52	7.47	7.51	8.26	8.88	8.26
Skewness	-0.39	0.04	-0.15	-0.51	-0.67	0.12
Kurtosis	5.12	3.92	4.25	4.95	5.72	4.71
SR	0.41	0.29	0.21	0.04	-0.05	0.43
β^{APR}	-0.53	0.02	0.24	0.49	0.87	

Panel B: Trade Policy Uncertainty

	P_1	P_2	P_3	P_4	P_5	LMH_{TPU}
Mean	2.51	1.46	0.40	0.88	1.60	0.91
	[1.99]	[1.10]	[0.283]	[0.58]	[0.97]	[0.70]
Std	6.79	7.47	8.04	8.31	9.13	7.56
Skewness	-0.51	0.05	-0.19	-0.58	-0.79	-0.35
Kurtosis	5.68	4.14	4.47	5.26	6.07	4.59
SR	0.38	0.37	0.20	0.11	0.18	0.12

Table A4. Cross-correlation table of country characteristics

This table reports correlations of country characteristics. Robust t-statistics are reported in squared brackets, where *** indicates significance at the 1% level, ** at the 5% level, and * at the 10% level. The data are monthly from January 1984 to December 2020.

	Trade network centrality	Log GDP Share	Log distance to U.S	Government Effectiveness	Populism Score	KOF Financial Globalization
Trade network centrality	1.00					
Log GDP Share	0.53 (0.00)	1.00				
Log distance to U.S.	-0.15 (0.34)	-0.18 (0.24)	1.00			
Government Effectiveness	0.46 (0.00)	0.11 (0.50)	-0.15 (0.34)	1.00		
Populism Score	-0.27 (0.14)	-0.30 (0.10)	-0.05 (0.77)	-0.59 (0.00)	1.00	
KOF Financial Globalization	0.56 (0.00)	0.24 (0.12)	-0.19 (0.20)	0.70 (0.00)	-0.38 (0.03)	1.00

Table A5. FX Asset Pricing Tests: Time-series Betas

This table reports time-series beta results for the two-factor model, including the DOL and APR risk factors. Test assets used are 6 APR portfolios. Portfolios are rebalanced monthly. Newey and West (1987) t-statistics are reported in squared brackets, where *** indicates significance at the 1% level, ** at the 5% level, and * at the 10% level. We also report R^2, Root Mean Squared Error (RMSE). We report the Full (Recent) sample results in Panel A (Panel B). The data are monthly from January 1984 (January 2000, in Panel C,D) to December 2020.

Panel A: : Two-factor model: Full Sample: New York Times

	$\beta_1 DOL$	$\beta_2 DOL$	$\beta_3 DOL$	$\beta_4 DOL$	$\beta_5 DOL$	$\beta_6 DOL$	$\beta_1 FRP$	$\beta_2 FRP$	$\beta_3 FRP$	$\beta_4 FRP$	$\beta_5 FRP$	$\beta_6 FRP$
FMB	0.16***	0.07	0.08	0.09*	0.09**	0.16***	-0.55***	-0.27***	-0.15*	-0.05	0.08	0.45***
(NW)	[2.93]	[1.34]	[1.34]	[1.93]	[2.12]	[2.93]	[-7.37]	[-3.47]	[-1.68]	[-0.56]	[1.04]	[6.09]

Panel C: Two-factor model: Recent Sample: Five Newspapers

	$\beta_1 DOL$	$\beta_2 DOL$	$\beta_3 DOL$	$\beta_4 DOL$	$\beta_5 DOL$	$\beta_6 DOL$	$\beta_1 FRP$	$\beta_2 FRP$	$\beta_3 FRP$	$\beta_4 FRP$	$\beta_5 FRP$	$\beta_6 FRP$
FMB	0.13*	0.02	-0.03	0.03	0.07	0.12	-0.63***	-0.41***	-0.34***	-0.20**	-0.11	0.37***
(NW)	[1.71]	[0.29]	[-0.43]	[0.49]	[1.19]	[1.71]	[-4.99]	[-3.08]	[-2.97]	[-2.35]	[-1.33]	[2.89]

Table A6. Portfolios sorted on APR Betas- Filtered Sample

This table reports summary statistics for the excess returns of three currency portfolios sorted on exposure to APR Index for the Full sample (Jan 1984- Dec 2020, *Panel A*), Recent sample (Jan 2000- Dec 2020, *Panel B*). We construct the APR index in the full sample based on The New York Times articles, while the APR index in the recent sample is based on five newspapers, including The Washington Post, The New York Daily News, The New York Post, USA Today, and The New York Times. Portfolio 1 (P_1) contains currencies with the lowest APR Index betas, and Portfolio 4 (P_4) contains currencies with the highest APR Index betas. LMH represents the portfolios that have a short position in the high beta portfolio (P_4) and a long position in the low beta portfolio (P_1). For each portfolio, we report annualized mean and its t-statistics (reported in squared brackets), standard deviation (Std), and Sharpe ratios (SR), all in percentage points. We also report skewness and kurtosis. The data are monthly from January 1984 (January 2000, Panel B) to December 2020.

Panel A: Full Sample: New York Times					
	P_1	P_2	P_3	P_4	LMH_{APR}
Mean	5.80	1.23	0.37	1.73	4.08
	[3.65]	[0.83]	[0.25]	[1.16]	[2.12]
Std	9.26	8.59	8.60	8.69	9.52
Skewness	-0.13	-0.17	-0.34	-0.70	0.15
Kurtosis	5.06	4.70	4.15	5.14	4.57
SR	0.63	0.14	0.04	0.20	0.43
Panel B: Recent Sample: Five Newspapers					
	P_1	P_2	P_3	P_4	LMH_{APR}
Mean	7.69	1.63	-0.05	2.15	5.54
	[3.34]	[0.75]	[-0.01]	[2.11]	[2.19]
Std	9.75	9.20	7.93	7.97	9.50
Skewness	-0.33	-0.68	-0.36	-0.35	-0.16
Kurtosis	5.95	5.32	3.81	4.41	4.49
SR	0.79	0.18	-0.01	0.27	0.58