



On the effects of policy uncertainty on stock prices

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Abstract

A new measure of policy uncertainty that relies upon newspapers' reporting of any words that contribute to an uncertain environment is constructed and published by Policy Uncertainty Group. In this paper we assess its impact on stock prices in 13 countries for which we were able to locate the required data. We find that in almost all 13 countries, increased uncertainty has adverse short-run effects but not long-run effects on stock prices.

Keywords Policy uncertainty · Stock prices · 13 countries

JEL Classification G10 · G38

1 Introduction

One of the more important topics in financial economics is the identification of the determinants of stock prices. A recent review article by Bahmani-Oskooee and Saha (2015) identifies authors who have pointed at factors such as domestic production, interest rates, inflation rate, exchange rate, money supply, etc. as being the main determinants of stock prices in almost every country. Some examples of studies that have included these variables as determinants of stock prices and have tried to verify such inclusions and approaches, empirically, include Fama and French (1993), Granger

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et al. (2000), Anari and Kolari (2001), Nieh and Lee (2001), Smyth and Nandha (2003), Phylaktis and Ravazzolo (2005), Yau and Nieh (2006), Pan et al. (2007), Richards et al. (2009), Kutty (2010), Chortareas et al. (2011), Liu and Tu (2011), Lean et al. (2011), Kollias et al. (2012), Tsai (2012), Basher et al. (2012), Lin (2012), Tsagkanos and Siriopoulos (2013), Groenewold and Paterson (2013), Caporale et al. (2014), Yang et al. (2014), Boonyanam (2014), Moore and Wang (2014), and Bahmani-Oskooee and Saha (2016).

The above studies have been reviewed in detail by Bahmani-Oskooee and Saha (2015), and as the list of stock price determinants was examined, we have realized that none of the studies have included a measure of uncertainty as another determinant of stock prices. By following the U. S. stock market, we have observed that bad news pushes the prices down and good news pushes them up. The most notable adverse effect was due to the terrorist attack of September 11, 2001 when uncertainty generated by the attack had an abnormally negative impact on stock prices. However, we have seen that once the uncertainty subsides, the markets return back to normal and stock prices rise. Of course, during the period of recovery there are other factors that contribute to an uncertain trading environment. For example, when the U.S. government is not able to settle the federal budget and market participants expect a government shutdown, the market reacts negatively for a while.¹ Other factors that contribute to an uncertain environment are wars, deficit spending, mounting national debt, political presidential debates, among others. Can we quantify all these uncertainty factors into a single measure over time so that we can assess its impact on stock prices?

Fortunately, the Policy Uncertainty Group provides a positive answer to the above question. In its attempt to construct a measure of uncertainty, the group constructs an index using three components. The first component involves collecting any policy-related uncertainty indicators. The second component includes tax code provisions that are to expire on a future date. These are said to contribute to an uncertain future. Finally, the last component uses disagreement among forecasters, again, as an indicator of uncertainty. The approach is adopted from Baker et al. (2016).² In order to gain some insight into the path of the measure over time in countries that are included in this paper, we plot the measure in Fig. 1.³

The main purpose of this paper is to investigate the impact of policy uncertainty on stock prices. We include all the countries for which we are able to collect data on relevant variables. To that end, in Section II we present a model which includes the policy uncertainty measure as another determinant of stock prices, and discuss the methodology. The results are presented in Section III with a summary in Section IV. Finally, data definitions and sources are cited in an Appendix.

¹ For a theoretical model on the effects of government policy on stock return, see Pastor and Veronesi (2012).

² For more details on constructing this index, visit: www.policyuncertainty.com.

³ Others have also used the new policy uncertainty measure to assess its impact on other macro variables. The list includes Wang et al. (2014) who assessed the response of corporate investment to the new uncertainty measure, Pastor and Veronesi (2013), Ko and Lee (2015), and Brogaard and Detzel (2015) who assessed the response of risk premia and market returns to uncertainty, Baker et al. (2016) who considered the response of economic activity and firm-level outcomes, Bahmani-Oskooee and Ghodsi (2017) who investigated the response of housing prices in each state of the U.S., Kang and Ratti (2013) as well as Bahmani-Oskooee et al. (2018) who looked into the link between the new uncertainty measure and oil prices, and Bahmani-Oskooee et al. (2016) who assessed the impact of policy uncertainty on the demand for money in the U.S.

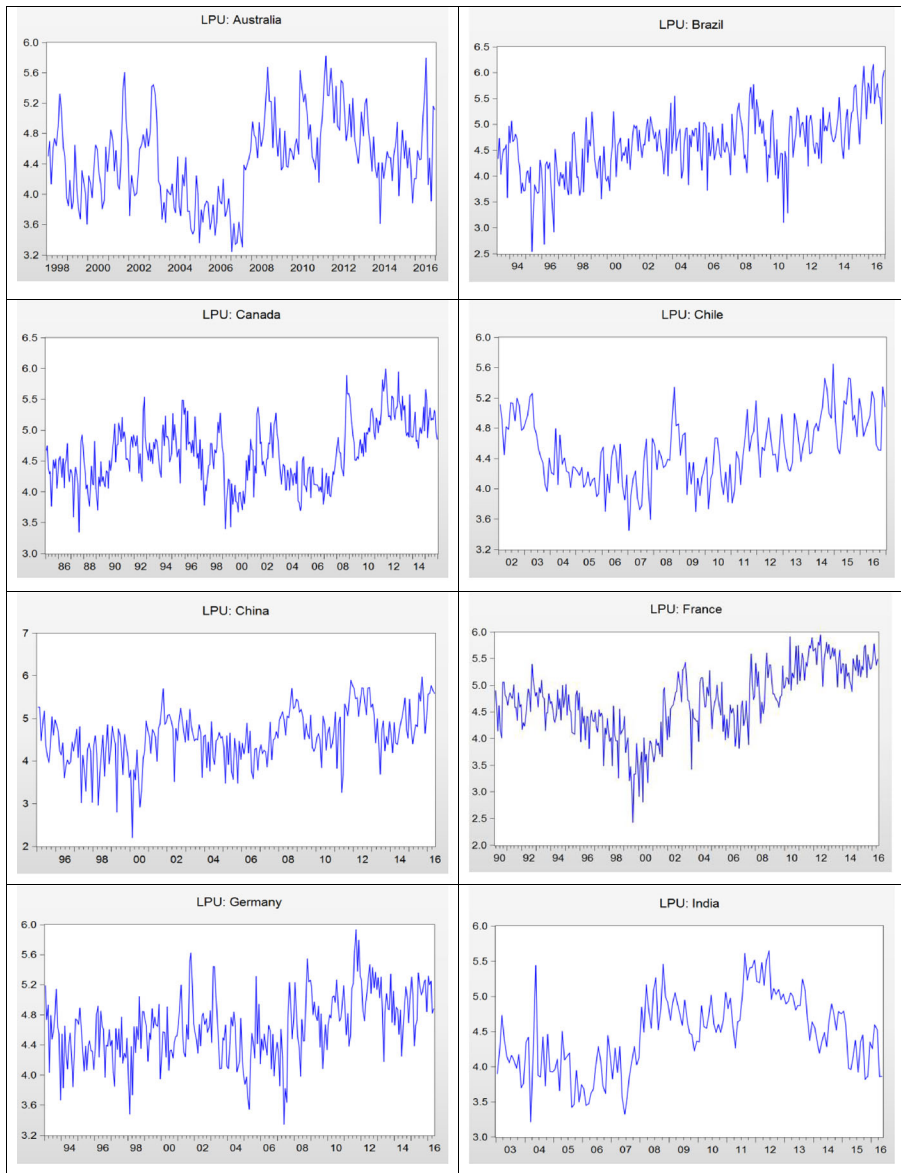


Fig. 1 Plot of policy uncertainty measure for each country

2 The model and methodology

The easiest way to assess the impact of policy uncertainty on stock prices is to borrow a model of stock price determination from the literature and add our new variable as an additional determinant. As such, we follow Boonyanam (2014) and Moore and Wang (2014) and adopt their specification with the addition of the measure of policy uncertainty as follows

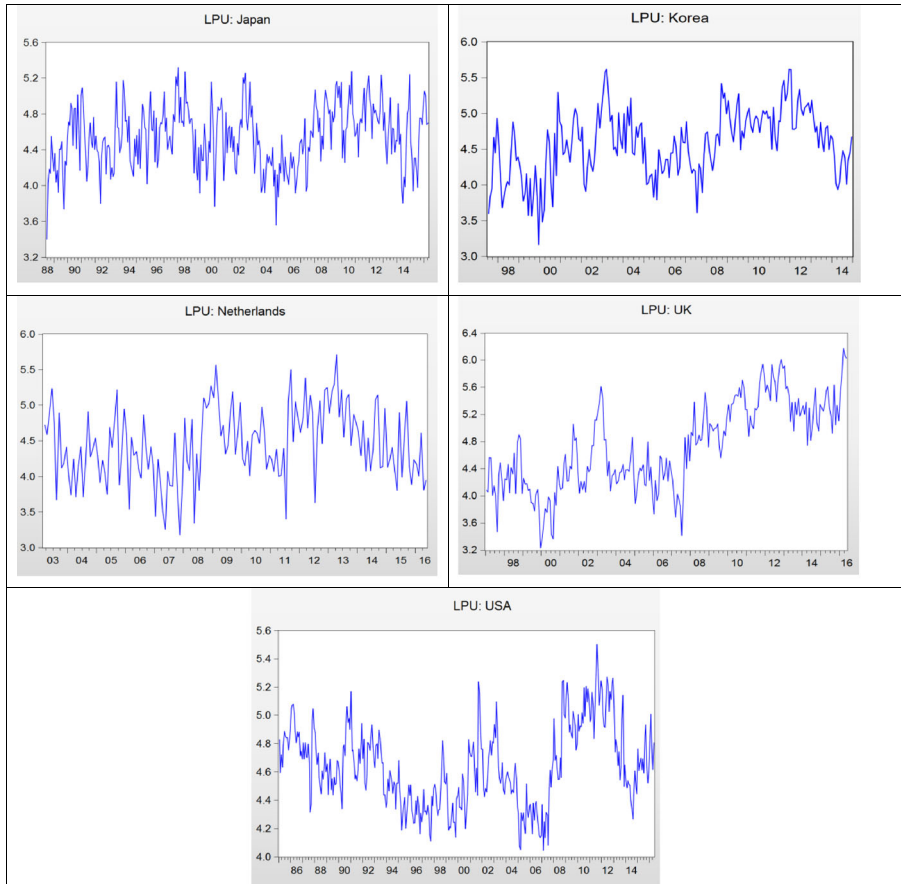


Fig. 1 (continued)

$$\ln SP_t = a + b \ln EX_t + c \ln IPI_t + d \ln CPI_t + e \ln M2_t + f \ln PU_t + \varepsilon_t \quad (1)$$

where SP denotes the stock prices, EX is the nominal effective exchange rate, IPI is a measure of output proxied by the Index of Industrial Production (IPI), CPI is the Consumer Price Index as a measure of the price level, $M2$ is a measure of nominal money supply, and finally PU is our newly introduced variable as a measure of policy uncertainty. As for the expected sign of coefficient estimates, an estimate of b could be negative or positive depending on whether firms associated with the specific stock are export- or import-oriented. Clearly, a depreciation that boosts exports of an export-oriented firm will also boost that firm’s profit and eventually its stock price. On the other hand, a depreciation could raise the cost of imports and reduce the profit of an import-dependent firm, and thus its stock price as well. An estimate of c is expected to be positive since an increase in economic activity is expected to boost stock prices. Note that since monthly data will be used to carry out the empirical exercise, IPI is used rather than real GDP, since the latter measure is not available in a monthly frequency.

As for the expected sign of d or the impact of an increase in CPI (or inflation) on stock prices, it could be negative or positive. Fama (1981) and Chen et al. (1986) have argued that usually, inflation leads to an increase in input prices and lower profits, eventually lowering stock prices. On the other hand, Anari and Kolari (2001) have argued that while in the short run there is a negative correlation between stock prices and inflation, this relation could be positive in the long run. When stocks are held over longer time horizons, they are considered or expected to be a good inflation hedge, and thus a positive relationship between inflation and stock prices is feasible. This is empirically supported by Boonyanam (2014). An estimate of e is also expected to be positive or negative. An increase in money supply leads to lower interest rates and higher investment and economic growth; economic growth eventually boosts stock prices. However, Fama (1981) argued that if an increase in money supply causes inflation, it could hurt stock prices. Finally, an increase in uncertainty is expected to make market participants uneasy and induce them to react, which will lead to a decline in stock prices.

An estimate of eq. (1) by any method will yield only the long-run effects of exogenous variables on stock prices. In order to distinguish the short-run from the long-run effects, we must re-write (1) as an error-correction model. In doing so we follow Pesaran et al.'s (2001) ARDL bounds testing approach for a few reasons that will be discussed below. Their approach applied to (1) results in the following specification:

$$\begin{aligned} \Delta \text{LnSP}_t = & \alpha + \sum_{k=1}^{n1} \beta_k \Delta \text{LnSP}_{t-k} + \sum_{k=0}^{n2} \delta_k \Delta \text{LnEX}_{t-k} + \sum_{k=0}^{n3} \phi_k \Delta \text{LnIPI}_{t-k} + \sum_{k=0}^{n4} \theta_k \Delta \text{LnCPI}_{t-k} \\ & + \sum_{k=0}^{n5} \pi_k \Delta \text{LnM2}_{t-k} + \sum_{k=0}^{n6} \omega_k \Delta \text{LnPU}_{t-k} + \lambda_1 \text{LnSP}_{t-1} + \lambda_2 \text{LnEX}_{t-1} + \\ & + \lambda_3 \text{LnIPI}_{t-1} + \lambda_4 \text{LnCPI}_{t-1} + \lambda_5 \text{LnM2}_{t-1} + \lambda_6 \text{LnPU}_{t-1} + \mu_t \end{aligned} \quad (2)$$

The error-correction model (2) follows Engle and Granger (1987) representation theorem in spirit. The only difference is that rather than including the ε_{t-1} in (2), the linear combination of lagged level variables is included. By reference to (1) and by deduction they are the same.⁴ Once (2) is estimated by OLS, short-run effects of each variable are inferred by the estimates of the coefficients attached to the first-differenced variables. Their long-run effects are judged by the estimates of $\lambda_2 - \lambda_6$ normalized on λ_1 .⁵ However, for the long-run effects to be valid and not spurious, we must establish cointegration among the variables. Pesaran et al. (2001) recommend applying the F test to establish joint significance of the lagged level variables as a sign of cointegration. However, in this application, the F test has new critical values which they tabulate. Since they account for the integrating properties of the variables when producing the critical values, there is no need for pre-unit root testing and indeed, as they show, the variables in a given model could be a combination of I(0) and I(1) which are the properties of most macro variables; this is the main advantage of this method over other cointegration methods. Another advantage of this method is that both short-run and long-run effects are estimated in one step. Furthermore, the approach also deals with the

⁴ This could easily be observed if we solve (1) for ε_t and lag the solution by one period.

⁵ For the exact procedure of deriving normalized estimates see Bahmani-Oskooee and Tanku (2008).

multicollinearity or feedback effects that may exist among the exogenous variables by including a dynamic adjustment mechanism. As Pesaran et al. (2001, p. 299) write, “our approach is quiet general in the sense that we can use a flexible choice for the dynamic lag structure inas well as allowing for short-run feedbacks.”

3 The results

In this section we estimate the error-correction model (2) for Canada, Japan, Korea, U.K., and the U.S. using monthly data over the period January 1985–December 2016. These are the five countries for which continuous monthly time-series data on all variables were available from the sources cited in the Appendix. A maximum of eight lags is imposed on each first-differenced variable and Akaike’s Information Criterion (AIC) is used to select an optimum model. Since different estimates and diagnostic statistics are subject to different critical values, we have collected them in the notes to each table and used them to identify an estimate by * if it significant at the 10% significance level and ** if it is significant at the 5% significance level. Furthermore, in each table we report short-run estimates in Panel A and long-run estimates in Panel B. Diagnostic statistics are reported in Panel C. The results are reported in Tables 1, 2, 3, 4, and 5.

Table 1 Estimate of multivariate model (2) for Canada

Panel A: Short Run								
	Lags							
	0	1	2	3	4	5	6	7
$\Delta \ln SP_t$		0.09 (1.6)						
$\Delta \ln PU_t$	−.04(5.4)**	−.02(2.9)**	0.01(1.6)					
$\Delta \ln IPI_t$	0.14(2.7)**							
$\Delta \ln CPI_t$	1.13(1.8)*							
$\Delta \ln M2_t$	−1.02(1.8)*							
Panel B: Long Run								
$\ln PU$	$\ln IPI$		$\ln CPI$		$\ln M2$		Constant	
−0.24 (2.84)**	1.62 (3.78)**		0.28 (0.33)		0.29 (0.90)		−6.19 (1.19)	
Panel C: Diagnostics								
F	ECM_{t-1}		LM	RESET	R bar Squared	CS (CS ²)		
3.30	−0.08 (4.14)**		1.80	41.86**	0.14	S (S)		

a. Numbers inside the parentheses next to coefficient estimates are absolute value of t-ratios. *, ** indicate significance at the 10% and 5% levels respectively

b. The upper bound critical value of the F-test for cointegration where there are four exogenous variables is 3.52 (4.01) at the 10% (5%) level of significance. These come from Pesaran et al. (2001, Table CI, Case III, p. 300)

c. The critical value for significance of ECM_{t-1} is −3.66 (−3.99) at the 10% (5%) level when $k = 4$. These come from Pesaran et al. (2001, Table CII, Case III, p. 303)

d. LM is the Lagrange Multiplier statistic to test for autocorrelation. It is distributed as χ^2 with 1 degree of freedom. The critical value is 3.84 (5%)

e. RESET is Ramsey’s test for misspecification. It is distributed as χ^2 with one degree of freedom. The critical value is 3.84 (5%)

Table 2 Estimate of multivariate model (2) for Japan

Panel A: Short Run								
	Lags							
	0	1	2	3	4	5	6	7
$\Delta \ln SP_t$								
$\Delta \ln PU_t$	−0.02(2.3)**							
$\Delta \ln IPI_t$	0.30(1.8)*	−0.31(1.3)	0.38(2.2)**					
$\Delta \ln CPI_t$	−0.12(0.8)							
$\Delta \ln M2_t$	2.87(1.9)*	−2.41(1.6)						
Panel B: Long Run								
$\ln PU$	$\ln IPI$		$\ln CPI$		$\ln M2$		Constant	
−0.97 (1.49)	−5.75 (1.13)		−4.70 (0.67)		−0.07 (0.07)		64.59 (1.73)*	
Panel C: Diagnostics								
F	ECM_{t-1}		LM	RESET	R bar Squared	CS (CS ²)		
2.62	−0.03 (3.99)**		0.16	2.49	0.07	S (S)		

See notes to Table 1

From Panel A in each table, we gather that all the variables carry at least one significant lagged coefficient in all the five countries, implying that all variables have short-run effects on stock prices. Exceptions are $\Delta \ln CPI$ and $\Delta \ln M2$ in the results for U.K. and the U.S.. Concentrating on the new variable of concern in this paper (the measure of policy uncertainty), it has short-run effects on stock prices in all five countries and almost all the significant coefficients are negative, implying that an increase in uncertainty has

Table 3 Estimate of multivariate model (2) for Korea

Panel A: Short Run								
	Lags							
	0	1	2	3	4	5	6	7
$\Delta \ln SP_t$								
$\Delta \ln PU_t$	−0.06(3.9)**	−0.04(2.5)**	0.03(1.7)	−0.02(0.88)	0.03(1.7)*	−0.03(1.4)	−0.03(1.6)	
$\Delta \ln IPI_t$	0.19(1.9)*							
$\Delta \ln CPI_t$	−0.01(0.0)	−4.11(1.7)*	2.68(1.1)	3.32(1.4)	−4.3(1.8)*	3.69(1.7)*	−4.8(3.6)**	
$\Delta \ln M2_t$	−0.48(0.57)	−0.46(0.46)	−0.32(0.31)	−0.00(0.00)	−2.7(2.6)**	1.05(1.0)	1.57(2.0)**	
Panel B: Long Run								
$\ln PU$	$\ln IPI$		$\ln CPI$		$\ln M2$		Constant	
0.07 (0.29)	1.84 (2.32)**		−0.11 (0.03)		−0.37 (0.23)		12.60 (0.33)	
Panel C: Diagnostics								
F	ECM_{t-1}		LM	RESET		R bar Squared	CS (CS ²)	
2.98	−0.11 (4.12)**		0.14	0.001		0.31	S (S)	

See notes to Table 1

Table 4 Estimate of multivariate model (2) for the U.K.

Panel A: Short Run							
	Lags						
	0	1	2	3	4	5	6 7
$\Delta \ln SP_t$		-0.06(0.77)	-0.15(2.1)**				
$\Delta \ln PU_t$	-0.05(4.4)**						
$\Delta \ln IPI_t$	0.66(2.1)**	0.06(0.16)	0.02(0.05)	0.67(2.2)**			
$\Delta \ln CPI_t$	0.95(1.2)						
$\Delta \ln M2_t$	0.97(1.4)						
Panel B: Long Run							
$\ln PU$	$\ln IPI$		$\ln CPI$		$\ln M2$		Constant
-0.36 (1.58)	-7.02 (0.85)		0.25 (0.05)		-0.28 (0.38)		49.53 (1.09)
Panel C: Diagnostics							
F	ECM_{t-1}		LM	RESET	R bar Squared		CS (CS ²)
3.08	-0.05 (3.93)*		0.88	0.42	0.17		S (S)

See notes to Table 1

adverse short-run effects on stock prices in all five countries.⁶ The next question of concern: do the short-run effects last into the long run?

From Panel B, we gather that only in Canada does the policy uncertainty measure carry a significantly negative coefficient in the long-run. Thus, it appears that in the remaining four countries, the effects are transitory. As for the long-run effects of other variables, the index of industrial production ($\ln IPI$) carries a significantly positive coefficient in Canada, Korea, and the U.S., supporting the notion that economic growth has long-run positive effects on stock prices in these three countries. The remaining two variables, $\ln CPI$ and $\ln M2$, do not have any significant long-run effects in any of the five countries.

In order for the long-run effects to be valid, cointegration must be established. The F test results reported in each table do not support cointegration since it is insignificant in all five countries. Of course, an alternative test for cointegration is to use the normalized long-run estimates from Panel B and the long-run model (1) and generate the error term. Denoting this error term by ECM_{t-1} , we move back to eq. (2) and replace the linear combination of lagged level variables with ECM_{t-1} and estimate this new specification after imposing the same optimum number of lags from Panel A. A significantly negative coefficient attached to ECM_{t-1} would support cointegration. Note that the t-test that is used to judge significance of these estimates has a new distribution. Since under the ARDL approach, variables could be a combination of $I(0)$ and $I(1)$, similar to the F test Pesaran et al. (2001, P. 303) tabulate an upper and a lower bound critical value for this t test. Except with the U.S., in the remaining countries ECM_{t-1} carries a significantly negative coefficient, validating the long-run effects.

⁶ It should be indicated that Pastor and Veronesi (2013) assessed impact of the same policy uncertainty measure on S & P 500 volatility and return using a general equilibrium model of government policy choices. Our short-run findings for the U.S. are consistent with them as well as with Brogaard and Detzel (2015).

Table 5 Estimate of multivariate model (2) for the U.S.

Panel A: Short Run								
	Lags							
	0	1	2	3	4	5	6	7
$\Delta \ln SP_t$								
$\Delta \ln PU_t$	−0.08(5.6)**	−0.05(3.1)**						
$\Delta \ln IPI_t$	−0.66(1.7)*	0.05(0.09)	1.1 (3.0)**					
$\Delta \ln CPI_t$	0.06(1.0)							
$\Delta \ln M2_t$	−0.01(0.4)							
Panel B: Long Run								
$\ln PU$	$\ln IPI$		$\ln CPI$		$\ln M2$		Constant	
−0.03 (0.10)	1.83 (1.80)*		1.37 (0.97)		−0.21 (0.38)		−1.06 (0.09)	
Panel C: Diagnostics								
F	ECM t_{-1}		LM	RESET	R bar Squared	CS (CS ²)		
1.67	−0.04 (2.91)		0.04	25.69**	0.15	S (S)		

See notes to Table 1

Several other diagnostic statistics are reported in Panel C. The Lagrange Multiplier (LM) statistic is reported to test for autocorrelation. It has a χ^2 distribution with one degree of freedom since we are testing for first order serial correlation. As can be seen, it is insignificant in all five models, supporting autocorrelation-free residuals. We have also reported Ramsey's RESET statistic to judge model misspecification. This statistic is also distributed as χ^2 with one degree of freedom, and it was found to be significant in only two models, which belong to Canada and the U.S.. Finally, to determine stability of short-run and long-run coefficient estimates, we follow the extant literature and apply the CUSUM and CUSUMSQ tests to the residuals of each model. Denoting these two tests by CS and CS² in Panel C and indicating stable estimates by “S” and unstable ones by “U”, we gather that all estimates are stable by both tests in all the models.

As a sensitivity analysis, we replaced LnCPI in the model by the rate of inflation (INF) and Ln M2 by Ln (M2/GDP) to account for the size of each country's economy. The results reported in Tables 6 clearly show that there is no change in our conclusion that policy uncertainty has short-run but not long-run effects on stock prices. Only in the results for Canada, the short-run negative effects last into the long run which was the case in Table 1 too.⁷

Although continuous monthly data was not available for all the variables in other countries, data on stock prices and the measure of policy uncertainty were at least available for eight additional countries. Therefore, as an additional exercise, we carried out our estimation using a bivariate version of eqs. (1) and (2) for each of the 13 countries where stock prices only depend on the measure of policy uncertainty. The

⁷ It should be mentioned that no monthly GDP data were available. At the suggestion of a referee, we simply use the same quarterly number to scale all of the monthly M2 data for each quarter. This is based on the assumption that quarterly GDP data do not change much month-to-month. Furthermore, for brevity we only report the short-run effects of policy uncertainty and not other variables. Complete results in five tables are available upon request from corresponding author.

Table 6 Estimate of multivariate model where Log CPI is replaced by INF and Log M2 by Log (M2/GDP)

Panel A: Short Run Effects of Policy Uncertainty (PU) on Stock Prices (SP)							
	Lags of $\Delta \ln \text{PU}$						
	0	1	2	3	4	6	7
Canada	-.04(5.75)**	-.02(1.88)*	0.01(1.68)*				
Japan	-.02(1.98)**						
Korea	-.07(4.26)**	-.06(3.27)**					
U.K.	-.06(5.11)**						
U.S.	-.08(5.31)**	-.05(3.39)**					
Panel B: Long-Run Estimates							
	Ln PU	Ln IPI	INF	Ln(M2/GDP)	Constant		
Canada	-0.22 (2.21)**	2.29 (16.45)**	11.35 (1.28)	0.55 (1.48)	0.24 (0.25)		
Japan	-0.87 (1.47)	-5.63 (1.29)	44.23 (1.04)	-0.01(0.10)	39.67 (1.81)*		
Korea	-0.08 (0.54)	1.57 (6.45)**	-123.1 (1.98)**	-0.26 (0.27)	1.36 (1.41)		
U.K.	-0.41 (1.41)	-7.49 (1.45)	-146.90 (1.13)	0.39 (0.37)	45.40 (1.78)*		
U.S.	0.11 (0.39)	2.89 (9.24)**	-15.75 (0.86)	0.06 (0.09)	-6.57 (2.94)**		
Panel C: Diagnostics							
	F	ECM t_{-1}	LM	RESET	Adj. R ²	CS (CS ²)	
Canada	3.11	-0.07 (3.96)**	5.63	19.75	0.15	S (S)	
Japan	2.83	-0.02 (3.72)**	6.05	0.38	0.06	S (S)	
Korea	4.74	-0.10 (4.93)**	12.34	0.00	0.36	S (S)	
U.K.	3.44	-0.04 (4.10)**	5.73	0.14	0.18	S (S)	
U.S.	1.47	-0.04 (2.72)**	9.89	17.31	0.15	S (S)	

See notes to Table 1

results are reported in Table 7 and as can be seen, again, policy uncertainty has significant adverse short-run effects on stock prices in 11 of the 13 countries.⁸ Only for Brazil and China are no short-run effects found. Furthermore, except for Japan, in none of the countries do short-run effects last into the long run. Even in the results for Japan, the long-run effect that was found is not supported by either of the two tests for cointegration.⁹

4 Summary and conclusion

A glance through the performance of the stock market in any country points to sharp drops during times of war, deep recessions, election periods, and more importantly during an uncertain environment. During other times, bad news usually hurts stock prices and good news boosts them. Are these adverse effects of different types of uncertainty on stock prices transitory or do they have long run implications?

⁸ Similar results are also reported by Ko and Lee (2015) who used Wavelet analysis and not error-correction modeling or cointegration.

⁹ The remaining statistics are similar to those of the multivariate models.

Table 7 Estimate of bivariate model where $\ln SP = F(\ln PU)$ only

Variables	Australia	Brazil	Canada	Chile	China	France	Germany	India	Japan	Korea	Netherlands	U.K.	U.S.A.
Panel A: Short Run Results													
$\Delta \ln SP_{t-1}$		0.04 (0.6)			0.04 (0.63)					0.06 (0.8)	0.12 (1.5)		
$\Delta \ln SP_{t-2}$		0.02 (0.3)			0.15 (2.4)**					-0.05 (0.7)	-0.11 (1.4)		
$\Delta \ln SP_{t-3}$		0.03 (0.5)								0.10 (1.5)	0.16 (2.1)**		
$\Delta \ln SP_{t-4}$		0.10 (1.8)*									0.15 (2.0)**		
$\Delta \ln SP_{t-5}$		0.10 (1.7)*											
$\Delta \ln SP_{t-6}$		-0.01 (0.1)											
$\Delta \ln SP_{t-7}$		0.14 (2.4)**											
$\Delta \ln PU_t$	-0.03(4.0)**	-0.001 (0.1)	-0.04 (5.6)**	-0.03 (2.6)**	-0.01 (1.2)	-0.02 (2.9)**	-0.04 (3.6)**	-0.06 (4.3)**	-0.02 (2.17)**	-0.04 (2.3)**	-0.03 (3.5)*	-0.04 (4.1)**	-0.08 (5.6)**
$\Delta \ln PU_{t-1}$	-0.02(2.1)**		-0.03 (3.7)**	-0.02 (2.1)**						-0.06 (2.8)**	0.01 (0.8)		-0.05 (3.2)**
$\Delta \ln PU_{t-2}$	0.01(1.1)									0.01 (0.7)	-0.03 (2.9)**		
$\Delta \ln PU_{t-3}$	0.01(1.4)									0.00 (0.2)			
$\Delta \ln PU_{t-4}$	-0.02(2.8)**									0.03 (1.6)			
$\Delta \ln PU_{t-5}$	0.01(1.8)*									-0.03 (1.6)			
$\Delta \ln PU_{t-6}$	-0.02(2.7)**												
$\Delta \ln PU_{t-7}$	0.01(1.7)*												
Panel B: Long Run Results													
$\ln PU$	-0.60 (1.1)	0.63 (1.6)	-0.76 (0.5)	-0.99 (1.1)	-0.57 (0.9)	-0.48 (1.0)	-0.83 (0.65)	-1.29 (1.1)	-0.94 (1.9)*	0.83 (1.3)	0.22 (0.5)	0.01 (0.1)	-0.21 (0.13)
Constant	11.28(4.5)**	7.5 (4.2)**	13.39 (1.7)*	13.03 (2.9)**	10.34 (3.3)**	10.58 (4.8)**	12.99 (2.1)**	16.08 (2.7)**	13.86 (6.1)**	3.5 (1.2)	4.98 (2.2)**	8.60 (15.2)**	8.84 (1.2)
Panel C: Diagnostic Statistics													
F	2.21	7.55**	0.93	2.29	2.67	1.76	1.89	4.75	2.58	2.73	2.71	2.34	1.38
ECM $t-1$	-0.01 (2.0)	-0.05(3.7)**	-0.004 (1.4)	-0.01 (2.2)	-0.02 (2.6)	-0.01 (1.8)	-0.009 (1.6)	-0.02 (3.1)*	-0.02 (2.7)	-0.02 (2.2)	-0.04 (2.4)	-0.04 (2.2)	-0.006 (1.7)
LM	0.92	1.62	1.13	0.42	3.07	1.27	0.22	0.27	0.57	1.70	1.60	0.02	0.06
RESET	0.26	6.71**	19.18**	0.35	0.52	7.71**	0.44	16.52**	0.002	0.34	5.94**	0.02	8.87**

Table 7 (continued)

Variables	Australia	Brazil	Canada	Chile	China	France	Germany	India	Japan	Korea	Netherlands	U.K.	U.S.A.
R bar Sq.	0.11	0.07	0.09	0.06	0.04	0.03	0.05	0.13	0.02	0.11	0.16	0.08	0.09
CS	S	S	S	S	S	S	S	U	S	S	S	S	S
CS ²	S	U	S	S	S	S	S	S	S	U	S	S	S

- a. Numbers inside the parentheses next to coefficient estimates are absolute value of t-ratios. *, **, indicate significance at the 10% and 5% levels respectively
- b. The upper bound critical value of the F-test for cointegration where there are one exogenous variable is 4.87 (5.73) at the 10% (5%) level of significance. These come from Pesaran et al. (2001, Table CI, Case III, p. 300)
- c. The critical value for significance of ECM_{t-1} is -2.92 (-3.22) at the 10% (5%) level when $k = 1$. These come from Pesaran et al. (2001, Table CII, Case III, p. 303)
- d. LM is the Lagrange Multiplier statistic to test for autocorrelation. It is distributed as χ^2 with 1 degree of freedom. The critical value is 3.84 (5%)
- e. RESET is Ramsey's test for misspecification. It is distributed as χ^2 with one degree of freedom. The critical value is 3.84 (5%)

In this paper we try to answer the above question by investigating the short-run and long-run effects of economic uncertainty on the stock prices in 13 countries. We use a comprehensive measure of policy uncertainty constructed by the Policy Uncertainty Group, based on the work of Baker et al. (2016). In constructing its uncertainty measure, the Group searches for words such as “policy”, “uncertainty”, “budget”, “tax”, “deficit”, “regulation”, and “spending” in as many newspapers as possible in each country and in each month. Policy uncertainty news is captured by including the word “uncertain” or “uncertainty” in all the searches. The Group then constructs a normalized index of the volume of news as a measure of policy uncertainty.

By using Pesaran et al.’s (2001) ARDL bounds testing approach to error-correction modeling and cointegration, which allows us to assess short-run and long-run effects, we find that in almost all 13 countries (Australia, Brazil, Canada, Chile, China, France, Germany, India, Japan, Korea, Netherlands, U.K., and the U.S.) for which we were able to find relevant data, policy uncertainty has significantly negative effects on stock prices in the short run, but not in the long run. These findings have important policy implications for investors and fund managers, such as the fact that they should not rush to sell when there is an uncertain event, because the effects will be short-lived. Rather, the sharp drop in the market could provide investors with a fruitful purchase opportunity.

APPENDIX

Variable Definitions and Data Source

Monthly data over the period January 1985–December 2016 are used to carry out the empirical analysis. They come from the following sources:

- a. Stock Prices Indices: Yahoo Finance (<http://finance.yahoo.com/stock-center/>)
- b. Economic Policy Uncertainty (http://www.policyuncertainty.com/us_monthly.html).
- c. IFS, International Financial Statistics of the IMF.
- d. OECD Statistical Database.
- e. FRED – Federal Reserve Economics Data, St. Louis Fed.
- f. Bank for International Settlements, (<http://www.bis.org/statistics/eer/index.htm>)

Variables:

SP = Stock Price Index of the country, source a.

PU = Policy Uncertainty Index, source b.

IPI = Industrial Production Index of the country (measure of economic activity), base year = 2010, source c.

CPI = Consumer Price Index of the country, base year = 2010, source c.

M2 = Nominal Money Supply. The data come from source c for all countries except the U.K. for which the data come from sources d and e.

EX: Nominal Effective Exchange Rate, source f.

Nominal GDP: Nominal Gross Domestic Product. Source c.

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