Government Policy Approval and Exchange Rates

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Abstract

Measures of U.S. government policy approval are strongly related to persistent fluctuations in the dollar exchange rate. Contemporaneous correlations between approval ratings and the dollar value reach 50% against the advanced economy currencies, in real and nominal terms, in levels and multi-year changes. High approval ratings further forecast a decline in the dollar risk premium, a persistent increase in economic growth, and a reduction in future economic volatility several years in the future. We provide an illustrative economic model to interpret our empirical evidence. In the model, policy valuations are forward-looking and reflect net contributions of policy to economic growth. Policy valuations (approvals) increase at times of high policy-related growth and low policy-related uncertainty, which are the times of a strong dollar and low dollar risk premium.

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1 Introduction

A long-standing question in economics and finance concerns the connection between government policy risk, economic growth, and financial markets. In general, it is challenging to provide clear theoretical and empirical identification of policy-related, as opposed to broad macroeconomic fluctuations. A typical approach in the literature is to focus on particular policies of the government (e.g, monetary, tax, fiscal), and study their relation to economic variables. In our paper, we take a different approach and consider fluctuations in real-time public assessments of overall government performance. We show that public approvals of government policy are strongly related to macroeconomic fundamentals and the dollar exchange rates in the data. High approval ratings predict a persistent increase in future economic growth and especially a reduction in economic volatility. At the same time, high approval ratings are associated with a strong dollar and forecast a significant decline in future dollar exchange rates and excess currency returns several years in the future. We provide an illustrative economic model to help interpret our empirical evidence. In the model, government policies directly contribute to the productivity of the nontradable goods sector. When policies enhance growth, approval is high and the dollar strengthens through the cash-flow effect. On the other hand, when policy-related uncertainty is high, public assessments of government policy go down and the risk premia rise through the discount rate effect. These model channels can qualitatively explain the link between approval ratings, macroeconomic fundamentals, and exchange rates in the data.

Our benchmark policy approval measure, U.S. Presidential job approval, is designed to assess the public view of the presidential performance. In the political science literature, public assessments of president's job are shown to be relevant for policy outcomes in all three branches of the government, and help capture the aggregate public preferences ("Policy Mood") towards the government in general.[1] We chose Presidential job approval as our benchmark measure because of the data availability and its prominence in the academic literature and general public discussion. However, our main results hold for alternative measures of government performance, such as U.S. Congressional approval ratings or the U.S. Government Stability Index from the International Country Risk Guide database.

In our 1971-2016 sample, the average Presidential approval rate is 51%, and it exhibits large and persistent variation over time. Interestingly, approval ratings are only weakly related to current or past economic conditions. On the other hand, they contain significant information about future economic growth and especially the volatility of economic funda-

[1] See e.g. Neustadt (1960), Erikson, MacKuen, and Stimson (2002), Canes-Wrone and de Marchi (2002), Yates (2002), among many others.

mentals. Using predictive regressions, we find that approval ratings predict future growth in key economic indicators, such as the industrial production, GDP, and aggregate productivity, at horizons of up to about 1-2 years. In addition, an increase in approval ratings forecasts a persistent decline in the volatility of macroeconomic series, and broad indices of real and macroeconomic uncertainty of Jurado, Ludvigson, and Ng (2015) and of economic policy uncertainty in Baker, Bloom, and Davis (2016). These findings are consistent with the evidence and theories in the political science literature on a forward-looking behavior of economic voters (see e.g. MacKuen, Erikson, and Stimson, 1992; Shapiro and Conforto, 1980), and suggest that economic agents rationally incorporate information about the future economy in their assessments of government policies.

We next document a strong connection between government approval ratings and the dollar exchange rates. Because currencies represent claims to aggregate economy, their valuations should be better aligned with aggregate political factors than, say, equities which are subject to stock market specific risks. Indeed, in our subsequent economic model we can derive unambiguous predictions for the exchange rates. On the other hand, identifying the effects for equities and the stock market requires specifications of additional sectoral state variables, so that the overall effects can be ambiguous.

In the data, U.S. Presidential approval ratings are closely related to persistent movements in the dollar value. The evidence is particularly pronounced for the dollar exchange rates against advanced economy (AE) currencies: the contemporaneous correlation of dollar index level with approval rate is 52% both in nominal and real terms. Further, high approval ratings forecast a sizeable decline in the value of the dollar in the future. Using predictive regressions, we show that the effect of approval ratings is statistically significant at horizons of 6 months to 5 years for the broad and Advanced Economy indices. The evidence is strong for real indices and especially excess currency returns, in addition to nominal indices. The highest predictability is concentrated at 1-2 year horizons, with the R^2s reaching 10-15% in univariate specifications. The currency predictability results are robust to including controls, such as the U.S. industrial production growth and the average forward discount, suggested by Lustig, Roussanov, and Verdelhan (2014). Interestingly, the predictability evidence gets stronger prior to the Presidential elections when political uncertainty is elevated. The effects are also magnified when both President and Congress are of the same Party so that government policies are arguably more effective.

We consider an illustrative economic model to interpret our empirical evidence. We adopt a two-good production-based setup to model technology and fundamentals in each country. The economy features two types of consumption goods, tradable and nontradable. As in Farhi and Gabaix (2016), in addition to being consumed, nontradable goods can also be invested to produce tradable goods in the future. The productivity of the export technology is stochastic and can be interpreted as the competitiveness or effectiveness of the domestic economy. In equilibrium, dollar valuations represent the discounted present values of future productivity: when nontraded goods can be converted to traded goods more efficiently, they are more valuable, and the domestic currency strengthens.

We extend the framework to incorporate policy valuations. In our work, we chose not to micro-found specific policies of the government and the mechanism for their impact on economic growth. Instead, we adopt a reduced-form approach and assume that there are exogenous policy factors which affect economic fundamentals. This approach is similar to Pastor and Veronesi (2012, 2013) who directly introduce the impact of government policy on the production technology. To capture the incremental value of policy, we assume that agents measure the strength of the economy through an economic indicator which is related to the underlying fundamentals. We take an asset-pricing perspective on policy valuation and compute the discounted present value of future economic indicators, relative to the status quo were the government policies absent. High net valuations are taken to convey approval of the government, while low values suggest disapproval. We also provide a heterogeneous agent extension of the model which allows for a closer relationship between the net value of policy and approval rate, without changing the main economic insight of the model.

Fundamentally, what drives our economic explanation is a close correspondence between the value of the domestic currency and policy valuations: both are the discounted present values of claims positively exposed to aggregate economy. In this case, an anticipation of good economic times or low economic volatility, attributable to policy components of the fundamentals, simultaneously increases domestic currency and policy approvals, and lowers risk premia and expected currency returns. This can explain why high government approvals are associated with a strong dollar and forecast a decline in dollar exchange rates in the data.

Related literature. Our paper contributes to a large literature which studies economic and statistical determinants of the exchange rate fluctuations. It has been well known since Meese and Rogoff (1983a,b) that movements in exchange rates are notoriously difficult to predict, and it is especially challenging to find robust predictive power among aggregate fundamental variables and at long horizons.[2] Indeed, typical predictors in the literature are derived from the currency or interest rate data, and with a few exceptions, they work mainly at short horizons. One of the most common predictors of exchange rates is the interest rate differential between the domestic and foreign economy (Fama, 1984); however, the deviations of the uncovered interest rate parity tend to be short term and they disappear or even reverse at longer horizons (Chinn and Meredith, 2004; Engel, 2016). The evidence is more

[2] See Rossi (2013) for a critical review of the exchange predictability literature.

pronounced using the average of interest rate differentials across countries. As shown in Lustig, Roussanov, and Verdelhan (2014), the average forward discount, coupled with the U.S. industrial production growth, can explain up to 25% of dollar return variation up to a one-year horizon.[3] Notably our key predictive variable, U.S. Presidential approval ratings, does not have a strong relation to the business cycle or the average forward discount. Including both of these controls does not affect our main results. Furthermore, our predictability evidence is most pronounced at intermediate horizons of 1-2 years, while the predictive power of standard controls is strongest at shorter horizons up to one year.

The literature also shows that factors related to the level of the real exchange rate can significantly predict currency returns at long horizons (see Dahlquist and Penasse, 2017; Balduzzi and Chiang, 2017; Boudoukh, Richardson, and Whitelaw, 2016; Jorda and Taylor, 2012). Because our approval rate measure is correlated with the level of the dollar, we examine the relative importance of the two predictors. We find that our approval ratings contain significant information about future currency returns, at least at intermediate horizons of 6 to 2 years, controlling for the level of the dollar exchange rate itself.

Our paper is also related to the voluminous political science and economics literature which studies the determinants and the effects of government popularity. Theoretical models of the political economy address the linkages between political cycles and aspects of macroeconomy and capital markets; see Aguiar and Amador (2011), Ales, Maziero, and Yared (2012), Herrera, Ordonez, and Trebesch (2014), and Drazen (2000). Empirically, Blomberg and Hess (1997) provide early evidence for a link between political party-, election-, and candidate-specific characteristics to movements in future exchange rates at horizons of 1 to 12 months. Political cycle considerations are also found important for the forward bias and exchange rate volatility; see Bachman (1992) and Lobo and Tufte (1998). More broadly, government popularity measures are shown to be related to the price-earnings ratio (Wisniewski, Lightfoot, and Lilley, 2012), output growth (Metzger, 1999), inflation and interest rates (Shapiro and Conforto, 1980), the VIX index (Schwarts, Hoover, and Schwartz, 2008), financial crises (Herrera, Ordonez, and Trebesch, 2014), and a general state of the economy (Brace and Hinkley, 1991); see Berlemanna and Enkelmann (2014) for a survey review. Consistent with these studies, we find that approval ratings are forward-looking indicators of future economic growth. We also show novel empirical evidence on a strong connection of approval ratings to the macroeconomic volatility and the value of the dollar.

Broadly, our paper contributes to the macro-finance literature which highlights macroeco-

[3]Other predictors of exchange rates include volatility and variance premium (Corte, Ramadorai, and Sarno, 2016; Londono and Zhou, 2017), implied volatility (Chernov, Graveline, and Zviadadze, 2015), net foreign assets (Gourinchas and Rey, 2007), among others.

nomic channels for currency valuations (see e.g. Farhi and Gabaix, 2016; Mueller, Stathopoulos, and Vedolin, 2015; Bansal and Shaliastovich, 2013; Hassan, 2013; Stathopoulos, 2012; Colacito and Croce, 2011; Verdelhan, 2010). Our paper is different from these studies by focusing on policy approvals and their implications for valuations. The policy focus is related to the early seminal works of Obstfeld and Rogoff (1995) and Devereux and Engel (2003) that consider the effects of monetary and fiscal policies on exchange rate dynamics. A growing literature analyzes empirical and theoretical connections between the asset markets and fluctuations in broad policy uncertainty (Baker, Bloom, and Davis, 2016; Kelly, Pastor, and Veronesi, 2016; Pastor and Veronesi, 2013, 2012), monetary uncertainty (Mueller, Tahbaz-Salehi, and Vedolin, 2017), and fiscal uncertainty (Liu, 2016; Croce, Nguyen, Raymond, and Schmid, 2016). Our study relies on a different measure of policy risk and highlights its connection to currency valuations.

The rest of the paper is organized as follows. Section 2 shows the main empirical evidence. Section 3 presents an illustrative model and provides economic intuition for our findings. Conclusions follow.

2 Empirical Evidence

2.1 Data Description

For our empirical analysis, we collect U.S. government job approval ratings, and the asset-price and macroeconomic data for the U.S. and a panel of foreign countries. Our benchmark sample is monthly, and runs from 1971:1 to 2016:12 due to the availability of the exchange rate data.[4]

Our key policy measure, U.S. Presidential job approval ratings, comes from Gallup Analytics.[5] These ratings are designed to measure public view of the presidential job performance, and are shown in the political science research to capture aggregate public preferences ("Policy Mood") towards all branches of government. The ratings are based on periodic interviews (polls) of a large national panel which currently includes about 1,500 adults. Polls were conducted about twice a month over a four-day period in the beginning of our sample, and the frequency increased to nearly daily starting from President Obama in 2009. For consistency, we aggregate the data to monthly frequency by averaging the ratings over the month.

[4]Nominal exchange rates were fixed and financial integration was limited prior to 1971 (see Quinn, 1997; Obstfeld, 1998).

[5]The data are available at Gallup Presidential Job Approval Center at http://www.gallup.com/interactives/185273/presidential-job-approval-center.aspx.

For robustness, we also consider two other measures of government approvals. The first one is the U.S. Congressional job approval ratings, which also come from Gallup. The data start in 1974, annually, and monthly data are available from 1994. We consider the full 1974-2016 sample, and use annual observations to populate the missing monthly values within the year to create a balanced monthly time series. Our second alternative measure of government approvals comes from the International Country Risk Guide database of the Political Risk Service Group.[6] The data are provided by the editors of International Reports, a prominent newsletter on international finance and economics. For our analysis we consider the Government Stability Index, which is "...an assessment both of the government's ability to carry out its declared program(s), and its ability to stay in office" (PRS Group, 2004). The original index ranges from 0 to 12, but for a better comparison with our benchmark measures, we rescaled it to match the mean and volatility of U.S. Presidential approval ratings.

Our benchmark international data come from the Federal Reserve Bank of St. Louis (FRED) and Global Financial Database. Our set of countries is dictated by the availability of the data and is similar to Lustig, Roussanov, and Verdelhan (2011, 2014). Specifically, we collect the foreign exchange rate and interest rate data for 19 advanced economies, such as Australia, Austria, Belgium, Canada, Denmark, Euro zone, France, Germany, Italy, Ireland, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom, and 13 emerging markets, such as Czech Republic, Hungary, India, Indonesia, Kuwait, Malaysia, Mexico, Philippines, Poland, Singapore, South Africa, South Korea, and Thailand. We use 3-month government bond yield as the interest rate, and the interbank rate if the former is not available. We also collect CPI data from the FRED to consider real quantities. While the benchmark sample starts in 1971, due to data availability and quality issues, the data for many emerging market countries start in 1980s and early 1990s. As a robustness check, we also use a dataset from Datastream that covers spot and forward exchange rates from 1983. For this dataset, we use the forward discount instead of the interest rate differential to construct currency excess returns.

Finally, we collect the U.S. macroeconomic data, such as industrial production growth and aggregate productivity from the FRED, and Gross Domestic Product (GDP) from the BEA tables.

2.2 Government Policy Approval and Macroeconomy

The time series of our benchmark government policy approval measure, U.S. Presidential rating, are shown in Figure 1, and the key summary statistics are presented in Table 1. By

[6] The data are available at http://www.prsgroup.com.

construction, the approval rate is between 0 and 100%, as it represents a fraction of the responders with a positive assessment of President's job. In our sample, the average rating is 51%. Approval ratings exhibit large variation over time, reaching a minimum of 25% a month prior to Nixon's resignation due to the Watergate Scandal, and a maximum of 88% the month following the 9/11 terrorist attack. As shown in Figure 1, approval rate tends to spike at a start of a newly elected President. This is consistent with the political science research showing that a new President enjoys a "honeymoon" in the first month of the term (see e.g. Mueller, 1970, 1973). In the robustness section, we show that the "honeymoon effect" does not play a role for our key empirical results.

The fluctuations in approval rates are very persistent: the AR(1) coefficient is 0.94, which is much higher than the persistence of typical macroeconomic business cycle variables. In fact, the approval rate is essentially acyclical: its average values in recessions and expansions are virtually identical at 51.04% and 51.20%, respectively, and its contemporaneous correlation with measures of economic growth, such as real output, consumption, or industrial production, does not exceed 10-15%.

While the fluctuations in approval rates appear essentially uncorrelated with the business cycle, they are forward-looking and contain information about the expected growth and especially the volatility of economic fundamentals. First, one can consider contemporaneous correlations of approval ratings with other forward-looking measures (sentiments) for the economy and financial markets. As shown in Table 1, the correlation of Presidential approval ratings with the market price-dividend ratio, a popular gauge of long-term growth and risk expectations, is about 20%. It has about a 50% correlation with the Michigan Consumer Sentiment Index and the OECE Consumer Confidence Index, and about a 20% correlation with the Baker and Wurgler (2006) Investor Sentiment Index. These findings are consistent with the evidence in political science literature: for example, MacKuen, Erikson, and Stimson (1992) show that Presidential approval ratings are strongly related to consumer expectations about long-term business conditions, while Wisniewski, Lightfoot, and Lilley (2012) document a strong connection to the market price-earnings ratio.

To directly assess the information in the approval ratings for the future economy, we consider a predictive regression setup and regress future average multi-horizon economic growth rates on approval rate and the controls:

$$1/h \sum_{j=1}^{h} y_{t+j} = const + \beta_h^{App} App_t + \beta_h' controls_t + e_{y,t:t+h}, \tag{1}$$

where the dependent variable y is the growth rate in the U.S. industrial production, real output (GDP), and the aggregate productivity. Table 3 shows the OLS estimates of the loadings on approval rate β_h^{App}, the Newey-West and Hodrick (1992) t-statistics, and the adjusted R^2s in a univariate specification with a single approval rate variable, and in a multivariate specification where we also include a current value of the corresponding measure of economic growth. The horizon of the regression ranges from 1 month (1 quarter for GDP and productivity, which are quarterly series) to 5 years.

As evident from the table, the Presidential approval rate is a meaningful predictor of future economic growth. For all measures of growth, horizons, and specifications, the slope coefficients on approval rate are positive. Using Hodrick standard errors, the effects are significant for the industrial production and GDP, both in the univariate and multivariate specifications, at horizons of 1 month to 3 years. For aggregate productivity, the coefficients are significant up to a 1-year horizon under both Hodrick and Newey-West standard error estimates. In univariate specifications, approval rate alone explains 5% to 10% of the variation in economic growth at 1-2 year horizons.

In addition to predicting economic growth, approval rate is strongly and negatively related to economic volatility. To demonstrate this, we first extract residuals from the multivariate regression of next-period economic growth (i.e., $e_{y,t:t+1}$ in (1)), and then project the cumulative sum of squares of these residuals on approval rate and the controls:

$$1/h \sum_{j=1}^{h} e^2_{y,t+j:t+j+1} = const + \beta_h^{App} App_t + \beta_h' controls_t + e_{t:t+h}, \tag{2}$$

where y again stands for either the U.S. industrial production, GDP, or productivity based measures. Table 4 shows that high approval rate predicts a decline in future economic volatility. All the loadings on approval rate are negative. Nearly all are significant for the industrial production, and most are significant for GDP and aggregate productivity at horizons of above 1 year. The R^2 in univariate regressions are 10% at 1 year, and reach 20% at 2- and 3-year horizons for the industrial production and aggregate productivity measures.

This evidence is robust to alternative estimates of economic volatility. For example, approval ratings are significantly negatively related to real and macro uncertainty measures of Jurado, Ludvigson, and Ng (2015). Contemporaneous correlation between their volatility measures and approval ratings range between -0.20 and -0.30. Using the multi-horizon predictive framework in (1), we find that high approval rate predicts a decline in future cumulative economic uncertainty at all the considered horizons, as shown in Table 5. Virtually all the estimates are statistically significant both in a univariate specification and in the multivariate one controlling for the current value of volatility.[7] The R^2s reach 10-15% at 1-3 year horizons in a univariate specification. We also find that our approval ratings measure is negatively related to future broad economic policy uncertainty index of Baker, Bloom, and Davis (2016). The policy uncertainty of Baker, Bloom, and Davis (2016) is quite a bit less persistent than approval ratings or the economic volatility measures: the half-life of the policy uncertainty is 3.5 months, relative to 1 year for approval ratings and 2 years for the economic volatility. Given the difference in the frequency of measured fluctuations, we only find significance at longer horizons.

The presented empirical evidence for growth and volatility directly shows that approval ratings are a forward-looking indicator of the economy. An alternative hypothesis is that approval ratings are backward-looking and primarily respond to current or past events. To assess this hypothesis, we consider correlations of approval ratings with cumulative leads and lags of economic factors, $Corr(App_t, \sum_{i=0}^{h} y_{t+i})$, where y stands for industrial production growth or Jurado, Ludvigson, and Ng (2015) macroeconomic volatility index, and h goes from 3 years in the past to 3 years in the future. The correlation evidence shown in Figure 2 supports the forward-looking nature of approval ratings: approval ratings are much more strongly related to future economic growth and volatility than to their past values. This evidence motivates our subsequent theoretical model specification which links policy valuations to the present values of future economic indicators.

Finally, our benchmark evidence is based on Presidential job approval which by far is the most popular measure of the government job performance. It is motivated by a large political science literature which argues that this measure captures the aggregate public preferences towards all three branches of the government; see e.g. Neustadt (1960), Erikson, MacKuen, and Stimson (2002), Canes-Wrone and de Marchi (2002), Yates (2002), among many others. For robustness, we consider alternative government approval measures, such as Congressional ratings and Government Stability Index. The summary statistics for these measures are shown in Table 1, and the time series plots are provided in Figure 1. Overall, the properties of other measures are very similar to the benchmark. The correlation between Presidential approvals and Congressional approvals or Government Stability Index are in excess of 60% (the correlation with Congressional approval ratings rises to 80% in the 1994-2015 sample which contains monthly data for both series). All measures exhibit weak business cycle cyclicality, and similar and strong relation to the forward-looking measures of economic growth, such as Consumer and Business Sentiments (Table 1). Because of the data availability and its prominence in the academic literature and general public discussion, we

[7] Hodrick t-statistics may be inflated in a univariate specification due to a high residual autocorrelation of the error term.

use Presidential job approval as our key government policy approval measure.

2.3 Government Policy Approval and Dollar Value

2.3.1 Dollar Indices

We construct several dollar indices for our empirical analysis. The Broad dollar index is computed as an equal-weighted average of the value of the U.S. dollar against all available currencies. For the Advanced Economies (AE) index, we consider dollar exchange rates against only the developed countries, while the Emerging Markets (EM) index is an equal-weighted average of the dollar values against the currencies of the developing economies.[8] We consider log values of dollar indices in nominal and real terms; to obtain real quantities, we adjust nominal exchange rates by the CPI levels in the U.S. and foreign countries. We additionally construct currency returns which represent the excess returns to the foreign investor from borrowing money in the foreign country, investing them in the U.S. economy, and converting the proceeds back into the foreign currency:

$$r_{t+1}^{FX} = s_{t+1} - s_t + r_{f,t} - r_{f,t}^*, \tag{3}$$

where s_t is the log value of the spot exchange rate in units of foreign currency per dollar, and $r_{f,t}$ and $r_{f,t}^*$ are the risk-free rates at home and abroad, so that $r_{f,t} - r_{f,t}^*$ is the U.S. minus foreign country interest rate differential. The currency returns are aggregated into the Broad, AE, and EM portfolios, similar to the exchange rates themselves.

Summary statistics for log changes in dollar indices and currency returns are presented in Table 2. In our sample, the standard deviation of changes in the nominal Broad index is 6.4%, annualized, which is between 7.6% for the AE index and 5.5% for the EM index. Changes in dollar value are weakly persistent with AR(1) coefficients in 0.2 - 0.3 range. The evidence is similar for real indices and for dollar excess returns, and is consistent with the literature, see e.g. Lustig, Roussanov, and Verdelhan (2011).

Figure 3 shows the time series of the dollar value indices alongside U.S. Presidential approval rates.[9] It is evident that approval rate tracks very well persistent movements in the dollar exchange rate, which is one of our key empirical findings. Approval rate rises at times of a strong dollar in mid 70s and 80s, and both series exhibit a persistent run-up

[8] Value-weighted averaging tilts the index towards the advanced economies, which strengthens our results.

[9] It is an open question whether exchange rates are stationary in levels. In terms of the recent literature, Dahlquist and Penasse (2017) and Eichenbaum, Johannsen, and Rebelo (2017) assume that real exchange rates are stationary, while Lustig, Stathopoulos, and Verdelhan (2016) find stationarity even for nominal exchange rates.

from early 90s to early 2000s, and then a run-down till the end of 2000s. The evidence is particularly pronounced for the Advanced Economy index: the contemporaneous correlation of the nominal AE dollar index level with approval rate is 52%, as shown in Table 2. The relation is as strong in real terms: the correlation is also 52% for the real AE index.

The evidence appears weaker for emerging markets, and there are several economic and statistical reasons for it. Economically, idiosyncratic country-specific shocks may have a greater impact on short-run fluctuations in the exchange rates of emerging markets compared to advanced economies. Statistically, we also face more data quality issues for emerging markets, whose data start later in the sample. In addition, there is an upward trend in the EM dollar index value over the sample period, while there is no discernable trend in the AE dollar index. All these economic and statistical issues can mask a relation between the EM dollar index and approval ratings.

Indeed, removing a linear trend in the dollar index value helps uncover a much stronger link between Presidential approval and the EM or broad dollar index value. This can be visually assessed in Figure 3, and using tabulated estimates of the correlations in Table 2. In real terms, the correlation of approval ratings with the EM index rises from 0.04 to 0.21 when we detrend the dollar index, and it goes up from 0.22 to 0.58 for a real broad index. The estimates are similar for nominal indices. Alternatively, we consider correlations of the changes in approval rates and in the dollar index, $Corr(App_{t+h} - App_t, s_{t+h} - s_t)$, at different horizons h. For a one-month horizon, changes in approval rates are only weakly related to changes in currency values: the correlations are below 10% across all three indices. The correlations monotonically increase with the horizon, and they remain very similar for the AE, EM, and Broad index. At two to five year horizons, nearly all of the correlations are within 0.40-0.50 range. The evidence is very similar for cumulative currency returns instead of the changes in exchange rates.

2.3.2 Exchange Rate Predictability

In addition to being strongly related to contemporaneous dollar index, approval ratings also contain significant information about their future values. To document this evidence, we employ a multi-horizon regression framework as in equation (1):

$$1/h \sum_{j=1}^{h} y_{t+j} = const + \beta_h^{App} App_t + \beta_h' controls_t + e_{y,t:t+h},$$

where y_t now stands for changes in dollar index value, $y_t = \Delta s_t$, across the three indices in real and nominal terms, or for the currency excess returns $y_t = r_t^{FX}$. As before, a univariate specification is based on a single approval rate variable, while in a multivariate specification we add controls, such as the current value of the corresponding foreign exchange variable y_t, the U.S. industrial production growth, and the average forward discount constructed as the average of interest rate differentials between the advanced economies and the U.S.[10] The last two controls are motivated by Lustig, Roussanov, and Verdelhan (2014) who show that these two variables have significant predictive power for future dollar returns. As before, we report both Newey-West and Hodrick standard errors; in the robustness section, we also consider the VAR-implied predictability evidence to assess statistical issues in small overlapping samples.

Our benchmark empirical evidence for exchange rate predictability is presented in Table 6 for a single approval rate regressor, and in Table 7 in a multivariate case. In virtually all specifications, high approval ratings today forecast a decline in the value of the dollar in the future. All the estimates are statistically significant at horizons of 6 months to 5 years for the Broad and Advanced Economy indices, with most of the t-statistics above 2 in absolute value. Most of the estimates for these indices are also significant at a 3-month horizon. In the next section, we show that smoothing the approval rating helps eliminate short-run noise and focus on its persistent fluctuations. This strengthens the empirical evidence, so that the predictability becomes significant even at a 1 month horizon. The evidence is strong for real indices and especially for excess currency returns, relative to nominal indices. In terms of the explained variation, the highest predictability is concentrated at 1-2 year horizons, with the R^2s reaching 10-15% in univariate specifications.

We find that the EM dollar index is also expected to depreciate at times of high U.S. Presidential approval. For real and nominal index regressions, however, most of the estimates are significant, and the R^2s are close to zero. Interestingly, the evidence remains very strong for predicting EM currency returns. For excess returns, all EM estimates are significant at horizons of 3 months and above, and the point estimates and the R^2s are comparable to those of the AE basket. This suggests that economic or statistical factors which impact inference for the levels of exchange rates play less of a role for the foreign exchange risk premium.

As shown in Table 7, our results remain strong in multivariate tests which control for the average foreign discount and the U.S. industrial production growth. Because approval ratings have only weak contemporaneous correlations with these known exchange rate predictors, the slope coefficients on approval rates remain very similar as we switch from univariate to multivariate specification.

Our predictability evidence is based on the aggregate of multiple currencies, so a natural question is whether it is driven by a particular country or group of countries. To address this

[10]We also consider adding other asset-market, macroeconomic, or sentiment controls, and the results remain very similar.

question, we consider running the regressions using individual currencies instead of the portfolios. In Figure 4 we show the univariate evidence for predicting individual exchange rates by approval rates. The left side of the graphs depicts slope coefficients and the confidence bands for 19 advanced economies, while the right part of the graphs shows the results for 13 emerging markets. Consistent with our aggregate evidence, all the individual estimates for advanced economies are negative. Nearly all become significant at a 6-month horizon, and remain significant up to 2 years and beyond. The point estimates across the advanced economies are quite close to each other and the basket average, so it does not appear that the aggregate evidence is driven by a particular outlier country. The evidence tends to be weaker for emerging markets. While 10 out of 13 estimates of the slope coefficients on approval rate are negative at a 6-month horizon and beyond, most are measured with a lot of noise. The noise reduces with the horizon of the regression.

Similar to our macroeconomic volatility evidence, we find that high approval ratings are associated with a decline in the future volatility of exchange rates. We project future cumulative squared residuals of exchange rates on the current approval rates, as in (2), and show the results in Table 8. Across all the horizons and indices, the slope coefficients on approval ratings are negative. However, squared foreign exchange residuals provide very noisy estimates of the dollar variation, and we get statistical significance only in a few of the specifications, and predominantly at longer horizons.

Finally, we characterize the gains from market timing the approval ratings when investing into the dollar. In Table 9 we show the Sharpe ratios from investing into the dollar index represented by Broad, AE, or EM portfolios at multiple horizons. We first consider the returns without using any conditioning information. Notably, the average returns for buying the dollar are negative in our sample (see Table 2), so the considered investment strategy consists of selling the dollar. Over the holding horizons of 1 month to 1 year, nearly all the Sharpe ratios are below 0.2 for Broad and AE index, and are essentially zero for the EM dollar index. Next we consider conditioning on approval ratings. Unlike the unconditional strategy, we now have a way to determine the direction of the trade as a function of the approval ratings over the previous period. The simplest investment strategy is to buy the dollar if approval ratings were below the cut-off point, and sell otherwise. A natural cut-off is point 50%, which is close to the in-sample average of the ratings. For this strategy, most of the Sharpe ratios are now in 0.2-0.3 range, and they are nearly 0.3 at an annual frequency for Broad, AE, and EM portfolio baskets. The Sharpe ratios for the conditional strategies are all above the unconditional ones. They nearly double for the AE index, and of course, increase much more for the EM index. We also consider different cut-off points of 60% and 40%, which are about one standard deviation above or below the average approval ratings in the sample, and the results remain similar.

2.3.3 Nature of variation in approval ratings.

The approval ratings vary over time, in response to current or anticipated economic and political forces. This raises a question whether our predictability results are driven by certain events or concentrate in particular economic or political times. Broadly, what is the economic nature and sources of the variations in approval ratings which pertain to currency and risk premia dynamics?

First, the evidence in the data strongly suggests that it is the persistent, low frequency movements in approval rates, rather than short-run blips, which matter for the aggregate economy and asset prices. A simple way to assess it is to "smooth" the approval ratings by summing up its values over past months. This serves to eliminate short-run noise in the series, and emphasizes its persistent fluctuations. Figure 5 shows that smoothing the approval ratings over 3 months or more strengthens our benchmark predictability evidence. The short-run effects on changes in exchange rates, returns, and the macroeconomic growth rates and volatilities almost double and now are all significant even at a 1 month horizon.

Next, we can directly test whether the predictability results are attributable to fixed effects across presidents, or concentrate in certain political times, such as elections or a start of the new term. We consider adding corresponding dummy variables and their interaction with the approval ratings to study the role of these effects. The implications for the currency risk premium, economic growth, and economic volatility are summarized in Table 10.

First, we consider the effect of election uncertainty, and add a dummy for the three months before the Presidential elections in November. As shown in the first panel of the Table, the short-horizon effects of approval ratings on economic volatility and currency premium are significantly stronger in pre-election months. Indeed, the interaction term is large, negative and significant up to about 6 months in the future. The election effects disappear at longer horizons above 1 year. The results suggest that approval ratings become more sensitive to short-run movements in uncertainty and the risk premium when the political uncertainty is elevated prior to the elections.

Second, we consider the effect of having the same Party in the White House and in the Congress. For an easier interpretation, we let the dummy equal to one if the President and the Congress are of different Parties, so that the coefficient on approval ratings itself identifies the approval effects at times of the same Party affiliation. As can be seen in the second panel of Table 10, these coefficients become more negative and are about twice the size of the benchmark estimates in the risk premium and the economic volatility regressions. To the extent that having the same Party allows to run government more effectively, approval ratings become more informative about future changes in uncertainty and foreign exchange risk premia.

Next, we consider the role of the "honeymoon" effects of the higher approval ratings in the first few months of the presidential term (see e.g. Mueller, 1970, 1973). We include the dummy for the first 3 months of the term, and consider the interaction of the dummy with the approval variable. As shown in Table 10, the "honeymoon" effects do not play a significant role for our key results.

Finally, we study the significance of the variation across presidents. In particular, we first consider the effects of Democratic versus Republican presidents.[11] Presidential approval ratings themselves do not exhibit significant differences across Presidents' party affiliations: on average, they are 51.50% for Republican presidents and 50.41% for Democratic ones. Adding party affiliation as a control does not affect our main results: the slope coefficient on the interaction of the Presidential Party dummy with the approval rate is insignificant, as shown in the last panel of Table 10.

More broadly, we considered adding separate dummies for each president. This does not affect our results. For a more parsimonious specification, we demean the approval ratings using its president-specific mean over the presidential term. Of course, this creates a forward-looking bias in a predictive regression, but it gives an easy way to assess the nature of the predictive power. As shown in Table B.1, the evidence is similar, and is even stronger than in the benchmark setting.

2.4 Robustness and Extensions

We perform several checks to show the robustness of our main results and assess their economic and statistical implications.

Cross-section of currency risk premium. Verdelhan and Lustig (2007) and subsequent studies suggest sorting currencies into portfolios, based on the foreign interest rate, to help remove the country-specific component in exchange rates and better identify the underlying risk and return tradeoff. We follow this approach and select 6 portfolios among all the countries over our benchmark sample period.

Table 14 shows that the riskiness of the portfolios monotonically increases with the average level of the foreign interest rate: among all the currencies, portfolio 1 has a 1.06% average return, annualized, while the average excess return in portfolio 5 is -3.27%. This is consistent with the intuition of the violation of the uncovered interest rate parity condition.

[11] Santa-Clara and Valkanov (2003) and Pastor and Veronesi (2017) document the "presidential puzzle" that average stock market returns are higher under Democratic presidents than under Republican presidents. Belo, Gala, and Li (2013) relate political cycles to the cross-section of equity returns.

In the time series, high interest rates predict an appreciation of the currency in the future. In the cross-section, foreign countries with a relatively high interest rate experience appreciation of their currency in the future, so subsequent excess returns to foreign investors are negative.[12]

The table also shows the predictability evidence for the currency portfolio returns. Consistent with the individual and aggregate evidence, all the point estimates on U.S. Presidential approval ratings are negative: high approval forecasts a decrease in the future value of the dollar. At horizons of 6 months and beyond, the slope coefficients are significant for all the portfolios. The results remain very similar in multivariate tests when we control for the average forward discount and the U.S. industrial production growth.

Interestingly, the slope coefficients on approval ratings exhibit cross-sectional patterns, and generally increase in absolute value as we go from portfolio 1 to portfolio 6. This evidence suggests heterogeneity in foreign currency exposures to global risks. In this paper, we focus on the implications of U.S. policy risk for the aggregate value of the dollar, and leave the detailed study of economic sources of foreign country heterogeneity for future research.

Out-of-sample predictability. A common concern with predictability regressions is that they do not work well out of sample (see Goyal and Welch, 2008). We assess the robustness of our results out of sample using the out-of-sample R^2, which is calculated by comparing the mean-squared errors for predicting future returns using the univariate approval rate model versus the average historic estimate of the premium. For robust predictors, the out-of-sample R^2s should be greater than zero, and the formal significance can be assessed by the p-value test of Clark and West (2007). Table 13 shows that the out-of-sample R^2s are indeed positive for most of the horizons for the broad and the AE index. They are negative for predicting changes in EM dollar values, consistent with a lack of statistical significance of the estimates of slope coefficients on approval ratings in the sample. The R^2s are positive for the excess currency returns corresponding to the EM index. The p-values are below 5% for the broad and AE indices at predictive horizons of 3 months to 5 years, and for the EM index currency returns at horizons of 2 and 3 years.

Sample and measurements. The OLS regression inference can be subject to statistical issues in small, overlapping samples with persistent predictor variables (Hodrick 1992). We attempt to guard against them by showing both the Newey-West and Hodrick standard errors in our benchmark Tables. We also investigate statistical significance of our evidence implied by a more restrictive specification of the VAR. Specifically, we use broad portfolio

[12]Note that we define currency returns from the perspective of the foreign investor who benefits if the dollar appreciates in the future, while in Lustig, Roussanov, and Verdelhan (2014) it is defined from the perspective of the U.S. investor. Hence, our excess returns and the estimates of the risk premia are negative of Lustig, Roussanov, and Verdelhan (2014).

index, and stack the nominal changes in exchange rate, interest rate differentials, approval rate, and the U.S. industrial production into a VAR. Using the estimates of the VAR, we can read off the implied slope coefficients, the R^2s and the standard errors on the effects of any variable and any horizon. We consider both the univariate and multivariate counterparts of our benchmark evidence in Tables 6 and 7. For univariate results, we just consider the VAR-implied slope coefficients in projections of future dollar exchange rate or dollar returns on the approval variable alone. In the multivariate specification, we derive the partial projection coefficient on approval ratings controlling for other variables in the VAR. Figure 6 shows that the VAR-implied evidence in very similar to the benchmark: the estimated effects of approval ratings on future dollar changes and currency returns are significant from 6 month to 5 years.

Table B.2 shows the exchange rate predictability results using the 1983-2016 sample from the Datastream. The advantage of this dataset is that we can now construct currency returns using spot and forward exchange rates, which are arguably better measured relative to the interest rate differentials. The Table shows that our key evidence for the predictability of exchange rates and currency returns is robust to the change in measurements and the sample period. Approval ratings are a significant predictor of real dollar changes for the broad and AE dollar index and excess currency returns for all the three indices at horizons of 3 months to about 2 years. The R^2s reach 10% at 1-2 year horizons.

Our benchmark government policy approval measure is based on Presidential ratings, which are by far the most popular gauge of government job performance. For robustness, Table 11 and 12 show the exchange rate predictability results based on alternative measures of government policy approval, such as Congressional job approval and Government Stability Index, respectively. The evidence is quite similar to the benchmark.

Predictability by dollar level. A recent strand of the exchange rate literature documents that factors related to the level of the real exchange rate significantly predict currency returns at long horizons (see Dahlquist and Penasse, 2017; Balduzzi and Chiang, 2017; Boudoukh, Richardson, and Whitelaw, 2016; Jorda and Taylor, 2012). Because our approval rate measure is related to persistent fluctuations in the level of the dollar, we examine the relative importance of the two predictors for future exchange rates.

Table 15 shows the results for predicting future currency returns. As before, we use three dollar indices, based on a broad group of countries, advanced economies, or emerging markets. We use the real dollar levels corresponding to each basket as a control for each group.

The right side of the Tables shows the univariate predictability evidence based on a single real dollar level predictor. The findings based on our 1971-2016 sample corroborate and extend the evidence in Dahlquist and Penasse (2017). The evidence is strongest for the AE index: the real dollar level is a significant predictor of future currency returns at horizons of 3 months and beyond, with the R^2s in 10-30% range at horizons of 1 to 3 years.

The left side of the Table shows the predictability evidence in a bi-variate specification which uses both approval rates and the real dollar levels. Focusing on the AE and Broad indices first, the predictive power of the real dollar level drops at short to medium horizons up to about a year when we add the approval rate variable. At these frequencies, the real dollar value is statistically insignificant, while the estimates on approval ratings are significant and virtually unchanged from before. The real dollar value drives out approval ratings at longer horizons of 3 to 5 years. For EM indices, the real dollar level predicts a significant component of future currency returns, and dominates the U.S. approval ratings, which suggests that country- or region-specific factors may play a more important role for the EM group.

3 Economic Interpretation

In this section, we lay out an illustrative economic model to help interpret our key empirical evidence. The model takes a production view of the exchange rates, and provides an explicit link between the value of the currency and the level and uncertainty about the policy component of the fundamentals. The approval rates reflect the forward-looking value of the policy component, and thus are informative about the currency level and the risk premia in foreign exchange markets. Using comparative statics, we show that the model is qualitatively consistent with our main empirical findings.

3.1 Model setup

3.1.1 Economic Environment

We consider a real, two-good, two-country economy. There are two consumption goods, traded good indexed by T, and nontraded good indexed by NT. There are two countries, domestic (U.S.) and foreign. We treat the foreign country symmetrically, and index all the foreign country parameters and variables by a star superscript "*."

In each country, the agents maximize expected utility

$$E_t \sum_{j=0}^{\infty} \beta^j u(C_{t+j}^T, C_{t+j}^{NT}), \tag{4}$$

where $u(C_t^T, C_t^{NT})$ is the period utility over traded and nontraded consumption goods, C_t^T and C_t^{NT}, respectively. For most of our analysis we are going to be agnostic about the particular form of the utility function, and just assume that it satisfies standard economic conditions, e.g. $\partial u(C_t^T, C_t^{NT})/\partial C_t^T > 0, \partial u(C_t^T, C_t^{NT})/\partial C_t^T > 0$.

We adopt a simple production-based setup, similar to Farhi and Gabaix (2016), to model technology and fundamentals. The endowments of tradable and nontradable goods are exogenous, and denoted by η^T and η^{NT}, respectively. Both goods are used for consumption, and the traded good can be costlessly traded across the countries. In addition to being consumed, the nontradable goods can also be converted into a traded good. The export/production technology is borrowed from Farhi and Gabaix (2016), and it specifies that investing one unit of nontraded good today yields $\nu^j \omega_{t+j}$ of traded goods in all the periods in the future. Thus, we can write down the tradable and nontradable good resource constraints in the following way:

$$\begin{aligned} Y_t^{NT} &= \eta_t^{NT} = C_t^{NT} + I_t \\ Y_t^T &= \eta_t^T + \sum_{j=0}^{\infty} \nu^j \omega_t I_{t-j}, \end{aligned} \tag{5}$$

where Y_t^T and Y_t^{NT} denote the output of traded and nontraded goods, and I_t is the amount of nontraded goods used in the production of traded goods. We loosely interpret the productivity variable ω_t as capturing the "competitiveness" or the efficiency of the domestic economy: high values of ω_t indicate the increasing ability of domestic economy to transform nontradable goods, desired only locally, into traded goods which are also valued by the rest of the world.

The world-wide budget constraint on traded goods specifies that total consumption of traded goods across countries should be equal to total output of these goods:

$$Y_t^T + Y_t^{T*} = C_t^T + C_t^{T*}. \tag{6}$$

3.1.2 Asset Price Valuations

The markets are complete, so we are using the social planner problem to solve for optimal allocations. In Appendix we show that the relative price of nontradable in terms of tradable goods, e_t satisfies

$$e_t = \frac{u_{C_t^{NT}}}{u_{C_t^T}} = E_t \sum_{j=0}^{\infty} \nu^j \omega_{t+j} M_{t \to t+j}, \tag{7}$$

where $M_{t\to t+j} = M_{t+1}M_{t+2}\dots M_{t+j}$ is the multi-period global pricing kernel expressed in the units of traded good, which we choose to be the world numeraire. Because e_t measures the value of domestic nontraded goods in terms of the world numeraire, it essentially captures the value of the domestic currency.[13] The value of the bilateral exchange rate between the domestic and foreign countries is $s_t = \log(e_t/e_t^*)$, where e_t^* is the relative price of the foreign nontraded goods, which satisfies a similar equation to (7) but for the foreign quantities.

It follows from equation (7) that when nontraded goods can be used to produce traded goods more efficiently (current or future ω is high), they tend to become more valuable, and domestic currency strengthens. This is effectively a standard "cash-flow" effect for asset-price valuations: the present value of the stream of cash flows increases with their expected growth.[14] The relative increase in value depends on the attitudes of investors towards aggregate risk, as captured by the pricing kernel M_{t+1}. In particular, when the amount of aggregate risk goes up, either due to an increase in the market price of risk or the quantity of risk (volatility), domestic currency depreciates. This is a standard "discount rate" effect: higher expected returns decrease asset price valuations. For bilateral rates, the valuations further depend on the relative competitiveness of domestic versus foreign economy.

Notably, the valuation of currencies only depends on the dynamics of the stochastic discount factor and the efficiency of the export technology. It does not depend on other fundamental driving processes, such as the endowments of traded and non-traded goods at home and abroad. On the other hand, implications for other asset prices, such as equities, require additional assumptions on the endowment processes in the two sectors. Generally, it is not straightforward how the efficiency of the net export sector should relate to the endowments of traded and non-traded goods, which makes the model predictions for the equity prices generally ambiguous.

Using our notion of currency, we can define a country one-period risk-free rate $R_{f,t}$. Buying the domestic currency costs e_t today, and the payoff is $R_{f,t}e_{t+1}$ in units of the numeraire, so

$$e_t = E_t M_{t+1} R_{f,t} e_{t+1}, \tag{8}$$

and similar for the foreign interest rate $R^*_{f,t}$.

[13]This correspondence is approximate if the domestic numeraire is a basket of tradable and nontradable goods, but the approximation is quite accurate when the share of traded goods in consumption is small, as in the data.

[14]In general equilibrium, discount rates can also rise at times of high expected growth, which can offset the cash-flow effect. Bansal and Yaron (2004) show that the cash-flow effect of expected growth dominates when the intertemporal elasticity of substitution is high enough.

Finally, we define the log excess currency return:

$$r_{t+1}^{FX} = s_{t+1} - s_t + r_{f,t} - r_{f,t}^*, \tag{9}$$

which corresponds to the excess return to the foreign investor for buying the domestic currency.

3.1.3 Policy Valuation

We assume that the exogenous economic states can be split into policy- and nonpolicy related factors, $X_{P,t}$ and $X_{NP,t}$. We do not take a stand what the policy factors are and how they correspond to particular actions of the government. Their nature can change over time, and traditional specifications of monetary and fiscal policies considered in the literature may not represent the entirety of political actions, which also involve trade, foreign affairs, regulations, diplomacy, etc. Instead, we consider an exogenous specification which in a reduced-form way relates $X_{P,t}$ and $X_{NP,t}$ to the efficiency ω_t. The implicit assumption behind our approach is that the agents can identify these government policies and their incremental impact on the economy.

To introduce policy valuation, we assume that agents assess the strength of the economy by an indicator S_t. This can represent an endogenous quantity like total output or consumption, or some particular function of the underlying fundamental states. We remain agnostic about a particular choice of S_t, and assume that high S_t is positively related to the underlying economic efficiency ω_t. The agents value policy in a forward-looking manner by computing the discounted present value of the future state of the economy with and without the policy factors. That is, we define the net value of policy:

$$NVP_t = E_t \sum_{j=0}^{\infty} \rho^j M_{t\to t+j} S(X_{P,t+j}, X_{NP,t+j}) - E_t \sum_{j=0}^{\infty} \rho^j M_{t\to t+j} S(X_{P,t+j} = 0, X_{NP,t+j}). \tag{10}$$

The discounting parameter ρ captures in a parsimonious way the idea that policies attributable to the current government are not permanent: current policies may be repealed or changed by the future governments. In this way, to assess the policy outlook of the current government, we downweigh the impact of policies far in the future.

In the benchmark case, we take our measure of the net value of policy to be directly related to the measure of the presidential approval in the data. In our representative agent framework, high value of policy is taken to convey high approval of the government, while low or negative value of policy suggests disapproval. In Section 3.3 we consider a heterogeneous agent extension of the model which allows us to develop a closer relationship between the net value of policy and the approval rate, without changing the main economic insight of the model.

Fundamentally, the main economic intuition in the model stems from a close correspondence between the value of the domestic currency in (7) and the policy valuations in (10). Both are discounted present values of claims positively exposed to the aggregate economy, the efficiency for the former and the economic indicator for the latter. In this case, an anticipation of good economic times attributable to good policies simultaneously increases domestic currency and policy approvals through the cash-flow effect. On the other hand, high aggregate risk attributable to high uncertainty of policy fundamentals lowers currency valuations and approval ratings, while increasing the risk premium through the discount rate effect. This can qualitatively explain the relationship between these variables in the data.

3.2 Model Analysis

In this section, we introduce simple dynamics for the underlying processes to sharpen and clarify the intuition for the connection between the exchange rates, risk premia, and the policy value. Using comparative statics, we show that the qualitative implications of the economic model are in line with our main empirical findings.

3.2.1 Model Dynamics

For our purpose of valuing currencies and policies, it is sufficient to specify the global pricing kernel M_{t+1}, the efficiency of the economy at home and abroad ω_t and ω_t^*, and the economic indicator S_t.[15] This approach greatly reduces the complexity of the model specification, and allows us to focus on the basic economic intuition.

We assume that the efficiency of the domestic economy has two components, policy and nonpolicy related:

$$\log \omega_t = \gamma_P \log \omega_{P,t} + \gamma_{NP} \log \omega_{NP,t}, \tag{11}$$

where γ_P and γ_{NP} are the weights on both, which we assume are positive. For simplicity, the log growth rate of each component is i.i.d. Normal:

$$\Delta \log \omega_{j,t} = \mu_j + \sigma_j \epsilon_{j,t}, \text{ for } j = P, NP. \tag{12}$$

[15]For a complete equilibrium solution, one can additionally specify the exogenous dynamics of, for instance, three out of total four endowment processes at home and abroad.

The foreign efficiency takes the same functional form, but has foreign country-specific parameters and shocks indexed by a superscript " *." For simplicity, all shocks are i.i.d. and independent from each other.

The state of the economy S_t is specified exogenously as a weighted average of the two efficiency components:

$$\log S_t = \alpha_P \log \omega_{P,t} + \alpha_{NP} \log \omega_{NP,t}, \tag{13}$$

and we assume that $\alpha_P, \alpha_{NP} > 0$, so that an increase in policy or nonpolicy component of the efficiency of the economy is viewed as a good economic indicator by the agents.

Finally, we consider a representation of the pricing kernel in terms of the primitive efficiency shocks at home and abroad:

$$\begin{aligned} \log M_t = \bar{R} - \frac{1}{2} \sum_{i=P,NP} {\lambda_i}^2 {\sigma_i}^2 - \frac{1}{2} \sum_{i=P,NP} \lambda_i^{*2} \sigma_i^{*2} \\ - \lambda_P \sigma_P \epsilon_{P,t} - \lambda_{NP} \sigma_{NP} \epsilon_{NP,t} - \lambda_P^* \sigma_P^* \epsilon_{P,t}^* - \lambda_{NP}^* \sigma_{NP}^* \epsilon_{NP,t}^*. \end{aligned} \tag{14}$$

Parameter $\bar{R}$ captures a constant drift of the pricing kernel, and λs are the market prices of policy and nonpolicy risks at home and abroad. For our qualitative analysis, we assume that the market prices of risks are positive, so that a positive policy or nonpolicy efficiency shock represents a good state of the world. For simplicity, we exclude other potential risk factors, such as shocks to the endowments at home and abroad. In our framework, exchange rates are not exposed to these risks, so it does not affect our qualitative results. Of course, these risks would be important to value other financial market claims, such as equities and the stock market.

3.2.2 Model Solution

Given the dynamics of the economy, we can provide explicit solutions for the valuations of currencies and policies. Due to the i.i.d. nature of the economy, all the relative valuations are constant in the model. Instead of complicating the model by introducing time-variation in the underlying parameters, we choose to provide simple economic intuition through a comparative statics analysis.

We start with the solution to the net policy value:

$$\frac{NVP_t}{S_t} = \frac{1}{1-\rho E_t e^{\log m_{t+1}+\alpha_P \Delta \log \omega_{P,t}+\alpha_{NP}\Delta \log \omega_{NP,t}}} - \frac{1}{1-\rho E_t e^{\log m_{t+1}+\alpha_{NP}\Delta \log \omega_{NP,t}}}$$
$$\approx \frac{\rho}{(1-\rho)^2}\left(\alpha_P \mu_P + \frac{1}{2}\alpha_P^2\sigma_P^2 - \lambda_P \alpha_P \sigma_P^2\right), \tag{15}$$

where the second line is a first-order approximation to the solution.

The relative net value of policy is primarily determined by the expectations and uncertainty about policy effects on the economy. Under comparative statics, the net value of policy is increasing with agents' expectation of policy impact on expected growth, which captures the cash-flow effect: $NPV_{\mu_P} > 0$. The second term in the brackets captures the Jensen's type effects which arise from working with log variables. These effects are usually small, and when the market prices of risks are large enough, they are offset by the risk premium which is the third term in the brackets. Because policy fluctuations are risky, they command a positive risk premium whose value increases with policy uncertainty. This captures a "discount rate" channel for valuations, which makes high policy uncertainty lower valuations: $NPV_{\sigma_P} < 0$ (ignoring the Jensen's term). Thus, in the model high net value of policy is indicative of high future growth and low economic volatility. These implications are consistent with the data: as shown in Section 2.2, high approval ratings forecast an increase in future economic growth and decrease in economic volatility. In the model, the magnitudes of the effects are magnified by the permanence of policy effects captured by the parameter ρ.

Next we derive the solution to the dollar value:

$$\frac{e_t}{\omega_t} = \frac{1}{1-\nu E_t e^{\log m_{t+1}+\Delta \log \omega_{t+1}}} \approx \frac{1}{1-\nu} + \frac{\nu}{(1-\nu)^2}\big(\bar{R} + \gamma_{NP}\mu_P + \gamma_P \mu_{NP}$$
$$+ \frac{1}{2}\sum_{i=P,NP}\gamma_i^2\sigma_i^2 + \frac{1}{2}\sum_{i=P,NP}\gamma_i^{*2}\sigma_i^{*2} - \lambda_P\gamma_P^2\sigma_P^2 - \lambda_{NP}\gamma_{NP}^2\sigma_{NP}^2\Big). \tag{16}$$

The value of the currency is proportional to the level of domestic efficiency: the dollar strengthens when the domestic efficiency is high. Using a comparative statics analysis, high expected growth in efficiency translates into high value of the dollar, $e_{\mu_P} > 0$, $e_{\mu_{NP}} > 0$, which captures the cash flow effect. The first variance terms in the second line in the equation are Jensen's second-order terms, and the last component captures the effect of risk on currency valuations. Because currency pays off in good economic times, it commands a positive risk premium, so that an increase in quantity of risk immediately lowers dollar valuations: $e_{\sigma_P} < 0$, $e_{\sigma_{NP}} < 0$. The effects of expected growth and volatility are magnified by the persistence of the production technology captured by the parameter ν. The more long-lasting is the impact of efficiency on future production, the larger are the effects of the parameter shifts on valuations.

Notably, the net value of policy and value of the dollar have a similar dependence on policy parameters: they both increase at times of high policy-related growth, and decrease at times of high policy-related volatility. This can rationalize a positive link between the dollar value and U.S. Presidential approval ratings described in Section 2.3.1. Recall that our empirical results are weaker for emerging markets. In the model, a larger gap between foreign and domestic productivities $\omega_t^* - \omega_t$, driven by volatile foreign shocks, can decrease the strength of the relationship, relative to the country which is more similar to the U.S.

Finally, we consider the effects on currency risk premium:

$$\begin{aligned} E_t r_{FX,t+1} = & -\frac{1}{2}\sum_{i=P,NP}\gamma_i^2\sigma_i^2 + \frac{1}{2}\sum_{i=P,NP}\gamma_i^{*2}\sigma_i^{*2} \\ & + \lambda_P\gamma_P^2\sigma_P^2 + \lambda_{NP}\gamma_{NP}^2\sigma_{NP}^2 - \left(\lambda_P^*{\gamma_P^*}^2{\sigma_P^*}^2 + \lambda_{NP}^*{\gamma_{NP}^*}^2{\sigma_{NP}^*}^2\right). \end{aligned} \tag{17}$$

Ignoring again the Jensen's terms in the first line, the currency risk premium is increasing in the domestic policy and non-policy volatility: $\partial E_t R_{FX,t+1}/\partial\sigma_P > 0, \partial E_t R_{FX,t+1}/\partial\sigma_{NP} > 0$. Because dollar has a positive exposure to domestic aggregate risks, its risk premium increases with the quantity of domestic risk. At the same time, high policy uncertainty lowers net value of policy, which goes a long way to rationalize the link between high approval rates and low subsequent currency returns presented in Section 2.3.2.

The model also allows us to address additional empirical findings on the stronger relation of approval ratings to economic volatility and currency risk premium at times of high political uncertainty prior to the elections, or when both the President and the Congress are of the same Party. In the first case, the political uncertainty at home σ_P is elevated, so that it determines a larger fraction of the policy valuations. In this case, the approval ratings are better proxies for the political uncertainty, and thus have a stronger link to the economic volatility and the risk premium. For the latter, to the extent that having the same Party in the White House and the Congress allows for a more effective governing, the domestic productivity is more sensitive to the policy factors, so γ_P is large. In this case, the currency risk premium and the economic volatility are more responsive to the policy uncertainty, and are more sensitive to policy valuations.

3.3 Extension to Heterogeneous Agents

Our setup captures a basic intuition that increase in policy-related economic growth increase agent's net valuations of policy and the domestic currency, while high policy uncertainty lowers them while increasing currency risk premium. We then connect it to the empirical evidence by arguing that the approval rates in the data are related to our notion of net value of policy. Of course, the correspondence is not exact: the approval rates represent the average approval in the cross-section of the respondents. To tighten the connection, we can provide a simple extension of the model to incorporate heterogeneity across agents.

Suppose the representative agents' family consists of many "family members." Each member i evaluates policy using a different criterion $S_t^i = S^i(X_{P,t}, X_{NP,t})$, while for simplicity we assume that they have the same information about the underlying states.[16] Each family member computes an estimate of the net policy value in (10) using their indicator S_t^i, which produces a distribution of the net policy values NPV_t^i. For example, in our model we can assume that each member of the representative family assesses the marginal contribution of policy using own policy weight $\alpha_P^i > 0$. The heterogeneity in α_P^i induces a distribution of NPV_t^i/S_t, so we can determine the average approval rate in the cross-section which corresponds to the fraction of individuals whose net value of policy is large enough.

To close the model, in the end of the period the representative family makes consumption choices and prices financial assets. Because there is no heterogeneity in information or underlying preferences, this extension does not affect the solution to asset prices stated earlier.

Such extension of the model allows for a tighter connection to the data and does not fundamentally change its key implications. Indeed, the computed approval ratings have the same dependence on model parameters as the net value of policy, independent of the distribution of policy weights and the cut-off points. Increase in policy-related economic growth or decrease in policy volatility raise net policy valuations across all the family members, which would tend to increase approval ratings. Hence, approval ratings are monotonically related to the net value of policy, and thus have a similar relation to the asset prices and risk premia.

[16] An alternative approach is to introduce heterogeneous information about policy factors.

Conclusion

In the data, favorable assessments of U.S. government policy are associated with a strong dollar and forecast a significant decline in future dollar exchange rates and excess currency returns several years in the future. At the same time, high approval ratings predict a persistent increase in future economic growth and a reduction in economic volatility. We consider an illustrative economic model to qualitatively interpret our empirical evidence. In the model, policy and currency valuations are directly linked to the level and uncertainty about the policy component of the fundamentals. High policy-related economic growth increases the value of the dollar and agents' net valuations of policy, and high policy uncertainty lowers them while increasing currency risk premium. These model channels qualitatively explain the link between approval ratings, the dollar value, and the currency risk premia in the data.

There are several extensions of our paper that would be interesting to pursue in future work. On the empirical side, it would be interesting to consider the implications of U.S. Presidential approval ratings for other asset classes. At the same time, one can extend the empirical evidence to other countries by using international measures of policy approvals. On the model side, our current specification does not micro-found specific government policies and their impact on aggregate economy. It would be useful to deepen the economic relation between the policies, the economy, and financial markets. Finally, the model can be extended to allow for more complex and realistic dynamics of the underlying states. As a next step, one can calibrate or estimate the economic environment and quantify the contribution of government policies for economic growth and asset prices. We leave these extensions for future research.

A Model solution

The planner chooses investments and consumption to maximize the Pareto-weighted sum of welfare across countries subject to the resource constraints in (5) and the world-wide constraint on the traded good in (6). Following Farhi and Gabaix (2016), we set up the Lagrangian:

$$\begin{aligned} L = {} & E_0 \left(\tilde{\mu} \sum_{t=0}^{\infty} \beta^t u(C_t^T, C_t^{NT}) + \tilde{\mu}^* \sum_{t=0}^{\infty} \beta^t u(C_t^{T*}, C_t^{NT*}) \right) \\ & + E_0 \left(\sum_{t=0}^{\infty} M_{0\to t} \left(\sum_{j=0}^{\infty} \nu^j \omega_t (\eta_{t-j}^{NT} - C_{t-j}^{NT}) + \eta_t^T - C_t^T + \sum_{j=0}^{\infty} \nu^j \omega_t^* (\eta_{t-j}^{NT*} - C_{t-j}^{NT*}) + \eta_t^{T*} - C_t^{T*} \right) \right), \end{aligned} \tag{A.18}$$

where $M_{0\to t}$ is the Lagrange multiplier on the global budget constraint, and $\tilde{\mu}$ and $\tilde{\mu}^*$ are the Pareto weights. The first-order conditions with respect to tradeable and nontradable consumption in domestic country yield,

$$\begin{aligned} \tilde{\mu}\beta^t u_{C_t^T} &= M_{0\to t}, \\ \tilde{\mu}\beta^t u_{C_t^{NT}} &= E_t \sum_{j=0}^{\infty} M_{0\to t+j} \nu^j \omega_{t+j}, \end{aligned} \tag{A.19}$$

and similar for the foreign country. From here we can obtain the solution for the relative prices e_t in (7) for $M_t \equiv M_{0\to t}/M_{0\to t-1}$.

B Additional Tables

Table B.1: Approval Rate and Exchange Rate Predictability: Demeaned Approval

	Nominal				Real				Excess return			
h	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$
					Broad Dollar Index							
1	-0.19	-1.88	-1.62	0.01	-0.20	-1.96	-1.65	0.01	-0.22	-2.23	-1.93	0.01
3	-0.25	-2.69	-2.30	0.03	-0.27	-2.75	-2.26	0.03	-0.29	-3.04	-2.66	0.04
6	-0.30	-3.37	-3.38	0.07	-0.32	-3.39	-3.26	0.07	-0.35	-3.79	-3.97	0.09
12	-0.25	-3.15	-3.39	0.10	-0.28	-3.28	-3.52	0.10	-0.29	-3.56	-3.98	0.11
24	-0.25	-3.47	-4.22	0.17	-0.28	-3.83	-4.56	0.19	-0.27	-3.80	-4.14	0.18
36	-0.17	-2.82	-2.99	0.12	-0.22	-3.48	-3.47	0.17	-0.18	-2.88	-2.88	0.11
60	-0.12	-2.57	-2.35	0.10	-0.15	-3.17	-2.62	0.14	-0.11	-2.34	-2.26	0.07
					AE Dollar Index							
1	-0.24	-1.98	-1.74	0.01	-0.24	-1.99	-1.71	0.01	-0.24	-2.04	-1.80	0.01
3	-0.31	-2.73	-2.43	0.03	-0.32	-2.74	-2.35	0.03	-0.32	-2.78	-2.50	0.03
6	-0.37	-3.39	-3.60	0.08	-0.38	-3.38	-3.43	0.08	-0.38	-3.48	-3.77	0.08
12	-0.31	-3.18	-3.50	0.11	-0.32	-3.27	-3.52	0.11	-0.32	-3.27	-3.60	0.11
24	-0.28	-3.28	-3.75	0.17	-0.31	-3.57	-3.82	0.18	-0.29	-3.38	-3.55	0.16
36	-0.18	-2.39	-2.51	0.11	-0.22	-2.88	-2.66	0.13	-0.18	-2.38	-2.45	0.09
60	-0.12	-2.05	-2.18	0.08	-0.15	-2.47	-2.17	0.10	-0.11	-1.95	-2.22	0.06
					EM Dollar Index							
1	-0.09	-1.14	-0.98	0.00	-0.11	-1.29	-1.08	0.00	-0.14	-1.81	-1.58	0.00
3	-0.12	-1.66	-1.36	0.01	-0.13	-1.57	-1.20	0.01	-0.18	-2.41	-2.07	0.02
6	-0.16	-2.24	-2.00	0.03	-0.15	-1.77	-1.42	0.01	-0.23	-3.13	-3.06	0.05
12	-0.13	-1.95	-1.96	0.03	-0.11	-1.47	-1.32	0.01	-0.19	-2.75	-3.04	0.06
24	-0.17	-2.80	-3.56	0.10	-0.16	-2.41	-2.46	0.05	-0.21	-3.35	-3.56	0.15
36	-0.15	-2.82	-2.79	0.12	-0.17	-2.83	-2.27	0.07	-0.16	-2.90	-2.47	0.14
60	-0.12	-3.01	-2.26	0.13	-0.14	-3.32	-1.90	0.07	-0.11	-2.65	-1.85	0.09

The table presents the univariate regression evidence of predictability of future dollar index values by U.S. Presidential approval rate, demeaned within each presidential term: $1/h \sum_{j=1}^{h} y_{t+j} = const + \beta_h^{App} \widetilde{App}_t + e_{t:t+h}^{FX}$. The dependent variables y are the average log changes in nominal and real dollar index values and average dollar excess returns. The table shows the OLS coefficient (Coef) on the approval rate β_h^{App}, the associated Newey-West and Hodrick t-statistics, and the adjusted R^2. The Dollar Index is computed as an equal weighted average value of the U.S. dollar against a broad group of currencies (Broad), against advanced economy currencies (AE), and against emerging market currencies (EM), in real and nominal terms. Data are monthly from 1983:1 to 2016:12.

Table B.2: Approval Rate and Exchange Rate Predictability: 1983-2016 Sample

	Nominal				Real				Excess return			
h	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$
					Broad Dollar Index							
1	-0.23	-1.65	-1.54	0.01	-0.23	-1.62	-1.47	0.01	-0.27	-1.96	-1.84	0.01
3	-0.25	-1.94	-1.84	0.03	-0.26	-1.92	-1.71	0.02	-0.30	-2.31	-2.24	0.04
6	-0.27	-2.09	-2.28	0.05	-0.28	-2.10	-2.15	0.05	-0.32	-2.50	-2.84	0.07
12	-0.24	-2.01	-2.54	0.08	-0.25	-2.06	-2.53	0.09	-0.31	-2.54	-3.22	0.12
24	-0.18	-1.64	-2.33	0.10	-0.20	-1.80	-2.61	0.12	-0.25	-2.25	-2.78	0.16
36	-0.10	-1.01	-1.55	0.05	-0.14	-1.30	-1.98	0.09	-0.16	-1.57	-2.05	0.12
60	-0.10	-1.20	-2.11	0.09	-0.13	-1.47	-2.40	0.13	-0.15	-1.70	-3.17	0.18
					AE Dollar Index							
1	-0.25	-1.65	-1.54	0.01	-0.24	-1.58	-1.44	0.01	-0.26	-1.73	-1.62	0.01
3	-0.28	-1.92	-1.84	0.03	-0.27	-1.86	-1.69	0.02	-0.29	-2.02	-1.97	0.03
6	-0.30	-2.11	-2.29	0.06	-0.30	-2.07	-2.14	0.05	-0.32	-2.25	-2.49	0.06
12	-0.26	-1.99	-2.36	0.08	-0.26	-1.95	-2.27	0.08	-0.29	-2.19	-2.62	0.09
24	-0.19	-1.58	-1.91	0.10	-0.20	-1.60	-1.94	0.10	-0.23	-1.88	-2.21	0.11
36	-0.10	-0.84	-1.12	0.04	-0.11	-0.93	-1.20	0.06	-0.13	-1.15	-1.52	0.06
60	-0.10	-1.06	-1.94	0.10	-0.11	-1.15	-1.96	0.12	-0.13	-1.28	-2.57	0.11
					EM Dollar Index							
1	-0.11	-0.87	-0.82	0.00	-0.08	-0.60	-0.54	0.00	-0.22	-1.78	-1.68	0.00
3	-0.13	-1.10	-1.05	0.00	-0.10	-0.80	-0.69	0.00	-0.25	-2.08	-2.07	0.02
6	-0.14	-1.23	-1.29	0.01	-0.12	-0.98	-0.91	0.00	-0.26	-2.19	-2.44	0.04
12	-0.12	-1.13	-1.35	0.02	-0.11	-0.94	-0.98	0.01	-0.25	-2.21	-2.75	0.07
24	-0.11	-1.08	-1.58	0.03	-0.11	-1.04	-1.28	0.02	-0.22	-2.08	-2.56	0.14
36	-0.09	-0.99	-1.28	0.04	-0.11	-1.13	-1.18	0.04	-0.17	-1.76	-1.89	0.14
60	-0.10	-1.21	-1.37	0.07	-0.12	-1.37	-1.15	0.06	-0.15	-1.79	-2.13	0.18

The table presents the univariate regression evidence of predictability of future dollar index values by U.S. Presidential approval rate: $1/h \sum_{j=1}^{h} y_{t+j} = const + \beta_h^{App} App_t + e_{t:t+h}^{FX}$. The dependent variables y are the average log changes in nominal and real dollar index values and average dollar excess returns. The table shows the OLS coefficient (Coef) on the approval rate β_h^{App}, the associated Newey-West and Hodrick t-statistics, and the adjusted R^2. The Dollar Index is computed as an equal weighted average value of the U.S. dollar against a broad group of currencies (Broad), against advanced economy currencies (AE), and against emerging market currencies (EM), in real and nominal terms. Data are monthly from 1983:1 to 2016:12.

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Tables and Figures

Table 1: Summary Statistics: Government Policy Approval Rates

	Presidential Approval	Congressional Approval	Gov. Stability
Mean	51.02	31.63	51.02*
S.D.	11.29	11.58	11.29*
AR(1)	0.94	0.94	0.96
Correlation with:			
Presidential approval	1.00	0.61	0.61
P-D ratio	0.18	0.19	0.31
Industrial Production Growth	0.04	0.02	-0.15
Michigan Consumer Sentiment Index	0.46	0.44	0.32
OECD Consumer Confidence Index	0.46	0.45	0.33
Baker Wurgler Investor Sentiment Index	0.18	0.16	0.16

The table shows summary statistics for U.S. Presidential approval rate, Congressional approval rate, and Government Stability Index. U.S. Presidential approval ratings are monthly from 1971:1 to 2016:12. U.S. Congressional approval ratings are monthly from 1974:4 to 2016:12. U.S. Government stability index is monthly from 1984:1 to 2016:12, re-scaled to match the mean and volatility of the Presidential approval ratings (values indicated by a star superscript).

Table 2: Summary Statistics: Approval Rate and Exchange Rates

	Broad Dollar Index			AE Dollar Index			EM Dollar Index		
	Nom	Real	Return	Nom	Real	Return	Nom	Real	Return
Mean	1.09	-0.24	-1.35	0.20	-0.33	-1.32	2.50	0.54	-0.04
S.D.	6.39	6.40	6.56	7.63	7.68	7.66	5.45	5.48	5.88
AR(1)	0.28	0.25	0.29	0.20	0.18	0.21	0.34	0.29	0.35
$Corr(App_t, FX_t)$:									
Level	0.32	0.43		0.52	0.31		0.14	0.54	
Detrended	0.54	0.44		0.52	0.33		0.47	0.60	
$Corr(\Delta App_{t:t+h}, \Delta FX_{t:t+h})$:									
1 month	0.07	0.06	0.07	0.07	0.06	0.07	0.06	0.06	0.07
3 months	0.16	0.15	0.16	0.14	0.13	0.14	0.14	0.12	0.15
6 months	0.29	0.27	0.29	0.27	0.24	0.26	0.26	0.24	0.28
1 year	0.35	0.32	0.33	0.32	0.29	0.31	0.32	0.31	0.35
2 years	0.47	0.43	0.44	0.42	0.38	0.40	0.48	0.51	0.53
3 years	0.45	0.39	0.42	0.39	0.34	0.38	0.48	0.49	0.52
5 years	0.47	0.38	0.43	0.42	0.34	0.40	0.54	0.54	0.55

The table shows summary statistics for U.S. Presidential approval rate and the Dollar Index. The Dollar Index is computed as an equal weighted average value of the U.S. dollar against a broad group of currencies (Broad), against advanced economy currencies (AE), and against emerging market currencies (EM), in real and nominal terms. The Return is the dollar excess return on investing into the corresponding basket. Mean, standard deviation, and AR(1) coefficients are computed for the log changes in the dollar index values, and for the log excess returns. The correlations are computed for the levels of approval rates and the log levels of the dollar index values in the middle panel, and for the multi-horizon changes in approval rates and log changes in the dollar index values (or excess returns) in the bottom panel. Data are monthly from 1971:1 to 2016:12.

Table 3: Approval Rate and Macroeconomic Growth

h	Univariate				Multivariate			
h	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$
				Industrial Production				
1	0.07	2.00	1.76	0.01	0.05	1.45	1.60	0.13
3	0.07	1.96	1.56	0.01	0.05	1.42	1.40	0.20
6	0.08	2.31	1.50	0.02	0.06	1.95	1.45	0.15
12	0.10	2.79	1.61	0.06	0.09	2.63	1.60	0.13
24	0.07	2.33	1.51	0.06	0.07	2.30	1.49	0.06
36	0.05	1.77	1.22	0.05	0.05	1.76	1.21	0.05
60	0.02	0.77	0.58	0.01	0.02	0.79	0.58	0.01
				GDP				
3	0.04	1.82	1.58	0.02	0.03	1.30	1.31	0.10
6	0.04	1.82	1.43	0.03	0.03	1.39	1.25	0.12
12	0.05	1.98	1.43	0.05	0.04	1.72	1.33	0.11
24	0.03	1.76	1.32	0.05	0.03	1.71	1.28	0.05
36	0.03	1.77	1.27	0.05	0.03	1.77	1.26	0.05
60	0.01	0.50	0.33	0.00	0.01	0.53	0.35	-0.01
				Aggregate Productivity				
3	0.08	2.91	3.01	0.06	0.08	2.98	2.95	0.05
6	0.07	2.75	3.66	0.09	0.07	2.85	3.45	0.09
12	0.05	2.05	3.61	0.09	0.05	2.10	3.49	0.09
24	0.03	1.20	1.59	0.05	0.03	1.27	1.66	0.05
36	0.02	0.92	1.32	0.04	0.02	0.99	1.39	0.04
60	0.01	0.80	1.10	0.03	0.01	0.85	1.14	0.03

The table presents the regression evidence of predictability of future economic growth by U.S. Presidential approval rate: $1/h\sum_{j=1}^{h} y_{t+j} = const + \beta_h^{App} App_t + \beta_h' controls_t + e_{t:t+h}$. The dependent variable y is the growth in the U.S. industrial production index, GDP, or aggregate productivity. The table shows the OLS coefficient (Coef) on the approval rate β_h^{App}, the associated Newey-West and Hodrick t-statistics, and the adjusted R^2. The controls in the multivariate specification include the lag of the dependent variable. Industrial production data are monthly from 1971:1 to 2016:12, and GDP and productivity data are quarterly.

Table 4: Approval Rate and Macroeconomic Volatility

	Univariate				Multivariate			
h	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$
				Industrial Production				
1	-1.81	-2.30	-1.96	0.01	-1.05	-1.49	-1.58	0.15
3	-1.58	-2.04	-1.58	0.02	-1.11	-1.55	-1.39	0.12
6	-1.95	-2.35	-1.81	0.05	-1.72	-2.13	-1.73	0.09
12	-2.11	-2.44	-2.11	0.11	-2.03	-2.34	-2.04	0.12
24	-1.97	-2.70	-2.70	0.19	-1.94	-2.63	-2.58	0.19
36	-1.81	-2.83	-3.10	0.24	-1.80	-2.79	-2.95	0.24
60	-1.26	-3.01	-4.60	0.19	-1.27	-2.98	-4.32	0.19
				GDP				
3	-0.15	-1.52	-1.54	0.00	-0.14	-1.37	-1.40	0.00
6	-0.17	-1.59	-1.70	0.01	-0.14	-1.31	-1.44	0.03
12	-0.17	-1.40	-1.57	0.03	-0.14	-1.16	-1.35	0.05
24	-0.18	-1.78	-1.97	0.05	-0.16	-1.57	-1.74	0.09
36	-0.20	-2.45	-2.52	0.07	-0.18	-2.17	-2.27	0.12
60	-0.18	-2.69	-2.79	0.07	-0.16	-2.41	-2.55	0.10
				Aggregate Productivity				
3	-0.27	-1.44	-1.54	0.02	-0.26	-1.40	-1.54	0.03
6	-0.23	-1.36	-1.36	0.02	-0.22	-1.34	-1.37	0.05
12	-0.32	-1.91	-1.86	0.09	-0.32	-1.89	-1.86	0.12
24	-0.35	-2.18	-2.20	0.18	-0.35	-2.18	-2.18	0.18
36	-0.28	-1.95	-1.89	0.17	-0.27	-1.94	-1.87	0.17
60	-0.20	-2.01	-1.83	0.14	-0.20	-2.00	-1.80	0.14

The table presents the regression evidence of predictability of future economic volatility by U.S. Presidential approval rate: $1/h\sum_{j=1}^{h} y_{t+j} = const + \beta_h^{App} App_t + \beta_h' controls_t + e_{t:t+h}$. The dependent variable y is the cumulative squared residual in industrial production, GDP, or aggregate productivity, constructed from the one-step ahead multivariate regression of the corresponding variable on the approval rate and the controls. The table shows the OLS coefficient (Coef) on the approval rate β_h^{App}, the associated Newey-West and Hodrick t-statistics, and the adjusted R^2. The controls in the multivariate specification include the lag of the dependent variable. Industrial production data are monthly from 1971:1 to 2016:12, and GDP and TFP data are quarterly.

Table 5: Approval Rate and Macroeconomic Volatility: Alternative Measures

	Univariate				Multivariate			
h	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$
				Macro Uncertainty				
1	-0.21	-5.06	-3.97	0.06	-0.02	-0.49	-2.66	0.98
3	-0.22	-5.54	-3.24	0.07	-0.04	-1.05	-2.40	0.94
6	-0.24	-6.18	-2.96	0.09	-0.07	-1.99	-2.31	0.87
12	-0.26	-6.75	-2.72	0.11	-0.10	-3.22	-2.04	0.74
24	-0.25	-7.24	-2.61	0.12	-0.14	-4.46	-1.85	0.51
36	-0.22	-7.22	-2.47	0.12	-0.14	-4.83	-1.64	0.33
60	-0.15	-7.26	-2.75	0.08	-0.11	-5.26	-1.71	0.16
				Real Uncertainty				
1	-0.15	-6.04	-4.95	0.07	-0.01	-0.51	-1.79	0.94
3	-0.16	-6.46	-3.99	0.08	-0.03	-1.18	-2.01	0.86
6	-0.17	-7.06	-3.58	0.10	-0.05	-2.49	-2.37	0.76
12	-0.18	-7.17	-3.12	0.13	-0.08	-3.82	-2.22	0.65
24	-0.18	-8.08	-3.42	0.15	-0.10	-4.97	-2.36	0.50
36	-0.16	-9.08	-4.00	0.15	-0.10	-5.56	-2.38	0.42
60	-0.13	-10.06	-5.08	0.12	-0.08	-5.87	-2.56	0.32
				Economic Policy Uncertainty				
1	-0.07	-0.56	-0.42	0.00	-0.11	-0.80	-1.41	0.67
3	-0.14	-1.11	-0.64	0.00	-0.17	-1.31	-1.51	0.61
6	-0.16	-1.20	-0.58	0.00	-0.18	-1.38	-1.14	0.59
12	-0.15	-1.18	-0.47	0.00	-0.17	-1.35	-0.88	0.55
24	-0.22	-1.93	-0.69	0.01	-0.25	-2.09	-0.95	0.42
36	-0.38	-3.35	-1.13	0.03	-0.38	-3.31	-1.13	0.32
60	-0.70	-5.77	-1.64	0.16	-0.72	-5.85	-1.64	0.28

The Table presents the regression evidence of predictability of future economic volatility by U.S. Presidential approval rate: $1/h \sum_{j=1}^{h} y_{t+j} = const + \beta_h^{App} App_t + \beta_h' controls_t + e_{t:t+h}$. The dependent variable y is the macro uncertainty and the real uncertainty of Jurado, Ludvigson, and Ng (2015), and economic policy uncertainty of Baker, Bloom, and Davis (2016). The table shows the OLS coefficient (Coef) on the approval rate β_h^{App}, the associated Newey-West and Hodrick t-statistics, and the adjusted R^2. The controls in the multivariate specification include the lag of the dependent variable. The macro uncertainty and real uncertainty are monthly from 1971:1 to 2016:12. The economic policy uncertainty is monthly from 1985:1 to 2016:12.

Table 6: Approval Rate and Exchange Rate Predictability: Univariate Evidence

	Nominal				Real				Excess return			
h	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$
					Broad Dollar Index							
1	-0.13	-1.43	-1.24	0.00	-0.13	-1.48	-1.32	0.00	-0.19	-2.05	-1.79	0.01
3	-0.19	-2.15	-1.81	0.02	-0.19	-2.24	-2.02	0.02	-0.25	-2.79	-2.41	0.03
6	-0.24	-2.80	-2.61	0.05	-0.24	-2.91	-2.95	0.06	-0.31	-3.51	-3.45	0.08
12	-0.20	-2.58	-2.57	0.07	-0.20	-2.54	-2.63	0.07	-0.26	-3.30	-3.41	0.11
24	-0.20	-2.72	-3.00	0.12	-0.17	-2.40	-2.65	0.11	-0.25	-3.40	-3.61	0.18
36	-0.14	-2.18	-2.20	0.10	-0.11	-1.62	-1.72	0.06	-0.18	-2.68	-2.60	0.13
60	-0.11	-2.05	-2.09	0.10	-0.08	-1.51	-1.80	0.07	-0.13	-2.43	-2.51	0.12
					AE Dollar Index							
1	-0.19	-1.71	-1.51	0.00	-0.18	-1.65	-1.49	0.00	-0.21	-1.89	-1.68	0.01
3	-0.25	-2.40	-2.10	0.03	-0.24	-2.36	-2.17	0.02	-0.27	-2.57	-2.27	0.03
6	-0.31	-3.04	-2.98	0.07	-0.30	-3.03	-3.15	0.07	-0.33	-3.25	-3.25	0.08
12	-0.26	-2.83	-2.89	0.09	-0.25	-2.71	-2.78	0.09	-0.29	-3.04	-3.07	0.10
24	-0.25	-2.79	-2.95	0.15	-0.21	-2.45	-2.55	0.12	-0.27	-3.03	-3.07	0.15
36	-0.17	-2.09	-2.10	0.10	-0.12	-1.56	-1.66	0.06	-0.18	-2.25	-2.23	0.10
60	-0.13	-1.98	-2.24	0.12	-0.09	-1.42	-1.97	0.07	-0.14	-2.03	-2.44	0.10
					EM Dollar Index							
1	-0.01	-0.16	-0.13	0.00	-0.03	-0.43	-0.38	0.00	-0.13	-1.66	-1.45	0.00
3	-0.04	-0.57	-0.46	0.00	-0.06	-0.89	-0.81	0.00	-0.16	-2.18	-1.91	0.01
6	-0.08	-1.08	-0.92	0.01	-0.10	-1.43	-1.39	0.01	-0.21	-2.82	-2.79	0.05
12	-0.06	-0.85	-0.79	0.01	-0.07	-1.07	-1.13	0.01	-0.18	-2.62	-2.93	0.07
24	-0.09	-1.48	-1.69	0.03	-0.10	-1.59	-2.22	0.06	-0.21	-3.15	-3.73	0.17
36	-0.08	-1.44	-1.53	0.04	-0.08	-1.42	-1.72	0.06	-0.16	-2.89	-2.72	0.17
60	-0.07	-1.52	-1.29	0.04	-0.07	-1.63	-1.73	0.09	-0.13	-3.01	-2.32	0.16

The table presents the univariate regression evidence of predictability of future dollar index values by U.S. Presidential approval rate: $1/h \sum_{j=1}^{h} y_{t+j} = const + \beta_h^{App} App_t + e_{t:t+h}^{FX}$. The dependent variables y are the average log changes in nominal and real dollar index values and average dollar excess returns. The table shows the OLS coefficient (Coef) on the approval rate β_h^{App}, the associated Newey-West and Hodrick t-statistics, and the adjusted R^2. The Dollar Index is computed as an equal weighted average value of the U.S. dollar against a broad group of currencies (Broad), against advanced economy currencies (AE), and against emerging market currencies (EM), in real and nominal terms. Data are monthly from 1971:1 to 2016:12.

Table 7: Approval Rate and Exchange Rate Predictability: Multivariate Evidence

	Nominal				Real				Excess return			
h	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$
					Broad Dollar Index							
1	-0.10	-1.08	-1.09	0.08	-0.10	-1.10	-1.10	0.06	-0.14	-1.45	-1.47	0.09
3	-0.17	-1.91	-1.73	0.06	-0.17	-1.98	-1.85	0.05	-0.21	-2.37	-2.17	0.09
6	-0.23	-2.61	-2.52	0.08	-0.23	-2.71	-2.76	0.08	-0.28	-3.18	-3.15	0.13
12	-0.19	-2.44	-2.43	0.09	-0.19	-2.40	-2.46	0.10	-0.24	-3.04	-3.12	0.16
24	-0.19	-2.60	-2.88	0.16	-0.16	-2.30	-2.57	0.14	-0.24	-3.23	-3.51	0.25
36	-0.13	-2.08	-2.03	0.15	-0.10	-1.55	-1.61	0.11	-0.17	-2.55	-2.44	0.24
60	-0.11	-2.15	-2.21	0.12	-0.08	-1.59	-1.96	0.08	-0.13	-2.48	-2.56	0.15
					AE Dollar Index							
1	-0.15	-1.37	-1.34	0.04	-0.14	-1.27	-1.24	0.04	-0.16	-1.40	-1.37	0.05
3	-0.23	-2.14	-1.99	0.05	-0.22	-2.08	-1.96	0.05	-0.23	-2.18	-2.01	0.08
6	-0.29	-2.85	-2.87	0.08	-0.28	-2.80	-2.91	0.09	-0.30	-2.92	-2.92	0.12
12	-0.25	-2.68	-2.75	0.11	-0.24	-2.53	-2.59	0.12	-0.26	-2.77	-2.79	0.16
24	-0.23	-2.68	-2.81	0.18	-0.20	-2.33	-2.44	0.16	-0.25	-2.84	-2.92	0.25
36	-0.16	-1.99	-1.93	0.16	-0.11	-1.46	-1.52	0.12	-0.17	-2.09	-2.06	0.23
60	-0.13	-2.04	-2.29	0.14	-0.10	-1.47	-2.08	0.08	-0.13	-2.04	-2.48	0.14
					EM Dollar Index							
1	-0.01	-0.19	-0.19	0.11	-0.03	-0.35	-0.36	0.09	-0.09	-1.14	-1.20	0.12
3	-0.04	-0.54	-0.49	0.05	-0.06	-0.81	-0.78	0.03	-0.14	-1.84	-1.74	0.06
6	-0.08	-1.04	-0.94	0.04	-0.10	-1.37	-1.37	0.03	-0.19	-2.58	-2.60	0.07
12	-0.05	-0.81	-0.77	0.02	-0.07	-1.03	-1.08	0.01	-0.17	-2.47	-2.76	0.08
24	-0.09	-1.45	-1.67	0.06	-0.10	-1.56	-2.19	0.06	-0.20	-3.07	-3.73	0.20
36	-0.08	-1.45	-1.48	0.07	-0.07	-1.42	-1.68	0.08	-0.16	-2.87	-2.66	0.22
60	-0.07	-1.73	-1.56	0.09	-0.07	-1.74	-1.94	0.11	-0.13	-3.12	-2.43	0.19

The table presents the multivariate regression evidence of predictability of future dollar index value by U.S. Presidential approval rate: $1/h \sum_{j=1}^{h} y_{t+j} = const + \beta_h^{App} App_t + \beta_h' controls_t + e_{t:t+h}$. The dependent variables are the average log changes in nominal and real dollar index values and average dollar excess returns. The table shows the OLS coefficient (Coef) on the approval rate β_h^{App}, the associated Newey-West and Hodrick t-statistics, and the adjusted R^2. Additional controls include the average forward discount of the advanced economies, the U.S. annual industrial production growth, and the lag of the dependent variable. The Dollar Index is computed as an equal weighted average value of the U.S. dollar against a broad group of currencies (Broad), against advanced economy currencies (AE), and against emerging market currencies (EM), in real and nominal terms. Data are monthly from 1971:1 to 2016:12.

Table 8: Approval Rate and Exchange Rate Volatility

	Univariate				Multivariate			
h	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$
				Broad Dollar Index				
1	-4.27	-0.98	-0.97	0.00	-3.73	-0.87	-0.90	0.01
3	-5.36	-1.34	-1.25	0.01	-4.92	-1.24	-1.26	0.04
6	-6.82	-1.74	-1.54	0.03	-6.58	-1.67	-1.55	0.05
12	-6.00	-1.64	-1.40	0.04	-5.91	-1.60	-1.38	0.05
24	-4.85	-1.42	-1.22	0.05	-4.62	-1.38	-1.18	0.06
36	-5.26	-1.72	-1.26	0.08	-4.90	-1.68	-1.21	0.12
60	-6.42	-2.76	-1.70	0.19	-6.09	-2.75	-1.65	0.24
				AE Dollar Index				
1	-4.00	-0.69	-0.68	0.00	-3.41	-0.59	-0.61	0.01
3	-5.66	-1.08	-1.01	0.01	-5.15	-0.98	-1.01	0.04
6	-7.97	-1.60	-1.39	0.02	-7.69	-1.55	-1.43	0.05
12	-7.53	-1.58	-1.26	0.04	-7.45	-1.57	-1.29	0.05
24	-5.29	-1.16	-0.89	0.03	-4.97	-1.11	-0.87	0.06
36	-5.26	-1.28	-0.82	0.04	-4.67	-1.18	-0.77	0.11
60	-6.51	-1.99	-1.07	0.08	-5.85	-1.87	-1.02	0.16
				EM Dollar Index				
1	-1.35	-0.36	-0.33	0.00	-0.96	-0.26	-0.28	0.10
3	-1.46	-0.41	-0.33	0.00	-1.04	-0.28	-0.28	0.13
6	-2.05	-0.56	-0.41	0.00	-1.60	-0.42	-0.35	0.12
12	-2.29	-0.66	-0.46	0.00	-1.68	-0.47	-0.35	0.10
24	-3.59	-1.15	-0.83	0.01	-2.77	-0.88	-0.67	0.14
36	-5.07	-1.91	-1.31	0.04	-4.27	-1.65	-1.23	0.19
60	-5.82	-3.10	-1.67	0.08	-5.36	-3.00	-1.70	0.16

The table presents the regression evidence of predictability of future exchange rate volatility by U.S. Presidential approval rate: $1/h\sum_{j=1}^{h} y_{t+j} = const + \beta_h^{App} App_t + \beta_h' controls_t + e_{t:t+h}$. The dependent variable y is the cumulative squared residual in nominal dollar values, constructed from the one-step ahead multivariate regression of the corresponding variables on the approval rate and the controls. The table shows the OLS coefficient (Coef) on the approval rate β_h^{App}, the associated Newey-West and Hodrick t-statistics, and the adjusted R^2. The controls in the multivariate specification include the average forward discount of the advanced economies, the U.S. annual industrial production growth, and the lag of the dependent variable. The Dollar Index is computed as an equal weighted average value of the U.S. dollar against a broad group of currencies (Broad), against advanced economy currencies (AE), and against emerging market currencies (EM), in nominal terms. Data are monthly from 1971:1 to 2016:12.

Table 9: Sharpe Ratios

h	Broad Dollar Index	AE Dollar Index	EM Dollar Index
		No conditioning	
1	0.21	0.17	0.01
3	0.18	0.15	0.01
12	0.15	0.14	0.01
		Conditioning on approval above or below 50%	
1	0.26	0.24	0.09
3	0.25	0.21	0.15
12	0.30	0.27	0.26
		Conditioning on approval above or below 40%	
1	0.29	0.24	0.07
3	0.39	0.34	0.18
12	0.25	0.21	0.14
		Conditioning on approval above or below 60%	
1	0.18	0.20	0.20
3	0.36	0.35	0.35
12	0.17	0.18	0.22

The table shows the annualized Sharpe ratios on investing into the U.S. dollar over the horizons of 1, 3 and 12 months. Top panel considers the non-overlapping returns on going short into the dollar over the corresponding investment horizon. Conditional strategies go long/short into the dollar if the approval rate over the previous period was below/above the cut-off of 50%, 40%, or 60%, respectively. The Dollar Index is computed as an equal weighted average value of the U.S. dollar against a broad group of currencies (Broad), against advanced economy currencies (AE), and against emerging market currencies (EM). Data are monthly from 1971:1 to 2016:12.

Table 10: Approval Rate and Exchange Rate Predictability: Political Events

	Excess Return					Industrial Production					Macro Uncertainty				
h	*App*	*t*	*App* × *D*	*t*	$\bar{R}^2$	*App*	*t*	*App* × *D*	*t*	$\bar{R}^2$	*App*	*t*	*App* × *D*	*t*	$\bar{R}^2$
							Before Election								
1	-0.12	-1.20	-1.20	-2.26	0.03	0.07	1.83	0.13	0.44	0.01	-0.17	-3.64	-0.74	-2.55	0.10
3	-0.20	-2.02	-0.89	-3.46	0.06	0.06	1.65	0.24	0.81	0.02	-0.19	-3.20	-0.71	-2.14	0.11
6	-0.27	-3.26	-0.50	-2.21	0.10	0.07	1.47	0.29	1.15	0.04	-0.21	-2.98	-0.59	-1.83	0.11
12	-0.25	-3.32	-0.15	-0.46	0.11	0.10	1.58	0.07	0.50	0.06	-0.24	-2.69	-0.35	-1.15	0.12
24	-0.25	-3.73	-0.01	-0.04	0.17	0.07	1.47	0.01	0.09	0.06	-0.24	-2.64	-0.08	-0.31	0.12
36	-0.18	-2.73	-0.04	-0.23	0.13	0.05	1.25	-0.06	-1.03	0.04	-0.22	-2.54	0.05	0.23	0.11
							Different Parties in White House and Congress								
1	-0.31	-1.64	0.10	0.45	0.02	-0.01	-0.15	0.11	1.09	0.01	-0.23	-1.73	0.04	0.26	0.06
3	-0.35	-1.95	0.09	0.40	0.05	-0.03	-0.44	0.13	1.42	0.02	-0.25	-1.54	0.05	0.26	0.07
6	-0.43	-2.35	0.11	0.54	0.12	0.00	-0.05	0.11	1.34	0.04	-0.30	-1.67	0.08	0.38	0.09
12	-0.35	-2.06	0.08	0.42	0.15	0.11	2.00	0.00	-0.01	0.07	-0.38	-1.99	0.16	0.70	0.12
24	-0.43	-2.67	0.20	1.11	0.21	0.14	5.40	-0.08	-1.41	0.07	-0.45	-2.53	0.27	1.20	0.16
36	-0.40	-3.58	0.27	2.31	0.18	0.14	2.81	-0.12	-3.19	0.10	-0.42	-3.06	0.28	1.74	0.20
							New President								
1	-0.19	-1.71	-1.16	-1.67	0.01	0.08	1.89	0.34	0.91	0.02	-0.22	-4.15	-0.31	-0.95	0.10
3	-0.25	-2.39	-0.46	-0.83	0.03	0.08	1.70	0.46	1.25	0.06	-0.23	-3.34	-0.33	-1.05	0.10
6	-0.31	-3.37	-0.37	-0.67	0.08	0.09	1.57	0.38	1.19	0.07	-0.25	-2.99	-0.32	-1.03	0.11
12	-0.26	-3.29	-0.30	-1.56	0.11	0.11	1.63	0.18	1.52	0.08	-0.27	-2.73	-0.18	-0.67	0.13
24	-0.25	-3.40	-0.24	-1.35	0.18	0.07	1.49	0.14	1.56	0.07	-0.25	-2.60	-0.08	-0.35	0.13
36	-0.18	-2.47	-0.20	-1.11	0.13	0.05	1.22	0.00	0.01	0.04	-0.23	-2.50	0.15	0.83	0.12
							Democratic President								
1	-0.22	-1.69	0.14	0.60	0.01	0.08	1.68	-0.02	-0.27	0.01	-0.22	-3.99	-0.02	-0.13	0.12
3	-0.29	-2.31	0.19	0.86	0.04	0.08	1.46	-0.03	-0.34	0.02	-0.23	-3.21	-0.01	-0.07	0.13
6	-0.34	-3.30	0.15	0.70	0.10	0.09	1.37	-0.04	-0.42	0.04	-0.24	-2.82	-0.03	-0.13	0.14
12	-0.28	-3.58	0.11	0.56	0.16	0.10	1.23	0.03	0.28	0.07	-0.25	-2.50	-0.06	-0.23	0.15
24	-0.23	-3.76	-0.05	-0.31	0.31	0.06	1.05	0.04	0.49	0.06	-0.23	-2.60	-0.07	-0.25	0.14
36	-0.13	-2.90	-0.18	-1.56	0.40	0.05	1.11	-0.01	-0.19	0.04	-0.21	-2.68	-0.03	-0.10	0.12

The table presents the multivariate regression evidence of predictability of future dollar excess currency returns, U.S. industrial production growth, and macroeconomic volatility index by U.S. Presidential approval rate: $1/h\sum_{j=1}^{h} y_{t+j} = const + \beta_h^{App} App_t + \beta_h^D D_t + \beta_h^{AppD} App_t \times D_t + e_{t:t+h}$. The dependent variables are the average dollar excess returns on a broad index, industrial production growth and the real uncertainty of Jurado, Ludvigson, and Ng (2015). The table shows the OLS coefficient on the approval rate β_h^{App} and the interaction β_h^{AppD}, the associated Newey-West t-statistics, and the adjusted R^2. The dummy "Before Election" equals 1 from August to October in election years. "New President" equals 1 in the first three month of a new president. "Democratic President" equals 1 when a president is Democratic. "Different Party in White House and Congress" equals 1 when different parties have the president and majority in the Senate and the House. Data are monthly from 1971:1 to 2016:12.

Table 11: Approval Rate and Exchange Rate Predictability: Congressional Approval

	Nominal				Real				Excess return			
h	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$
					Broad Dollar Index							
1	-0.23	-2.69	-2.45	0.01	-0.22	-2.63	-2.45	0.01	-0.25	-2.86	-2.60	0.01
3	-0.23	-2.71	-2.64	0.03	-0.22	-2.69	-2.80	0.03	-0.25	-2.91	-2.83	0.03
6	-0.22	-2.59	-2.86	0.04	-0.21	-2.57	-3.10	0.05	-0.24	-2.79	-3.06	0.05
12	-0.18	-2.32	-2.82	0.06	-0.17	-2.17	-2.80	0.06	-0.21	-2.54	-2.93	0.06
24	-0.19	-2.51	-3.18	0.11	-0.17	-2.15	-2.81	0.10	-0.21	-2.71	-3.06	0.11
36	-0.18	-2.36	-3.06	0.14	-0.15	-1.90	-2.72	0.11	-0.20	-2.52	-3.00	0.14
60	-0.21	-2.64	-4.61	0.28	-0.17	-2.13	-4.52	0.23	-0.22	-2.74	-4.30	0.25
					AE Dollar Index							
1	-0.27	-2.57	-2.42	0.01	-0.25	-2.40	-2.29	0.01	-0.26	-2.48	-2.32	0.01
3	-0.28	-2.64	-2.69	0.03	-0.26	-2.50	-2.67	0.03	-0.27	-2.57	-2.59	0.03
6	-0.26	-2.52	-2.88	0.05	-0.25	-2.41	-2.90	0.05	-0.26	-2.47	-2.74	0.05
12	-0.22	-2.24	-2.64	0.07	-0.21	-2.06	-2.49	0.06	-0.22	-2.22	-2.44	0.06
24	-0.23	-2.32	-2.77	0.12	-0.20	-2.04	-2.45	0.10	-0.23	-2.32	-2.48	0.10
36	-0.21	-2.09	-2.72	0.14	-0.18	-1.77	-2.48	0.11	-0.21	-2.11	-2.56	0.12
60	-0.22	-2.21	-3.99	0.25	-0.19	-1.84	-4.63	0.20	-0.23	-2.23	-4.34	0.22
					EM Dollar Index							
1	-0.13	-1.72	-1.55	0.00	-0.15	-2.03	-1.88	0.01	-0.17	-2.20	-1.99	0.01
3	-0.13	-1.72	-1.68	0.01	-0.15	-2.09	-2.25	0.02	-0.17	-2.30	-2.28	0.02
6	-0.11	-1.56	-1.68	0.01	-0.13	-1.89	-2.38	0.02	-0.16	-2.17	-2.38	0.03
12	-0.10	-1.44	-1.70	0.02	-0.10	-1.53	-2.08	0.03	-0.14	-2.08	-2.37	0.04
24	-0.12	-1.94	-2.44	0.06	-0.10	-1.63	-2.33	0.06	-0.17	-2.56	-2.74	0.11
36	-0.13	-2.03	-2.34	0.09	-0.10	-1.54	-2.15	0.10	-0.16	-2.50	-2.57	0.15
60	-0.17	-2.58	-3.17	0.21	-0.13	-2.03	-3.72	0.26	-0.20	-3.04	-3.60	0.29

The table presents the univariate regression evidence of predictability of future dollar index values by U.S. Congressional approval rate: $1/h\sum_{j=1}^{h} y_{t+j} = const + \beta_h^{App} App_t + e_{t:t+h}^{FX}$. The dependent variables y are the average log changes in nominal and real dollar index values and average dollar excess returns. The table shows the OLS coefficient (Coef) on the approval rate β_h^{App}, the associated Newey-West and Hodrick t-statistics, and the adjusted R^2. The Dollar Index is computed as an equal weighted average value of the U.S. dollar against a broad group of currencies (Broad), against advanced economy currencies (AE), and against emerging market currencies (EM), in real and nominal terms. Data are monthly from 1974:7 to 2016:12.

Table 12: Approval Rate and Exchange Rate Predictability: Government Stability

	Nominal				Real				Excess return			
h	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$	Coef	$t(H)$	$t(NW)$	$\bar{R}^2$
					Broad Dollar Index							
1	-0.04	-0.48	-0.42	0.00	-0.03	-0.35	-0.31	0.00	-0.03	-0.28	-0.24	0.00
3	-0.05	-0.52	-0.44	0.00	-0.03	-0.37	-0.33	0.00	-0.03	-0.30	-0.26	0.00
6	-0.07	-0.77	-0.63	0.00	-0.06	-0.66	-0.56	0.00	-0.05	-0.58	-0.46	0.00
12	-0.13	-1.52	-1.25	0.03	-0.11	-1.33	-1.12	0.02	-0.12	-1.37	-1.08	0.02
24	-0.18	-2.33	-2.38	0.12	-0.16	-2.03	-2.09	0.10	-0.17	-2.17	-2.03	0.10
36	-0.18	-2.46	-2.89	0.17	-0.14	-1.97	-2.48	0.13	-0.15	-2.12	-2.41	0.12
60	-0.19	-3.13	-4.92	0.35	-0.15	-2.42	-4.64	0.28	-0.16	-2.56	-4.46	0.24
					AE Dollar Index							
1	-0.07	-0.57	-0.51	0.00	-0.06	-0.50	-0.45	0.00	-0.02	-0.21	-0.19	0.00
3	-0.06	-0.55	-0.50	0.00	-0.05	-0.48	-0.45	0.00	-0.02	-0.19	-0.17	0.00
6	-0.10	-0.87	-0.77	0.00	-0.09	-0.85	-0.78	0.00	-0.06	-0.54	-0.46	0.00
12	-0.16	-1.50	-1.30	0.03	-0.16	-1.46	-1.28	0.03	-0.13	-1.24	-1.02	0.02
24	-0.20	-2.00	-2.03	0.11	-0.19	-1.93	-1.89	0.10	-0.19	-1.83	-1.64	0.08
36	-0.17	-1.78	-2.39	0.13	-0.16	-1.68	-2.13	0.10	-0.15	-1.65	-1.89	0.08
60	-0.18	-2.26	-4.96	0.29	-0.17	-2.11	-4.57	0.25	-0.17	-2.16	-4.01	0.19
					EM Dollar Index							
1	-0.01	-0.13	-0.11	0.00	0.03	0.44	0.39	0.00	0.00	0.01	0.01	0.00
3	-0.02	-0.27	-0.22	0.00	0.03	0.35	0.31	0.00	0.00	-0.04	-0.03	0.00
6	-0.01	-0.18	-0.14	0.00	0.03	0.43	0.35	0.00	0.01	0.17	0.13	0.00
12	-0.06	-0.81	-0.62	0.00	-0.01	-0.07	-0.06	0.00	-0.03	-0.39	-0.29	0.00
24	-0.14	-2.14	-2.14	0.08	-0.08	-1.16	-1.34	0.03	-0.09	-1.39	-1.33	0.05
36	-0.18	-3.03	-2.60	0.20	-0.10	-1.60	-1.94	0.10	-0.10	-1.69	-1.75	0.10
60	-0.21	-3.54	-3.50	0.37	-0.11	-1.89	-3.01	0.22	-0.11	-1.80	-2.20	0.17

The table presents the univariate regression evidence of predictability of future dollar index values by US Government Stability Index: $1/h\sum_{j=1}^{h} y_{t+j} = const + \beta_h^{App} App_t + e_{t:t+h}^{FX}$. The US Government Stability Index is normalized to have the same standard deviation as US presidential approval rate. The dependent variables y are the average log changes in nominal and real dollar index values and average dollar excess returns. The table shows the OLS coefficient (Coef) on the approval rate β_h^{App}, the associated Newey-West and Hodrick t-statistics, and the adjusted R^2. The Dollar Index is computed as an equal weighted average value of the U.S. dollar against a broad group of currencies (Broad), against advanced economy currencies (AE), and against emerging market currencies (EM), in real and nominal terms. U.S. Government stability index is monthly from 1984:1 to 2016:12, re-scaled to match the mean and volatility of the Presidential approval ratings.

Table 13: Approval Rate and Exchange Rate Predictability: Out-of-Sample Evidence

	Nominal			Real			Excess return		
h	R^2	R^2_{os}	p	R^2	R^2_{os}	p	R^2	R^2_{os}	p
				Broad Dollar Index					
1	0.00	-0.01	0.55	0.00	-0.01	0.46	0.01	0.00	0.15
3	0.02	-0.02	0.33	0.02	-0.02	0.22	0.03	0.00	0.07
6	0.05	0.00	0.04	0.06	0.01	0.02	0.08	0.04	0.01
12	0.07	0.02	0.04	0.07	0.04	0.02	0.11	0.06	0.01
24	0.12	0.00	0.02	0.11	0.00	0.02	0.18	0.07	0.00
36	0.10	0.01	0.04	0.06	-0.01	0.08	0.13	0.04	0.01
60	0.10	0.06	0.01	0.07	0.06	0.01	0.12	0.03	0.05
				AE Dollar Index					
1	0.00	0.00	0.31	0.00	0.00	0.32	0.01	0.00	0.18
3	0.03	-0.01	0.15	0.02	-0.01	0.14	0.03	0.00	0.08
6	0.07	0.02	0.02	0.07	0.03	0.01	0.08	0.04	0.01
12	0.09	0.04	0.02	0.09	0.04	0.02	0.10	0.05	0.01
24	0.15	0.02	0.02	0.12	0.01	0.03	0.16	0.04	0.01
36	0.10	0.01	0.04	0.06	-0.01	0.10	0.11	0.02	0.04
60	0.12	0.05	0.02	0.07	0.10	0.00	0.11	0.06	0.03
				EM Dollar Index					
1	0.00	-0.01	0.69	0.00	-0.01	0.74	0.01	0.00	0.45
3	0.00	-0.03	0.96	0.00	-0.02	0.96	0.02	-0.02	0.42
6	0.01	-0.06	0.84	0.01	-0.02	0.33	0.05	-0.01	0.07
12	0.01	-0.06	0.80	0.01	-0.02	0.40	0.07	0.01	0.06
24	0.03	-0.12	0.35	0.06	-0.05	0.05	0.17	0.09	0.01
36	0.04	-0.07	0.25	0.06	-0.05	0.10	0.17	0.06	0.04
60	0.04	-0.01	0.26	0.09	-0.02	0.22	0.16	-0.15	0.41

The table presents the out-of-sample regression evidence of predictability of future dollar index values by U.S. Presidential approval rate: $1/h\sum_{j=1}^{h} y_{t+j} = const + \beta_h^{App} App_t + e_{t:t+h}^{FX}$. The dependent variables y are the average log changes in nominal and real dollar index values and average dollar excess returns. The table shows the in-sample R^2, out-of-sample R^2 based on recursive out-of-sample regressions using 5-year training sample, and the associated p-value of Clark and West (2007) test. The Dollar Index is computed as an equal weighted average value of the U.S. dollar against a broad group of currencies (Broad), against advanced economy currencies (AE), and against emerging market currencies (EM), in real and nominal terms. Data are monthly from 1971:1 to 2016:12.

Table 14: Approval Rate and Exchange Rate Predictability: Currency Portfolios

port.	Mean	S.D.	1m	$t(NW)$	3m	$t(NW)$	6m	$t(NW)$	12m	$t(NW)$	24m	$t(NW)$	36m	$t(NW)$
							Univariate							
1	1.06	6.85	-0.03	-0.29	-0.11	-1.18	-0.18	-2.34	-0.15	-2.02	-0.16	-1.85	-0.07	-0.77
2	0.38	7.78	-0.18	-1.47	-0.23	-1.90	-0.27	-2.48	-0.22	-2.26	-0.21	-2.27	-0.13	-1.61
3	-1.32	7.35	-0.12	-0.99	-0.18	-1.57	-0.25	-2.42	-0.25	-2.59	-0.28	-3.61	-0.22	-3.10
4	-2.29	7.33	-0.26	-2.08	-0.31	-2.55	-0.34	-3.36	-0.27	-3.29	-0.23	-3.29	-0.16	-2.33
5	-1.99	7.91	-0.18	-1.34	-0.24	-1.91	-0.33	-2.97	-0.30	-3.47	-0.29	-4.68	-0.23	-3.63
6	-3.27	8.38	-0.37	-2.73	-0.42	-3.38	-0.45	-4.36	-0.38	-4.08	-0.33	-3.87	-0.25	-2.71
							Multivariate							
1			-0.01	-0.07	-0.08	-0.94	-0.16	-2.07	-0.13	-1.88	-0.14	-1.82	-0.06	-0.71
2			-0.12	-1.12	-0.18	-1.63	-0.23	-2.24	-0.19	-2.02	-0.18	-2.05	-0.11	-1.39
3			-0.08	-0.76	-0.15	-1.38	-0.22	-2.27	-0.23	-2.49	-0.26	-3.53	-0.20	-2.94
4			-0.20	-1.75	-0.26	-2.28	-0.31	-2.98	-0.25	-2.91	-0.22	-3.34	-0.14	-2.37
5			-0.12	-1.05	-0.21	-1.71	-0.30	-2.72	-0.28	-3.08	-0.27	-4.65	-0.21	-3.64
6			-0.29	-2.43	-0.39	-3.17	-0.44	-4.09	-0.37	-3.98	-0.33	-3.99	-0.24	-2.71

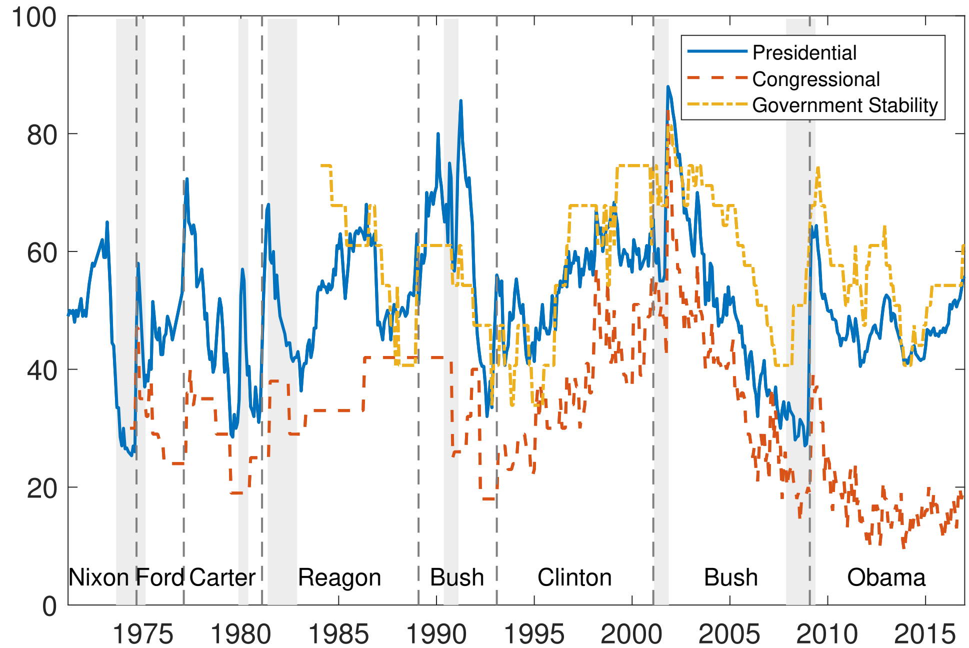
The table presents the regression evidence of predictability of future currency portfolio returns by U.S. Presidential approval rate: $1/h \sum_{j=1}^{h} y_{t+j} = const + \beta_h^{App} App_t + \beta_h' controls_t + e_{t:t+h}^{FX}$. The dependent variables y are the average dollar excess returns of interest-rate-sorted portfolios. The table shows the means and standard deviations of the portfolios, the OLS coefficient (Coef) on the approval rate β_h^{App}, and the associated Newey-West t-statistics. Additional controls in multivariate tests include the average forward discount of the advanced economies, the U.S. annual industrial production growth, and the lag of the dependent variable. Data are monthly from 1971:1 to 2016:12.

Table 15: Approval Rate and Currency Return Predictability: Dollar Level Control

h	Approval	$t(H)$	$t(NW)$	RER	$t(H)$	$t(NW)$	$\bar{R}^2$	RER	$t(H)$	$t(NW)$	$\bar{R}^2$
					Broad Dollar Index						
1	-0.16	-1.54	-1.35	-7.35	-0.72	-0.66	0.01	-14.25	-1.57	-1.43	0.00
3	-0.20	-2.04	-1.74	-12.14	-1.23	-1.10	0.04	-20.64	-2.26	-2.03	0.02
6	-0.25	-2.71	-2.70	-13.62	-1.42	-1.24	0.09	-24.15	-2.64	-2.28	0.05
12	-0.19	-2.23	-2.25	-18.35	-1.96	-1.73	0.15	-26.23	-2.94	-2.60	0.11
24	-0.16	-1.97	-2.16	-21.93	-2.48	-2.43	0.29	-28.66	-3.50	-3.40	0.23
36	-0.08	-1.06	-1.27	-24.33	-2.98	-4.08	0.33	-27.55	-3.66	-4.40	0.31
60	-0.03	-0.47	-0.47	-25.89	-3.63	-4.52	0.50	-27.00	-3.94	-4.94	0.49
					AE Dollar Index						
1	-0.18	-1.60	-1.41	-6.58	-0.71	-0.65	0.01	-11.40	-1.28	-1.18	0.00
3	-0.23	-2.15	-1.88	-10.25	-1.11	-1.01	0.03	-16.35	-1.82	-1.65	0.01
6	-0.29	-2.78	-2.82	-12.41	-1.36	-1.19	0.09	-19.89	-2.20	-1.88	0.04
12	-0.23	-2.41	-2.47	-16.15	-1.82	-1.61	0.14	-22.08	-2.50	-2.13	0.09
24	-0.19	-2.10	-2.24	-20.56	-2.44	-2.40	0.27	-25.64	-3.13	-2.90	0.20
36	-0.10	-1.19	-1.32	-22.69	-2.96	-3.67	0.31	-25.26	-3.38	-3.96	0.29
60	-0.06	-0.86	-0.96	-22.48	-3.34	-4.78	0.46	-23.95	-3.56	-5.13	0.44
					EM Dollar Index						
1	-0.02	-0.18	-0.16	-19.08	-2.07	-1.90	0.01	-19.83	-2.54	-2.32	0.01
3	-0.03	-0.34	-0.28	-22.79	-2.63	-2.40	0.04	-24.09	-3.23	-3.12	0.05
6	-0.08	-0.93	-0.84	-22.31	-2.73	-2.53	0.10	-25.73	-3.58	-3.63	0.09
12	-0.04	-0.48	-0.49	-24.60	-3.32	-3.29	0.19	-26.24	-3.98	-4.37	0.18
24	-0.09	-1.20	-1.67	-20.43	-3.26	-3.41	0.33	-24.24	-4.20	-4.58	0.31
36	-0.04	-0.62	-0.92	-20.63	-3.41	-4.22	0.44	-22.45	-4.31	-4.79	0.43
60	0.00	0.05	0.08	-22.76	-4.03	-5.08	0.64	-22.63	-5.03	-5.54	0.64

The table presents the multivariate regression evidence of predictability of future excess currency returns by U.S. Presidential approval rate: $1/h \sum_{j=1}^{h} y_{t+j} = const + \beta_h^{App} App_t + \beta_h^{RER} RER_t + e_{t:t+h}$, and the univariate regression evidence of predictability of future dollar index values by the level of the real exchange rate corresponding to the index: $1/h \sum_{j=1}^{h} y_{t+j} = const + \beta_h^{RER} RER_t + e_{t:t+h}^{FX}$.. The dependent variables y are the average dollar excess returns. The table shows the OLS coefficient (Coef) on the approval rate β_h^{App}, real exchange rate β_h^{RER}, the associated Newey-West and Hodrick t-statistics, and the adjusted R^2. The Dollar Index is computed as an equal weighted average value of the U.S. dollar against a broad group of currencies (Broad), against advanced economy currencies (AE), and against emerging market currencies (EM), in real and nominal terms. Data are monthly from 1971:1 to 2016:12.

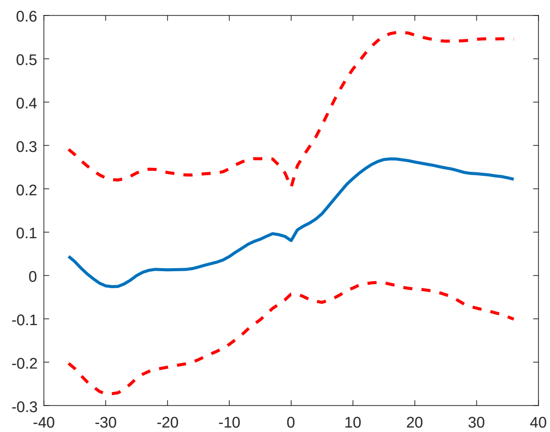
Figure 1: **U.S. Government Policy Approval**



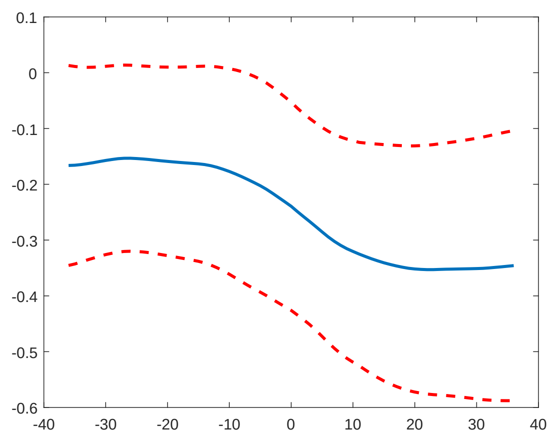
The Figure shows the time-series of U.S. Presidential and Congressional approval ratings, and Government Stability Index. Grey bars indicate NBER recessions. Presidential approval rate is monthly from 1971:1 to 2016:12. Congressional approval rate is annual from 1974:4 to 1994:1, and monthly from 1994:4 to 2016:12. U.S. Government stability index is monthly from 1984:1 to 2016:12, re-scaled to match the mean and volatility of the Presidential approval ratings.

Figure 2: **Lead-Lag Correlations of Approval Rate with Macroeconomic Indicators**

Industrial production growth:

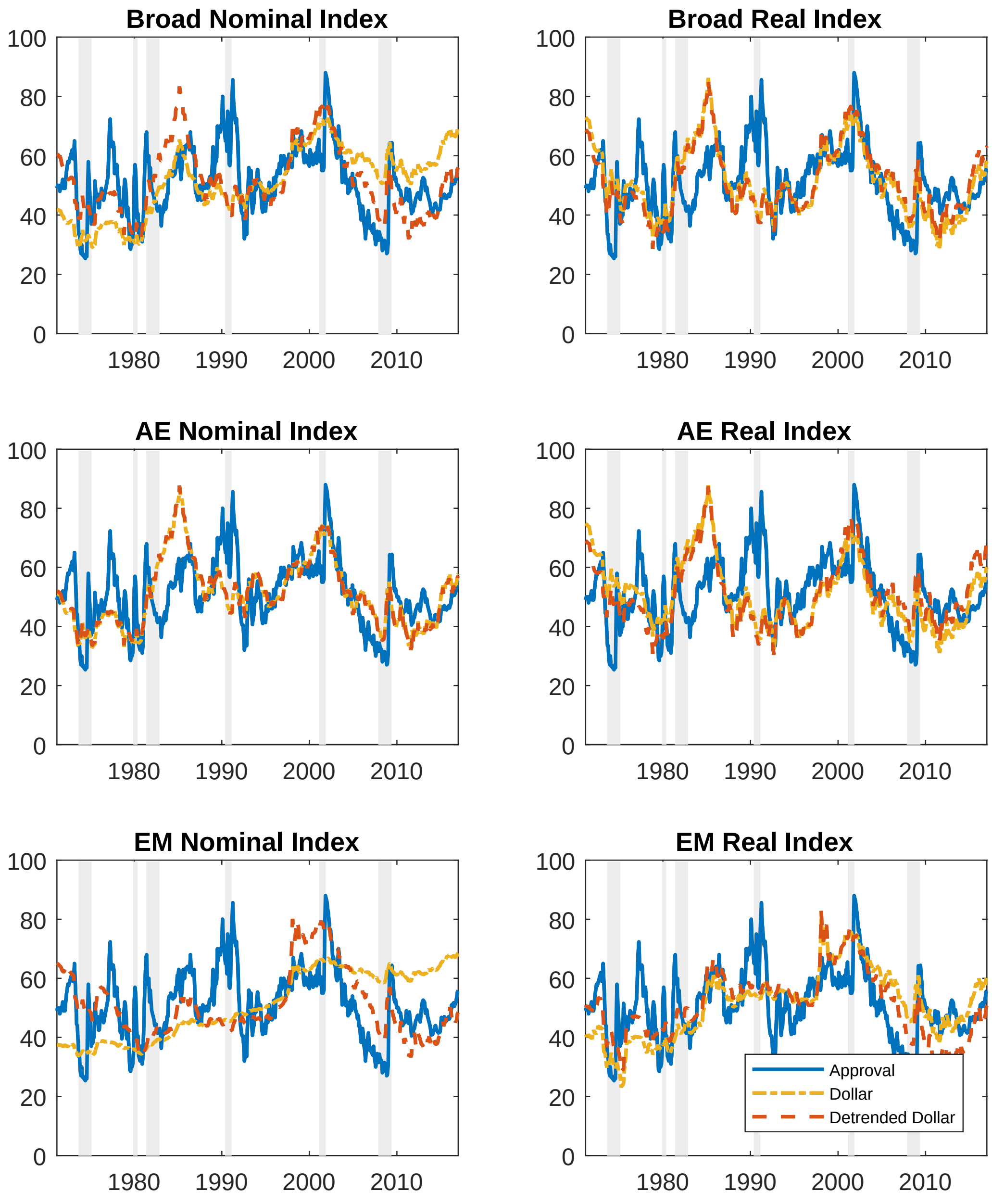


Macro volatility:



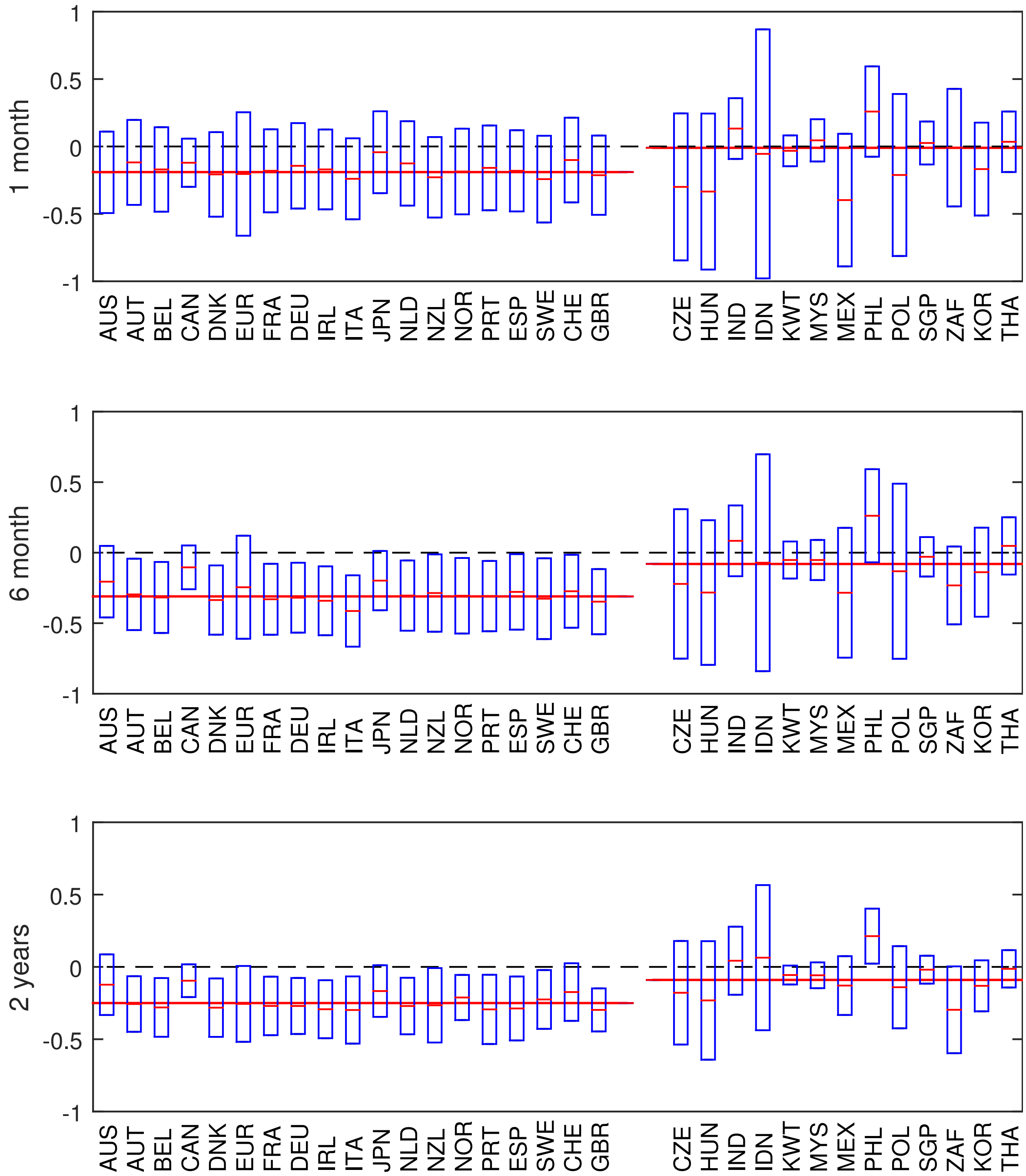
The Figure shows the correlations between approval ratings and cumulative leads and lags of industrial production growth (top panel) and macro volatility index of Jurado, Ludvigson, and Ng (2015) (bottom panel), 3 years in the past to 3 years in the future. Data are monthly from 1971:1 to 2016:12.

Figure 3: **Approval Rate and the Dollar Index Value**



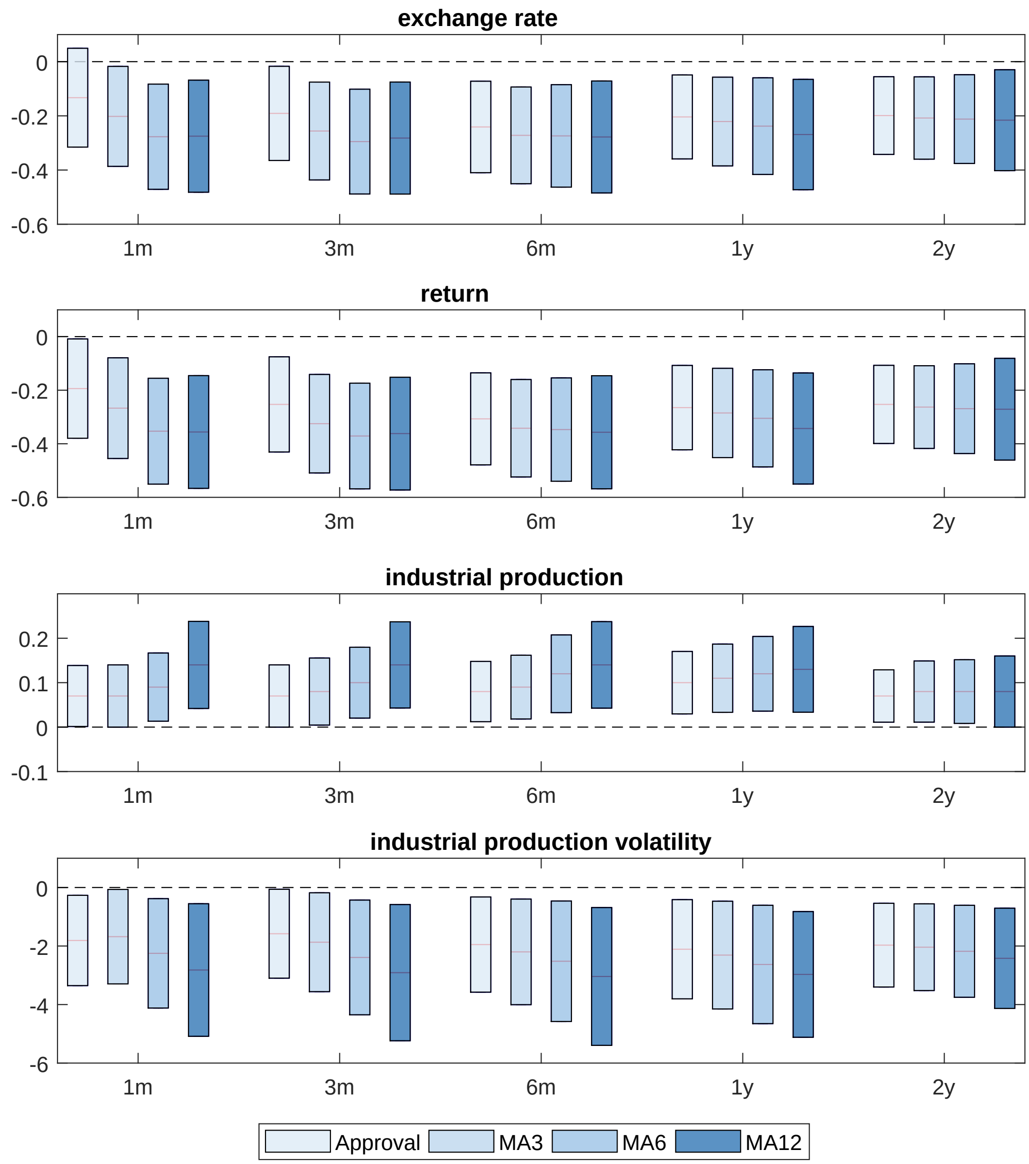
The Figure shows the time-series of U.S. Presidential approval rate and the Dollar Index. The Dollar Index is computed as an equal weighted average value of the U.S. dollar against a broad group of currencies (Broad), against advanced economy currencies (AE), and against emerging market currencies (EM). The panels show the raw and detrended index after removing a linear trend. All series are normalized to have zero mean and unit variance. Data are monthly from 1971:1 to 2016:12.

Figure 4: **Exchange Rate Predictability: Individual Countries**



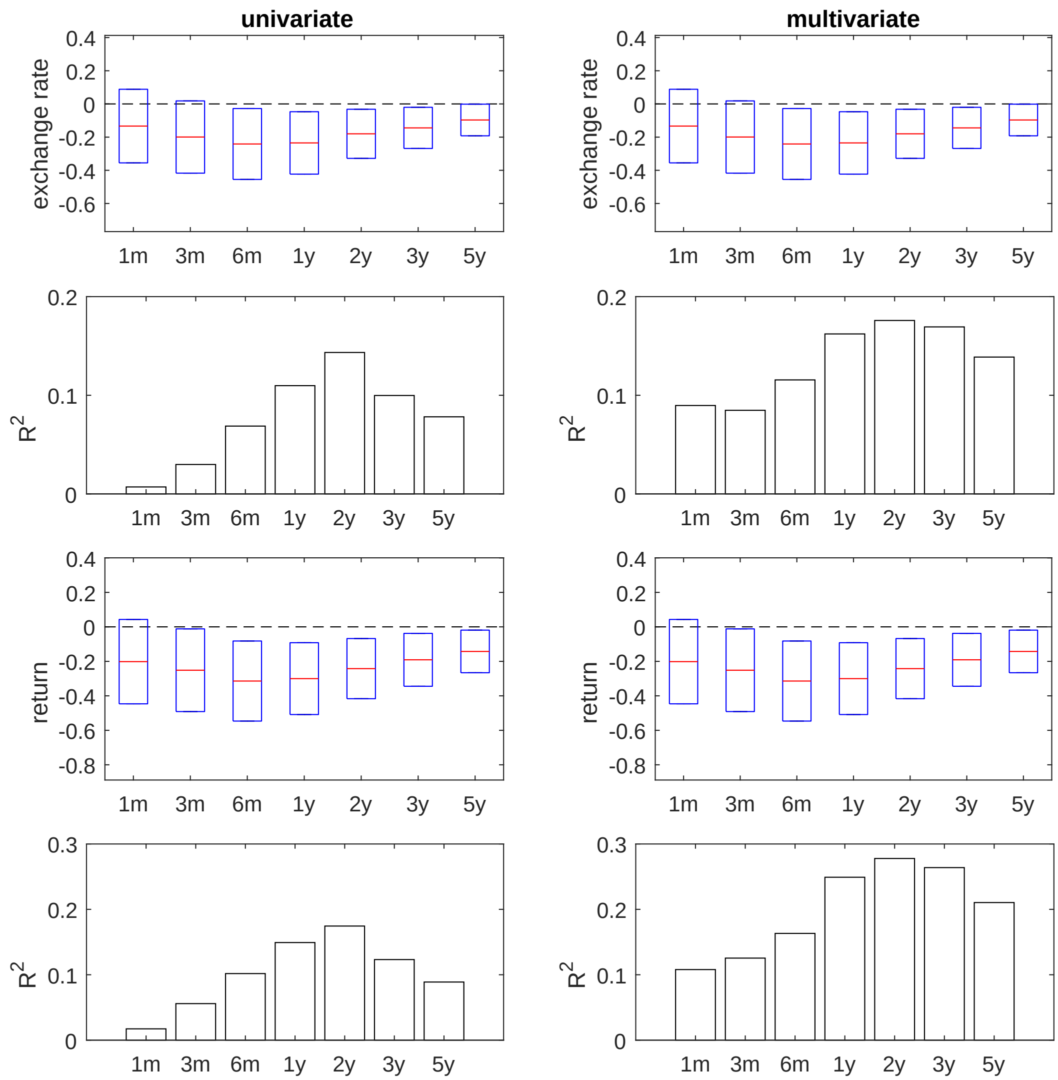
The Figures present the univariate regression evidence of predictability of future dollar value by U.S. Presidential approval rate: $1/h\sum_{j=1}^{h} y_{t+j} = const + \beta_h App_t + e_{t:t+h}$ at horizons h of 1 month, 6 months, and 2 years. The dependent variables are the log changes in nominal dollar values against individual currencies. The Figure shows the OLS coefficients on the approval rate and the associated Newey-West confidence intervals for advanced economies (left panel) and emerging markets (right panel). Data are monthly from 1971:1 to 2016:12.

Figure 5: **Predictability Evidence: Smoothed Approval Rate**



The Figures present the regression evidence of predictability of future dollar value, dollar return, industrial production growth and its volatility by the smoothed U.S. Presidential approval rate: $1/h\sum_{j=1}^{h} y_{t+j} = const + \beta_h \widetilde{App}_t + e_{t:t+h}$ at horizons h of 1 month to 2 years. The approval rate is smoothed over past 3, 6, and 12 months, respectively. Data are monthly from 1971:1 to 2016:12.

Figure 6: **VAR-implied Predictability Evidence**



The Figures present VAR-implied evidence of predictability of future dollar value by U.S. Presidential approval rate, derived from the VAR specification fitted to the changes in nominal dollar exchange rate (Broad index), interest rate differential, approval rate, and the U.S. industrial production growth. The lag length is selected by AIC and set to be 4. For the univariate setup, the slope coefficients correspond to the implied regression coefficients in projections of changes in future nominal dollar exchange rates (dollar returns) at horizons of 1 month to 5 years on a single approval rate; for the multivariate setup, the slope coefficients are the partial regression coefficients on approval rate controllng for the VAR variables. 95 percent confidence intervals are based on the VAR. Data are monthly from 1971:1 to 2016:12.