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Global political risk and international stock returns ☆

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ABSTRACT

Using novel measures of politics-policy uncertainty we document predictable variation in stock market returns across countries. Country characteristics and existing global and local risk factors do not account for such predictability, leading to large abnormal returns up to 15% per annum. We identify a global political risk factor (P-factor) commanding a risk premium of 11% per annum. High political uncertainty countries covary positively with the P-factor, earning higher average returns. Augmenting the global market portfolio with the P-factor significantly reduces pricing errors and improves cross-sectional fit. Politics-policy uncertainty affects returns through both cash-flow and discount rate channels.

1. Introduction

Political news around the world has been taking center stage, and the political uncertainty effects on the economy (Baker et al., 2016) and financial markets (Pástor and Veronesi, 2012, 2013) have been well documented. Recently, Kelly, Pástor, and Veronesi (2016), Liu and Shaliastovich (2022) have also shown that the effects spill over across countries. In this paper we show that political uncertainty around the world, while originating locally, creates common systematic variation across countries leading to priced global political risk. We contribute a global political risk factor (P-factor) that proxies for a slope factor in international equity returns and carries a significant risk premium of 11% per annum (p.a.). High political uncertainty countries covary positively with the P-factor and earn higher average returns. Augmenting the global market portfolio with the P-factor successfully accounts for the pricing of global political risk in explaining cross-country differences in average returns; these differences remain unexplained by several benchmark global or local asset pricing models.

To construct the P-factor we recognize two distinct, yet interrelated, dimensions of the multifaceted political risk: instability of a government, i.e., electoral risk, and uncertainty about its economic policies, i.e., policy risk. Elections may resolve political instability but election results do not resolve fully policy uncertainty, and policies may change without a change in government.

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We build on North (1991), co-recipient of the 1993 Nobel Memorial Prize in Economic Sciences, who classifies the rules of social organization into political rules, economic rules, and contracts. Contracts are firm specific, giving rise to idiosyncratic risk, but political and economic policy rules are systematic. Kelly et al. (2016) show that political uncertainty is an important determinant of stock market returns, but they give a dual interpretation either as uncertainty on who will be elected or uncertainty on which government policy will be chosen.[1] We integrate these two measures of political risk (henceforth, politics-policy) into a bivariate risk factor (P-factor).

We proxy politics-policy using novel survey-based measures of political stability and confidence in government economic policy from the Ifo World Economic Survey (WES, Becker and Wohlrabe (2007)). Like Liu and Shaliastovich (2022), who use policy approval ratings, we expect politics-policy to impact asset prices as forward-looking variables anticipating future economic conditions and reflecting investor beliefs affecting discount rates. We confirm empirically that politics-policy ratings forecast economic growth and stock market returns across countries, and using both politics-policy measures improves the political risk factor identification.

We validate the politics-policy measures in several ways. We illustrate patterns in the global political ratings in response to various political events and show that there is considerable time-series variation and that global ratings deteriorate with local political shocks having strong spillover effects across countries. An event-like study shows significant changes in the global politics-policy ratings and global returns. Correlations of the politics-policy variables with sixteen other macroeconomic and financial variables from the WES data are low and insignificant, both in the cross-section and inter-temporally, alleviating concerns about reverse causality. A political factor constructed after we orthogonalize politics-policy on the sixteen variables still carries a large and statistically significant premium. We also use alternative measures of political risk, namely the ICRG country ratings (PRS, 2005), the economic policy uncertainty index (EPU, (Baker et al., 2016)), and the World Bank political stability indicators (WB, World Bank (2018)) in robustness tests that corroborate the political risk factor with the WES proxies.

We proceed in five steps. First, we document that politics-policy have first-order impact on international returns, with low rated (high political uncertainty) countries earning higher average returns. We form portfolios of countries sorted on their politics or/and policy ratings, and obtain a monotonic cross-section of portfolio returns along both dimensions. Comparing the performance of stock market portfolios of countries with ex-ante different politics-policy ratings, we find that the low politics portfolio outperforms the high politics portfolio by a statistically significant 6.48% p.a., and the low policy portfolio outperforms the high policy by 5.94% p.a., with sizeable Sharpe ratios 0.45. The bivariate spread portfolio that is long on low politics-policy and short on high politics-policy is the P-factor with a statistically significant average return of 11.10% p.a. (p-value 0.01) and Sharpe ratio 0.53. This cross-sectional return predictability by politics-policy ratings survives controls for country characteristics and business cycle variables known to predict international returns. We also establish that exposures to global and local risk factors of six prominent asset pricing models cannot account for such politics-policy predictability and the P-factor is not spanned. Adding the P-factor to the benchmark models improves significantly the cross-sectional R^2.

Second, we document that politics-policy portfolios share a strong factor structure. The first two principal components of these portfolio returns account for more than 80% of their variation. The first principal component is a level factor, essentially the global market portfolio. The second principal component is a slope factor whose weights line up with average portfolio returns and is highly correlated with the P-factor. This suggests an APT (Ross, 1976) approach to explaining politics-policy returns. The P-factor thus provides a direct measure of the slope factor that is the only one responsible for the common variation across these portfolios. Our paper is the first to establish the existence of a slope factor in international equity portfolios sorted on political risk ratings, similar in scope but distinct from the carry slope factor in currency returns (Lustig et al., 2011).

Third, asset pricing tests confirm that global political risk is priced, and that augmenting the global market factor with the P-factor drives all alphas to zero and improves cross sectional adjusted R^2 by an order of magnitude. This is illustrated in Fig. 1 where we display the average pricing errors for the benchmark asset pricing models, and the two-factor model of the global market portfolio and the P-factor. When applied to the long-short portfolios sorted on politics, policy, or both, existing global or local models have large and statistically significant pricing errors, whereas the P-factor model errors are statistically insignificant. The model prices successfully an extended set of assets that includes the 42 country indices as well as portfolios sorted on value and momentum. We also rule out that the P-factor arises spuriously.

Fourth, we provide direct evidence on the global nature of priced political risk. We show that politics-policy ratings exhibit a common factor structure driving their systematic variation across countries. Political risk that may originate locally generates systematic variation, for instance through political spillovers, that cannot be diversified away. We uncover a relationship between the factor structure of country ratings and the factor structure of portfolio returns. We confirm the pricing ability of the common component of the country ratings and find that loadings on this common component line up with the average returns on the politics-policy portfolios, much like the loadings on the P-factor. This suggests that the common variation in international stock market returns that we have uncovered after sorting country returns by politics-policy is not a statistical artefact produced by our sorting. Instead, it truly measures differences in exposure to global political risk. This is salient to our contribution, confirming the APT interpretation of our findings.

Fifth, we shed light on the economic channels through which political variables affect international returns. We document that politics-policy impact countries' expected cash flows, with highly rated (low political uncertainty) countries exhibiting higher expected cash flows. Having documented the impact of politics-policy on expected returns and cash flows, we perform a Campbell–Shiller–Vuolteenaho decomposition to split return innovations into cash flow and discount rate news. Lower political uncertainty

[1] They validate empirically a theoretical model of a variable called "government policy uncertainty", which they clarify to include both notions: "Under the election interpretation, political uncertainty is uncertainty about who will be elected; in the original version of the model (Pástor and Veronesi, 2013), it is uncertainty about which government policy will be chosen".

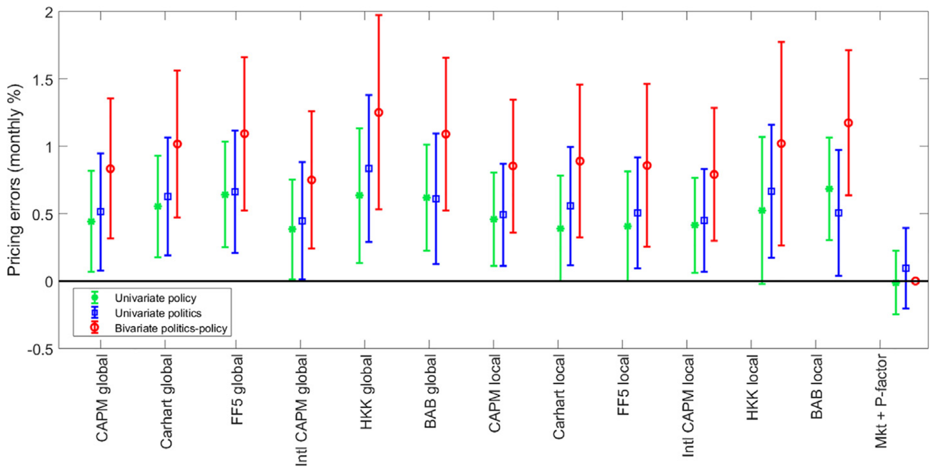

Fig. 1. Pricing errors on politics or/and policy portfolio sorts
This figure reports the average pricing errors of long-short (low-high) portfolios univariate-sorted on politics (blue) or policy (green), and bivariate-sorted on politics-policy (red). Pricing errors are computed using six benchmark global or local asset pricing models, and the model with the global market portfolio and the P-factor only. We report point estimates together with 90% confidence intervals. Portfolio sorts are on a sample of 42 international stock market returns, spanning the period 1992–2016. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)

increases future expected cash flows, which increase stock prices, thus increasing realized returns, and reduces future expected returns. We further identify how political ratings affect the discount rate by showing that they predict future market volatilities at the 6- and 12-month horizons.

Finally, we perform successfully several robustness tests: (i) Show that the politics-policy country ratings help identifying each country's exposure to the global political risk factor, and the positive return spread between the low-rated and high-rated portfolios is consistent with a risk-based explanation whereby poorly rated countries command higher expected returns because they load more on the P-factor. (ii) Rule out a potential market segmentation explanation of our results by carrying out all asset pricing tests using both global and local versions of the benchmark risk factors, and also showing that significant politics-policy return spreads persist even after controlling for market segmentation. (iii) Safeguard against data mining by performing successfully tests with alternative political risk factors, sample split analysis, risk factor randomizations, and alternative portfolio sorts.

1.1. Related literature

Evidence on the impact of political risk on financial markets dating from 1880 is given in Bittlingmayer (1998). Recent works document a premium for political uncertainty or policy uncertainty; see, respectively, Pástor and Veronesi (2013), Brogaard et al. (2020), Kelly et al. (2016), Liu et al. (2017) and Pástor and Veronesi (2012), Brogaard and Detzel (2015). Several studies use political cycles to identify the impact of political uncertainty (Leblang and Mukherjee, 2005; Boutchkova et al., 2012) or government policies (Santa-Clara and Valkanov, 2003; Belo et al., 2013) on asset prices. We follow North (1991) to consider politics and policy and show that both matter in international stock markets. Considering only one at a time entails loss of information.[2] For instance, in parliamentary democracies a coalition government must be forged around some agreed program, and the electoral outcome does not settle the policy uncertainty. Germany in 2021 and Italy in 2018 are examples where the election did not settle the policy uncertainty. Or, a country may be on a specific policy path no matter who wins the elections, as was the case with Greece during 2011–2019 implementing a fiscal adjustment program under a liberal government, a liberal-socialist coalition, and the radical left.

Political risk is a complex multi-faceted concept (Howell and Chaddick, 1994; Kobrin, 2022; Jong-A-Pin, 2009) and currently there is no unified approach to measure it (Sottilotta, 2016).[3] Its assessment relies on the opinions of experts (World Bank, 2018; PRS, 2005; Becker and Wohlrabe, 2007), whose role is highlighted in Sottilotta (2016, ch. 5) and Tetlock (2017). Several political rating proxies have been developed based on in-house experts (ICRG, WB), experts' surveys (WES), and news analytics (EPU). We use the novel WES measures of political stability and confidence in government economic policy to capture two dimensions of political risk for a more comprehensive identification of its impact on financial markets. We validate these measures empirically, ruling out reverse causality, and conduct tests to establish the robustness of our results to the use of ICRG, WB, or EPU. We confirm that our results, while robust to alternative measures, are stronger when using the WES data.

Political risk is considered country-specific (Erb et al., 1996; Diamonte et al., 1996) although political science literature supports also a global view. Among others, Haas (1964), Simmons and Elkins (2004) identify several mechanisms for "political spillovers",

[2] In addition to representing a different source of political uncertainty, political stability matters regardless of economic policy uncertainty because it also captures the economic effects of non-economic government policies, such as reforming the legal system or fighting corruption (Svensson, 1998; Liu et al., 2017).

[3] See, e.g., Jarvis and Griffiths (2007), Oetzel et al. (2001) and the special issue from the Club of Rome (Malaska and Nordberg, 1988) from political science literature, Howell (2014), Bekaert et al. (2014) from finance, and Bunn and Mustafaoglu (1978), Bremmer (2005) from management and management science.

through social constructs by international organizations and communities of experts, coercion by powerful states or supranational institutions, and learning from peers. Witness, for example, similar COVID-19 policies across countries following the advise of epidemiologists, the role of IMF in shaping several countries' response to the Great Financial Crisis, and the spreading of populism in the 2010's (Trump, Johnson, Duterte) or the Third Way in the 1990's (Clinton, Blair, Simitis). Houle et al. (2016) document political spillovers by showing that international shocks explain clustered regime transitions in 125 countries from 1875 to 2004. Recent works from the finance literature (Kelly et al., 2016; Brogaard et al., 2020) provide empirical evidence of spillover from U.S. political uncertainty to the international financial markets or among countries that are "important" to each other. These spillovers are from political risk in one country to the markets of other countries. We go further to show that local political uncertainty variables have a common systematic variation. This suggests a global political risk factor, alongside a country-specific component. Our work brings closer the finance and political science literatures, providing evidence of political spillovers. While the mechanisms driving political spillovers are beyond the scope of this paper, we show that the significant global component of political risk, driven by the common systematic variation in country politics-policy variables, is priced.

The heterogeneity in returns of portfolios sorted on politics-policy is not explained by corresponding risk heterogeneity according to six leading benchmark asset pricing models, namely, World CAPM (Harvey, 1991), International Carhart (Carhart, 1997), Fama and French (2017) five-factor model, henceforth FF5, International CAPM (Dumas and Solnik, 1995), Hou et al. (2011), henceforth HKK, and Frazzini and Pedersen (2014), henceforth BAB. World CAPM postulates that world market betas explain cross-sectional differences in average returns, International Carhart includes size, value, and momentum, FF5 further adds profitability and investments, International CAPM includes currency risk factors, HHK includes momentum and cash flow-to-price ratio, and BAB includes betting-against-beta. Appendix Table C1 provides details on the benchmark risk factors. We complement these models with the pricing of global political risk using the P-factor.

The economic channels from political risk to the markets have also been studied. Brogaard et al. (2020), Pástor and Veronesi (2013), Kelly et al. (2016), Liu et al. (2017) document a discount rate channel. Barro (1991), Alesina et al. (1997), Baker et al. (2016) provide evidence of the impact on economic growth, suggesting a cash flow channel. In line with the model of Pástor and Veronesi (2012), whereby political uncertainty may influence both cash flows and discount rates, our return decomposition (Campbell, 1991; Campbell and Shiller, 1988; Vuolteenaho, 2002) documents that politics-policy affect international returns through both channels. We further identify how political risk affects the discount rate by affecting market volatility. Our findings lend empirical support to North (1991), who argues that politics and policy rules reduce uncertainty in exchange and, hence, the "uncertainty discount", and that they also influence cash flows through "transaction and transformation costs".

2. Data

2.1. Politics and policy data

Our source of data for politics and policy is WES from Datastream. This is a panel survey of national experts conducted by the Ifo Institute for Economic Research in Munich, in cooperation with the International Chamber of Commerce and financial support from the European Commission. Details on country coverage, the survey questions of interest, methodology, summary statistics on experts, and politics-policy ratings by country are given in Appendix B.

The survey provides longitudinal data on the economic, financial, and political climate across countries. It covers a large cross-section of 42 countries spanning a long time period from January 1992 to December 2016. Importantly, for our work, the survey structure makes explicit the politics-policy distinction, since the same expert is required to provide an answer to two separate questions, one referring to politics and the other to policy. These questions capture the two dimensions of political risk. Politics ratings range from 1 to 9 for the most politically stable countries, and policy ratings range from 0 to 100 for countries with the highest confidence in government economic policy. Importantly, the scales reported in the database is not the direct response of the experts. Instead, the questions are categorical and the aggregate answers of multiple experts provide the scale. Hence, the final rating represents the experts' collective judgment and there are no outliers.

National experts satisfy professional and competence requirements, and Ifo controls for conflicts of interests to ensure reliability. The experts are mainly residents and each reports for the country they are located in. The same experts are asked every quarter although, common for panel surveys, experts may join or leave the panel from time to time. The survey is repeated quarterly, with experts always asked during the first month of each quarter, but the politics and policy questions are asked every other quarter with the responses announced in May and November. After each survey, experts receive the report with all the results for each country which can serve them as a benchmark for the next survey.

In Fig. 2 we plot the politics and policy ratings in our sample and observe that they do not move in tandem. They exhibit a Kendall-tau correlation coefficient of 0.34, and countries with highly rated policies and low rated politics, and vice versa, are not just few isolated cases, but appear rather often. There are substantial differences in both politics and policy ratings across countries. The average politics ratings by country range from 3.16 to 7.94, and the average policy ratings range from 6.72 to 72.38 (Appendix B, Table B1). Both politics and policy ratings exhibit significant variability over time, as evidenced by the average standard deviation of 1.28 around a mean value of 5.71 for politics, and the average standard deviation of 23.73 around the mean of 38.59 for policy. Both politics and policy are skewed and leptokurtic. Thailand and Peru are among the lowest ranked countries on politics, while Switzerland and Finland are among the highest ranked. Based on policy ratings, Taiwan and Egypt are among the lowest ranked countries, while Norway and Canada are among the highest ranked. Consistently with Fig. 2, some countries are above the median on politics but below the median on policy (e.g., Japan, France, USA), while the reverse holds true for others (e.g., China, Colombia, Peru).

Fig. 2. Politics and policy ratings.
Ratings of political stability and confidence in economic policy for 42 countries during 1992–2016 from the Ifo World Economic Survey. Panel A plots the levels and Panel B the changes.

The distribution of the politics-policy ratings reveals a large spread between the top and bottom quintiles, with an average spread of 5.24/8 for politics and 81.55/100 for policy, see Appendix Figure C1. This highlights the large cross-country variation in politics-policy ratings. We also look at the turnover among politics-policy quintiles, defined as the number of countries belonging to a specific quintile at time t but classified in a different quintile at $t-1$, divided by the number of countries in that quintile at t. There is a considerable turnover across all quintiles, reaching the highest value of 60% in the middle quintile. For the corner quintiles the turnover range of 33%–43% points to large time-series variability in politics-policy also within the extreme quintiles.

We also use alternative measures of political risk for robustness tests, namely the ICRG, WB, and EPU. ICRG aggregates politics with economic policy, by equally weighting variables for "Government Stability", "Socioeconomic Conditions", and "Investment Profile", among others. WB rates countries for political stability, using World Bank experts. The EPU index is based on newspaper coverage to proxy for movements in policy-related economic uncertainty.[4]

2.2. Validating the survey data

The WES ratings are novel and seemingly powerful measures, and we show that they measure what they claim.[5]

A narrative evidence on the differential effects of several country-specific events on politics and policy ratings or global stock market returns is discussed in Appendix A. The evidence suggests that politics and policy ratings are quite distinct, they do change in response to politics or policy events, and they appear to have an impact on the world stock market.

Following Baker et al. (2016), Caldara and Iacoviello (2022) we illustrate patterns in the global political ratings in response to various local political and economic events over time in Fig. 3. We construct a global politics-policy rating by standardizing the two country-level ratings and adding them to construct a politics-policy country rating. We then take a GPD-weighted average across countries to obtain the global politics-policy ratings shown in the figure. The global ratings show a considerable time-series variation and they deteriorate with significant political or economic policy shocks having negative effects indicating strong spillovers across countries. This figure is similar in scope to those reported in the aforementioned references for economic policy uncertainty and geopolitical risk.

We consider several major local political events dating back to 1992 and run a before-after test to find significant changes in the global politics-policy ratings or global stock market returns.[6] We calculate the before-after ratings and returns on the data of all countries thereby demonstrating that these local events have a global impact. The average politics rating before the events of 6.46 drops to 5.92 after the events, and the average policy rating of 39.38 before drops to 28.34 after. These drops are quite large (8% and 28%, respectively) and strongly statistically significant (p-values 0.002 and 0.004). Likewise the excess return of the global MSCI World Index over one day or ten days around the events shows drops by −1.49% and −0.46%, respectively (p-values 0.04). (We also find strong local impacts on both ratings and market returns, but we do not report these results since local impacts are well documented in the literature and our aim is to show the global impact of local events.)

[4] Data are from https://www.prsgroup.com/explore-our-products/countrydata-online/ (subscription required), https://www.policyuncertainty.com/all_country_data.html (free access), and https://databank.worldbank.org/reports.aspx?Report_Name=WGI-Table&Id=ceea4d8b (free access), respectively.

[5] We thank two referees and the associate editor for pointing out that previous literature using these variables had not provided any validation tests and pointing out the need for validation.

[6] We consider Britain leaving the ERM in June 1992, Asian crisis of 1997, Twin Towers attack of September 11, 2011, Netherlands and France rejecting the EU constitution in 2005, EU debt crisis 2010–2013, Arab Spring 2010, Paris attack in November 2015, and Brexit in June 2016.

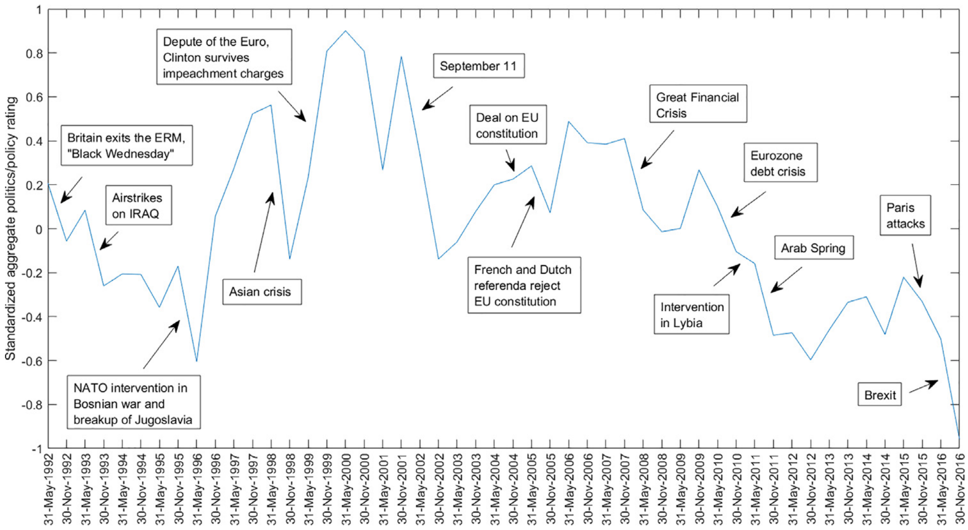

Fig. 3. Global politics-policy ratings.
This figure plots the global politics-policy rating constructed by standardizing the country-level politics and policy ratings and adding them to construct a politics-policy country rating, and then taking a GPD-weighted average across countries. We also show that several major local events have a noticeable effect on the global ratings. Data are biannual, spanning 1992–2016.

This evidence suggests that the WES politics-policy measures respond to politics and policy events. However, we also need to rule out reverse causality that the experts give one dimensional answers to the politics and policy questions that are contaminated by the macroeconomic or financial conditions of their country. We compute the correlations of the politics and policy variables with sixteen other variables from the WES survey and find that they are low and statistically insignificant, both in the cross-section and inter-temporally; see Appendix Table B3. Since all questions are asked in the same survey to the same experts, we can rule out that the experts are providing information on variables unrelated to political risk.

Further validation of the politics-policy measures is provided with our main tests. We will orthogonalize politics-policy on the sixteen variables and show that the P-factor remains priced. We will also use three other widely used politics or policy ratings and show that our results are robust. However, the risk premium is lower and the explanatory power in the cross-section is weakened when we do not consider the joint politics-policy effects as we do using WES.

2.3. Financial and economic country data

We use Datastream for real GDP growth rate, debt-to-GDP ratios, and inflation rates. Stock market returns are from the MSCI Global Market Indices (Investable) in USD, including dividends, and we use the standard MSCI Indices for robustness test.[7] We use the "overall restriction index" of capital controls (Fernández et al., 2016) as a proxy for market segmentation, from Alessandro Rebucci website.[8]

The international market portfolio is the MSCI All Countries World index in USD (MSCI-World). We obtain factors for testing the International Fama–French five-factor model and International Carhart model from Kenneth French website.[9] Data for the model of Hou–Karolyi–Kho are provided by Andrew Karolyi, and the Betting-Against-Beta factors are from AQR website.[10] We use both global and local factors for all benchmark models. For the local version of World CAPM, International CAPM, FF5, and Carhart, the local factors correspond to four regions (North America, Europe, Asia Pacific ex-Japan, Japan), for a total of 4, 7, 20, and 16 factors, respectively. HKK has a total of 6 local factors for developed and emerging markets, and BAB has 6 factors for three regions (North America, Europe, Asia). Value and momentum data (Asness et al., 2013) from the AQR website and the carry slope factor in currency returns (Lustig et al., 2011) from Adrien Verdhelhan website.[11]

We estimate all asset pricing models using monthly data for returns and factors, use annual data for debt-to-GDP ratios, quarterly for real GDP growth, and monthly for inflation rates.

7 MSCI Investable Indices were created in 1994, and we use the standard MSCI Indices for 1992–1993. MSCI has indices for 46 countries, but we exclude four for which WES has no data (Singapore, Indonesia, Kuwait, Saudi Arabia).

8 https://sites.google.com/site/alessandrorebucciphd/research/publications

9 See http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html#Developed

10 See https://www.aqr.com/Insights/Datasets/Betting-Against-Beta-Equity-Factors-Monthly

11 http://web.mit.edu/adrienv/www/Data.html

Table 1
Average returns of politics-policy portfolios.

(a) Univariate sort		
	Policy	Politics
P1 (H)	8.40*	8.77*
	(0.06)	(0.04)
P2	9.56*	9.95*
	(0.04)	(0.03)
P3	10.77*	10.52*
	(0.02)	(0.03)
P4 (L)	14.34*	15.25*
	(0.01)	(0.01)
L-H	5.94*	6.48*
	(0.04)	(0.04)
Sharpe ratio	0.44	0.45

(b) Bivariate sort			
	Policy		
Politics	H	M	L
H	7.91*	8.28*	9.81*
	(0.09)	(0.07)	(0.01)
M	8.81*	11.33*	12.50*
	(0.06)	(0.02)	(0.01)
L	11.69*	7.07	19.01*
	(0.04)	(0.22)	(0.00)
LL-HH	11.10*		
	(0.01)		
Sharpe ratio	0.53		

This table reports the annualized average returns of univariate- and bivariate-sorted portfolios based on politics and policy ratings. In the univariate sorts "P1 (H)" refers to the top and "P4 (L)" to the bottom quintiles, and "P2" and "P3" are portfolios in two equally split quantiles in between. In the bivariate sorts "H", "M" and "L" denote the top, mid, and bottom terciles along each of the two dimensions. "L-H" and "LL-HH" are the returns of the low minus high, and low/low minus high/high spread portfolios, respectively. Portfolios are rebalanced semi-annually. Returns are in percentages, denominated in USD, and include dividends. Newey and West (1987) p-values based on optimal number of lags (Andrews and Monahan, 1992) are in parenthesis. Data are monthly, spanning 1992–2016.

*Denotes statistical significance at least at the 10% level.

3. Politics-policy ratings and international stock returns

In this section we establish our main results. We provide evidence that country politics and policy ratings predict the cross-section of international stock market returns, even after controlling for other country characteristics known to predict equity returns. Then, we show that global and local risk factors of leading international asset pricing models do not account for the pattern in international returns. We establish a strong factor structure in the politics-policy portfolios and show that accounting for exposure to priced global political risk, as measured by covariation with the P-factor, explains successfully politics-policy induced differences in returns. Importantly, we show that a two factor model including the world market portfolio and the P-factor, prices successfully an extended set of assets that includes also the 42 international equity indices and characteristic-sorted portfolios (value and momentum). We establish that the P-factor is not spurious and it captures priced global political risk.

3.1. Returns of the politics-policy portfolios

We analyze the relationship between international stock market returns and politics-policy country ratings. We compare the performance of stock market returns of countries with ex-ante different politics and policy ratings by creating equally-weighted portfolios of the MSCI Investable Indices sorted by their ratings. The portfolios are formed on the last day of the month of each WES announcement and are rebalanced semi-annually. We create both univariate- and conditional bivariate-sorted portfolios, and denote by H and L the top and bottom quantile portfolios, respectively. Univariate sorts are into quintiles for the extreme portfolios and two equally split quantiles in between. Conditional bivariate sorts are in terciles, sorting first by the less volatile politics ratings and then by the more volatile policy ratings.[12] By construction, these portfolios maximize the spread in the politics-policy variables, so that differences in their average returns can be attributed to differences in the sorting variables.

We show in Table 1 the average annualized returns of the politics-, policy-, and politics-policy portfolios. Sorting on politics and/or policy ratings generates novel monotonic patterns in the cross-section of returns. The portfolio with low political ratings

[12] We perform robustness checks on the sorting procedure in the on-line Appendix E.

outperforms the high political rating portfolio by 6.48% p.a., and the low policy rated portfolio outperforms the high policy rated by 5.94% p.a., with strong statistical significance. The average returns of bivariate-sorted portfolios exhibit a monotonic pattern in both politics-policy dimensions and along the diagonal. The spread portfolio that is long on low politics-policy and short on high politics-policy generates a strongly significant average return of 11.10%, which is about additive of the univariate-sorted returns. The spread portfolios generate Sharpe ratios of 0.44–0.45 for univariate- and 0.53 for bivariate-sorted portfolios. Univariate-sorted portfolios consist on average of about nine markets in each of their long and short legs, and bivariate-sorted portfolios average about five countries in the long and four countries in the short leg.

The observations on the politics-policy portfolios are robust to alternative sorts. Computing the average return spreads of portfolios sorted on the EPU index we obtain the same monotonic pattern in the cross-section of returns, with a statistically significant spread of 6.32% and a Sharpe ratio of 0.37 between the low and the high policy rated portfolios (Appendix Table D1). These results are comparable to those obtained with univariate sort on WES policy though significantly lower than those obtained with bivariate sorts. This test contributes to validate the WES policy variable by comparing it with the well-established EPU index. Importantly, it highlights that stronger results are obtained when accounting for both politics-policy dimensions.

The results are also robust to sorts on the residual of politics-policy measures orthogonalized on all sixteen macroeconomic and financial variables from WES, thus ruling out that the observed portfolio spreads are due to contamination of politics-policy ratings. The portfolio with low residual political ratings outperforms the highly rated portfolio by 4.38% p.a., and the low residual policy rated portfolio outperforms the highly rated by 2.10% p.a. The spread of the bivariate-sorted portfolio that is long on low residual politics-policy and short on high residual politics-policy generates a strongly significant (p-value 0.01) average return of 7.27%. The spread portfolios generate Sharpe ratios of 0.38–0.21 for univariate-, and 0.50 for bivariate-sorted portfolios. This very stringent test, while producing as expected lower return premia and Sharpe ratios, further corroborates that the politics-policy measures are not capturing some other factors.[13]

These results document first-order and differential impact of politics-policy ratings on returns.

3.2. Politics-policy ratings and country characteristics

We show that the predictability of the cross-section of international stock market returns by politics and policy ratings holds true even when controlling for country characteristics and business cycles variables known to predict international returns. Thus, we rule out that our results might be due to the (low) correlation of politics-policy ratings with other country characteristics that affect international returns. This test also corroborates that the experts' responses are not contaminated from some observable information that is unrelated to political variables. To identify the marginal predictive power of politics and policy ratings, we run predictive (Fama and MacBeth, 1973) regressions of future international stock market returns on politics, policy, and other country characteristics.

Table 2 reports the predictive regression coefficients of four model specifications for 6- and 12-month investment horizons. Specification (1) includes policy ratings, (2) includes politics ratings, and (3) includes both policy and politics ratings. In specification (4) we add several macroeconomic and financial control variables from the literature including GDP growth (Brogaard and Detzel, 2015; Henry and Miller, 2009), debt-to-GDP ratio (Davis and Taylor, 2019), inflation rate (Campbell and Vuolteenaho, 2004), return momentum as return over the past twelve months excluding the most recent month (Jegadeesh and Titman, 1993), and return volatility as monthly standard deviation of past daily returns (Ang et al., 2009).

In specification (3) politics and policy have been orthogonalized with respect to each other, and in (4) politics and policy have been orthogonalized on each other and all the control variables. In the multivariate regression, we include the original control variables, together with the orthogonalized politics and policy ratings, to give an advantage to the macroeconomic and financial variables to predict future returns, while isolating the effects of politics and policy from the controls. This mitigates potential endogeneity concerns of survey responses and captures the differential effects of politics and policy ratings independently of each other and the controls.

The slope coefficients for politics and policy ratings are statistically significant in all specifications and for both investment horizons, thus confirming they contain information about the cross-section of future stock market returns beyond the information of other country characteristics. Consistently with portfolio sorts, the negative coefficient estimates corroborate the evidence that high politics and policy ratings forecast low future returns. We interpret the economic significance of the regression coefficients as the marginal increase in future returns if a country were to improve its politics and policy ratings and move up to the next quartile. Using the coefficients from the univariate specifications (1) and (2) for the 12-month investment horizon, we estimate that an increase in a country's policy (politics) ratings up to the next quartile will yield on average a decrease in future annual stock market returns of 1.73% (3.24%).[14] These findings corroborate the evidence on the cross-sectional return predictability by the forward-looking survey-based politics and policy measures.

[13] We also perform a placebo test on thirteen of the variables, excluding expected inflation, FX, and future economic conditions that are known to have an effect on stock market returns. None of the portfolio sorts constructed with these variables exhibit a significant spread in returns, with average p-values 0.38. The results are available from the authors.

[14] Policy ratings quartiles correspond to a change of 25 points, so future stock market returns change by $-0.69 \times 10^{-3} \times 25 = -1.73\%$ p.a. Politics ratings quartiles corresponds to a change of 2 points, so future stock market returns change by $-1.62 \times 10^{-2} \times 2 = -3.24\%$ p.a.

Table 2
Fama–MacBeth cross-sectional regressions.

	6-month				12-month			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Policy	−0.31*		−0.47*	−0.27*	−0.69*		−0.98*	−0.57*
	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)
Politics		−0.69*	−1.01*	−0.47*		−1.62*	−2.26*	−0.91*
		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)
GDP growth				0.52				0.30
				(0.34)				(0.73)
Debt-to-GDP				0.11*				0.32*
				(0.09)				(0.00)
Inflation				2.42*				5.05*
				(0.00)				(0.00)
Momentum				0.02				0.05*
				(0.14)				(0.00)
Volatility				−0.51				0.30
				(0.31)				(0.69)
R^2	0.02	0.05	0.07	0.28	0.02	0.06	0.09	0.27

This table reports the results of monthly Fama–MacBeth cross-sectional predictive regressions of excess returns on lagged politics and policy ratings, and country characteristics, for 6- and 12-month investment horizons. We include excess returns of the univariate- and bivariate-sorted portfolios from Table 1 along with those of the 42 country stock market indices in our sample. Excess returns are computed for the months following the release of politics and policy ratings. The control variables are GDP growth rate, debt-to-GDP, inflation rate, return momentum as return over the past 12 months excluding the most recent month, and return volatility as monthly standard deviation of past daily returns. In multivariate regressions (3) and (4) politics and policy are orthogonalized with respect to each other and the control variables. Regression coefficients have been rescaled, multiplying the original value by 10^3 for policy, 10^2 for politics, and 10^3 for debt-to-GDP. We report the average cross-sectional R^2. p-values are in parenthesis, and Data span the period 1992–2016.

*Denotes statistical significance at least at the 10% level.

3.3. Risk premia on existing risk factors?

We investigate whether the patterns in realized returns of Table 1 can be attributed to variation in expected returns due to risk premia on the risk factors of existing international asset pricing models. If the observed patterns are due to abnormal returns with reference to the benchmark models, this would suggest that existing models may be missing risk factors capturing political risks. To address this question, we impose the structure of a multifactor asset pricing model and test whether the politics-policy portfolio return spreads are explained by exposures to the risk factors of existing models (Barillas and Shanken, 2017).

We consider the six benchmark asset pricing models discussed in the literature section. We allow for several risk factors (Appendix Table C1) to maximize the ability of these models to explain the variation in the expected returns of the test portfolios, thus minimizing the likelihood that omitted risk factors could be responsible for the documented politics-policy return spreads. We perform the asset pricing tests using both global and local risk factors. This is in line with the ongoing debate on international financial market integration, using global risk factors for pricing in integrated markets versus local factors for pricing in segmented markets (Hou et al., 2011). As market integration follows a "swoosh" pattern (Bekaert and Mehl, 2019), a clear choice is not obvious ex-ante, and we opt for testing both global and local asset pricing models.

We test for abnormal returns by estimating the regression

$$r_{i,t} = \alpha_i + \sum_{j=1}^{K} \beta_{i,j}\, r^*_{j,t} + \epsilon_{i,t}, \tag{1}$$

where $r_{i,t}$ is the monthly excess return on portfolio i at month t, $\beta_{i,j}$ is the ith portfolio loading on risk factor j, and $r^*_{j,t}$ is the monthly excess return of the risk factor j. If the average excess returns of the politics-policy portfolios are explained by exposure to the benchmark risk factors, then the intercepts (alphas) should be statistically indistinguishable from zero.

Table 3 reports the politics, policy, and politics-policy spread portfolio alphas from monthly time-series regressions for all reference international asset pricing models. All model specifications reject at conventional levels the hypothesis that the abnormal returns of the policy, politics, or politics-policy spread portfolios are zero. From the estimation of global models (Panel A) we observe that the alphas for the policy spread portfolio range from 4.59% to 7.69% p.a. These values are economically significant compared to the average excess return of the policy spread portfolio of 5.94%. Likewise, the abnormal return for the politics spread portfolio is statistically significant in the range 5.37–10.02% p.a., and is large compared to the average excess return of the politics spread portfolio of 6.48% p.a. The abnormal return of the politics-policy portfolio is statistically significant and about additive of the univariate politics and policy alphas, in the range 8.99–15.00% p.a., and close to the average excess return of the politics-policy spread portfolio of 11.10% p.a. The adjusted R^2 are below 0.05. The local models (Panel B) generate alphas of similar magnitudes

Table 3
Abnormal returns on politics-policy portfolios.

(a) Global asset pricing models

Portfolio Strategy		World CAPM	Intl Carhart	Intl FF5	Intl CAPM	Intl HKK	Intl BAB
Policy spread portfolio (L-H)	α	5.31*	6.64*	7.69*	4.59*	7.61*	7.42*
		(0.05)	(0.02)	(0.01)	(0.09)	(0.04)	(0.01)
	R^2	0.01	0.02	0.03	0.04	0.03	0.02
Politics spread portfolio (L-H)	α	6.17*	7.53*	7.95*	5.37*	10.02*	7.32*
		(0.05)	(0.02)	(0.02)	(0.09)	(0.01)	(0.04)
	R^2	0.00	0.04	0.05	0.04	0.02	0.00
Politics-policy spread portfolio (LL-HH)	α	9.99*	12.19*	13.11*	8.99*	15.00*	13.07*
		(0.01)	(0.00)	(0.00)	(0.02)	(0.00)	(0.00)
	R^2	0.02	0.02	0.02	0.05	0.02	0.03

(b) Local asset pricing models

Portfolio Strategy		World CAPM	Intl Carhart	Intl FF5	Intl CAPM	Intl HKK	Intl BAB
Policy spread portfolio (L-H)	α	5.50*	4.69*	4.88*	4.97*	6.27	8.19*
		(0.03)	(0.10)	(0.10)	(0.05)	(0.12)	(0.00)
	R^2	0.04	0.16	0.14	0.07	0.07	0.05
Politics spread portfolio (L-H)	α	5.90*	6.67*	6.06*	5.40*	7.98*	6.08*
		(0.03)	(0.04)	(0.04)	(0.05)	(0.03)	(0.08)
	R^2	0.10	0.14	0.15	0.12	0.23	0.06
Politics-policy spread portfolio (LL-HH)	α	10.24*	10.67*	10.29*	9.48*	12.23*	14.08*
		(0.00)	(0.01)	(0.02)	(0.01)	(0.03)	(0.00)
	R^2	0.03	0.09	0.06	0.06	0.07	0.05

This table reports the average annualized abnormal returns (alphas) and adjusted R^2 from time-series regressions of the politics, policy, and politics-policy spread portfolios from Table 1 on six global and local benchmark asset pricing models: World CAPM, International Carhart, International Fama–French five-factors (FF5), International CAPM, Hou–Karolyi–Kho (HKK), and international Frazzini–Pedersen (BAB). Portfolios are rebalanced semi-annually. Returns are in percentages, denominated in USD, and include dividends. Newey and West (1987) p-values based on optimal number of lags (Andrews and Monahan, 1992) are in parenthesis. Data are monthly, spanning 1992–2016.

*Denotes statistical significance at least at the 10% level.

and significance to their global counterparts, with higher adjusted R^2 up to 0.23 for univariate-sorted portfolios and 0.09 for the bivariate-sorted portfolio. Overall, existing models explain only a very small fraction of these portfolio returns.[15]

These tests show that differences in returns across politics, policy, and politics-policy portfolios are not due to risk premia on existing factors. Politics and policy risks are not captured by the risk factors proposed in the existing literature as evidenced by the uniformly statistically significant alphas, close to the P-factor mean, and low adjusted R^2, up to 0.09, across all benchmark models. These findings hold true not only for the global models, but also for their local counterparts, providing evidence that market segmentation cannot be responsible for our results (Pukthuanthong and Roll, 2009). We conduct later additional robustness tests to further corroborate that our results are not driven by market segmentation.

3.4. Global political risk factor

The politics-policy portfolios exhibit novel monotonic cross-sections of average returns along either or both dimensions (Table 1), unexplained by the benchmark local and global models (Table 3). We now document a strong factor structure in the politics-policy portfolios and show that covariances with the P-factor can explain the differences in their average returns. We follow Lustig et al. (2011) to perform a principal component analysis of our bivariate-sorted portfolios and report the results in Table 4.

We find that two factors alone explain 83% of their return variability, see Panel A. The first principal component explains 75% of the return variability in the politics-policy portfolios, and it can be interpreted as a common level factor, with all portfolios loading about equally on it as shown in Panel B. The candidate common risk factor from the first principal component can be interpreted as the world market portfolio, with a correlation of 0.91 as shown in Panel C. The second principal component explains an additional 8% of the return variability, and it can be interpreted as a common slope factor, whose loadings decrease monotonically from low to high politics-policy portfolios, and in line with their average returns. The slope factor exhibits a correlation of 0.83 with the politics-policy spread portfolio ("LL-HH"), which is our P-factor.

To recap, the P-factor is constructed as follows. We first create a 3 × 3 conditional portfolio sort on politics and policy ratings into terciles. We sort countries first on the less volatile politics and then on the more volatile policy. Then, we construct the P-factor as the return of an equally-weighted zero-cost tradable portfolio, going long on the countries in the bottom-terciles of politics and

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[15] In a recent working paper, Brusa et al. (2014) show that carry trade (Lustig et al., 2011) yields an exchange rate factor contributing to explain cross-country returns. We run the regression in (1) of the politics-policy spread portfolio on both global and local versions of this factor, to obtain alphas of 9.52% and 9.70% (p-values 0.02–0.03), respectively, with adjusted R^2 of 0.00 and 0.03. This confirms that the P-factor is distinct from the currency factor of Brusa et al. (2014).

Table 4
Principal component analysis of the politics-policy-sorted portfolios.

	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8	PC 9
(a) Factor eigenvalues									
Explained variance (%)	75.45	7.59	4.90	4.32	2.17	1.80	1.66	1.29	0.82
Cumulative (%)	75.45	83.04	87.94	92.26	94.43	96.22	97.88	99.18	100
(b) Factor loadings									
LL	0.40	0.86	0.24	0.13	−0.03	0.10	−0.08	−0.01	0.00
LM	0.37	−0.42	0.81	0.16	0.00	−0.05	−0.03	0.03	−0.11
LH	0.36	−0.18	−0.41	0.79	−0.19	−0.04	−0.05	0.02	0.07
ML	0.32	−0.01	−0.18	−0.10	0.74	−0.44	−0.14	0.31	−0.01
MM	0.32	−0.01	−0.08	−0.13	0.01	−0.06	0.93	−0.11	0.05
MH	0.32	−0.17	−0.17	−0.14	0.36	0.66	−0.15	−0.46	−0.14
HL	0.29	−0.10	−0.03	−0.31	−0.21	−0.19	−0.23	−0.26	0.78
HM	0.30	−0.02	−0.19	−0.31	−0.40	−0.41	−0.18	−0.26	−0.59
HH	0.31	−0.11	−0.14	−0.30	−0.29	0.39	−0.05	0.74	−0.01
(c) Correlations									
Market portfolio	0.91	−0.02	−0.09	−0.20	−0.06	−0.07	−0.06	−0.02	0.04
P-factor	0.24	0.83	0.26	0.28	0.12	−0.12	−0.01	−0.27	0.00

This table reports the results of a principal component analysis of the nine politics-policy bivariate-sorted portfolios. Panel A shows the percentage of total variance explained by each principal component, Panel B the loading of each portfolio on the principal components, and Panel C the correlations of each principal component with the global market portfolio and the P-factor. In Panel B, "H", "M" and "L" denote the top, mid, and bottom terciles along each of the two dimensions, with the first letter referring to politics. Data are monthly, spanning 1992–2016.

policy and short on the countries in the top-terciles. The P-factor tracks monthly returns with portfolios rebalanced semi-annually following the WES release.

We report on the composition of the P-factor in Appendix Table C3 and Figure C2. Summary statistics and correlations with the global factors of the benchmark models are given in Appendix Table C3. Each leg of the P-factor consists of a balanced and diversified portfolio of countries, with, on average, about five countries in the long leg and four countries in the short leg. The P-factor mimicking portfolio is comprised of eight to ten countries, and no single country dominates with its frequent presence or weight either the long or the short leg. The P-factor has economically and statistically significant average return of 11.10% p.a. (p-value 0.01), with Sharpe ratio of 0.53, and low correlations with existing factors ranging from 0.04 to 0.18 in absolute value.[16]

Based on the findings of this section and the results of Table 3 ruling out spanning of our P-factor by existing risk factors, we propose a new two-factor asset pricing model including the world market portfolio and the P-factor as a proxy for global political risk.

3.5. Pricing of global political risk

We now document that the global political risk factor successfully accounts for the mispricing in the cross-section of international portfolio returns. To this end, for each test asset, we estimate the loadings on risk factors by running the first-step time-series regression as in Eq. (1). We then run a second-step OLS cross-sectional regression of average returns on the factor loadings to estimate the corresponding factor risk premia. We run the regression without intercept (Lustig et al., 2011), account for correlated errors (Cochrane, 2005), and the generated regressor problem from the estimation of factor loadings in the first step (Shanken, 1992). Following Lewellen et al. (2010) we include the factors in the set of test assets, and report OLS and GLS R^2.

3.5.1. Pricing the portfolio sorts

As a first step we price the baseline set of test assets consisting of the politics-, policy-, and politics-policy-sorted portfolios. The P-factor should be able to price this set by construction, but an important observation can be made from the factor loadings.

The first-step time series results (see Appendix Table D2) show that none of the alphas is distinguishable from zero, the mean absolute pricing error (MAPE) is economically small (1.07%), and the GRS test (Gibbons et al., 1989) cannot reject the null hypothesis that all pricing errors are jointly zero. All test portfolios exhibit market betas close to one, confirming that the covariation with the market portfolio explains none of the cross-sectional variation in the average returns of these test assets. In contrast, the different covariation of each portfolio returns with the global political risk factor successfully accounts for the cross-sectional heterogeneity in average returns. We observe large positive political betas for the low-rated portfolios and negative betas for the high-rated portfolios. Consistently with a slope factor interpretation, the political betas exhibit a monotonic pattern in line with average returns.

[16] The high statistical significance of the P-factor is increased further if we remove few data outliers. The Newey–West t-statistic of the P-factor, consisting of 295 observations, is 2.78, excluding the 0.5% outliers (1 observation) it becomes 3.08 and increases further to 3.22 when removing the 0.75% outliers (2 observations), and 3.93 when removing the 1% outliers (3 observations). Hence, the P-factor clears the much higher hurdle of a t-statistic robust to multiple hypothesis testing as suggested by Harvey et al. (2015), and, along with several robustness tests discussed in later sections, alleviates data mining concerns.

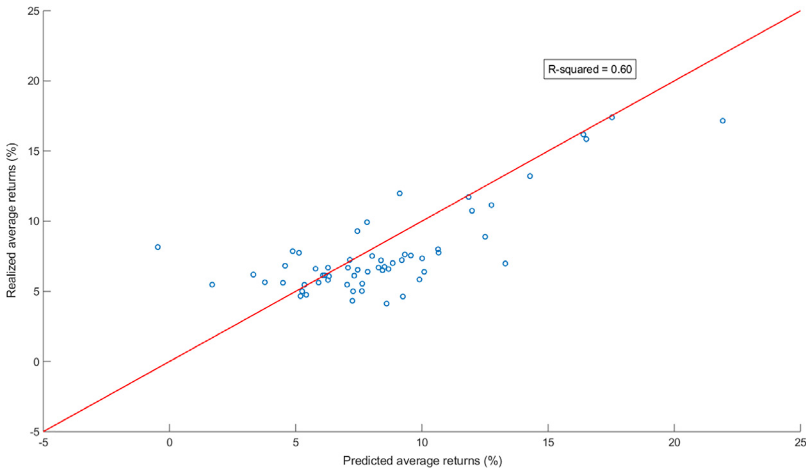

Fig. 4. Realized vs predicted excess returns. This figure plots the average realized excess returns against average excess returns predicted by a model that includes the global market portfolio and the P-factor. Test assets are the univariate- and bivariate-sorted portfolios by politics and policy, and the 42 country indices. Returns are in annualized percentage points. Data are monthly, spanning 1992–2016.

The pattern is monotonic for the politics- and policy-sorted portfolios, and along the diagonal for the politics-policy sorts. To mitigate concerns that the P-factor is mostly relevant for pricing extreme portfolios, we perform pricing tests with additional test assets in the next section. Further tests in Section 3.7 corroborate the pattern of political betas using a different proxy for global political risk based on principal component analysis of politics-policy ratings.

The second step OLS cross-sectional regression results confirm that the P-factor is priced. The risk premium of 11.37% is economically large and strongly statistically significant, and differs by only 27 basis points from its time-series mean. Both the OLS and GLS R^2 are high, 0.92 and 0.76, signaling that the P-factor explains most of the cross-sectional variation in the test asset average returns, and that adding this new factor to the market portfolio gets very close to the mean–variance frontier spanned by the test assets. We also run a regression of average realized returns on model predicted returns, where the latter are computed as the product between the factor loadings estimated in the first-step time-series regressions and the factor means over the full sample. The least square fit has R^2 of 0.86 with an intercept indistinguishable from zero and a slope coefficient indistinguishable from one. These results further confirm that the portfolio average returns line up very well with the predicted returns of the new two-factor model.

Overall, this section supports empirically an APT interpretation of our results that political risk is not captured by market risk.

3.5.2. Pricing an extended set of test assets

Following Lewellen et al. (2010), we extend the baseline set of test assets with the 42 country stock market indices to address a potentially mechanical relationship between the politics-policy portfolios and the P-factor.

Table 5 (Panel A) confirms that the P-factor is priced also in the extended set of test assets with statistically significant premium of 11.02% p.a., and relatively large cross-sectional OLS and GLS R^2.[17] A regression of average realized returns on model predicted returns yields a cross-sectional R^2 of 0.60, with the intercept and slope coefficient being statistically indistinguishable from zero and one, respectively. Fig. 4 illustrates these results, with the test assets lining up well along the 45-degree line, on which all points should lie for perfect prediction.

Comparing with the benchmark models (Panel B) we observe that the model including the P-factor dominates on multiple criteria. Cross-sectional OLS and GLS R^2 improve substantially, in the range of 0.17–0.30 for OLS and 0.11–0.20 for GLS R^2 when comparing the global P-factor model with the global benchmarks. Large improvements persist when comparing with the local benchmarks. Three of the local benchmarks (International Carhart, FF5, HKK), exhibit comparable R^2, but local models have a large number of factors, up to 20, relative to the test assets, which raises concerns of overfitting. This is evident in the small R^2 of the predictive regressions of average realized returns on model predicted returns ranging from 0.00 to 0.32, whereas the global P-factor model achieves an R^2 of 0.60.

Taking a step further we look at the cross-section returns R^2 of each benchmark asset pricing model when it is augmented by the P-factor (Kan et al., 2013); see Panel C. We observe that the P-factor remains priced, with risk premium very close to the factor mean (11.28%–11.71% with the global models, 10.51%–11.53% with the local ones), and strongly statistically significant. The cross-sectional R^2 uniformly improves for all models when augmented with the P-factor. The global models R^2s increase from 0.45–0.57 to 0.63–0.71, and for the local models the increase is from 0.44–0.65 to 0.62–0.77.

To firmly establish our risk factor argument we add further test assets based on characteristic-sorted portfolios. We add three value and three momentum portfolios constructed from global equity indices (Asness et al., 2013) that have been constructed in

[17] A test on the country stock market indices only finds significant risk premium 10.82%; Table 13, Panel B.

Table 5
Pricing an extended set of test assets.

(a) Global market portfolio + P-factor

Risk premia		Cross-sectional R^2		$\mathbb{E}[r_t]$ vs $\mathbb{E}[\hat{r}_t]$			
MKT	P-factor			α	1.11	m	0.95
6.37*	11.02*	OLS R^2	0.59		(0.20)		(0.66)
(0.05)	(0.03)	GLS R^2	0.25			R^2	0.60

(b) Benchmark asset pricing models

	World CAPM	Intl Carhart	Intl FF5	Intl CAPM	Intl HKK	Intl BAB
	Global models					
OLS R^2	0.30	0.31	0.40	0.35	0.42	0.29
GLS R^2	0.05	0.08	0.08	0.14	0.13	0.11
α	−3.21	6.64*	7.72*	−1.27	4.81*	6.99*
	(0.18)	(0.00)	(0.00)	(0.46)	(0.01)	(0.00)
m	1.75*	0.23*	0.08*	1.53*	0.42*	0.16*
	(0.03)	(0.00)	(0.00)	(0.05)	(0.01)	(0.00)
R^2	0.31	0.02	0.00	0.37	0.07	0.01
	Local models					
OLS R^2	0.28	0.47	0.57	0.32	0.53	0.39
GLS R^2	0.10	0.26	0.32	0.18	0.15	0.20
α	−0.08	7.93*	4.92*	0.08	3.47*	6.39*
	(0.96)	(0.00)	(0.00)	(0.96)	(0.01)	(0.00)
m	1.19	0.06*	0.46*	1.15	0.56*	0.25*
	(0.46)	(0.00)	(0.01)	(0.51)	(0.00)	(0.00)
R^2	0.28	0.00	0.09	0.32	0.22	0.04

(c) Benchmark asset pricing models + P-factor

	World CAPM	Intl Carhart	Intl FF5	Intl CAPM	Intl HKK	Intl BAB
	Global models					
P-factor risk premium	11.02*	11.34*	11.23*	10.90*	11.19*	10.91*
	(0.03)	(0.02)	(0.02)	(0.03)	(0.04)	(0.03)
CSR R^2	0.30	0.31	0.40	0.35	0.42	0.29
CSR R^2 with P-factor	0.59	0.63	0.63	0.57	0.71	0.60
	Local models					
P-factor risk premium	10.88*	10.62*	10.67*	10.87*	10.62*	10.09*
	(0.03)	(0.03)	(0.02)	(0.03)	(0.04)	(0.04)
CSR R^2	0.28	0.47	0.57	0.32	0.53	0.39
CSR R^2 with P-factor	0.59	0.72	0.76	0.60	0.68	0.61

This table reports the results of asset pricing tests run on the extended set of test assets, which includes the univariate- and bivariate-sorted portfolios from Table 1 augmented with the excess returns of the country stock market indices in our sample. We compare the performance of a model that includes the global market portfolio (MKT) together with the P-factor (Panel A) with the six benchmark international asset pricing models (Panel B). Risk premia are estimated through a two-step OLS regression of average returns on factor loadings, run without the intercept. p-values reported in parenthesis account for correlated errors and the generated regressor problem from the estimation of factor loadings in the first step. We include the factors in the set of test assets and report OLS and GLS R^2. Panel B also includes the intercept α in annualized percentages, slope coefficient m, and R^2, of a regression of average realized returns $\mathbb{E}[r_t]$ on average model predicted returns $\mathbb{E}[\hat{r}_t]$ obtained as the product of the factor loadings and the corresponding time-series factor means. In parenthesis we display the p-values of the null hypotheses that the intercept is zero and the slope is one. Returns are in percentages, denominated in USD, and include dividends. Risk premia are annualized. Data are monthly, spanning 1992–2016.

*Denotes statistical significance at least at the 10% level.

the literature from country-level equities and are, thus, aligned with our country level sorts for the P-factor. The results (reported in Appendix Table D3) are in agreement with those of Table 5.

Overall, these results establish that the P-factor is priced in international equity markets, that a global two-factor model including the world market and the P-factor explains well the cross section of international returns and that adding the P-factor to the benchmark models uniformly improves model fit. The global two-factor model passes successfully several asset pricing tests, establishing global political risk as a determinant of international equity returns.

We show next that the factor is not spurious and provide direct evidence that it captures the global component of political risk.

Table 6
Spurious factor tests.

(a) Risk premia controlling for politics-policy

	MKT	P-factor	Policy	Politics
Risk premium	6.38*	11.49*		
	(0.10)	(0.03)		
Risk premium	7.62*	9.97*	−0.00	−0.02
	(0.08)	(0.05)	(0.87)	(0.61)

(b) Spurious factor sorted on politics-policy

	Risk premium	Adj. R^2
Simulated distribution		
1st percentile	−3.56	0.28
5th percentile	−1.14	0.28
10th percentile	0.05	0.28
25th percentile	2.32	0.29
50th percentile	4.93	0.31
75th percentile	7.46	0.35
90th percentile	9.79	0.40
95th percentile	10.97	0.44
99th percentile	12.87	0.50
Actual data		
Estimate	11.02*	0.59*
Implied p-value	(0.04)	(0.00)

This table reports two spurious factor tests run on the extended set of test assets. Panel A shows the results of Fama–McBeth cross-sectional regressions of test asset excess returns on the global market portfolio, P-factor, and including politics-policy ratings as controls. Newey and West (1987) p-values based on optimal number of lags (Andrews and Monahan, 1992) are in parenthesis. Cross-sectional regressions are run without the intercept, and we include the factors in the set of test assets. Coefficients for politics and policy have been rescaled, multiplying the original value by 10^3 for policy and 10^2 for politics. In Panel B we simulate country stock returns under the null hypothesis that they are purely driven by politics-policy ratings. The details of the test are described in Section 3.6. We construct 1000 spurious P-factors from the simulated data, and use them to price the cross-section of test assets. We report the cumulative distribution of the risk premium and cross-sectional adjusted R^2 estimated with the simulated factors. The last two rows are the corresponding estimates obtained with the P-factor in real data, and the implied p-values computed by locating them in the distribution of simulated estimates. Returns are in percentages, denominated in USD, and include dividends. Risk premia are annualized. Data are monthly, spanning 1992–2016.

*Denotes statistical significance at least at the 10% level.

3.6. Spurious factor tests: Risk versus characteristics

Portfolios sorted on characteristics that have a documented effect on the cross-section of returns may appear to be priced risk factors, even if the characteristics are unrelated to risk (Hou et al., 2011). Maybe some countries earn high returns merely because they have low politics and policy ratings, not because their returns co-vary positively with the P-factor. By sorting countries on politics and policy ratings and using the P-factor as a risk factor, are we simply picking up the effects of politics and policy ratings on returns? We address this concern in two ways. First, we show that politics and policy ratings are no longer relevant in explaining the cross-section of returns after controlling for covariances with the P-factor. Second, we simulate spurious P-factors, and infer that there is a negligible probability of a spurious P-factor carrying a risk premium and cross-sectional R^2 as large as the ones observed in the data.

In the first test, we add politics and policy ratings as control variables in Fama–MacBeth regressions of returns on factor loadings, in estimating the political risk premium on the extended set of test assets. In Table 6 (Panel A) we compare the risk premia estimated without and with the controls of politics and policy ratings. We observe that the risk premium of 11.49% is very close to the premium of 11.02% from Table 5, and it remains a statistically significant large 9.97%, when controlling for the politics-policy ratings, which are not statistically significant. These results establish that after properly accounting for exposure to global political risk, as measured by the covariation with the P-factor, country politics and policy ratings are no longer relevant for explaining the cross-section of international stock returns. This is consistent with a risk-based interpretation of the P-factor.

For the second test we follow Avramov et al. (2012) to simulate time series of returns for each country, under the null hypothesis that the politics and policy ratings are the only drivers of cross-sectional differences in returns. Using these simulated returns we construct spurious P-factors and obtain the distributions of risk premia and cross-sectional adjusted R^2 by applying the spurious factors in pricing the expanded set of test assets. From the simulated distribution we can infer an implied probability of a spurious factor carrying a risk premium and adjusted R^2 as large as the corresponding estimates based on the empirical P-factor.

Specifically, we first run monthly cross-sectional regressions of the country index excess return on lagged politics and policy ratings:

$$r_{i,t} = \alpha_t + \beta_{1t}\,\text{Politics}_{i,t-1} + \beta_{2t}\,\text{Policy}_{i,t-1} + \epsilon_{i,t}. \tag{2}$$

We then use the time averages of cross-sectional intercepts and slope coefficients to generate 1000 data sets of monthly country returns, of the same length as the actual data, using a Gaussian distribution with i.i.d. residual terms $\epsilon_{i,t}$. For each dataset j, we construct the P-factor$_j$ as the bivariate-sorted spread portfolio (LL-HH), and repeat the asset pricing test of Table 5. In Table 6 (Panel B) we report the percentiles of the simulated distribution of P-factor risk premium and cross-sectional adjusted R^2. In the last two rows we report the actual P-factor risk premium and adjusted R^2 obtained from real data (Table 5, Panel A), and the corresponding p-values implied from the simulated data. We observe that the probability of a randomly generated factor having a premium as large as the actual P-factor is 0.04, with the median premium of 4.93% being less than half of the premium of 11.02% estimated from real data. The adjusted R^2 using real data is always higher than the simulated ones, with the simulated median adjusted R^2 of 0.31 being half of that from real data of 0.59. These findings confirm that the P-factor does not arise spuriously, and that politics-policy ratings are indeed related to priced political risk.

3.7. The global component of political risk

So far, our analysis establishes the existence of a strong factor structure in portfolio returns and the key role that the P-factor plays to capture their common variation as an observable proxy for the underlying slope factor. In line with the APT, we interpret the P-factor as mimicking priced global political risk. We now provide direct evidence corroborating this interpretation. We explicitly uncover a common factor structure in country ratings and confirm the pricing ability of the global component embedded in these politics-policy ratings.

We proxy for the global component of political risk using the first principal component of the politics-policy ratings, which accounts for almost one third of their variation, and replace the P-factor with this principal component to repeat the asset pricing tests.[18] Table 7 (Panel A) reports the factor loadings from time-series regressions of the univariate- and bivariate-sorted portfolios on a model that includes the global market portfolio and the first principal component of the country ratings. For ease of comparability, we also report the factor loadings on the P-factor, estimated controlling for the market from Table D2. We notice that the loadings on the market are very similar across portfolios, whereas they vary almost monotonically for both proxies of the slope factor. There is a clear pattern across portfolios in the loadings on the first principal component, consistent with the fairly monotonic pattern in the loadings on the P-factor, along both politics and policy dimensions.

Factor loadings line up well with average returns, as corroborated by the sizeable cross-sectional adjusted R^2 reported in Panel B. The estimated risk premium of the first principal component is significantly positive, as is the risk price of the P-factor, which is in line with the evidence that portfolios with higher betas on the P-factor also load more on the first principal component. This evidence establishes that political risk indeed cannot be thought of as purely country-specific. This is in line with political science literature and consistent with Brogaard et al. (2020), Kelly et al. (2016). Our analysis establishes the presence of a common systematic variation in politics-policy across countries, which translates into sizeable cross-sectional heterogeneity in portfolio exposures to the slope factor —as proxied either by the P-factor or the first principal component— and in average returns.

While the global component in country ratings is not extracted from portfolio returns, it still displays good explanatory power, thanks to its ability to capture the common variation due to the factor structure of these portfolios. Unlike the P-factor, the first principal component is not directly observable but has to be estimated from semi-annual politics-policy ratings, and it is therefore not surprising that the P-factor has superior pricing performance. The model that augments the market with the P-factor attains a cross-sectional adjusted R^2 of 0.92 (Table D2, Panel B), against 0.29 when replacing the P-factor with the first principal component. In the same panel we also report the results of a regression of average realized returns on model predicted returns, which yields an R^2 of 0.18, with an intercept indistinguishable from zero and a slope coefficient indistinguishable from one.

These findings confirm that the P-factor provides a more precise and direct measure of the slope factor responsible for the common systematic variation across portfolio returns, which is driven by the common factor structure shared by the politics-policy ratings. This suggests that the common variation in international stock market returns that we have uncovered after sorting country returns by politics-policy is not a statistical artefact produced by our sorting, but instead truly measures differences in exposure to global political risk.

Taken together, this evidence supports an APT interpretation of our findings, according to which political risk represents an additional source of systematic risk, different from market risk, and is priced in the cross-section of international stock market returns.

4. Economic channels

To understand the economic channels driving the pattern in international returns, we complement our analysis on risk premia by investigating the relationship between politics-policy ratings and country cash flows. We also perform a Campbell–Shiller–Vuolteenaho return decomposition for a quantitative assessment of both the cash flow and discount rate channels, and identify market volatility as one mechanism through which political risk affects market returns.

[18] The first five principal components explain up to 60% of variation in the politics and policy ratings across countries.

Table 7
Asset pricing with first principal component of politics-policy ratings.

(a) Time-series tests

Policy sort	β_{MKT}	β_{PC1}	β_{PF}	Politics sort β_{MKT}	β_{PC1}	β_{PF}
P1 (H)	1.29*	1.35*	−0.09*	1.29*	0.86*	−0.07*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
P2	1.34*	0.99*	0.01	1.33*	1.19*	0.00
	(0.00)	(0.01)	(0.64)	(0.00)	(0.00)	(0.86)
P3	1.30*	1.49*	0.04	1.32*	1.53*	0.08*
	(0.00)	(0.01)	(0.19)	(0.00)	(0.01)	(0.02)
P4 (L)	1.24*	1.51*	0.46*	1.27*	1.80*	0.44*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
L-H	−0.05	0.16	0.55*	−0.02	0.94*	0.51*
	(0.45)	(0.68)	(0.00)	(0.83)	(0.00)	(0.00)

Politics-policy sort

	β_{MKT}	β_{PC1}	β_{PF}		β_{MKT}	β_{PC1}	β_{PF}
LL	1.25*	2.00*	0.83*	MH	1.28*	1.57*	−0.04
	(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.34)
LM	1.34*	2.11*	0.01	HL	1.19*	0.49*	−0.02
	(0.00)	(0.00)	(0.94)		(0.00)	(0.10)	(0.36)
LH	1.36*	1.29	0.06	HM	1.34*	1.19*	0.00
	(0.00)	(0.19)	(0.18)		(0.00)	(0.01)	(0.95)
ML	1.32*	1.69*	0.08*	HH	1.31*	0.81*	−0.17*
	(0.00)	(0.00)	(0.01)		(0.00)	(0.02)	(0.00)
MM	1.32*	1.07	0.07*	LL-HH	−0.06	1.19*	1.00*
	(0.00)	(0.14)	(0.07)		(0.53)	(0.02)	(0.00)

(b) Cross-sectional tests

	MKT	PC1	$\mathbb{E}[r_t]$ vs $\mathbb{E}[\hat{r}_t]$			
Risk premium	4.27*	5.33*	α	0.64	m	0.93
	(0.00)	(0.04)		(0.89)		(0.89)
Adj. R^2	0.29		R^2	0.18		

This table reports the results of asset pricing tests run on the baseline set of test assets. Panel A shows the factor loadings from semi-annual time-series regressions of the test asset excess returns on a model that includes the global market portfolio (β_{MKT}) and the first principal component of the politics-policy ratings (β_{PC1}). For ease of comparison, we report also the loadings of the same test assets on the P-factor (β_{PF}) from Table D2. Newey and West (1987) p-values based on optimal number of lags (Andrews and Monahan, 1992) are in parenthesis. "H", "M" and "L" denote the top, mid, and bottom terciles along each of the two dimensions, with the first letter referring to politics. Panel B shows the results of cross-sectional asset pricing. Risk premia are estimated through a two-step OLS regression of average returns on factor loadings, run without the intercept. Returns are in percentages, denominated in USD, and include dividends. Risk premia are annualized. Data span 1992–2016.

*Denotes statistical significance at least at the 10% level.

4.1. Politics-policy ratings and expected cash flows

We first show that politics and policy ratings also impact countries' expected cash flows by running predictive regressions of countries' future cash flow growth over different horizons on the politics-policy ratings and control variables. We use GDP or aggregate dividend growth rates as measures of country cash flows. Table 8 reports the predictive regression coefficients of four model specifications. All specifications include country and time fixed effects. Specification (1) includes policy ratings, (2) includes politics ratings, and (3) includes both. In model specification (3) politics and policy have been orthogonalized with respect to each other. In (4) politics and policy have been orthogonalized on each other and on the macroeconomic and financial control variables of Section 3.2, and in the model we include the orthogonalized politics-policy while keeping the original controls. This mitigates potential endogeneity concerns of survey responses, and helps identifying the differential impacts of politics and policy ratings independently of each other and the controls.

Country ratings have economically large and mostly statistically significant slope coefficients on both GDP growth (Panel A) and the more noisy aggregate dividend growth (Panel B), consistently across all model specifications and horizons. The positive coefficient estimates show that high politics and policy ratings forecast high future cash flow growth. From the coefficients of the univariate specifications for the 12-month forecasting horizon, we estimate that an increase in a country's policy (politics) ratings up to the next quartile will yield on average an increase in future annual GDP growth of 0.52% (0.80%).[19] These findings provide evidence on the cross-sectional cash flow predictability by politics and policy ratings, corroborating that these measures contain useful information for predicting international cash flow growth.

[19] Policy ratings quartiles correspond to a change of 25 points, so future GDP growth changes by $0.21 \times 10^{-3} \times 25 = 0.52\%$ p.a. Politics ratings quartiles correspond to a change of 2 points, so future GDP growth changes by $0.40 \times 10^{-2} \times 2 = 0.80\%$ p.a.

Table 8
Cash flow regressions.

(a) GDP growth rate

	6-month				12-month			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Policy	0.11*		0.18*	0.12*	0.21*		0.34*	0.27*
	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)
Politics		0.21*	0.31*	0.16*		0.40*	0.59*	0.41*
		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)
Debt-to-GDP				0.04				0.12*
				(0.17)				(0.08)
Inflation				−0.03				−0.03
				(0.16)				(0.54)
Momentum				0.01*				0.02*
				(0.00)				(0.00)
Volatility				−0.88*				−1.23*
				(0.00)				(0.00)
R^2	0.16	0.16	0.17	0.31	0.24	0.24	0.25	0.36

(b) Dividend growth rate

	6-month				12-month			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Policy	0.84*		1.14*	0.74*	1.43*		1.89*	1.30*
	(0.00)		(0.00)	(0.01)	(0.01)		(0.02)	(0.05)
Politics		0.34	0.70	0.25		0.38	0.91	0.65
		(0.42)	(0.25)	(0.58)		(0.75)	(0.60)	(0.61)
GDP growth				0.95*				1.87*
				(0.02)				(0.04)
Debt-to-GDP				0.95*				2.61*
				(0.05)				(0.07)
Inflation				0.05				0.41
				(0.87)				(0.68)
Momentum				0.09*				0.19*
				(0.00)				(0.00)
Volatility				−4.05*				−3.29
				(0.00)				(0.34)
R^2	0.12	0.11	0.12	0.15	0.13	0.13	0.13	0.17

This table reports the results of panel predictive regressions of GDP growth rate (Panel A) and dividend growth rate (Panel B) on the politics-policy ratings and the control variables, over different forecasting horizons. The control variables include GDP growth, debt-to-GDP, inflation rate, return momentum as return over the past 12 months excluding the most recent month, and return volatility as monthly standard deviation of past daily returns. In model specifications (3) and (4), politics and policy have been orthogonalized with respect to each other and the control variables. All regressions include country and year fixed effects. Coefficients have been rescaled, multiplying the original value by 10^3 for policy, 10^2 for politics and 10^3 for debt-to-GDP. We report the within R^2. Standard errors are heteroskedasticity-robust and clustered at the country level. The corresponding p-values are in parentheses. Data are semi-annual, spanning 1992–2016.

*Denotes statistical significance at least at the 10% level.

4.2. Return decomposition

Equity returns are driven by shocks to expected cash flows and/or shocks to discount rates, and we use the Campbell–Shiller–Vuolteenaho framework to decompose return innovations, i.e., unexpected returns, into cash flow news (CF) and discount rate news (DR). We then run contemporaneous regressions of CF and DR on politics and policy ratings to identify their impact on return innovations through both the cash flow and discount rate channels.

As in Campbell (1991) and Vuolteenaho (2002), we use a log-linear VAR(1) to conveniently model the joint dynamics of returns, cash flows, and state variables:

$$z_{i,t} = \Gamma z_{i,t-1} + \epsilon_{i,t}, \tag{3}$$

where $z_{i,t}$ is the vector of log returns, log dividend growth, and log dividend yield, as per Brogaard et al. (2020), augmented with our politics and policy variables, for country i at time t. The VAR model implies the following return decomposition. Using the notation introduced by Campbell (1991) —$\lambda' = e1\rho\Gamma(I - \rho\Gamma)^{-1}$ with $e1$ a vector with its first element equal to 1 and 0 elsewhere, and ρ a constant set to 0.96— we decompose the unexpected return into discount rate news and cash flow news:

$$DR_{i,t} = \lambda'\epsilon_{i,t} \tag{4}$$

$$CF_{i,t} = (e1' + \lambda')\epsilon_{i,t}, \tag{5}$$

Table 9
Campbell–Shiller–Vuolteenaho decomposition.

	Cash flow news				Discount rate news			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Policy	1.28*		2.21*	1.57*	−0.46*		−0.75*	−0.87*
	(0.00)		(0.00)	(0.00)	(0.10)		(0.10)	(0.03)
Politics		2.21*	3.42*	2.49*		−0.63	−0.98	−1.29*
		(0.00)	(0.00)	(0.00)		(0.26)	(0.23)	(0.07)
GDP growth				0.88*				−0.38*
				(0.08)				(0.09)
Debt-to-GDP				0.22				0.11
				(0.51)				(0.71)
Inflation				−0.32*				0.13
				(0.07)				(0.28)
Momentum				0.20*				0.08*
				(0.00)				(0.00)
Volatility				−2.55				−3.17*
				(0.23)				(0.02)
R^2	0.27	0.27	0.28	0.31	0.10	0.10	0.10	0.12

This table reports the results of panel regressions of cash flow news and discount rate news estimated through a Campbell–Shiller–Vuolteenaho decomposition on the extended set of test assets. We estimate a VAR(1) to compute the return innovations due to cash flow news and discount rate news over one year, and regress them on contemporaneous values of politics-policy ratings and the control variables. The control variables include GDP growth, debt-to-GDP, inflation rate, return momentum as return over the past 12 months excluding the most recent month, and return volatility as monthly standard deviation of past daily returns. In model specifications (3) and (4), politics and policy have been orthogonalized with respect to each other and the control variables. All regressions include country and year fixed effects. Coefficients have been rescaled, multiplying the original value by 10^3 for policy, 10^2 for politics and 10^3 for debt-to-GDP. We report the within R^2. Standard errors are heteroskedasticity-robust and clustered at the country level. The corresponding p-values are in parentheses. Data are semi-annual, spanning 1992–2016.

*Denotes statistical significance at least at the 10% level.

with $DR_{i,t}$ representing updates in expectations of future returns, from $t-1$ to t, and $CF_{i,t}$ representing one-period time-t updates in expectations of future cash flows.

We apply this decomposition to the extended set of assets. We then run contemporaneous panel regressions of cash flow news and discount rate news, on the politics-policy ratings and control variables. Table 9 reports the panel regression coefficients of the four model specifications, as in the cash flow regressions above. Politics and policy ratings have mostly significant slope coefficients on cash flow and discount rate news across all specifications. The positive (negative) coefficient estimates on cash flow (discount rate) news show that an increase in politics and policy ratings is associated with an increase (decrease) in expectations of future cash flows (returns). The relative magnitude of the coefficients for the cash flow and discount rate news reveals a stronger impact of politics-policy on return innovations through the cash flow channel.

Overall, better politics and policies increase future expected cash flows, which increase stock prices, thus positively impacting realized country returns, and reduce future expected returns. Our findings are in line with the literature providing evidence that political uncertainty affects returns through both cash flow (Baker et al., 2016; Barro, 1991) and discount rate channels (Brogaard et al., 2020; Liu et al., 2017). These results lend empirical support to the model of Pástor and Veronesi (2012) and to North (1991) arguing for the importance of both channels.

4.2.1. *Political ratings and market volatility*

We take another step and identify a mechanism through which political ratings affect the discount rate by their impact on market volatility. We show that politics and policy ratings predict the cross-section of international stock market volatilities, controlling for country characteristics and business cycles variables known to predict market volatilities. Running Fama–Macbeth predictive regressions of international market volatilities, computed as monthly standard deviation of daily returns, we find that the politics-policy ratings predict future volatilities 6 and 12 months ahead.

Table 10 reports the predictive regression coefficients of four model specifications for 6- and 12-month horizons. Specification (1) includes policy ratings, (2) includes politics ratings, and (3) includes both policy and politics ratings. In specification (4) we add several macroeconomic and financial control variables from the literature discussed in Section 3.2. In specification (3) politics and policy have been orthogonalized with respect to each other, and in (4) politics and policy have been orthogonalized on each other and all the control variables, as in Section 3.2.

The slope coefficients for the political ratings are statistically significant in all specifications and for both investment horizons, thus predicting future market volatility. The negative coefficient estimates corroborate the evidence that high politics and policy ratings forecast low future volatilities. This empirical finding is broadly consistent with Pástor and Veronesi (2020) who argue that time varying risk aversion drives the political cycle, by confirming that political uncertainty predicts higher market volatility thus increasing risk aversion (Guiso et al., 2018). Importantly, it establishes that political stability and economic policy uncertainty affect

Table 10
Cross-sectional predictive regressions of return volatility.

	6-month				12-month			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Policy	−0.31*		−0.48*	−0.10*	−0.29*		−0.44*	−0.08*
	(0.00)		(0.00)	(0.01)	(0.00)		(0.00)	(0.01)
Politics		−0.73*	−1.10*	−0.27*		−0.71*	−1.06*	−0.27*
		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)
GDP growth				0.05*				0.05*
				(0.02)				(0.01)
Debt-to-GDP				−0.05*				−0.06*
				(0.02)				(0.01)
Inflation				0.11*				0.12*
				(0.00)				(0.00)
Momentum				−0.06				−0.09*
				(0.23)				(0.05)
Volatility				0.50*				0.46*
				(0.00)				(0.00)
R^2	0.04	0.10	0.11	0.47	0.04	0.10	0.11	0.40

This table reports the results of monthly Fama–MacBeth cross-sectional predictive regressions of return volatility 6 and 12 months ahead on lagged politics and policy ratings and country characteristics. We include the monthly standard deviation of past daily returns of the univariate- and bivariate-sorted portfolios from Table 1 along with that of the 42 country stock market indices in our sample. The control variables are GDP growth rate, debt-to-GDP, inflation rate, return momentum as return over the past 12 months excluding the most recent month, and lagged monthly standard deviations of past daily returns. In multivariate regressions (3) and (4) politics and policy are orthogonalized with respect to each other and the control variables. Regression coefficients have been rescaled, multiplying the original value by 10^4 for policy, 10^3 for politics, 10^4 for debt-to-GDP, and 10^2 for momentum. We report the average cross-sectional R^2. p-values are in parenthesis. Data span the period 1992–2016.
*Denotes statistical significance at least at the 10% level.

international stock market volatilities, and thus confirms one mechanism through which global political risk becomes a determinant of international stock returns.

5. Robustness tests

We carry out several robustness checks: (i) test alternative ways of constructing a global political risk factor; (ii) test for a monotonic relation between portfolios' politics-policy rankings and the loadings on the P-factor; (iii) test for pricing of global political risk in clusters of segmented markets; (iv) use sample split analysis to further guard against a mechanical relationship between the P-factor and the test assets; (v) run a randomized experiment to rule out empirical findings by chance. These tests corroborate a global political risk factor in explaining international stock returns and strengthen our message that both politics and policy matter.[20]

5.1. Alternative global political risk factors

To further validate that the P-factor is representing priced political risk, we construct political factors using as alternative country ratings the ICRG aggregate political risk index, and we also consider four different ways to combine the politics and policy ratings from WES. We perform the asset pricing tests using a model that augments the global market portfolio with these alternative factors on the baseline and extended set of assets, and show that they also carry economically and statistically significant premia.

The alternative political factors are as follows. "ICRG" is a long-short portfolio that includes countries in the bottom and top quintiles of the ICRG political risk index distribution. The results with this widely used measure further alleviate concerns that our WES measures may be capturing something else. More importantly, it allows us to reiterate that the bivariate P-factor produces stronger results, with higher risk premium and cross-sectional R^2.

Combining politics-policy from WES in different ways we show that our results are robust to the factor construction method. "Conditional reverse" is based on conditional sorts, as the P-factor, but sorting first on policy instead of politics ratings. "Unconditional terciles" is a long-short portfolio that includes countries in the bottom and top terciles of the joint unconditional distribution of politics-policy ratings. "Unconditional quintiles" is a long-short portfolio with countries in the bottom and top quintiles of the joint unconditional distribution of politics-policy. "Aggregate rank" is a long-short portfolio based on cross-sectional ranks. At each time t, we average each country's ranks based on politics-policy ratings, and form a long-short portfolio including countries in the bottom and top quintiles of the average rank distribution.

We observe from the results in Table 11 that all factor specifications are priced and have high cross-sectional fit. Panel A shows summary statistics, with all factors having statistically significant mean values in the range 6.36–10.55% p.a., with Sharpe ratios

[20] Additional robustness tests in Appendix E show that our key results on politics-policy spread portfolios hold with alternative politics and policy variables, when using the standard MSCI Indices, and portfolios of long-short positions in extreme deciles.

Table 11
Alternative global political factors.

(a) Factor statistics and model performance

	P-factor	Conditional reverse	Unconditional terciles	Unconditional quintiles	Aggregate rank	ICRG
	Factor statistics					
Mean	11.10*	9.03*	7.52*	10.55*	7.48*	6.36*
	(0.01)	(0.05)	(0.03)	(0.03)	(0.02)	(0.09)
Sharpe ratio	0.53	0.40	0.52	0.45	0.51	0.41
	Baseline set of test assets					
Risk premium	11.37*	10.78*	7.94*	11.75*	7.93*	7.20*
	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)	(0.05)
OLS R^2	0.92	0.81	0.76	0.86	0.80	0.55
GLS R^2	0.76	0.63	0.59	0.67	0.53	0.32
	Extended set of test assets					
Risk premium	11.02*	10.70*	6.52*	11.89*	6.11*	4.90
	(0.03)	(0.04)	(0.06)	(0.03)	(0.08)	(0.15)
OLS R^2	0.59	0.62	0.54	0.62	0.51	0.47
GLS R^2	0.25	0.24	0.25	0.29	0.22	0.11

(b) Factor correlations

	P-factor	Conditional reverse	Unconditional terciles	Unconditional quintiles	Aggregate rank
P-factor					
Conditional reverse	0.82				
Unconditional terciles	0.83	0.81			
Unconditional quintiles	0.89	0.89	0.80		
Aggregate rank	0.82	0.76	0.92	0.77	
ICRG	0.46	0.49	0.57	0.47	0.58

This table reports summary statistics of alternative global political factors, the performance of models that include the alternative factor together with the global market portfolio (Panel A), and the correlation matrix of the global political factors (Panel B). The baseline set of test assets includes the univariate- and bivariate-sorted portfolios, and the extended set adds the excess returns of the country stock market indices in our sample. "Conditional reverse" is constructed as the P-factor, except that the first sort is on policy, instead of politics. "Unconditional terciles" and "Unconditional quintiles" are long-short portfolios that include countries in the bottom and top terciles, and quintiles, respectively, of the joint unconditional distribution of politics and policy ratings. "Aggregate rank" is a long-short portfolio based on cross-sectional ranks. At each time t, we average each country's ranks based on politics and policy ratings, and form a long-short portfolio including countries in the bottom and top quintiles of the average rank distribution. "ICRG" is a long-short portfolio that includes countries classified in the top and bottom quintiles from the univariate distribution of the ICRG Political Risk Index. Risk premia are estimated through a two-step OLS regression of average returns on factor loadings, run without the intercept. p-values reported in parenthesis account for correlated errors and the generated regressor problem from the estimation of factor loadings in the first step. We include the factors in the set of test assets and report OLS and GLS R^2. Returns are in percentages, denominated in USD, and include dividends. Factor means, Sharpe ratios and risk premia are annualized. Data are monthly, spanning 1992–2016.

*Denotes statistical significance at least at the 10% level.

0.40–0.52. The P-factor has the highest Sharpe ratio and exhibits the strongest statistical significance, but any of the alternative factors could be a valid proxy for global political risk. In cross-sectional tests, all factors carry a statistically significant premium in the baseline set of assets, with adjusted OLS R^2 in the range 0.55–0.86, and GLS R^2 in the range 0.32–0.67. Significant premia are also commanded for all factors in the extended set of assets except for the ICRG, which speaks in favor of the bivariate factors. Panel B sheds further insights in the relation among the factors by showing their correlations. All alternative political risk factors have high correlations with the P-factor in the range 0.82–0.89, except for the ICRG with a correlation of 0.46.

Overall, these results confirm the existence of priced global political risk, and support a bivariate risk factor, such as the P-factor, for mimicking this undiversifiable risk.

5.2. Politics-policy ratings and P-factor loadings

Following Lustig et al. (2011), we create beta-sorted portfolios and show that the sorting of countries on politics and policy ratings effectively measures a country's exposure to the P-factor. We estimate each country's loadings on the P-factor by running rolling-window time-series regressions of each country's excess returns on the global market portfolio and the P-factor. We use a 36-month window up to time $t-1$ for estimation of P-factor betas, and then track the return of P-factor beta-sorted portfolios at t. P1 and P4 portfolios include, respectively, countries with exposures in the bottom (L_β) and top (H_β) quintiles of the P-factor beta distribution, while portfolios P2 and P3 include countries in the middle allocated into two equally-spaced groups. For each portfolio, we report average returns, politics and policy ratings, pre-formation beta, as well as post-formation beta obtained by regressing each portfolio's excess returns on the global market portfolio and the P-factor over the full sample.

Table 12
Beta sorted portfolios.

Portfolio	P4 (H_β)	P3	P2	P1 (L_β)	$H_\beta - L_\beta$
	(a) Portfolio returns and betas				
	Return				
Mean	13.96*	10.98*	8.42*	6.84*	7.12*
	(0.01)	(0.01)	(0.03)	(0.10)	(0.02)
Sharpe ratio	0.46	0.45	0.33	0.23	0.49
	Pre-formation beta				
Mean	0.61*	0.16*	−0.02*	−0.21*	0.81*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
	(b) Politics and policy ratings				
	Politics				
Mean	4.33*	5.63*	6.42*	6.56*	−2.22*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
	Policy				
Mean	23.55*	34.85*	45.38*	52.57*	−29.02*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
	(c) Post-formation beta				
Estimate	0.39*	0.10*	0.01	−0.06*	0.45*
	(0.00)	(0.00)	(0.60)	(0.04)	(0.00)

This table reports descriptive statistics and performance measures of portfolios sorted on country exposures to the P-factor, estimated through rolling-window time-series regressions of country monthly excess returns on the global market portfolio and the P-factor. We estimate betas using data from $t-36$ to $t-1$, sort countries in four groups based on these betas, and then track the performance at time t. Panel A reports the annualized average returns and Sharpe ratios for each portfolio, together with the corresponding pre-formation betas, Panel B the corresponding average politics-policy ratings, and Panel C the corresponding post-formation betas obtained by regressing each portfolio excess returns on the global market portfolio and the P-factor on the full sample. P1 and P4 include, respectively, countries with exposures in the bottom (L_β) and top (H_β) quintiles of the beta distribution, and "P2" and "P3" are portfolios in two equally split quantiles in between. p-values are in parenthesis. Returns are in percentages, denominated in USD, and include dividends. Data are monthly, spanning 1992–2016.

*Denotes statistical significance at least at the 10% level.

The results are shown in Table 12. We observe a monotonic relationship between P-factor betas and average returns (Panel A). The high minus low beta portfolio has a statistically significant positive average return, and a Sharpe ratio of 0.49 in line with the Sharpe ratio of the P-factor of 0.53. From Panel B we also observe an inverse monotonic relationship between P-factor betas and politics-policy ratings, which confirms that sorting on P-factor betas conveys the same information as sorting on politics and policy ratings. Post-formation P-factor betas (Panel C) also vary monotonically and in line with pre-formation betas.

This test shows that portfolios sorted on politics-policy ratings and those sorted on P-factor loadings are clearly related, implying that politics-policy carry valuable information on global political risk in international stock returns. Countries with high P-factor betas, i.e., low politics-policy ratings, are more exposed to priced global political risk, earning higher average returns.

5.3. Political risk and market segmentation

Our main results imply a degree of market integration, with the world market portfolio and global P-factor capturing global systematic risks in international stock returns. The empirical evidence in Tables 3 and 5 clearly shows that local factors of existing asset pricing models, which are meant to account for a certain degree of financial market segmentation, do not explain the return spreads in politics-policy sorted portfolios. This is in line with Bekaert and Mehl (2019), Pukthuanthong and Roll (2009), but it does not preclude the possibility that some other local factor, related to market segmentation but unrelated to political variables, explains our results. We show that even after accounting for market segmentation, there are still sizeable and significant politics-policy return spreads, and that such returns spreads are pervasive across sets of assets with varying degrees of market segmentation.

We use as proxies for market segmentation the overall restriction index on capital flows (Fernández et al., 2016) and the MSCI country classifications. The restriction index is our main economic-based proxy for market segmentation, that we use to create portfolio sorts on a set of highly segmented markets. Specifically, we rank countries by capital controls and select those in the top quartile. There are about ten countries in this set, that changes dynamically, including Brazil, China, India, Philippines, and Russia. We then create single- and double-sorted portfolios based on politics and policy ratings. Given the small sample size, for single-sorted portfolios we use quintiles for the extreme H and L portfolios, with M in the middle 60%. For double-sorted portfolios, H and L are those above and below the sub-sample median of each variable, respectively.

In Table 13 (Panel A) we report the average portfolio returns and corresponding restriction index values. We observe that large and significant politics-policy return spreads persist, with Sharpe ratios of 0.65–0.74 for single sort portfolios and 0.70 for the double sort portfolio. Importantly, while there is significant variation in average returns across portfolios, there is no significant variation in their corresponding restriction index values. We cannot reject the null that differences in restriction index values are zero, except for the policy-sorted spread portfolio where the restriction index spread is economically very small (−0.03). These findings show

Table 13
Market segmentation.

(a) Capital controls

	Policy sort		Politics sort	
	Average returns	Restriction index	Average returns	Restriction index
H	−0.10	0.85*	1.52	0.81*
	(0.99)	(0.00)	(0.82)	(0.00)
M	11.41*	0.81*	11.76*	0.82*
	(0.05)	(0.00)	(0.06)	(0.00)
L	17.78*	0.82*	18.83*	0.83*
	(0.01)	(0.00)	(0.01)	(0.00)
L-H	17.89*	−0.03*	17.30*	0.02
	(0.00)	(0.07)	(0.00)	(0.42)
Sharpe ratio	0.74		0.65	

Politics-policy sort Average returns			Politics-policy sort Restriction index		
	Policy			Policy	
Politics	H	L	Politics	H	L
H	2.14	7.10	H	0.82*	0.81*
	(0.76)	(0.24)		(0.00)	(0.00)
L	13.62*	20.78*	L	0.80*	0.83*
	(0.07)	(0.00)		(0.00)	(0.00)
LL-HH	18.64*		LL-HH	0.01	
	(0.00)			(0.64)	
Sharpe ratio	0.70				

(b) Risk premia on test assets with varying degrees of market integration

	High CC	Low CC	High CC extended	Low CC extended	EME	DEV extended	EME extended	DEV	All	All+	All++
MKT	8.03*	8.75*	7.33*	9.01*	6.22*	6.30*	6.00	6.24*	6.38*	7.18*	6.44*
	(0.03)	(0.01)	(0.04)	(0.01)	(0.10)	(0.06)	(0.11)	(0.06)	(0.05)	(0.03)	(0.04)
P-factor	11.66*	10.21*	12.57*	9.75*	11.69*	9.38*	13.27*	8.30*	10.82*	9.46*	9.68*
	(0.03)	(0.03)	(0.01)	(0.03)	(0.03)	(0.04)	(0.01)	(0.07)	(0.04)	(0.05)	(0.04)

This table reports descriptive statistics of portfolio sorts in markets with high capital controls, and estimates of political risk premia in markets characterized by different degree of market integration. In Panel A we report annualized average returns and capital control values for portfolios sorted based on politics and policy ratings. The set of test assets includes markets with capital control index in the top quartile, where capital controls are measured by the overall restriction index on capital flows (Fernández et al., 2016). In the univariate sorts "H" refers to the top and "L" to the bottom quintiles, and "M" to the middle 60%. In the bivariate sorts "H" and "L" denote the values above and below the median along each of the two dimensions. Newey and West (1987) p-values based on optimal number of lags (Andrews and Monahan, 1992) are in parenthesis. In Panel B we report the risk premia estimates of a model including the global market portfolio and the P-factor based on alternative country clusters with varying degrees of market integration. "High CC" and "Low CC" denote countries with high and low levels of restriction index averaging above or below the median, respectively. Following the MSCI classification, "EME" and "DEV" refer to 20 emerging and 22 developed markets. "extended" denotes test assets augmented by the univariate- and bivariate-sorted portfolios. Incrementally, "All" includes the 42 countries only, "All+" adds 26 frontier markets, and "All++" adds 9 stand-alone markets. Returns are in percentages, denominated in USD, and include dividends. Risk premia are annualized. Data are monthly, spanning 1992–2016.

*Denotes statistical significance at least at the 10% level.

that even among highly segmented markets there is politics-policy induced return heterogeneity not associated with variation in the degree of market segmentation. Hence, market segmentation is not a likely explanation of the politics-policy return spreads.

We also estimate the risk premia of our two-factor model on subsets of test assets with varying degrees of market integration. We test separately the following country clusters: (i) 21 countries with high capital control; (ii) 20 countries with low capital control;[21] (iii) 20 emerging countries; (iv) 22 developed countries; (v) all 42 countries together; (vi) all 42 countries, adding 26 frontier markets; (vii) all 42 countries, adding 26 frontier markets and 9 stand-alone markets. We use the MSCI country classification for emerging, developed, frontier, and stand-alone markets. For each subset in (i)-(iv), we also report results based on the extended set of test assets that includes also single- and double-sorted politics-policy portfolios created within each subset of countries. By widening the sample and adding incrementally politically riskier countries, we also mitigate concerns about potential survivorship bias and "peso problem" of extremely rare catastrophic political events. The results in Table 13 (Panel B) show that the global P-factor carries a statistically significant risk premium across all subsets, ranging from 8.30% to 13.27% p.a., and close to its actual time-series average return. This empirical evidence confirms that global political risk is pervasive across markets, and carries a positive risk premium in all subsets of test countries regardless of their degree of market segmentation, and even when including frontier and stand-alone markets that are excluded in the construction of the global P-factor.

5.4. Sample split analysis

We run a subsample analysis, splitting our sample into two groups of countries, constructing the political risk factor in one group and testing it on the other. Given that test assets and risk factors belong to two non-overlapping sets of countries, this test safeguards against a mechanical relation between test asset returns and the P-factor, and confirms that the groups share a common risk factor structure, corroborating that the P-factor is global.

We randomly split countries in two groups, and repeat the experiment 1000 times, and report the results in Appendix Table D4. The single and double portfolio sorts constructed in one group have high correlations with their corresponding portfolios constructed separately in the other group (Panel A). The average correlations of the portfolio sorts in the two groups are in the range 0.60–0.88

[21] Since there is no restriction index data for Taiwan, our tests with capital controls include 41 countries.

for politics, and 0.69–0.84 for policy, with a mean of 0.79 for both, and 0.50–0.84 for double-sort portfolios, with a mean of 0.65. These high correlations suggest that groups of countries, even when chosen at random, share a common factor structure. The risk price of the P-factor constructed in one subsample is positive and statistically significant in the other and vice-versa (Panel B). Both factor means and risk premia estimates are similar between the two groups. As expected, risk premia estimates tend to exceed corresponding P-factor means, since, as pointed out in Lustig et al. (2011), sample-split analysis is likely to introduce measurement error in the factors, which shrinks the estimates of factor loadings towards zero and thus results in slightly inflated risk premia.[22]

The sample split analysis mitigates concerns about a mechanical relation between asset returns and the P-factor, corroborating a global political risk factor in international stock markets.

5.5. Random political risk factors

An experiment with a randomized political risk factor shows that the results are almost certainly not due to chance. We simulate the political risk factor by randomly drawing with replacement from the empirical distribution of the P-factor. We generate 100,000 random factors, use them in cross-sectional tests, and estimate the probability that the random factors, augmenting the global market portfolio, would perform at least as well as the P-factor with respect to R^2, MAPE, or both. We test on the extended set of assets, as well as on the country stock market returns only. The results are reported in Appendix Table D5.

We find that a random political risk factor has no explanatory power. In the extended set of assets the probability of a random factor having better explanatory power and lower pricing error than the P-factor is 0.00. In the country only set the probability is 0.06%. In the extended set of assets, the average R^2 of the global market portfolio augmented with random factors is less than half the R^2 obtained with the actual P-factor (0.24 vs 0.62), and the MAPE is significantly higher (2.41% vs 1.77%). Likewise in the country only set.[23]

These results rule out that the P-factor success is due to chance.

6. Conclusion

We study the impact of politics-policy uncertainty on international stock market returns using novel measures of political stability and confidence in government economic policy from the Ifo World Economic Survey. We validate the political ratings and document predictable variation in stock market returns: countries with lower politics-policy ratings earn higher average returns. The politics-policy return predictability survives controls for country characteristics and exposures to existing global and local risk factors.

Country-level political risk often spills over to other countries and generates a common systematic component affecting global financial markets. We identify global political risk as a new source of common variation in international returns, and document that countries with higher politics-policy uncertainty have higher exposure to priced global political risk, as measured by covariation with the P-factor, thus earning higher average returns. This suggests a standard APT interpretation of our empirical findings. A global two-factor model including the world market and the P-factor significantly reduces pricing errors and improves cross-sectional fit of cross-country average returns. We further document transmission mechanisms through both cash flow and discount rate channels.

To safeguard against data mining, we perform successfully an extensive set of robustness tests including additional test assets, alternative political risk factors, alternative clusters of segmented markets, sample split analysis, risk factor randomization, and alternative portfolio sorts. The extensive robustness of the main findings safely argues against data mining concerns.

Our paper informs the empirical asset pricing literature on the risk factors pricing the cross-section of international returns. Existing international asset pricing models do not account for the pricing of global political risk. We contribute a bivariate global political risk factor to capture the impact of politics-policy on international returns with and complement existing models. The P-factor is not spanned by existing risk factors, it unifies the dual interpretations of political risk in Kelly et al. (2016), and is in line with North (1991)'s distinction between politics and policy. This is our main empirical contribution.

CRediT authorship contribution statement

Vito D. Gala: Conceptualization, Methodology, Resources, Writing – review & editing. **Giovanni Pagliardi:** Conceptualization, Methodology, Formal analysis, Investigation, Software, Data curation, Visualization, Validation, Writing – review & editing, Project administration. **Stavros A. Zenios:** Conceptualization, Resources, Writing – first draft, Writing – review & editing, Supervision, Funding acquisition, Project administration.

Appendix A. Supplementary data

Supplementary material related to this article can be found online at https://doi.org/10.1016/j.jempfin.2023.03.004.

[22] We also repeat the analysis by splitting the countries in two groups based on alphabetical order, as in Lustig et al. (2011), and obtain consistent results.

[23] We also simulate Gaussian factors with the mean and variance as the P-factor, and obtain similar results.

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