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Crisis Predictability in the Cross-Section of Political Uncertainty and Stock Returns

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ABSTRACT

This paper replicates the global political risk factor discovered by Gala, Pagliardi, & Zenios (2020) and documents additional predictability between political uncertainty and international stock returns by utilizing crisis data. We identify a new P-Factor returning a risk premium of 15% annually by constructing a country-specific crisis factor, excluding countries in a crisis from the long portfolio. Our findings provide empirical evidence that crisis data contain favorable information in terms of return predictability, and combining it with political ratings leads to greater risk-adjusted returns.

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1 Introduction

In the past decades, it has been hard to contradict the fact that global political events have affected financial market returns. Governments ultimately decide the framework for which firms are allowed to operate locally and globally. Governments essentially impact a company's cash flow and return. Thus, it is natural to believe that presidential elections, political news, and global uncertainty can impact market returns as there is both a direct and indirect consequence for the performance of firms resultantly of the political outcome.

For instance, markets expressed nervosity during the U.S. Presidential election in 2016. Investors' perception of the two candidates was that Hillary was the "safe" election outcome, while Trump was associated with uncertainty. When Trump closed the gap on Hillary for the win, this perception materialized, leading investors to move their money into safe havens like gold and bonds, subsequently negatively impacting financial markets. Additionally, the UK left EU not too long ago, which raised some regulatory uncertainties upon financial markets. For example, how will the conduct of trading between the UK and the world be structured, and how will earnings for UK-based firms be impacted. More recently, the COVID-19 pandemic led to many lockdowns and travel restrictions, causing a considerable impact on earnings, leading to the largest single-week decline in equities since the financial crisis. Also, the war in Ukraine has caused some severe market turmoil lately. Firms suffer remarkably as a result of crises, while governments try to support the recovery of businesses and equity markets by implementing subsidies and monetary policies.

How the governments will react to certain news in a crisis and how assets respond to these political news are questions that arise due to global uncertainty. This

is ultimately the foundation of our research question. For instance, during the European debt crisis, the Greek debt was considered junk, but when politicians in Europe publicly stated that they were willing to slice Greece's debt in half, German and French stocks appreciated by more than 5%, and S&P500 by 3.4%. This shows that relatively small countries can be contagious and cause spillover effects to larger economies. Unfortunately, political news's aftermath on financial markets is still relatively unexplored. For this reason, we want to further investigate how crises and political risk impact financial markets.

Empirical studies find that political uncertainty should indeed be higher in weaker economies, leading to stocks having higher volatility and correlation when uncertainty is higher (Pástor & Veronesi, 2012). While political risk can originate locally, Kelly, Pástor, & Veronesi (2016) document spillover effects across countries. Additionally, they identify uncertainty regarding electoral outcomes and the policy that will follow as an explanatory variable for stock market returns. We will construct a political risk factor – henceforth, P-Factor – similar to Gala, Pagliardi, & Zenios (2020), which accounts for two measures of political uncertainty. The first is an electoral risk, while the second is uncertainty about the economic policies that will follow, hereby referred to as politics-policy. We utilize the Ifo World Economic Survey data as a factor for politics and policy, quantifying the trust in government economic policy and political stability.

Our empirical contribution is established by investigating how crises impact returns and political ratings. A priori, we expect crises to impact future politics-policy ratings and returns negatively. Moreover, Diamond & Rajan (2005) argue that banking crises are contagious, can cause total meltdowns, and are also found at the base of systemic crises. Following the latter rationale, we construct a crisis factor – henceforth, General Crisis – taking the value 1 if there is either a

banking crisis and/or a systemic crisis at each time t for all respective countries. Furthermore, Patel & Sarkar (1998) show that crises in emerging markets are more severe than in developed markets. We implement drawdown control on the P-Factor with a threshold of 15% and document that the P-Factor crashed in 1998 by 17.22% (Appendix D, Figure B.1). In Figure B.2, we document a crisis exposure of 100% in the P-Factor in 1998. We further identify that approximately 70% of this exposure is in the long portfolio, with a total amount of 5 crises, the highest amount in the sample (Appendix D, Figure B.3 (a)). The long portfolio in this period consists of 7 emerging market countries, corroborating the findings of Patel & Sarkar (1998). The focal point of our analysis is to determine what causes the downturn by utilizing crisis data and employing our findings to improve risk-adjusted returns in the P-Factor. Ex-ante, we postulate that equity investors expect issues between local banks and businesses, leading to increased cost of capital, lower firm values, and difficulties extracting values from the banking system. When a firm's discount rate increases or its expected cash flow decreases, we expect a reduction in firm value and, thus, lower returns. Further, we establish that our crisis factor carries useful information regarding rating- and return predictability and that incorporating crisis data improves risk-adjusted returns.

Our paper follows four steps. First, we report that low-rated (high political uncertainty) countries earn a higher average excess return, suggesting a first-order differential effect between ratings and stock returns. Correspondingly to Gala et al. (2020), we create portfolios sorted by each country's respective politics and/or policy rating, achieving a monotonic pattern in returns cross-sectionally across both variables. For the univariate politics and policy portfolios, we find that the low policy portfolio outperforms the high policy portfolio by 5.96% annually with a Sharpe ratio of 0.42. The low politics portfolio outperforms the high

politics portfolio by 5.13% annually with a Sharpe ratio of 0.37. The spread portfolio, which makes up the P-Factor, is constructed from the conditional bivariate sort and is long the low politics-policy portfolio and short the high politics-policy portfolio. The P-Factor generates an average return of 11.04% annually with a Sharpe ratio of 0.52. This political rating predictability on international stock returns persists even after controlling for country-specific macroeconomic variables known to forecast returns. Furthermore, we document that existing risk factors do not explain the predictability of politics-policy ratings, generating abnormal returns up to 12.87% annually.

In the second step, we deepen our understanding of how general crises drive political ratings and international stock returns in order to improve P-Factor performance. We proceed by investigating how ratings and returns respond in consequence of a crisis. Our findings provide evidence that crises lead to a decrease in both ratings upon the following announcement, in addition to a decline in future returns. Furthermore, we report that negative P-Factor returns are associated with a higher probability that a general crisis occurred in one or more of the countries in the portfolio.

In step three, we employ the latter findings and create two new P-Factor portfolios generating higher risk-adjusted returns. The first portfolio construction applies the same rating conditions as the original one. Still, it differs in the sense that we exclude countries that are in a general crisis from the long portfolio. As a result, our new P-Factor generates an annualized average return of 15.02% with a Sharpe ratio of 0.69, documenting a significant increase in risk-return by excluding crises. In the second P-Factor, we move countries with a crisis to the short portfolio instead of excluding them. This strategy generates an annualized average return of 13.89%, with a Sharpe ratio of 0.63, suggesting a lack of compensation for

the additional risk involved in shorting crises. Furthermore, we document that existing risk factors still do not explain the predictability of politics-policy ratings conditional on excluding general crises, generating annual abnormal returns as large as 18.28% for the first strategy and 16.78% for the second strategy.

In step four, we reinforce our findings by successfully conducting various robustness tests. We show that the increase in risk-adjusted returns holds true by testing for other crises, an alternative portfolio sorting condition, and different portfolio returns. Finally, we show that existing risk factors remain unsuccessful in explaining the P-Factor returns.

2 Literature Review

In our paper, we want to investigate how crises impact future politics-policy ratings and stock market returns. Further, we will utilize our findings to yield higher risk-adjusted returns in the P-Factor portfolio. This section will highlight two areas related to the predictability of political uncertainty and crises on international stock returns. The first paragraph will discuss research related to if political uncertainty can predict asset returns, and the second paragraph will discuss the severity of crises and how they impact financial markets.

2.1 Political Uncertainty and Returns

General asset pricing theory suggests that returns provided by a specific asset come as compensation for the risk involved in holding that asset. Bittlingmayer (1998) provides an early indication that political uncertainty influences stock prices and volatility. Political uncertainty is a topic of growth, and neoteric research reinforces Bittlingmayer's findings, reporting a risk premium for political uncertainty. One thing that reflects political risk is the uncertainty regarding a government's prevailing policy and the uncertainty that it will change in the future. These policies directly impact firms' profitability by imposing taxes, subsidies, altering laws, and modulating competition. Brogaard, Dai, Ngo, & Zhang (2020) use the U.S. midterm- and presidential election cycles as a proxy for global political uncertainty, supported by Chan & Marsh (2021), and provide evidence that the election outcome leads to a decrease in equity returns, documenting a risk premium for this uncertainty.

In our paper, similar to Gala, Pagliardi, & Zenios (2020), we use political country ratings that gauges two examples of political risk. The first is government instability, i.e., electoral risk, and the second is doubts about its policy.

Pástor & Veronesi (2012) document that a high policy uncertainty should lead to more significant price declines, and should be more prominent if the change is in consequence of bad economic times which are small and of low significance. Brogaard & Detzel (2015) show that government economic policies have considerable economic repercussions that are difficult to diversify against, hence demanding a policy risk premium. Additionally, Pástor & Veronesi (2013) provide evidence that weaker economies demand a higher risk premium due to a higher likelihood of the government implementing a new policy. In conjunction with the latter research papers, we find that countries with a higher political uncertainty demand a higher risk premium.

2.2 Crises on Political Ratings and Returns

In 2008, we witnessed that a crisis significantly can impact financial markets. Diamond & Rajan (2005) argue that banking crises can be contagious, propagate, and lead to systemic crises, causing higher severity in terms of declines and duration. Thus, in line with their argumentation, we include banking- and systemic crisis data to proxy for a crisis factor in our analysis. Furthermore, we identify that the aforementioned crises contain predictive information in the cross-section of stock returns. Additionally, we find that risk materializes through banking- and systemic crises, causing negative realized returns, and further engage the predictive data contained in crises to improve risk-adjusted returns. Gala, Pagliardi, & Zenios (2020) documents that lower politics-policy ratings lead to higher future returns, even when controlling for macroeconomic variables. We show that crises lead to significantly lower ratings upon the following announcement, documenting predictability in future ratings across countries. Finally, Patel & Sarkar (1998) provide empirical evidence that developed market crises have become less critical over time in terms of duration and price decline, while emerging markets still

suffer from severe crisis declines. This compliments our findings for the P-Factor crash in 1998 due to the long portfolio being invested in countries associated with high political uncertainty, often emerging markets, which makes it more exposed to crises. Furthermore, we document that excluding countries in a crisis from the P-Factor long portfolio significantly increases risk-adjusted returns.

3 Data

3.1 Politics and Policy Data

We obtain data for politics and policy measures through the Ifo World Economic Survey (hereby referred to as WES) from Datastream. The survey is carried out by the Ifo Institute for Economic Research with participation from the International Chamber of Commerce. The rationale of the survey is to provide the public and business executives with detailed and thorough information concerning current economic and political circumstances such that educated decisions can be made with higher certainty. Since its inception, WES covers around 50 countries, surveyed by approximately 1,000 experts from more than 90 countries. All experts fulfill proficient- and skill prerequisites, while Ifo controls for irreconcilable situations to guarantee dependability.

Furthermore, the survey is updated every year in May and November and is carried out with financial aid from the European Commission. Our research spans from January 1992 to December 2016, for which WES provides data for 42 countries that corresponds with the MSCI indices for country returns and crisis data provided by Reinhart & Rogoff. We find the WES ratings suitable for our study due to involving repeated observations of the same measure at different points in time. This permits us to make cross-sectional conclusions on a country basis over a long time horizon. Furthermore, it is structured in a manner that explicitly separates politics and policy by requiring each expert to answer one question concerning politics and one concerning policy, granting a more comprehensive recognition of the repercussions on financial markets. For politics, the question gauges the impact political instability in a country has on foreign investors and ranges from 1 to 9, where 1 is the least politically stable country. For policy, the question gauges the impact lack of confidence in a government's economic policy

has on foreign investors. It ranges from 0 to 100, where 0 is the countries with the highest expert's faith in the prevailing policy. To maintain uniformity between the two ratings, we convert policy measurements such that 0 reflects countries with the lowest and 100 with the highest confidence.

In the sample, we observe that ratings do not move cohesively and find countries with high politics and low policy ratings, as well as low politics and high policy ratings. To identify to what extent higher ratings in politics are related to either higher or lower ratings in policy and vice-versa, we conduct a Kendall's Tau correlation test and find a correlation coefficient of 0.38. There is a wide gap across countries regarding the WES ratings, and the variation is high for both of them. The average policy rating across countries is 38.74, ranging from 6.83 to 72.16, with an average standard deviation of 23.73. For politics ratings, the average is 5.72, ranging from 3.16 to 7.96, with an average standard deviation of 1.27 (Appendix C, Table A.1). Contingent on policy ratings, Norway and Canada are among the highest-ranked countries, while Taiwan and Egypt are among the lowest. For politics, Switzerland and Finland are among the highest, while Thailand and Peru are among the lowest-ranked countries.

3.2 Financial Data

We obtain data from Datastream and use the Investable MSCI Global Market Indices denoted in USD, including dividends, for stock market returns. Morgan Stanley Capital International established the Investable MSCI Indices in 1994, and we supplement with the MSCI Standard Index for the two missing years, i.e., 1992-1993. To control for country-specific macroeconomic variables, we acquire monthly data of unemployment growth rate, short-term interest rates, and GDP growth rate. In addition, we acquire the required factors from the Kenneth French

and AQR website to test the CAPM, Fama-French five-factor model, Betting against Beta, and Momentum Factor[1]. Stock returns and risk factors are acquired monthly and are used to estimate asset pricing models. Politics-policy ratings and other financial variables are semi-annual. Furthermore, we use the MSCI Standard Index in one of the robustness tests.

3.3 Crisis Data

We include dummy tables for two different crises, namely banking- and systemic crises. Tables are constructed such that if a crisis occurs in a country, the table takes on the value 1 and 0 otherwise. The data is provided by Reinhart & Rogoff, and is obtained from the Harvard Business School Website[2]. Following the rationale of Diamond & Rajan (2005) to reflect crises with a significant impact, we argue that banking and systemic crises are a good fit for our study. Systemic crises in our sample are defined as bank runs that cause a public sector takeover, closure, or a merger of at least one financial institution. Banking crises are defined as the start of a crisis propagating and leading to similar outcomes as the latter, if there are no bank runs. These proxies are identical in many ways and exhibit a correlation of 0.70 but differ in terms of severity, where systemic crisis is the more severe outcome. Both samples contain data in conjunction with politics-policy ratings, except for the Czech Republic, Hong Kong, and Israel. Additionally, Ireland and Switzerland data is missing from banking crisis. To better proxy for crises, we construct a general crisis dummy table which takes on the value 1 if

[1]The data for CAPM and FF5 is available at `http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html#Developed`, while BAB and Momentum is available at `https://www.aqr.com/Insights/Datasets/Betting-Against-Beta-Equity-Factors-Monthly`.

[2]Crisis data is available at `https://www.hbs.edu/behavioral-finance-and-financial-stability/data/Pages/global.aspx`.

there is either a banking- or systemic crisis and 0 otherwise[3]. In Table A.2, we display the number of years each respective country experience a banking and/or systemic crisis and observe that Greece and Hungary are among the top two. In contrast, we notice quite a few countries that do not experience any crises in the sample, including Canada, Chile, New Zealand, South Africa, and Switzerland. Furthermore, we include a bond crisis dummy table for an additional robustness test which takes on the value 1 in times where a government falls short of its domestic or external debt payment commitments, and 0 otherwise.

[3]If a country experience both crises at the same time in the sample, the general crisis table also takes on the value 1.

4 Empirical Results

In the latter section, we outline the proper literature and theory which substantiates and coincides with our research. Now, we provide the empirical results and findings throughout our analysis. A priori, we expect crises to have a negative impact on ratings and returns, ultimately providing better predictability in the cross-section of international stock returns, and proceed in four steps. First, we show that the relationship between political ratings and international stock returns exhibits a monotonic pattern, where a larger risk premium follows higher uncertainty. Second, we document evidence that politics-policy ratings hold favorable information to forecast international equity returns. Additionally, we prove that existing asset pricing models fail to capture political risk in returns, implying that P-Factor returns compensate for political risk. Third, we analyze how the crisis proxy impacts ratings and returns, and find significant evidence for a reduction in both, arguing that crisis data contain predictive information. Lastly, we employ our findings and show that excluding countries in a general crisis from the P-Factor long portfolio increases risk-adjusted returns not covered by existing asset pricing models.

4.1 Political Ratings and Portfolio Returns

In this section, we examine the relation between politics-policy ratings and equity returns. Ratings are reported semi-annually, and we create both univariate- and bivariate sorted portfolios of the MSCI country returns conditional on their ratings. To bring forth an implementable strategy, portfolios are established on the last day of the month of the reporting date and are rebalanced upon each announcement. Univariate-sorted portfolios are assembled into a top and bottom quintile denoted by P1(H) and P4(L), with two equally weighted quantiles in be-

tween[4]. Bivariate-sorted portfolios are assembled into terciles, first conditional on politics and then policy ratings. The top, mid, and bottom terciles are denoted by H, M, and L. LL-HH is the long low politics-policy and short high politics-policy portfolios, essentially constituting the P-Factor spread portfolio. By maximizing the spread in the sorting variables, these portfolios allow us to more precisely assign variability in average returns to variability in ratings.

Table 1: Average Returns of Politics-Policy Portfolios

This table shows the annual average returns reflecting both univariate- and bivariate sorted portfolios constructed from politics-policy ratings. For (a) Univariate sort, "P1(H)" and "P4(L)" appertain to the top and bottom quintiles, while "P2" and "P3" are two equally split portfolios in between. "L-H" denote the returns of the low minus high spread portfolios. For (b) Bivariate sort, "H", "M", and "L" refers to the top, mid, and bottom terciles across both ratings. "LL-HH" refers to the low-low politics-policy minus high-high politics-policy spread portfolio, and constitutes the P-Factor. For implementability, portfolios are rebalanced semi-annually at the end of the month of each WES rating announcement. Returns are in percentages, including dividends, and are denominated in USD.

(a) Univariate Sort

	Policy	Politics
P1(H)	8.37	8.77
P2	9.46	9.37
P3	10.74	10.95
P4	14.34	13.89
L-H	5.96	6.13
Sharpe Ratio	0.42	0.37

(b) Bivariate Sort

	Policy		
Politics	H	M	L
H	7.32	8.33	9.88
M	8.90	11.49	12.52
L	11.73	8.09	18.36
LL-HH	11.04		
Sharpe Ratio	0.52		

Table 1 (a) displays the average returns of the politics-policy portfolios, showing a monotonic pattern in the average annualized returns for the univariate portfolios. For univariate policy, the P1(L) portfolio outperforms the P4(H) portfolio by 5.96% with a Sharpe ratio of 0.42, while politics P1(L) outperforms P4(H) by 5.13% with a Sharpe ratio of 0.37. Additionally, we identify a monotonic pattern

[4]P1(H) and P4(L) are the 20% top and bottom quintiles, while the two quantiles in between are equally weighted at 30%.

for both sorting variables in Table 1 (b) bivariate sort. The P-Factor portfolio (LL – HH), which is short high politics-policy and long low politics-policy ratings, yields an annualized average return of 11.04% with a Sharpe ratio of 0.52.

The monotonic pattern in the spread portfolios identifies a relationship between politics-policy ratings and international equity returns. We document that low-rated portfolios earn a higher return than high-rated portfolios, commanding a risk premium of uncertainty.

4.2 Politics-Policy Rating Predictability on Country Returns

In the latter section, we show that politics-policy ratings exhibit a monotonic pattern in relation to equity returns, suggesting that WES ratings carry forecasting information in the cross-section of returns. However, people decide the ratings, raising concerns that their subjective belief is correlated to macroeconomic events and observations irrelevant to what the survey should consider. Hence, in this section, we show that the return predictability of the portfolios holds posterior to controlling for macroeconomic variables. To test the predictability postulated in Table 1, we run four predictive Fama & MacBeth (1973) regressions with equity returns on 6-month lagged politics and policy ratings.

Table 2 displays the coefficients of the politics-policy return predictability regressions. The first regression (1) incorporates policy ratings, the second (2) incorporates politics, and the third (3) incorporates both ratings orthogonalized with respect to one another. Finally, in the fourth regression (4), we orthogonalize politics and policy with respect to one another and control for macroeconomic variables, including unemployment growth rate, short-term interest rates, and GDP growth rate.

Table 2: Cross-Sectional Predictability Regressions

This table reports the results of predictive Fama-MacBeth cross-sectional regressions of semi-annual returns on 6-month lagged politics-policy ratings. In regression (1) and (2), ratings are regressed on returns individually. In (3), ratings are orthogonalized with respect to one another. Lastly, in (4), we control for country-specific macroeconomic variables, including unemployment, short-term interest rate, and GDP growth rate. Regression coefficients are reported annually in percentages, scaled by 10^2. P-values are in parenthesis, and statistical significance at the 10, 5, and 1 percent levels are denoted by "*", "**", "***", respectively.

	(1)	(2)	(3)	(4)
Policy	-0.09***		-0.10**	-0.09**
	(0.00)		(0.02)	(0.04)
Politics		-1.38***	-1.48*	-1.78**
		(0.00)	(0.06)	(0.03)
Controlled	No	No	No	Yes
R^2	0.00	0.00	0.00	0.00

Table 2 shows that both the politics and policy coefficients are negative, proclaiming statistical significance across all regressions. In conjunction with our sorting methodology, this reinforces our preliminary hypothesis from Table 1 and provides further proof that higher political uncertainty indicates higher future returns. Coefficients are reported annually, and we interpret them as the increase/decrease in equity returns for the following year given that a country were to move down/up to the next portfolio. Our findings document that both ratings carry favorable information to forecast future equity returns apart from the macroeconomic information already encapsulated in the countries.

4.3 Expected or Abnormal Returns?

Further, we want to analyze whether the returns in the sorted portfolios from Table 1 contain information already captured by existing risk factors or if they originate due to political risk premia. To establish supporting evidence that returns are due to risk premia, we construct multiple regressions with "Policy L-H," "Politics L-H," and the P-Factor "LL-HH" as the dependent variables. As independent variables, we use four existing asset pricing models, the World CAPM, the Fama-French Five-Factor, Betting against Beta, and the Momentum Factor. The world CAPM suggests that market betas can explain cross-sectional variation in returns, while the Fama-French five-factor accounts for the size, value, profitability, and investment premium. The Betting against Beta factor postulates that a lower beta reflects underpriced assets, while a higher beta implies that the assets are overpriced. Lastly, the momentum factor hypothesizes that stocks performing well over the last 12 months will continue to do so. Contrarily, the opposite is true for stocks that performed poorly, suggesting investors can generate abnormal returns by buying the former and shorting the latter. These regressions allow us to test for abnormal returns in the sorted politics-policy portfolios, such that if the intercept (alpha) for a regression is zero, the excess returns are ultimately explained by the existing risk factor.

Table 3: Abnormal Returns on Politics-Policy Portfolios

This table shows the annual average abnormal returns (α) and R^2 of time-series regressions of the policy- ("L-H"), politics- ("L-H"), and P-Factor ("LL-HH") spread portfoliosx displayed in Table 1. Spread portfolios are regressed on four existing asset pricing models: World CAPM, Fama French Five-Factor, Betting Against Beta, and the Momentum Factor. Portfolios are rebalanced semi-annually at the end of the month of each WES rating announcement. Returns are in percentages, including dividends, and are denominated in USD. P-values are in parenthesis, and statistical significance at the 10, 5, and 1 percent levels are denoted by "*", "**", "***", respectively.

		Asset Pricing Models			
Portfolio Strategy		World CAPM	Fama French Five-Factor	Betting Against Beta	Momentum Factor
Policy Spread Portfolio (L-H)	α	5.11*	7.76**	7.29**	6.68**
		(0.08)	(0.02)	(0.02)	(0.02)
	R^2	0.01	0.04	0.03	0.03
Politics Spread Portfolio (L-H)	α	4.96*	6.72*	5.98*	5.43*
		(0.08)	(0.03)	(0.06)	(0.07)
	R^2	0.00	0.06	0.00	0.00
Politics-Policy Spread Portfolio (LL-HH)	α	9.46**	12.87***	12.70***	11.28**
		(0.03)	(0.00)	(0.00)	(0.02)
	R^2	0.02	0.03	0.03	0.03

Table 3 reports the annualized abnormal returns for the politics, policy, and the P-Factor portfolio. The annualized alphas span from 5.11% to 7.76% in the policy spread portfolio, close to the average excess returns of the univariate policy spread portfolio of 5.96%. In the politics spread portfolio, alphas range from 4.96% to 6.72%, which is also close to the univariate average excess return of 5.13%. In addition, the P-Factor generates annualized alphas ranging from 9.46% to 12.87%, again corresponding to its respective average excess return from the bivariate sort. Finally, all regression coefficients are at least significant at the 10% level.

The large alphas and low R-squares from Table 3 provide evidence that the existing asset pricing models do not capture political risk in returns well, implying that the spread portfolio returns originate due to political risk premia.

4.4 Crisis Predictability on Ratings and Returns

To contribute further to the P-Factor identified by Gala, Pagliardi, & Zenios (2020), we investigate if a country's crisis significantly impacts future politics-policy ratings and if they contain useful forecasting information. Additionally, we will test the standard interpretation of asset pricing theory, postulating that expected returns are higher when the risk is higher, but realized returns will become negative if risk materializes. In this section, we show that crises influence future ratings and returns, resultantly affecting the P-Factor allocation. In detail, to uncover any predictable relation between the variables, we run three predictive Fama & MacBeth (1973) regressions for politics, policy, and returns on general crisis lagged for six months. All regressions apply a country-fixed effects methodology. We individually run policy, politics, and returns in (1), while (2) controls for country-specific macroeconomic variables, including unemployment growth rate, short-term interest rates, and GDP growth rates.

Table 4: Crisis Impact on Country Ratings and Returns

Table (a) reports the results of predictive cross-sectional regressions of politics-policy ratings on 6-month lagged crises. Rating coefficients reflect the average expected reduction upon the next announcement following a crisis. Table (b) reports the results of the predictive cross-sectional regression of returns on 6-month lagged crises. Return coefficients reflect the annualized expected reduction in average returns following a crisis, reported in percentages. All regressions obtain a country-fixed effects methodology. In regression (1), policy, politics, and returns are regressed on crises individually. (2) controls for country-specific macroeconomic variables, including unemployment, short-term interest rates, and GDP growth rate. P-values are in parenthesis. Statistical significance at the 10, 5, and 1 percent levels are denoted by "*", "**", "***".

(a) Crisis Impact on Ratings

	(1)	(2)
Policy	-11.58***	-7.36***
	(0.00)	(0.00)
R^2	0.37	0.48
Politics	-0.74***	-0.54***
	(0.00)	(0.00)
R^2	0.55	0.58
Controlled	No	Yes

(b) Crisis Impact on Returns

	(1)	(2)
Returns	-8.57***	-9.08***
	(0.00)	(0.00)
R^2	0.01	0.01
Controlled	No	Yes

Table 4 (a) reports the predictive regression coefficients of the general crisis dummy table. Both slope coefficients are negative and significant at the 1% level in both regressions, with R-squares ranging from 0.37 to 0.58. We interpret the coefficients as the decrease in a country's future politics-policy ratings for the following rating announcement if a general crisis occurred. Table 4 (b) display the predictive slope coefficient for a general crisis on future country returns and recognize a negative relationship between the two. We interpret the coefficient as the annual average reduction in the cross-section of returns in consequence of a crisis, proclaiming a statistical significance at the 1% level.

We document that crises convey useful information in predicting future politics-policy ratings and returns and can thus be used to improve forecasting. Additionally, in line with asset pricing theory, our findings show that if risk is realized through the event of a crisis, realized returns go down. This provides a preliminary hypothesis suggesting we can boost spread portfolio performance by employing the predictive information contained in crisis data, which we will investigate further.

4.5 P-Factor Relation to Crises

In the latter section, we provide evidence that crises carry valuable information to forecast politics-policy ratings and stock returns cross-sectionally. Now, we attempt to uncover a relationship between general crises and the P-Factor portfolio. Performing drawdown control on the cumulative returns with a threshold of 15% reveals that the P-Factor crashed by 17.22% in 1998 (Appendix D, Figure B.1). Furthermore, we investigate the portfolio allocation and its exposure to crises, identifying an exposure of up to 100% during this period. Simultaneously, the portfolio composition undergoes five crises, the highest amount recorded through-

out our sample (Appendix D, Figure B.2). Additionally, the portfolio bounces back approximately at the same time as the amount drops from five to one. Finally, in Figure B.3, we show that the exposure primarily originates from the long portfolio for roughly the entire sample period. Overall, these findings suggest a preliminary negative relationship between crises and P-Factor returns, which we will continue investigating.

Ultimately, we want to identify if there is a relationship between the P-Factor returns and general crises and employ our findings to improve performance. Hence, we investigate whether P-Factor returns can explain the probability of a general crisis. A linear regression coefficient returns the average change in the dependent variable following one unit change in the independent variable(s). Since the true probability of a crisis can only lie between 0 and 1, linear regressions are not very descriptive because they can take values above and below 1 and 0. Considering that the crisis proxy is a binary response, taking the value 1 if there is a crisis and 0 otherwise, we conduct a logistic regression that applies maximum likelihood to fit these responses more accurately. A logistic regression return values that increase/decrease asymptotically towards 1 and 0, but never violate these bounds. Accordingly, we argue that this approach is more sophisticated to measure the true probability that a crisis occurred and, thus, preferable in our test. We proceed to run the crisis proxy on the P-Factor portfolio. The logistic regression is conducted with a fixed-effects methodology controlling for country-specific macroeconomic variables, including unemployment growth rate, short-term interest rate, and GDP growth rate.

Table 5: P-Factor Relation to Crises

This table reports the change in log-odds of a crisis occurring associated to a one-unit change in P-Factor returns. The logistic regression is conducted in a fixed effects methodology, controlling for country-specific macroeconomic variables, including unemployment, short-term interest rates, and GDP growth rate. Regression coefficients are denoted in log odds. P-values are in parenthesis, and statistical significance at the 10 percent level is denoted by "*".

	P-Factor
General Crisis	-1.78*
	(0.08)

Table 5 displays the regression coefficient of the P-Factor returns and reports the log-odds that a crisis occurred related to the change in P-Factor returns. We identify a 10% significant beta of -1.78, and interpret the coefficient as the change in the log-odds that a crisis occurred in response to a one-unit change in the P-Factor returns. Moreover, the negative coefficient implies that an increase in P-Factor returns is associated with decreased crisis probability. In contrast, a decrease in P-Factor returns is associated with an increased crisis probability. Withal, this complements our precursory belief hypothesized at the outset of this section, suggesting a relationship between P-Factor returns and crises.

4.6 New P-Factor Utilizing Crisis Data

Thus far, we have provided evidence that general crises negatively impact future stock returns and WES ratings. Further, we argued that negative returns are caused due to risk materializing through a general crisis, and that lower P-Factor returns are associated with increased crisis probability. Now, we employ our findings and test if excluding crises leads to higher risk-adjusted returns and if shorting crises boosts the performance even further. From previous analysis, we observed that crisis exposure mainly originates in the P-Factor's long portfolio ("LL"), suggesting that poor performance is related to the long allocation. Addi-

tionally, we find that the long portfolio only consists of emerging market countries during the 1998 crash, implying declines of higher severity originating from the long portfolio (Patel & Sarkar, 1998). Accordingly, we proceed to exclude general crises from the long portfolio for the first test, followed by moving them to the short portfolio ("HH") in the second test. The construction of the P-Factor remains implementable for both tests. If a crisis occurred in a country at time t, we effectively knock it out from the allocation at time *t+1*. Our results are displayed in Table 6.

Table 6: New P-Factor

Table (a) reports the bivariate sorted portfolios, excluding general crises from the long portfolio ("LL"). Table (b) reports the bivariate sorted portfolios, moving general crises from long- to the short portfolio ("HH"). "H", "M", and "L" refers to the top, mid, and bottom terciles across both ratings. "LL-HH" refers to the low-low politics-policy minus high-high politics-policy spread portfolio, and constitutes the P-Factor. For implementability, portfolios are rebalanced semi-annually at the end of the month of each WES rating announcement, while general crises are knocked out/moved one month after occurring. Returns are annual and in percentages, including dividends, and are denominated in USD.

(a) P-Factor Ex. General Crisis

	Policy		
Politics	H	M	L
H	7.32	8.33	9.88
M	8.90	11.49	12.52
L	11.73	8.09	22.35
LL-HH	15.02		
Sharpe Ratio	0.69		

(b) P-Factor Short General Crisis

	Policy		
Politics	H	M	L
H	8.46	8.33	9.88
M	8.90	11.49	12.52
L	11.73	8.09	22.35
LL-HH	13.89		
Sharpe Ratio	0.63		

In Table 6 (a), we see that removing general crises from the long portfolio increases its returns to 22.35% *(18.36%)*[5]. Consequently, the P-Factor yields an annualized average return of 15.02% *(11.04%)* and a Sharpe ratio of 0.69 *(0.52)*, documenting a significant increase in risk-adjusted returns resultantly from excluding crises.

[5]Statistics written in parenthesis refer to the original P-Factor spread portfolio displayed in Table 1 for comparison.

Furthermore, shorting crises also lead to better performance than the original P-Factor, with an annualized average return of 13.89% and a Sharpe ratio of 0.63. However, the former portfolio outperforms the latter by 1.13% p.a., in addition to a higher Sharpe ratio, suggesting a lack of compensation for the additional risk of shorting crises.

Similar to chapter 4.3, we test if existing risk factors capture these returns and regress the new portfolios on the same risk factors. Again, the similar rationale applies, for which if the intercept (alpha) is zero, the excess returns are ultimately explained by existing asset pricing models.

Table 7: New P-Factors on Existing Risk Factors

This table shows the annual average abnormal returns (α) and R^2 of time-series regressions of both spread portfolios ("LL-HH") displayed in Table 6. Spread portfolios are regressed on four existing asset pricing models: World CAPM, Fama-French Five-Factor, Betting against Beta, and the Momentum Factor. Portfolios are rebalanced semi-annually at the end of the month of each WES rating announcement, while crises are knocked out/moved one month after occurring. Returns are in percentages, including dividends, and are denominated in USD. P-values are in parenthesis, and statistical significance at the 10, 5, and 1 percent levels are denoted by "*", "**", "***", respectively.

(a) New P-Factor Excluding General Crises

		Asset Pricing Models			
Portfolio Strategy		World CAPM	Fama French Five Factor	Betting Against Beta	Momentum Factor
Politics-Policy Spread Portfolio (LL-HH) Excluding General Crises	α	14.71***	18.28***	16.35***	14.96***
		(0.00)	(0.00)	(0.00)	(0.00)
	R^2	0.00	0.03	0.00	0.00

(b) New P-Factor Shorting General Crises

		Asset Pricing Models			
Portfolio Strategy		World CAPM	Fama French Five Factor	Betting Against Beta	Momemtum Factor
Politics-Policy Spread Portfolio (LL-HH) Shorting General Crises	α	14.56***	16.78***	14.72***	13.36***
		(0.00)	(0.00)	(0.00)	(0.00)
	R^2	0.01	0.04	0.01	0.01

Table 7 reports the annualized abnormal returns for the new P-Factor spread portfolios, proclaiming 1% significant alphas ranging from 15.18% to 19.89% across both portfolios. correspondingly to chapter 4.3, the large alphas and low R-squares corroborate the evidence that political risk is not captured by existing risk factors also after controlling for crises, further implying that P-Factor returns originate from political risk premia.

In conclusion, the findings provided in this chapter validate our preliminary belief that we can predict future returns through politics-policy ratings more successfully by applying crisis data. In line with asset pricing theory, returns reflect compensation for risk, where higher returns follow higher uncertainty. Furthermore, we document that crises negatively impact future returns and WES ratings. For the P-Factor portfolio, we show that returns go down once risk materializes through the occurrence of a crisis. Correspondingly, we can generate higher risk-adjusted returns by virtue of excluding them from the portfolio allocation. Finally, we show that existing asset pricing models do not explain returns in the P-Factor after controlling for crises.

5 Robustness Tests

Our previous findings show that excluding countries that experience a general crisis can improve the P-Factor performance. Further, we document that investors are not compensated for the additional risk of shorting these crises, ultimately suggesting that excluding them is the best option. Now, we reinforce our results by successfully performing several robustness tests. First, we use a different proxy for crises, namely bond crises, to exclude from the long portfolio and examine if they also lead to increased risk-adjusted returns. Second, we assess if our results holds true with an alternative sorting condition, and third, if they persist using MSCI Standard indices as a substitute for the MSCI Investable indices originally used. Finally, we test if the returns continue to carry information not captured by existing risk factors.

5.1 Excluding Bond Crises

As previously mentioned, asset pricing theory postulates that realized returns decrease upon risk materializing. In our analysis so far, we have proxied this risk with a dummy table reflecting banking- and systemic crises. To further confirm that returns go down in consequence of a crisis, we use bond crises as an alternative excluding condition, testing if removing these from the long portfolio also indeed increases risk-adjusted returns. Similar to the original P-Factor, we sort conditional on politics-, and then policy ratings, and rebalance at the end of the month of each rating announcement. Moreover, if a bond crisis occur in a country at time t, it is effectively knocked out from the long portfolio at time $t+1$.

Table 8: P-Factor Excluding Bond Crises

Table (a) reports the original bivariate-sorted portfolios. Table (b) reports the bivariate-sorted portfolios excluding bond crises from the long portfolio ("LL"). "H", "M", and "L" refers to the top, mid, and bottom terciles across both ratings. "LL-HH" refers to the low-low politics-policy minus high-high politics-policy spread portfolio, and constitutes the P-Factor. For implementability, portfolios are rebalanced semi-annually at the end of the month of each WES rating announcement, while bond crises are knocked out one month after occurring. Returns are annual and in percentages, including dividends, and are denominated in USD.

(a) P-Factor

	Politics		
Policy	H	M	L
H	7.32	8.33	9.88
M	8.90	11.49	12.52
L	11.73	8.09	18.36
LL-HH	11.04		
Sharpe Ratio	0.52		

(b) P-Factor Excluding Bond Crises

	Politics		
Policy	H	M	L
H	7.32	8.33	9.88
M	8.90	11.49	12.52
L	11.73	8.09	18.24
LL-HH	10.92		
Sharpe Ratio	0.54		

Table 8 reports our results, showing that removing bond crises marginally reduces the long portfolio's annualized average returns, causing a drop in the P-Factors annual performance from 11.02% to 10.92%. Moreover, although the annual return is slightly lower, the portfolio volatility decreases, essentially improving the Sharpe ratio from 0.52 to 0.54, consistently with our belief ex-ante. Although these results are not as evident and conclusive as we found with general crises, our primary goal is to identify if crises negatively impact the P-Factor, explaining poor performance. Despite slightly decreasing annual returns in consequence of excluding bond crises, the Sharpe ratio is higher, suggesting that investors are better off from a risk-return perspective. Additionally, the latter strategy reduces the maximum drawdown from 17.22% to 14.04%, documenting lower downside risk. Thus, we argue that the interpretation remains the same – excluding crises leads to better risk-adjusted returns.

5.2 Conditional Reverse P-Factor

For our second robustness test, we employ a different sorting condition for the P-Factor construction, showing that risk-adjusted returns indeed increase resultantly of eliminating crises, even for the alternative sorting approach. We proceed to construct a "Conditional Reverse" P-Factor similar to the original, but differ in the way that it first sorts conditional on policy ratings rather than politics, and then by politics ratings. Further, we document that excluding general crises from the long portfolio leads to better performance.

Table 9: Conditional Reverse P-Factor Performance

Table (a) reports the conditional reverse bivariate-sorted portfolios. Table (b) reports the conditional reverse bivariate-sorted portfolios, excluding general crises from the long portfolio ("LL"). "H", "M", and "L" refers to the top, mid, and bottom terciles across both ratings. "LL-HH" refers to the low-low politics-policy minus high-high politics-policy spread portfolio, and constitutes the P-Factor. For implementability, portfolios are rebalanced semi-annually at the end of the month of each WES rating announcement, while general crises are knocked out one month after occurring. Returns are annual and in percentages, including dividends, and are denominated in USD.

(a) Reverse P-Factor

	Politics		
Policy	H	M	L
H	8.72	8.74	9.81
M	10.73	8.90	11.81
L	10.39	12.16	16.81
LL-HH	8.08		
Sharpe Ratio	0.36		

(b) Reverse P-Factor Ex. Gen. Crises

	Politics		
Policy	H	M	L
H	8.72	8.74	9.81
M	10.73	8.90	11.81
L	10.39	12.16	20.50
LL-HH	11.78		
Sharpe Ratio	0.54		

Our results are displayed in Table 9 and further validate our main results. The reverse P-Factor in (a) is not controlled for crises and generates an annualized average return of 8.08% with a Sharpe ratio of 0.36. In (b), we show that removing general crises increases the annual P-Factor returns to 11.78%, along with a Sharpe ratio of 0.54. The results provided in Table 9 corroborate our findings that risk materializes through crises and hence, negatively impacts P-Factor performance.

Overall, we further substantiate our hypothesis that greater risk-adjusted returns can be procured by simply avoiding crises in the P-Factor long portfolio.

5.3 Alternative Portfolio Returns

Now, we incorporate alternative portfolio returns for the original P-Factor, using the MSCI Standard indices as opposed to MSCI Investable. The P-Factor in this test is constructed with the original sorting conditions, first politics, then policy. Corroborating with our main results, we find that they hold even after controlling for different portfolio returns.

Table 10: P-Factor With Alternative Portfolio Returns

This table reports the annualized average excess returns of the bivariate sorted portfolios from Table 6, but replacing MSCI Investable Indices with MSCI Standard Indices. Table (a) is constructed with the original sorting conditions, while Table (b) exclude general crises from the long portfolio. "H", "M", and "L" refers to the top, mid, and bottom terciles across both ratings. "LL-HH" refers to the low-low politics-policy minus high-high politics-policy spread portfolio, and constitutes the P-Factor. For implementability, portfolios are rebalanced semi-annually at the end of the month of each WES rating announcement, while general crises are knocked out one month after occurring. Returns are in percentages, including dividends, and are denominated in USD.

(a) P-Factor

	Policy		
Politics	H	M	L
H	8.29	8.49	9.55
M	8.96	12.49	12.37
L	12.63	8.79	19.26
LL-HH	10.97		
Sharpe Ratio	0.51		

(b) P-Factor Excluding General Crises

	Policy		
Politics	H	M	L
H	8.29	8.49	9.55
M	8.96	12.49	12.37
L	12.63	8.79	22.86
LL-HH	14.57		
Sharpe Ratio	0.65		

Table 10 (a) displays the P-Factor returns without utilizing crisis data documenting an annualized average return of 10.97% with a Sharpe ratio of 0.51. Next, Table 10 (b) is controlled for general crises, removing them from the long portfolio, acquiring annualized average returns of 14.57% with a Sharpe ratio improvement to 0.65. Once more, we identify that risk materializing through crises leads to poor performance and that removing them increases risk-adjusted returns, even

with different portfolio returns.

5.4 Does Abnormal Returns Persist?

Finally, we test whether existing risk factors fail to explain these returns, identifying if they continue to originate due to political risk premia. To further reinforce our preceding evidence, we conduct three regressions including the P-Factor spread portfolios from the robustness tests as the dependent variables. Equivalently across all regressions, we use the spread portfolio that excludes its respective crisis. Specifically, bond crises for the first and general for the second and third. Consistent with chapter 4.3, we use the World CAPM, Fama-French Five-Factor, Betting against Beta, and the Momentum Factor, as independent variables. By testing the abnormal returns on existing asset pricing models, we can identify whether these explain the returns in the spread portfolios, supplying additional verification to our primary analysis. In detail, if the alphas are zero, the excess returns are already captured in the existing risk factors.

Table 11 below reports the alphas and R-squares for all three regressions. We interpret the coefficients (α) as the annualized abnormal returns for the spread portfolios. The alphas span from 12.68% to 18.28% and are significant at 1% across all regressions. In summary, Table 11 document large significant alphas and low R-squares, providing empirical evidence that the risk factors remain unsuccessful in capturing the P-Factor returns. This further complements our preceding evidence, documenting that returns derive as compensation from political risk premia, even after controlling for crises.

Table 11: Alternative P-Factor Abnormal Returns

This table reports the annual average abnormal returns (α) and R^2 of time-series regressions of the P-Factor spread portfolios ("LL-HH") from the robustness tests. Spread portfolios are regressed on four existing asset pricing models: World CAPM, Fama French Five-Factor, Betting Against Beta, and the Momentum Factor. Portfolios are rebalanced semi-annually at the end of the month of each WES rating announcement, while crises are knocked out/moved one month after occurring. Returns are in percentages, including dividends, and are denominated in USD. P-values are in parenthesis. Statistical significance at the 10, 5, and 1 percent levels are denoted by "*", "**", "***", respectively.

		Asset Pricing Models			
Portfolio Strategy		World CAPM	Fama-French Five-Factor	Betting Against Beta	Momentum Factor
P-Factor (LL-HH) Excluding Bond Crises	α	9.68**	12.63***	12.51***	11.38***
		(0.02)	(0.00)	(0.00)	(0.00)
	R^2	0.01	0.03	0.02	0.02
Reverse P-Factor (LL-HH) Excluding General Crises	α	12.68***	16.71***	13.95***	12.68***
		(0.00)	(0.00)	(0.00)	(0.00)
	R^2	0.00	0.07	0.01	0.01
P-Factor (LL-HH) w. Alternative Returns Excluding General Crises	α	14.71***	18.28***	16.35***	14.96***
		(0.00)	(0.00)	(0.00)	(0.00)
	R^2	0.00	0.03	0.00	0.00

In conclusion, our robustness tests validate our findings to a greater extent, i.e., that crises negatively impact portfolio performance. Excess returns consequently compensate for risk, and we show that crises are an example of this risk materializing, essentially leading to lower returns. Throughout our tests, we further confirm that removing crises from the long portfolio leads to higher returns and/or lower volatility, resultantly generating greater risk-adjusted returns. Additionally, we provide evidence that the returns convey information not captured by the existing asset pricing models across all tests, implying that they emerge from political risk premia.

6 Conclusion

This paper builds on the study of Gala, Pagliardi, & Zenios (2020), which identifies a predictable relationship between international stock returns and politics-policy ratings published by the Ifo World Economic Survey. We employ crisis data and document additional predictability in future ratings and returns variation. In line with asset pricing theory, we find that risk materializes in consequence of a crisis, and that resultantly of excluding them, we improve risk-adjusted returns. Moreover, these results persist even after controlling for country-specific macroeconomic variables.

Even though political uncertainty and crises emerge locally, they can cause spillover effects on global markets. Following Gala et al. (2020), we document that countries with higher exposure to political uncertainty earn higher average returns. Furthermore, we employ crisis data to increase predictability by politics-policy ratings in the cross-section of returns. Empirical results provided in our paper show that crises negatively impact future WES ratings and stock returns, essentially affecting the P-Factor portfolio. Complementing standard asset pricing theory interpretation, we exclude countries experiencing a crisis from the long portfolio of the P-Factor and show that we can significantly boost its performance. Additionally, we document that existing risk factors fail to capture these returns, verifying that they stem from political risk premia.

Further, we successfully perform four robustness tests to strengthen our claim, including a different crisis, an alternative sorting condition, and alternative portfolio returns. Moreover, we reinforce our findings and show that our results hold through the additional tests, corroborating that P-Factor performance is related to crises.

Our research extends on the political risk factor constructed by Gala, Pagliardi, & Zenios (2020), and provides additional predictability in the cross-section of international stock returns and political ratings. Moreover, when controlling for crises, we provide evidence of increased risk-adjusted returns, which remain uncovered by existing asset pricing literature, improving the performance of the original risk factor our paper is based upon. This is our primary contribution.

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A Appendix

Table A.1 - Summary Statistics for Politics-Policy Ratings

This table reports the average politics-policy ratings, as well as the standard deviation, across all countries. The sample ranges from 1992-2016.

Table A.1: Summary Statistics for Politics-Policy Ratings

	Politics		Policy	
	Mean	St.Dev	Mean	St.Dev
Australia	7.21	1.20	54.05	27.66
Austria	7.68	0.71	51.18	21.31
Belgium	5.69	1.40	41.71	22.87
Brazil	4.89	1.67	32.82	23.79
Canada	6.47	1.32	69.01	23.49
Chile	6.99	1.07	62.88	30.23
China	5.29	0.73	62.67	22.06
Colombia	4.19	1.49	42.06	24.18
Czech Republic	4.94	1.60	34.11	29.11
Denmark	7.38	0.97	64.63	24.87
Egypt	3.83	1.46	12.87	17.07
Finland	7.95	0.78	61.68	31.78
France	6.72	1.06	30.59	22.88
Germany	7.37	0.47	30.01	22.40
Greece	6.24	2.30	29.58	30.43
Hong Kong	5.72	1.19	30.78	22.55
Hungary	5.63	1.36	16.77	16.73
India	4.43	1.68	36.67	24.85
Ireland	7.09	0.91	60.94	33.05
Israel	3.94	1.86	25.86	21.23
Italy	3.99	1.33	15.22	13.47
Japan	5.95	1.00	18.47	14.95
Malaysia	5.42	1.54	45.56	32.51
Mexico	4.68	1.18	26.68	23.07
Netherlands	7.36	1.10	62.65	24.82
New Zealand	6.27	1.13	49.39	27.79
Norway	7.59	1.18	72.16	26.20
Peru	3.68	1.39	38.30	22.87
Philippines	4.28	1.57	31.66	30.51
Poland	4.94	1.48	27.30	20.05
Portugal	6.87	1.51	37.44	26.98
Russia	3.93	1.59	15.88	13.75
South Africa	4.51	1.45	28.39	21.55
South Korea	4.95	0.75	22.11	18.69
Spain	6.14	1.48	39.70	28.31
Sweden	6.68	1.20	51.24	28.11
Switzerland	7.96	0.74	65.45	19.55
Taiwan	4.37	1.46	6.83	12.60
Thailand	3.16	1.27	17.61	19.54
Turkey	3.79	1.52	23.12	22.15
UK	6.98	1.22	44.83	29.43
USA	7.26	0.87	36.15	27.18
Overall Mean	5.72	1.27	38.74	23.73

Table A.2 - Summary Statistics for Country Crises

This table reports the number of years in a crisis across all countries for General-, Banking-, and Systemic Crises. The sample ranges from 1992-2016.

Table A.2: Summary Statistics for Country Crises

	Number of Years in Crisis		
	General	Banking	Systemic
Australia	1	1	0
Austria	4	4	0
Belgium	7	7	7
Brazil	4	4	4
Canada	0	0	0
Chile	0	0	0
China	3	3	1
Colombia	3	3	3
Czech Republic	NA	NA	NA
Denmark	8	8	1
Egypt	4	4	0
Finland	3	3	3
France	9	9	0
Germany	4	3	4
Greece	13	11	9
Hong Kong	NA	NA	NA
Hungary	13	11	13
India	6	6	0
Ireland	10	NA	10
Israel	NA	NA	NA
Italy	11	11	7
Japan	10	10	5
Malaysia	6	5	6
Mexico	5	5	5
Netherlands	7	7	7
New Zealand	0	0	0
Norway	2	2	2
Peru	1	1	1
Philippines	5	5	5
Poland	4	4	0
Portugal	7	7	0
Russia	10	9	3
South Africa	0	0	0
South Korea	6	4	6
Spain	7	7	0
Sweden	6	6	0
Switzerland	0	NA	0
Taiwan	3	3	2
Thailand	7	5	7
Turkey	4	3	3
UK	9	9	0
USA	4	4	0
Overall Mean	4.9	4.4	2.7

B Appendix

Figure B.1 - Cumulative P-Factor Returns with Drawdown

This figure shows the original P-Factor cumulative returns with drawdown control over the entire sample period, 1992-2016.

Figure B.1: Original P-Factor Inc. Banking Crisis

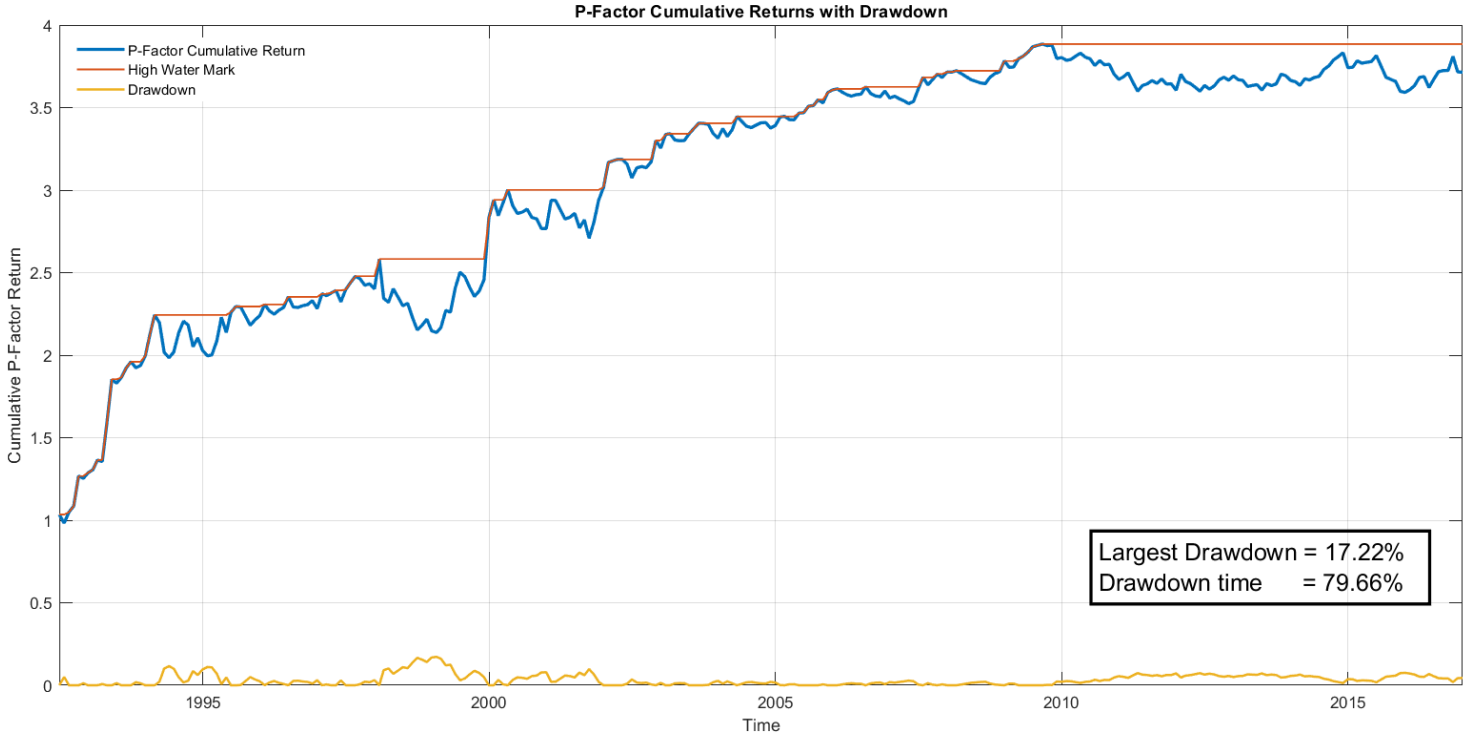


Figure B.2 - Crises in P-Factor Portfolio

This Figure displays three figures. The top figure shows the total crisis exposure in the P-Factor portfolio, dividing the number of crises on the number of countries in the portfolio. The mid figure shows the total amount of crises, while the bottom figure shows the cumulative returns of the P-Factor in percent. All figures span over the total time-horizon of our sample, 1992-2016.

Figure B.2: Number of Crises in P-Factor Portfolio Over Time

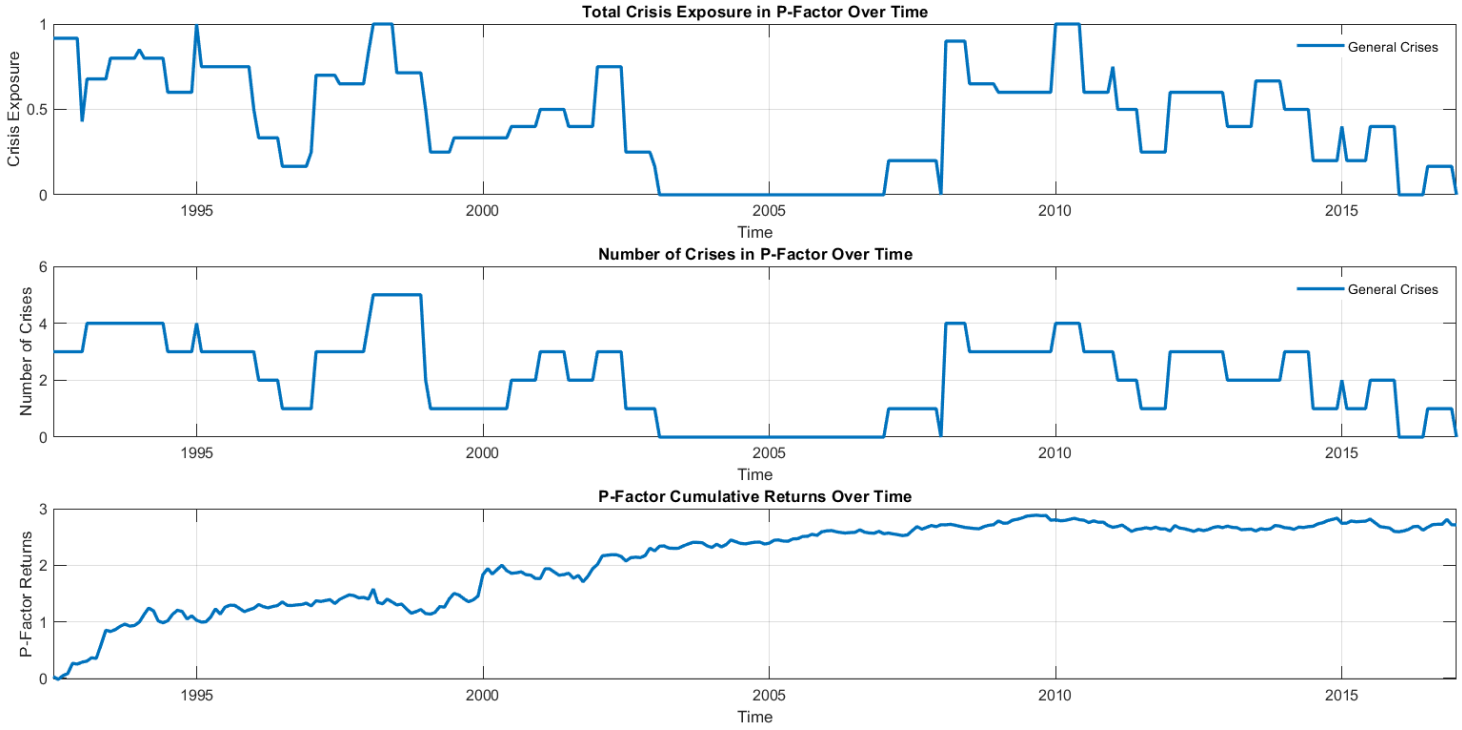
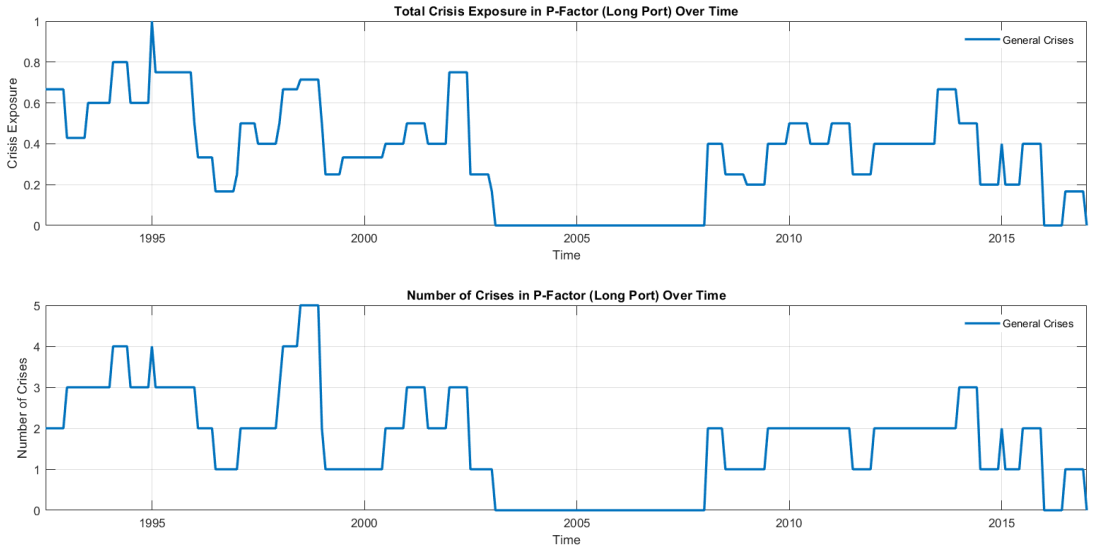


Figure B.3 - Crisis Exposure in P-Factor

Figure (a) displays two figures. The top figure shows the total crisis exposure in the P-Factor long portfolio, dividing the number of crises on the number of countries in the portfolio. The bottom figure shows the total amount of crises in the long portfolio. Figure (b) displays the same two measures, but for the P-Factor short portfolio. All figures span the total time-horizon of our sample, 1992-2016.

Figure B.3: Crisis Exposure in P-Factor

(a) Crisis Exposure Long Portfolio



(b) Crisis Exposure Short Portfolio