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POLITICAL RISK, POPULISM, AND THE ECONOMY

Political Risk, Populism and the Economy

Pierluigi Balduzzi, Emanuele Brancati, Marco Brianti and Fabio Schiantarelli*

Abstract

We study the financial and real effects of political risk shocks for Italy, Spain, Ireland, Portugal, and Greece between 2008 and 2019. We build an instrument for these shocks using the changes of the sovereign yield spread around political and policy dates and estimate their effects in the context of Local Projection. We show that adverse political risk shocks have negative effects on domestic financial markets and in some countries generate spillovers on the spreads of other euro-zone economies. Moreover, in Italy populism-related political risk shocks have a larger effect on financial markets and they harm the real economy.

Keywords: populism, political risk, sovereign debt, financial markets, yield spread

JEL Codes: E44, G10, H62, H63

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In the aftermath of the Lehman and sovereign debt crises, Eurozone countries experienced rich and varied political dynamics, with associated shifts in electoral fortunes as well as in the make-up and stability of governing coalitions. Some countries witnessed the weakening of more traditional pro-Europe political groups together with the rise of populist movements and parties. All these political changes generated shocks to the risks associated with budgetary policies, debt sustainability, and, in a few cases, the very prospect of a continued Euro membership.

The political and policy debate on how to respond to the two crises has been particularly consequential in those Eurozone countries that were more exposed to the risk of a sovereign default. The related discussion and disagreement highlighted the tension between the desire to use fiscal policy for countercyclical purposes and the discipline imposed by European institutions (and financial markets) to keep deficits and debt under control.

In this paper, we investigate the economic effects of political risk shocks during the 2008-2019 period for Italy, Spain, Ireland, Portugal, and Greece, countries for which debt sustainability was an issue of concern. Our objective is to provide an assessment of the significance and quantitative importance of such shocks for domestic financial markets, as well as of the spillover effects on other eurozone countries. Most importantly, we discuss the nature of political risk shocks at the time of populist ascendancy and test whether populism-related risk shocks have a greater impact on financial markets. Finally, we examine the effect of political risk shocks on the real economy and investigate whether populism-related shocks have a differential impact.

To identify and quantify the effects of political developments on the economy, we adopt the methodology discussed in Stock and Watson (2018), based on an instrumental variable strategy in the context of Local Projections (Jordà, 2005). For each country, we

instrument political risk shocks with a variable that equals the change of government bond spreads (relative to the German Bund) in a 24-hour window around a set of political or policy dates, and it is zero otherwise. We do so because changes in the spreads around our selected dates are informative about unobserved shocks concerning fiscal policy, government debt sustainability, and Euro membership. At the same time, the short time window makes it unlikely that our instrument is systematically correlated with other shocks that occur in the economy.¹

In defining our instruments, we select dates for elections, referenda, and the beginning and end of governments. We also include dates on which the budget law is introduced, later revised, and submitted to the European Commission for approval, or in which the government sends formal communications to the Commission concerning budget matters. On all those dates information is likely to be revealed about the direction or the degree of uncertainty in fiscal policy, the acceptance and compliance with the constraints imposed by European fiscal rules, as well as the prospects of a continued Euro membership. For countries that benefited from bailout programs, we also include the dates of their requests.

We use data at a daily frequency to evaluate the effect of a country-specific political risk shock on both domestic and foreign financial markets. Our results show that changes in a country's political risk always have a significant effect on the yield spread of its sovereign bonds. In Italy and Greece, such shocks account for a sizeable fraction of the forecast error variance. Moreover, in Italy and Portugal, domestic political risk shocks have significant spillover effects on the spreads of other countries. Finally, we find evidence of significant effects of political risk shocks on stock market indices for the entire economy and for the banking sector (in Italy, Spain, and Portugal).

¹In Section 2.3, we discuss in more detail the conditions under which our econometric strategy yields consistent estimates of the effects of political risk shock.

Our next and key objective is to investigate whether the effects of political risk shocks associated with populism differ from those of other types of political risk shocks. In doing this, we mainly focus on the ascendancy to power of populist movements in Italy, which culminated with the government formed by 5 Stelle and Lega.² We argue that the Italian experience represents the most informative and clean-cut experiment to assess the economic consequences of populism because it is the only example of a populist government in a country with weak credit fundamentals, but free from the need to deal with a previous sovereign default and with the restrictions associated with bailout packages, like Greece.

We use two different approaches to identify populism-related dates. The first one is narrative and allows for a structural break in the coefficient of political risk shocks for the period between March 2018, the date of the election that leads to the formation of the 5 Stelle-Lega coalition, and September 2019, the end of the populist government. Our results support the hypothesis that populism-related shocks have a greater effect than non-populism-related shocks, with the difference being significant at some horizons. In the second approach, instead, populism-related dates are those in which the yield spread on government bonds positively comoves with redenomination risk, as measured by the ISDA basis.³ Thus, an adverse populism-driven political risk shock should simultaneously increase the risk of default (captured by the yield spread) and the risk of that country exiting the Euro (captured by the ISDA basis). In the Italian case, the two approaches lead to the selection of a very similar set of dates, particularly when we strengthen the comovement criterion by requiring the change in the ISDA basis to be substantial. Our empirical analysis confirms that populism-related shocks tend

²The 5 Stelle was born as an anti-establishment protest movement, while the Lega is a centre-right party with strong anti-immigration and sovereignist characteristics.

³The ISDA basis is the difference between the CDS spread of the 2014-clause contract, which considers redenomination of government bonds in a new currency as a default event, and the CDS spread of the 2003-clause contract, that does not.

to have larger effects than other forms of political risk shocks. Note that if we apply the second approach to all the countries in our sample, we find significant differences at some horizons only for Italy.

Finally, we discuss why shocks that increase political risk are likely to have adverse effects on the real economy and present some evidence on this issue using the monthly Purchasing Managers Index (PMI). Our results show that political risk shocks have a robust and significant negative effect on the Italian economy while this effect is muted for other countries. Moreover, we find that the negative effect for Italy is mostly driven by populism-related shocks. This evidence is broadly in line with the differential effects of populism on financial markets. The lack of significant real effects for other euro-zone countries is likely due to a combination of factors which include weaker populist movements as well as the access to bailout packages that helped in a moment of crisis and constrained countries to more prudent fiscal policies. Finally, the monetary policy stance helped attenuate the real effects for all countries.

The structure of the paper is as follows: In Section 1, we discuss the relationship with the literature and highlight our contribution to the debate on the effect of political and policy risk. Section 2 describes our instrument for political risk shocks, presents the evolution of the yield spread, and discusses the econometric strategy. Section 3 presents the empirical results. The analysis on the differential effect of populism-related shocks is contained in Section 3.3 for the financial markets and in Section 3.4.3 for the real economy. Section 4 concludes the paper.

1. Related Literature

Our paper is related to several strands of the literature. To begin with, our contribution is linked to all those papers that analyse the relationship between political uncertainty

or political risk and financial markets.⁴ The distinguishing feature and novelty of our analysis is the focus on populism-related shocks and on whether their effects differ from those of other political risk shocks.

Of particular importance is Kelly *et al.* (2016), who document how equity options whose life includes the dates of global summits and national political elections are more expensive than options whose life does not, and then develop a model that can replicate this fact. We share the emphasis on high-frequency financial market fluctuations around political dates, but we differ in a key dimension. While their analysis focuses on the *ex-ante* effects of political uncertainty on the pricing of stock index options, before the resolution of uncertainty takes place, our paper focuses on the effects of such a resolution. Unlike the consequences on the ex-ante pricing of equity options, the ex-post effects of our political risk shocks on sovereign yield spreads can be either positive or negative, and they can reflect changes in both the first and second moments of the relevant risk-adjusted probability density function. We then consistently estimate the effects of political risk shocks on both financial markets and the real economy using Local Projection - Instrumental Variable (LP-IV).

Also close to our paper is Bahaj (2020) who focuses on the sovereign spreads (relative to Germany) of Italy, Spain, Portugal, and Ireland, but only during the Eurozone crisis period (July 2009–March 2013). He then employs local projections, using the intra-day changes in domestic yield spreads around the announcement of foreign political events as an instrument, to identify the effect on the domestic bond market of shocks that are orthogonal to a country’s fundamentals. He finds that the shocks have a significant and persistent effect on the cost of borrowing of the countries examined at a daily frequency, and on production and unemployment at a monthly frequency, using

⁴See, among others, Snowberg *et al.* (2007), Boutchkova *et al.* (2012), Goodell and Vähämaa (2013), Kelly *et al.* (2016), Çolak *et al.* (2017), Liu *et al.* (2017), and Bahaj (2020).

an instrumented Bayesian panel VAR approach. We differ from Bahaj (2020) over two main dimensions. First, our analysis also considers the period that follows the financial and sovereign debt crisis. This allows us to examine the role of populism in generating shocks and whether their effects differ from those of other political risk shocks. Second, the purpose of the two exercises is quite different, as we want to assess the effect of *internally generated* political risk shocks, while he focuses on the consequences of domestic bond-market shocks that are orthogonal to a country’s fundamentals.

Our paper is also related to those studies that analyse the effects of economic uncertainty shocks on real variables. Within this vast field, our contribution is more closely related to those papers that focus on the effects of political and economic policy uncertainty on the economy. For instance, Julio and Yook (2012) present cross-country evidence that there is a reduction in corporate investment during the year of national elections, while Jens (2017) documents a fall in investment before gubernatorial elections in the U.S.. They both show that the effect is stronger when elections are close, as the uncertainty in the outcome increases the value of a wait-and-see policy. Analogously to Kelly *et al.* (2016), they focus on the effects of the increase in ex-ante political uncertainty, while we focus on the effects of the outcome of political events. In addition, we differ from these two papers because of our focus on populism and also in the identification strategy.

Baker *et al.* (2016), instead, build a new economic policy uncertainty index for the US and other countries, applying textual analysis to national newspapers. They show that innovations in this index negatively correlate with current and future domestic economic activity.⁵ Azzimonti (2018) also uses textual analysis to build an index of

⁵See also Gulen and Ion (2016) and Brogaard and Detzel (2015) on the effect of EPU on corporate investment and excess market returns, respectively. Caldara *et al.* (2020) focus on the effect of trade policy uncertainty on investment, employing various proxies for uncertainty, including one based on newspaper coverage. See also Hassan *et al.* (2019) who construct a measure of political risk faced by

political disagreement and finds that it is negatively correlated with aggregate investment in the US. Both papers then estimate the dynamic effect of uncertainty using a Cholesky identification strategy where their measure is placed before financial and real variables. Differently from this last two papers, we do not start from textual analysis to construct our instrument for political risk shocks, but we use as an instrument the variation of the sovereign yield spread around important political and policy dates. Focusing on high-frequency changes around the selected dates allows us to identify the causal effects of political risk without having to rely on the ordering of our variable in the context of a Cholesky decomposition (see Section 2 for a description of the econometric methodology). Our focus on populism is the other defining difference.

In terms of methodology, our paper bears a clear relationship with those contributions that aim at identifying monetary policy shocks using high-frequency data. As a recent example, Gertler and Karadi (2015) use data on innovations in the federal fund futures price within a narrow window around Federal Open Market Committee (FOMC) communications as an external instrument in the context of a VAR.⁶

Finally, our analysis is related to papers that assess the possibility of contagion in financial markets across countries. Kremens (2022) and Cherubini (2019), for instance, start from the ISDA basis and develop more complex measures of redenomination risk for the period after the sovereign debt crisis. These two papers analyse the correlation between these measures of redenomination risk and sovereign bond yield or CDS spreads in Europe for the period 2014 onward. Other papers address the issue of

US firms analysing their quarterly earnings conference calls and analyse its effects on employment and investment.

⁶See also the earlier contribution by Kuttner (2001), as well as Rigobon and Sack (2004), and Campbell *et al.* (2012). Our methodology has some points of contact with the one used in papers that study the effect of fiscal policy (or regulatory policy) using external instruments based on a narrative approach in a VAR or Local Projections context, such as Fieldhouse *et al.* (2018) and Ramey and Zubairy (2018). See Alesina *et al.* (2017) and Alesina *et al.* (2019) for contributions that use a narrative approach to assess the effect of fiscal consolidations.

spillovers or contagion during the sovereign debt crisis and immediately after it. For instance, De Santis (2019) focuses on the difference in the spreads on the dollar- and euro-denominated 2003-clause CDS contracts (the “Quanto” spread) as a measure of redenomination risk. He presents evidence of its effects on financial variables in the context of a (FA)VAR in which the foreign redenomination risk is placed after the local Quanto spread. He concludes that Italy and Spain are less affected by spillovers, while France is significantly exposed to foreign redenomination risk shocks.

There is mixed evidence on the existence of spillover effects across countries and no evidence supporting spillovers from Italy to the financial markets of other euro-zone countries in the more recent period.⁷ Our finding of significant spillover effects of political risk shocks from Italy and Portugal to other countries, using instrumented Local Projections, is novel in this context.

2. Measuring Political Risk Shocks, Instrument Construction, and Estimation Approach

In this section, we describe how we estimate political risk shocks and identify their effects on financial and real variables. More precisely, we explain how to construct an instrument for such shocks that can then be used to consistently estimate their effect on the economy, using the Local Projections–Instrumental Variables (LP–IV) approach. The construction of the instrument is based on: i) the selection of dates around which there may be major changes in risk due to political and policy events; ii) the choice of a variable that best captures such changes. Regarding i), in Section

⁷See also Gómez-Puig and Sosvilla-Rivero (2016) who show that Granger-Causality tests suggest the presence of bidirectional causality in sovereign yield spreads over Germany in the euro area during a sample period that includes the inception of the European Monetary System as well the Lehman and the sovereign debt crises. Caporin *et al.* (2018), instead, find no evidence of contagion among euro-zone CDS spreads during the 2003–2006, November 2008–November 2011, and December 2011–December 2013 sample periods, using quantile regressions.

2.1 we describe the choice of the dates that best capture events in which information related to political and policy risk is revealed. Regarding ii), the ten-year yield spread on sovereign bonds relative to the German Bund neatly summarises concerns about fiscal policy, debt sustainability, and euro membership.⁸ As an instrument for political risk shocks, we, therefore, use a variable that is equal to the change in the closing value of the ten-year yield spread between the date of the chosen events and the previous day, and is zero otherwise. For robustness, we will also present results using the changes in the five-year yield spread and in various versions of the CDS spread on sovereign bonds. The advantage of the yield spread is its availability for the entire period (2008-2019) and for the complete set of countries we consider. In addition, the liquidity of the CDS market has greatly decreased after the end of 2012.

In section 2.2, we review the evolution of the spread for Italy, Spain, Ireland, Portugal, and Greece from 2008 to 2019 and focus on its behaviour around the selected dates. In Section 2.3, we summarise how our instrument is used in the context of the LP-IV approach to obtain consistent estimates of the effects of political risk shocks. See also Table A1 in Appendix A for variable definition and sources of the data used throughout the paper.

2.1. Choice of Events and Dates

Our analysis is centred on the period that includes the Lehman and sovereign debt crises and their aftermath because it is a time of intense and varied political changes. Such changes include shifts from traditional centre-left to centre-right governments and vice versa, as well as a relative weakening of traditional political parties and a

⁸A previous version of this paper, that focused only on Italy, used the change in the Italian CDS spread as an instrument for political risk. However, CDS spreads are not available for all countries during the entire sample: there was no open interest on the Greek contract after the March 2012 default until 2014. Moreover, the permanent EU ban on naked long positions in sovereign CDS contracts introduced in November of 2012 reduced the informativeness of CDS spreads.

strengthening of populist forces. In constructing our instrument for the unobserved political risk shocks, we focus on the dates: 1) of each country’s general and regional elections, and referenda on issues of relevance for economic policymaking; 2) of the appointment of a political leader to form a government and when a government comes to a premature end; 3) when the budget law is introduced, later revised, and then (from 2014) submitted to the European Commission for approval, as well as dates of the main formal communications from each country government to the European Commission concerning budget matters; 4) (for countries that benefited from bailout programs) when the request for such assistance programs was made, negotiated, or voted on.⁹ The change in the spread on political and policy dates captures the perceived change in political risk associated with budgetary and debt policies and their sustainability, as well as with the more general uncertainty associated with changes in the posture of each country’s government concerning the European Union and Euro membership.

Our methodology leads us to identify 62 dates for Italy, 38 for Spain, 44 for Ireland, 43 for Portugal, and 32 for Greece. In all cases, they represent a very small percentage of the total number of observations for each country (at most 2%). See Table B1 for a comprehensive list of the selected dates.

2.2. International Evidence on the Sovereign Yield Spread and Its Change on the Selected Dates

To set the stage we briefly review the evolution of the sovereign yield spreads from 2008 to 2019 for the countries in our sample (see Figure 1). A few well-known features stand

⁹The enhanced role of the European Commission is codified in the Fiscal Stability Treatise and the Two-Pack regulations that updated the Maastricht Treatise. As we want to focus on the consequences of political risk generated internally to each country, we do not include the dates of formal replies by the European Commission to the national governments or the dates of decisions on bailouts approval by the European Council of Ministers or by the IMF. Similarly, we do not include the dates of European elections because we do not want to confuse domestically generated political risk with political risk generated in other countries voting at the same time.

out. First, the upward movement of the spread during the sovereign debt crisis is much larger than the increase in the aftermath of the Lehman crisis. The spread reaches its peak in February 2011 and then decreases decisively from the summer of 2012, following Mario Draghi’s “Whatever it takes” statement, together with the outright purchases by the ECB of the bonds issued by the more exposed countries and the extension of ample liquidity to the banks through various programs. Second, the movement in the spreads for Greece dwarfs those for other countries. Large fluctuations in the spread occurred also for Portugal and Ireland, in that order, while those for Spain and Italy were much more contained. Greece required multiple bailout programs, but also Portugal, Ireland, and Spain were beneficiaries of such programs. In the more recent period, what stands out is the jump in the spread in Italy in correspondence with the formation of a populist government formed by the 5 Stelle and the Lega in 2018 (more on this later). This can be seen in the expanded quadrant that focuses on that episode, during which the spread for Italy jumped up and exceeded those for Portugal, Ireland, and Spain.

[Figure 1 approximately here]

We now zoom in on each country (see Figure 2) and report in a series of graphs the evolution of the spread (left axis) and the change in the spread on the selected dates only (right axis), which is our instrument. We do this to document that we observe substantial movements in the spread on our selected dates, which gives us some confidence that relevant information is revealed as a consequence of the events that occur on those days. The data suggest that both political events (elections, referenda, government formation, and dissolution) and policy events (budget-related communications, etc.) convey new information on shocks to political risk.

[Figure 2 approximately here]

Starting with Italy, it is interesting to note that the spread jumps up by 50 basis points the day after the elections in February 2013 that sees the 5 Stelle Movement as the first party. In the March 2018 elections, the joint success of the 5 Stelle and Lega provides the basis for the formation of a populist coalition government. In May of the same year, Giuseppe Conte receives the (second and eventually successful) mandate to form a government, and the spread increased by almost 30 basis points. This is likely to reflect concerns about the willingness of such a government to pursue fiscal policies within the limits of the Fiscal Stability Treatise and even the fear of a possible Italian exit from the Euro.

In Spain, one observes a large decrease in the spread in September 2011, when the end of the Socialist government of Jose Luis Zapatero is announced before the regular end of the legislative period. This decrease likely reflected the market sentiment that early elections represented the only path to a government that could address the multiple economic challenges faced by Spain during that period. The largest upward spike in the spread (approximately 30 basis points) occurs in June 2012, following the meeting on the conditions to be attached to the bailout program for Spanish banks. On this date, Mariano Rajoy reveals further information on the unfavourable economic conditions in which Spain finds itself.

In Ireland, the decrease in the spread in December 2010 is an example of the information revealed on budget dates. That budget law is the first one after an agreement is reached with the ECB, European Union, and IMF on the bailout package. It reassures the market that Ireland is on a course that will allow it to manage the banking issues that led to the bailout in a way consistent with the conditionality imposed by the agreements. In October 2014, the government reverses some of the austerity measures introduced during the bailout period. Although this happens in a better economic con-

text and after Ireland had returned successfully to the bond market in 2013, the tax cuts included in the budget raise concerns in the bond market.

In Portugal, a large decrease in the spread in October 2010 (almost 40 basis points) occurs on the date when the government presents a budget that includes large cuts in government spending and tax increases to reassure the markets. There is also a positive spike in the spread in February 2016, corresponding to the submission to parliament of the budget draft, despite the European Commission's request to modify it in the direction of tighter fiscal policy.¹⁰

Finally, in Greece, the movements of the spread reflect mostly the sudden stop and withdrawal of international financing, after years of heavy borrowing at low rates and persistent current account deficits. All this led to a sovereign default and multiple bailout packages that limited fiscal policy discretionality for most of our estimation period. This does not mean that political events played no role in the fluctuations of the spread. For instance, the January 2015 elections, won by the left-wing populist party Syriza that subsequently forms a government led by Alexis Tsipras, resulted in a 60-basis point increase in the spread. Even more importantly, the referendum called on the third bailout resulted in a rejection of the agreement that led to an enormous increase in the spread (more than 300 basis points). The eventual agreement and approval of the bailout by parliament a few days afterward, is followed by a decrease in the spread of more than 100 basis points.

In summary, the data presented in Figure 2 and the discussion of some representative dates for each country provide some *prima facie* evidence of the importance of political and policy events as drivers of yield spread fluctuations and of the plausibility

¹⁰There is a large spike (roughly 30 basis points) in October 2014 in correspondence to the submission of the Draft Budgetary Plan to the European Commission. The reason for the spikes is not entirely clear. It may reflect the combination of a generalised market concern (Greece, slowing general growth) and of higher deficits relative to the target for that year (4.8% vs. 4.0%) and the following (2.7% vs. 2.5%).

of using such changes on the selected dates to derive an instrument for the unobserved political risk shocks. In the next subsection, we will discuss in more detail the conditions under which their use in the context of the LP-IV approach allows us to estimate consistently the effect of political risk on the economy.

2.3. Econometric Methodology

Our analysis relies on the LP-IV estimator to assess the effect of political risk shocks on financial markets and the real economy. More precisely, under the assumption of linearity and stationarity, the dynamic effect of political risk shock $\varepsilon_{1,t}$ on variable $Y_{i,t}$ is the population coefficient $\Theta_{1,h}^i$ in the regression:

$$Y_{i,t+h} = \Theta_{1,h}^i \varepsilon_{1,t} + u_{1,t+h}^i. \quad (1)$$

Because we can only observe an instrument Z_t for the shock $\varepsilon_{1,t}$ and not the shock itself, we estimate $\Theta_{1,h}^i$ via LP-IV with a normalization assumption. More specifically, we assume that a unit increase in $\varepsilon_{1,t}$ generates a unit increase in $Y_{1,t}$ ($\Theta_{1,0}^1 = 1$), defined from now on as the indicator variable. In our case, we assume that a change in political risk of a given country leads to a one-for-one change in its sovereign yield spread, our indicator variable. Moreover, we add a set of control variables to Equation (1) to make certain that the conditions that assure its validity are satisfied. Thus, we can write,

$$Y_{i,t+h} = \Theta_{1,h}^i Y_{1,t} + \delta' \mathbf{w}_t + u_{1,t+h}^{i\perp} \quad (2)$$

where $\mathbf{w}_t$ is a vector of contemporaneous and lagged controls, and $x_t^\perp = x_t - Proj(x_t | \mathbf{w}_t)$.

Following Stock and Watson (2018), Z_t is a valid instrument if it satisfies: i) relevance [$E(\varepsilon_{1,t}^\perp Z_t^\perp) = \beta \neq 0$], ii) contemporaneous exogeneity [$E(\varepsilon_{2:n,t}^\perp Z_t^\perp) = 0$], and

iii) lead-lag exogeneity [$E(\varepsilon_{t+j}^\perp Z_t^\perp) = 0$ for $j \neq 0$]. The relevance condition requires our instrument Z_t to be informative of the unobservable political risk shocks $\varepsilon_{1,t}$. This should be the case as changes in the domestic yield spread capture the perceived risk associated with the budgetary policies, debt sustainability, and euro membership. The contemporaneous exogeneity requires our instrument Z_t to be contemporaneously uncorrelated with the other shocks driving the economy $\varepsilon_{2:n,t}$. This condition is likely to hold given the narrow window around our selected dates employed in the construction of the instrument and the set of contemporaneous controls contained in $\mathbf{w}_t$. Finally, the lead-lag exogeneity requires the instrument to be uncorrelated with the lead and lags of itself and the other shocks in the economy. In this case, the requirement that Z_t is uncorrelated with future realizations of ε is automatically satisfied when Z_t contains only variables realised at date t or earlier since future shocks cannot be forecasted by definition. The condition that Z_t is uncorrelated with past ε , instead, is restrictive and it requires Z_t to be unpredictable. The inclusion of lagged variables in $\mathbf{w}_t$ increases the likelihood that this condition is satisfied.

Equation 2 can be rewritten as $Y_{i,t+h}^\perp = \Theta_{1,h}^i Y_{1,t}^\perp + u_{1,t+h}^{i\perp}$ and, under the assumption that conditions i) to iii) hold, $\Theta_{1,h}^i$ can be estimated following standard IV procedures:

$$\Theta_{1,h}^i = (E(Y_{i,t+h}^\perp Z_t^\perp)) / (E(Y_{1t}^\perp Z_t^\perp)). \quad (3)$$

As dependent variables $Y_{i,t+h}$, we use the sovereign yield spreads relative to the German Bund and domestic stock market indexes for the entire economy as well as for the banking sector. $\mathbf{w}_t$ is a vector of controls that includes: 1) past realizations of Z_t and Y_t (more precisely, the dependent variables for all countries); 2) contemporaneous and lagged values of the log-change in the Euro Stoxx 50 as well as of its implied volatility; 3) contemporaneous and lagged values of the first principal component of

the change in the yield spreads including all euro countries without the most recent additions.¹¹ In the baseline specification, we use five lags (one week) of the variables in $\mathbf{w}_t$. In Section D of the Online Appendix, we show that our results are robust to the use of 22 lags (one month).

We include the contemporaneous value of the last two sets of variables to control for the inter-dependencies among financial markets generated by global factors and to enhance the plausibility of the contemporaneous exogeneity assumption. Note that this identification strategy allows for populist parties, other political actors, and for voters to take into account the past evolution of financial markets when making their choices. What matters is that the unpredictable component of the daily change in the yield spread on our selected dates, given our controls, is not affecting their choices on the same date. This is a plausible assumption because it is unlikely that political actors abruptly change their choices based on the contemporaneous daily change in financial variables.¹²

3. Effects on Financial Markets and the Real Economy

In this section, we discuss the effects of political risk shocks on financial variables in Italy, Spain, Ireland, Portugal, and Greece. As outcome variables, we focus on sovereign bond yield spreads, overall stock market valuations, and banks' stock market

¹¹Specifically, we extract the first principal component of the change in the yield spreads of Italy, Spain, Ireland, Portugal, Greece, France, Austria, Belgium, Denmark, The Netherlands, Sweden, and Finland.

¹²Some recent contributions discuss the origins of the rise of populism in Western democracies and evaluate the relative importance of economic and cultural factors (see Margalit, 2019; Colantone and Stanig, 2019; Guriev and Papaioannou, 2022 for reviews). Although there are different opinions on the causes of the growth of populism, there is broad agreement that the economic or cultural dissatisfaction is the result of medium- or long-term factors. Note that in all specifications, we control for drifts in our variables by including a constant in the equation in differences (or detrending the real outcome variables). Having accounted for trend movements and additional controls, high-frequency changes in the spread in a narrow window around our selected dates can plausibly be assumed to be uncorrelated with contemporaneous or lagged values of the other shocks driving the economy.

valuations. In Section 3.1 we provide evidence on the response of domestic financial variables, as well as on the existence of spillover effects on the financial markets of the other countries in the sample. Section 3.2 contains a placebo test and robustness exercises. We then investigate in Section 3.3 whether political risk shocks have different effects when populist parties are stronger. We finally discuss in Section 3.4 whether political risk shocks affect indicators of real economic activity at a monthly frequency.

3.1. Effects on Financial Markets

Figure 3 presents the impulse response functions to a political risk shock for domestic and international sovereign bond yield spreads. Each row corresponds to the country where the political risk shock is originating (Italy, Spain, Ireland, Portugal, and Greece) and each column corresponds to the affected country.

[Figure 3 approximately here]

The relevance of our instrument is confirmed by the first-stage regressions. When using the changes in the bond yield spread as the indicator variable and its value on selected dates as the instrument, the coefficient on our instrument is positive and highly significant with a t-statistic which is always around eight. Note that a t-static around eight implies an F-test of about 64 which far exceeds the rule-of-thumb threshold of 10 typically used for evaluating the power of the instrument (Staiger and Stock, 1997).

The first key result (reported along the main diagonal) is that there is a clear significant and persistent increase in the spread due to domestic political risk shocks in Italy, Spain, and Portugal. Figure 3 shows that for these three countries the effect of a political risk shock that increases the domestic sovereign yield spread by one basis point on impact builds up to 1.5-2.0 basis points after four/five days. We find signif-

icant effects also for Greece, although they are less persistent. Finally, the statistical significance of the impulse responses quickly vanishes for Ireland.

The second key set of results is that there are sizeable spillover effects for some countries. More specifically, political risk shocks in Italy generate a significant increase in the spread in Portugal, with smaller and less precisely estimated effects in Ireland and Spain. Portuguese political risk shocks are important for Italy, Spain, and Ireland. On the other hand, while the Greek crisis clearly had negative spillover effects in other countries, political risk shocks do not appear to be the source of such a spillover.¹³

In Table 1 we report the share of forecast error variance explained by domestic political risk shocks at different horizons (on the 1st and 5th day) for both the ten-year and five-year yield spread. We do this for the entire period and for the sub-period from the second half of 2014 onward, by which time the sovereign debt crisis had been brought under control in all countries but Greece (the impulse response functions underlying the forecast variance decomposition are in Figures D8 and D9 of the Online Appendix).

[Table 1 approximately here]

The results for the ten-year yield spread suggest that political risk shocks were not a large source of daily fluctuations in the spread over the entire period. This should not be surprising given the frequency and the importance of other shocks during the financial and sovereign debt crisis. Moreover, note that the figures in Table 1 can be interpreted as a lower bound for the fraction of the forecast error variance explained by political risk shocks because we do not observe the true shocks.¹⁴ Yet, for some

¹³As an additional exercise, we have also included Cyprus in our analysis. Data on the ten-year sovereign yield spread are available only from November 2015 onward. Our results show that political risk shocks in Cyprus significantly increase only the domestic and Greek yield spread (the latter at the four and five days horizons). Political shocks in other countries do not affect Cyprus, except for Portugal, but only at the 10% significance level on day one (see Table G1 and Figure G1 of the Online Appendix).

¹⁴Note that we have a multiplicity of selected dates on which learning takes place about political risk: in addition to those of election and government formation, we also include dates in which new

countries, the role is not negligible either: for instance, they explain around 2% of the variance in Italy and 6% in Greece. When we focus on the post sovereign debt crisis period the fraction of the explained variance increases substantially: it becomes 6-9% in Italy and between 13% and 29% in Greece. We document increases also for the other countries in the sample.

When we concentrate on the five-year sovereign yield spread over the entire period, political risk shocks account for a larger fraction of the forecast error variance in some countries like Italy, but this is not true for other countries, especially Greece. Focusing on the second part of the sample for the five-year spread, we observe an increase in the fraction of explained forecast error variance in most cases.

In Figure 4 we report the impulse response functions of the stock market index (in logs) in each country to a domestic political risk shock that increases the country yield spread by one basis point. We use the FTSE MIB for Italy, the IBEX 35 for Spain, the ISEQ 20 for Ireland, the PSI-20 for Portugal, and the Athex 20 for Greece. We find a negative and statistically significant effect on the stock market in Italy, Spain, and Portugal. The effects are also economically meaningful. For example, a Spanish political risk shock that increases the yield spread by six basis points (the average change of the spread in absolute value on the selected dates) generates a cumulated drop in the IBEX 35 of almost 2%. The negative effects for Portugal and Italy are smaller but non-negligible.¹⁵ The spillover effects on the stock market of other countries are

information is released about the budget. If the learning process takes place on dates we do not consider, then we only capture a subset of the political risk shocks. This does not affect the consistency of our estimates of the impulse responses, but it implies that our estimate of the variance decomposition represents a lower bound of the true contribution of political risk shocks (see Plagborg-Møller and Wolf, 2022).

¹⁵The average change of the spread in absolute value on the selected dates is around six also for these two countries.

mostly not significant. For these three countries, moreover, there is also a negative and significant effect on the sub-index including only banks' stock market valuations.¹⁶

[Figure 4 approximately here]

3.2. Placebo Test and Robustness

The identification strategy implicitly assumes that, conditionally on the set of controls, there is no other shock in a narrow window around our selected dates that is systematically correlated with our instrument. In this section, we make certain that our findings are not driven by other background shocks we do not control for. For this purpose, we conduct a placebo test in which we apply our procedure to a randomly-selected set of dates.¹⁷ The results for both the yield spreads and the stock price indices are reported in Figures C1 and C2 of the Online Appendix. It is comforting to see that both 90th and 95th confidence intervals include the zero of the impulse response functions for all the variables, except for the impact effect on the domestic yield spread. Note, however, that the yield is our indicator variable and by construction its coefficient on impact is normalised to be one. Therefore, this finding is neither surprising nor worrisome. In sum, the placebo test suggests that our results are not driven by background shocks we do not control for.

We also performed several additional exercises to assess the robustness of our results (see Figures D1-D7 and D10 of the Online Appendix). First of all, we adopt alternative

¹⁶Adverse effects on stock markets may reflect worsening expectations about future cash flows and/or an increase in the discount rates. In any case, all this raises concern about firms' investment and hiring plans. The adverse effects on banks' stock market valuations, moreover, may be associated with worsening credit supply conditions which can impact negatively firms' factor demand and consumer spending.

¹⁷The number of dates selected in the placebo is set equal the number of dates in our original set. We repeat this procedure 2000 times and present the 2.5th (5th) and 97.5 (95th) percentile for the impulse response functions obtained using the change of the yield spread on the randomly selected dates as an external instrument in our LP-IV exercise.

criteria for selecting the dates used in the construction of our instruments. Although the narrow-window identification should address any endogeneity issue, we further assuage such concerns by using only predetermined dates. Even if we exclude political elections and government changes that occur outside the “normal” cycle, dates of the letters sent to the European Commission, as well as the bailout dates, our conclusions are virtually unchanged. Moreover, we investigate whether our results hold if we only keep dates for strictly political events. If we only use dates for elections and referenda, while dropping all those related to budget matters and bailouts, we obtain comparable results for Italy, Spain, Ireland, and Greece (results for Portugal become less significant). Finally, we exclude those dates that fall within a two-sided window of three days around events in other countries. We do so to make sure that the estimated spillover effects of domestic political risk are not driven by shocks occurring in other countries at the same time. Results are, once again, in line with those presented so far.

As additional exercises, we augment our specification with 22 lags (one month) of our set of controls, instead of five, which allows us to better control for a potential serial correlation of the instrument. Moreover, we employ the 2003-clause or the 2014-clause CDS spreads as alternative dependent variables and instruments (see Figures E1 and E2 of the Online Appendix).¹⁸ In all cases, our results are unaltered. Furthermore, we employed a coarser instrument taking the value of one if the change in the domestic sovereign yield spread on the selected dates is positive, minus one if negative, and zero otherwise. The results are fairly in line with those of our baseline model, but, not surprisingly, the spillover effects are somewhat less precisely estimated because we are not taking into account of the size of the shock. Finally, we also estimate the baseline specification using a SVAR-IV model instead of IV-LP. We estimate a VAR(5), where

¹⁸See the next section for a discussion on the two types of CDS contracts.

in the system we include also all the variables contained in $\mathbf{w}_t$. The impact effect of a political risk shock is estimated using the methodology of Stock and Watson (2018) while controlling for the set of contemporaneous variables in $\mathbf{w}_t$. Our main conclusions remain largely unaffected.

3.3. Populism-Driven Political Risk and Financial Markets

Do populism-related political risk shocks have more powerful effects compared to those generated by shocks unrelated to populism? In addressing this question we focus mostly (but not exclusively) on Italy as it is the only example in which the rise of populism results in the formation of a government in a country free from the need of dealing with a previous sovereign default and with the restrictions associated with bailout packages (like Greece).¹⁹ Populist forces in Italy were pushing for expansionary policies, beyond the limits imposed by the European fiscal rules. Moreover, they were questioning the very membership of Italy in the Euro (this was particularly true for the Lega party). Such policies raised serious concerns also in light of Italy's high debt-to-GDP ratio (second highest after Greece) and the disappointing growth experienced in the last 20 years.

To test for the differential effect of populism-related shocks, we define an indicator variable POP_t which equals one on dates mostly associated with populism and equals zero otherwise. We then estimate the following model:

$$Y_{i,t+h} = \Theta_{NP,h}^i Y_{1,t} + \Delta_{\Theta,h}^i (POP_t \times Y_{1,t}) + \delta' \mathbf{w}_t + u_{1,t+h}^{i\perp} \quad (4)$$

¹⁹Populist forces are also present in Portugal and Spain, but they did not reach the level of popular support or influence they did in Italy or Greece. However, they had some influence, at times, on government policies as outside supporters of the government (the Left Block, Portuguese Communist Party, and Ecologist Party in the 2015 centre-left Costa's minority government in Portugal) or as junior coalition partners (Podemos in the 2019 centre-left Sanchez government in Spain, at the end of our sample period). Note, moreover, that in our sample populist forces outside Italy were less anti-European and nationalistic.

where we use Z_t and its interaction with POP_t as instruments for $Y_{1,t}$ and $POP_t \times Y_{1,t}$. $\Theta_{NP,h}^i$ denotes the effect on non-populism-related shocks, and $\Delta_{\Theta,h}^i$ the differential effect of populism-related shocks. The main objective of this analysis is to test whether $\Delta_{\Theta,h}^i$ is significantly greater than zero.

To identify populism-related political events, we employ two different procedures. A narrative-based approach allows the coefficients to differ in the period of greater populist strength. Although the 5 Stelle movement had a strong showing in 2013, this did not prevent a coalition of more traditional parties to form a succession of governments. It is only after the March 2018 election results that the 5 Stelle and the Lega are in a position to form a coalition government, in June of the same year, that lasts until September 2019. During these 18 months, the spread fluctuates more wildly and was on average 150 basis points higher than in the period between the end of the sovereign debt crisis and the 2018 elections (see the zoom-in insert in Figure 1).

Focusing on Figure 2, one observes indeed large positive and negative spikes. Note that the positive spikes usually occur on dates that capture the populist rise or announcements about fiscal policy, while some of the negative ones reflect the moderating influence of the Italian president Sergio Mattarella, who has the constitutional power of choosing a candidate prime minister and must sign off on cabinet members (the government then has to be approved by parliament). For instance, financial markets welcomed Mattarella's refusal to approve Paolo Savona, a proponent of the Italian exit from the Euro, as economic minister. Note, however, that on balance increases dominate decreases in the yield spread resulting in the substantial increase in the spread we have already described.

Using this approach, the indicator variable POP_t selects 15 dates between March 2018 and September 2019 out of 62 total event dates. The estimated impulse response

functions to non-populism shocks ($\hat{\Theta}_{NP,h}^i$), populism shocks ($\hat{\Theta}_{NP,h}^i + \hat{\Delta}_{\Theta,h}^i$), and their differences ($\hat{\Delta}_{\Theta,h}^i$) are shown in Figure 5. The graphs suggest that the responses of the yield spread on impact are remarkably similar, but then the effect for the period of maximum populism strength tends to build up and becomes roughly twice as large compared to those estimated for the rest of the period. Moreover, at some horizons, one can reject the hypothesis that the impulse response functions are equal in the two sub-periods.²⁰

[Figure 5 approximately here]

The second approach does not rely on the narrative of the political changes in Italy but rather on the sign (and strength) of the correlation between changes in sovereign yield spread and changes in an indicator of redenomination risk. In principle, this approach can be employed for all the countries in our sample. In this case, we define POP_t to be equal to one, if the daily change in sovereign yield spread positively comoves with the daily change in the domestic redenomination risk indicator, and zero, otherwise. We measure redenomination risk using the ISDA basis, defined as the difference between the spread on the 2014-clause euro-denominated CDS contract for sovereign bonds (that considers the redenomination of debt obligations in a new national currency as a default event) and the spread on the 2003-clause euro-denominated CDS contract (that does not). Then, the interaction variable $Z_t \times POP_t$ equals the daily change in the domestic yield spread if a political event occurs when the ISDA basis is moving in the same direction as the yield spread, and zero otherwise. This approach is based on the idea that populist parties are the ones more prone to question the European rules

²⁰Again, the results for this sub-period are robust to the inclusion of 22 lags, instead of five. The use of a rich lagged structure for the instrument (and of the other variables in $\mathbf{w}_t$) addresses concerns due to the potentially serially-correlated nature of changes in the yield spread and their bunching in particular sub-periods (see Stock and Watson, 2018, p.926).

and the continuation of euro membership. This implies that we identify as populism-related those shocks in which financial markets perceive both an increase in the risk of government default (captured by the change in sovereign yield spread) and an increase in the risk of leaving the Euro (captured by the change in ISDA basis). We also experiment with strengthening the selection criteria by requiring that the change in the ISDA basis, in absolute terms or relative to the change in the yield spread, is above its median value. The identification of populism-related dates based on the ISDA basis can only be applied after September 2014, when both CDS contracts become available. Note, however, that this does not represent a limitation because it is only after the sovereign debt crisis that populist forces gained strength. On a different note, since this approach identifies an event as populism-related if the political risk shock is also associated with an increase in the risk of leaving a monetary union, this method is not suitable to identify populism-related shocks in the case of the U.S. or the U.K.²¹

When we use the second approach, there is a substantial overlap of the selected dates with those resulting from the first “narrative” approach, particularly when we require the comovement to be substantial, cross-validating both methodologies. Table 2 provides resulting point estimates for the difference in the estimated impulse response functions for the populism-related and non-populism-related shocks ($\hat{\Delta}_{\Theta,h}^i$) together with the p-value of a one-sided test ($H_0 : \Delta_{\Theta,h}^i \leq 0$ versus $H_1 : \Delta_{\Theta,h}^i > 0$). Also in this case, the p-values reject the null hypothesis at some horizons, strengthening the conclusion that the Italian populism-related shocks have a greater impact on the yield spread. When we apply the second approach to the selection of populism-related dates in the other countries, our results do not support the existence of a significant differential effect on populism-related dates (see Tables F1-F3 of the Online Appendix).

²¹Note that the ISDA basis is negligible for the U.S. and the U.K. (around 3 and 2 basis points, respectively) and with very low variance.

This is not surprising as populist movements and parties in Spain, Ireland, and Portugal were weaker, while in Greece their actions were limited by the constraints imposed by the bailout program.²²

[Table 2 approximately here]

3.4. Real Effects

The results of the previous section highlight the importance of political risk shocks for financial variable fluctuations. We now discuss how risk shocks may be transmitted to the real economy and present some evidence about their effect on real variables at a monthly frequency.

3.4.1. Why Political Risk Matters

Political risk shocks can have an adverse effect on the real economy through several channels. First, a rise in the cost of borrowing for the government puts public finances under stress and requires a higher primary surplus to comply with the European fiscal rules. Second, the rise in sovereign yields and the associated fall in bond prices can hurt banks' balance sheets as they hold substantial amounts of sovereign debt in their portfolios.²³ The worsening quality of banks' security portfolios will be reflected in their financial market valuations and lead to an increase in their cost of funding. Moreover, if access to non-deposit funding is conditional on the posting of collateral (as in the repo

²²There is only one exception. When we use the dates in which the change in the redenomination risk is above the median in absolute terms, $\hat{\Delta}_{\Theta,h}^i$ for Portugal is significant at some horizons. However, this result must be taken with a grain of salt because it is based on only four selected dates.

²³Italian banks in 2013 had the highest share of domestic government bonds over total assets compared to all other Euro countries (9%) and had the second highest home bias (97% of total government bonds held by banks were issued by the Italian government). The impact of a fall in the market value of sovereign bonds on banks' balance sheets depends on whether they are marked to market (which, in turn, depends on whether they are classified as trading securities, securities available for sale, or securities held to maturity) and on the changing accounting treatment of each category.

market), the decrease in the market value of government bonds may affect access to such sources. The worsening in banks' funding conditions may, in turn, impact client firms' cost and availability of credit. The strength of this cost-of-funding effect will depend upon the stance of monetary policy and the health of banks' balance sheets.

Third, an increase in policy, political, or other forms of uncertainty can have a negative effect on aggregate demand through various channels. To start with, a second-moment shock is associated with an increase in risk premia that raise the cost of finance because the lender must be compensated for the greater risk and the increased probability of default (e.g., Gilchrist *et al.*, 2014). Moreover, greater uncertainty in the presence of non-convex adjustment costs or irreversibility leads to the postponement of investment decisions. Finally, even without non-convexities and irreversibility, an increase in uncertainty can lead to a fall in output in general equilibrium in models with counter-cyclical mark-ups because of a fall in consumption due to a precautionary saving motive.²⁴

3.4.2. Results on Real Effects

To test whether policy and institutional risk affect real variables we use the same LP-IV procedure employed so far. As the endogenous variable, we use first the difference in the log-transformation of the monthly Markit Purchasing Managers' Index (PMI) in the manufacturing sector for the countries for which it is available: Italy, Spain, Ireland, and Greece.²⁵ Our instrument at the monthly frequency is the cumulated value over the month of the residuals of a regression of our instrument on the set of controls $\mathbf{w}_t$, at a daily frequency. Finally, we normalise impulse responses so that a unit change in

²⁴Even if there is an increase in precautionary labour supply, the increase in the markup can shift labour demand inward enough to generate a fall in hours worked, output, and investment in equilibrium, in addition to the fall in consumption (see, for example, Basu and Bundick, 2017).

²⁵See Section A of the Online Appendix for a description on how the PMI is constructed.

political risk has a unit impact on the average sovereign yield spread over the month, our indicator variable. Results are reported in Figure 6.

[Figure 6 approximately here]

Our findings suggest that political risk shocks have a significant negative effect on real activity in Italy, while this is not the case for other countries. The existence of rescue packages for all countries but Italy, and the associated constraints on fiscal policy, is a possible explanation for this result. The expansionary stance of monetary policy over most of the period is also likely to have contributed to cushioning the real effects of political risk.

Focusing on Italy, we conduct a set of robustness exercises. Since the PMI may not follow a random walk process, taking the first differences is not necessarily the best option. We present, therefore, LP-IV estimates using four additional specifications that: i) use levels, ii) allow for a linear trend, and iii) allow for a quadratic trend. Figure 7 presents these results. In all cases, there is evidence of a significant negative effect of political risk shocks on the PMI. This result is robust to the inclusion of the contemporaneous value and three lags of the German PMI, as well as three lags of the Italian PMI and the yield spread.

[Figure 7 approximately here]

3.4.3. Populism-Driven Political Risk and the Real Economy

In order to uncover the differential effect of populism-related political risk on manufacturing economic activity we adopt the strategy used in Equation 4. We continue to use the two approaches described in Section 3.3 to identify populism-related dates.

Using the narrative approach, we first identify as populism-related shocks those between February 2013 and September 2019. February 2013 is the date of the first substantial electoral success of the 5 Stelle Movement.²⁶ September 2019 is when the 5 Stelle-Lega government falls and it is replaced by a more moderate centre-left coalition that includes the 5 Stelle and the Partito Democratico. Alternatively, we classify as populism-related shocks, those that occur in a month with at least one populism-related shocks identified at a daily frequency with the redenomination-based approach.²⁷ Note that zero is the median of the distribution of the number of populism-driven dates using such an approach.

Figure 8 shows the differential effect of populism-related shocks in Italy, using the narrative approach (first row) and redenomination-based approach (second row) for the first-difference specification. In the first column, we show the baseline specification with the effect of political risk over the entire 2008-2020 sample (first row) and the 2014-2020 sample (second row). Recall that the ISDA basis is available only from the end of September 2014. In the second and third columns, we show the effect of populism-related shocks and non-populism shocks, respectively.

[Figure 8 approximately here]

In both cases, the overall significance for the PMI of political-risk shocks is entirely due to the populism-related shocks (see Column 1 and 2). Note that in non-populism related dates, the impulse responses are never significantly different from zero (see Column 3). This emphasises the importance of populism-related shocks not only for

²⁶At a monthly frequency, we use February 2013 and not March 2018 (as we did at a daily frequency in Section 3.3) because in the latter case we do not have enough dates to estimate the differential effect of populism.

²⁷The results are robust to using the sign of the correlation, augmented or not by the requirement that the change of the ISDA basis must be sizeable. See the note to Table 2 for details of the identification at a daily frequency.

the financial markets but also for the real economy. However, the difference in the impulse responses for populism-related and non-populism-related political risk shocks is never significant, possibly because of the imprecision of the estimates of the latter.

The forecast errors variance decomposition analysis reported in Table 3 indicates that, for the whole sample, Italian political risk shocks explain around 9% of the variance at a three-month horizon. If we focus on the sub-sample after the first electoral success of the 5 Stelle movement (February 2013 – September 2019), the variance explained by Italian political risk shocks becomes more than 12% over the same horizon.

[Table 3 approximately here]

Although economically meaningful, the negative effects in Italy were not as large as one might have feared. There are several possible explanations for this. First, the institutional constraints worked: the European Commission played a useful role in putting a break on fiscal policies that generated an expansion of the deficit and the Italian President Mattarella succeeded in keeping the more extreme anti-European components of the populist coalition in check. Second, the bank cost-of-funding transmission channel was relatively muted after 2012 because of the accommodating stance of monetary policy and the improvement in banks' balance-sheet positions. Monetary policy was indeed characterised by low and even negative policy rates, a large asset purchase program, and the provision of ample liquidity to the banking sector. Moreover, banks' balance sheets improved after the sovereign debt crisis because of recapitalization exercises and the reduction in the share of non-performing loans.²⁸ All this suggests that the cost-of-funding channel was weaker in this period compared to the preceding period. This

²⁸The policies of the centre-left Renzi Government contributed to the reduction of non-performing loans by making the tax treatment associated with the resulting losses more favourable, by reforming the judicial procedures to make insolvency and collateral recovery procedures more efficient, and by providing credit guarantees to favour the securitization of bad loans.

is confirmed by the fact that borrowing rates did not increase much and remained at a moderate level in the second half of 2018 and the first half of 2019.²⁹

4. Conclusions

The political evolution and changes in Italy, Spain, Portugal, Ireland, and Greece between 2008 and 2019 have allowed us to investigate the role of political risk shocks in countries for which there are legitimate concerns about debt sustainability, the respect for European fiscal rules, and about Euro membership. The evidence for sovereign yield spread and stock market indices suggests that political risk shocks have in many countries a significant effect on the domestic financial markets. There are also, in some cases (such as Italy and Portugal), spillover effects on the financial markets of other countries. Moreover, for Italy, there is evidence that adverse political risk shocks have a negative effect on the real economy.

The political changes that occurred during and particularly after the financial and sovereign debt crisis included the ascendancy in some countries of populist forces that challenged the European fiscal rules, as well as Euro membership. In two countries, Italy and Greece, their electoral success allowed those forces to form a government for a time. While in Greece their accession to the government occurred after the country's default and in the context of the renegotiation of bailout packages and associated restrictions, Italy never required a country-specific bailout and maintained greater fiscal policy discretionality. Yet, the high level of debt and the weak performance of the Italian economy, together with the presence of anti-European forces within the ruling

²⁹By contrast, Balduzzi *et al.* (2018) provide firm-level evidence that fluctuations in the sovereign CDS spread affected firms' investment and employment decisions through their effects on the banks' cost of funding, during the financial and sovereign debt crises and before the "Whatever it takes" speech by Mario Draghi. The decrease in employment and investment characterises particularly small firms and is large from an aggregate point of view.

populist coalition generated justified concerns about fiscal stability, debt sustainability, and Euro membership. In sum, Italy has provided us with a cleaner setting to evaluate the populist experiment. We have shown that in Italy populism-related political risk shocks had a larger effect than non-populism-related political risk shocks on sovereign yield spreads. The real effects are also stronger when they are associated with populism. Finally, we argue that the negative economic consequences, although sizeable, were moderated by the policies of the European Central Bank, and by the role played by the European Commission and the Italian Presidency.

Appendix A. Data

Table A1
Variable Definition and Data Sources

Variable name	Definition and source
Country bond-Bund spread 10 years	Bond-Bund Spread computed as the difference between yield on 10-year Italian, Spanish, Irish, Portuguese, and Greek treasury bonds, Bloomberg, daily frequency.
First PC of the yield spreads	First principal component of the change in the daily change of the yield spreads of Italy, Spain, Ireland, Portugal, Greece, France, Austria, Belgium, Denmark, The Netherlands, Sweden, and Finland, Bloomberg, daily frequency.
Euro Stoxx	EURO STOXX 50, stock index of Eurozone stocks designed by STOXX (index provider owned by Deutsche Börse Group), Bloomberg, daily frequency.
Implied Volatility of Euro Stoxx	30-days implied volatility of EURO STOXX 50 index, Bloomberg, daily frequency.
Country bond-Bund spread 5 years	Bond-Bund Spread computed as the difference between yield on 5-year Italian, Spanish, Irish, Portuguese, and Greek treasury bonds, Bloomberg, daily frequency.
FTSE MIB (Italy)	FTSE-MIB, benchmark stock market index for the Borsa Italiana, Bloomberg, daily frequency.
IBEX 35 (Spain)	IBEX 35 (Iberian IndEX), benchmark stock market index of the Bolsa de Madrid, Bloomberg, daily frequency.
ISEQ 20 (Ireland)	ISEQ 20, benchmark stock market index composed of companies that trade on Euronext Dublin, Bloomberg, daily frequency.
PSI-20 (Portugal)	PSI-20 (Portuguese Stock Index), benchmark stock market index of companies that trade on Euronext Lisbon, Bloomberg, daily frequency.
Athex 20 (Greece)	FTSE/Athex Large Cap, benchmark stock market index of companies that trade on Athens Stock Exchange, Bloomberg, daily frequency.
FTSE Banks	Benchmark stock market index of banks that trade on Borsa Italiana (Italy), Bolsa de Madrid (Spain), and Athens Stock Exchange (Greece).
Banks SP (Ireland)	Irish Stock market index based on the only bank include in the ISEQ 20 (Bank of Ireland).
Banks SP (Portugal)	Portuguese Stock market index based on the only bank include in the PSI-20 (Banco Comercial Português).
ISDA basis	Difference between the country CDS spread of the 2014 contract denominated in euros and the CDS spread of the 2003 contract denominated in euros.
Purchasing Managers' Index (PMI)	Italian, Spanish, Irish, and Greek Purchasing Managers' Index for manufacturing, Markit, monthly frequency. See Section A of the Online Appendix for more details.
CDS 2003	\$- or €-denominated 5-year CDS spread on Italian, Spanish, Irish, and Portuguese sovereign bonds, 2003 ISDA clause, Markit, daily frequency.
CDS 2014	\$- or €-denominated 5-year CDS spread on Italian, Spanish, Irish, and Portuguese sovereign bonds, 2014 ISDA clause, Markit, daily frequency.

Appendix B. Selected Dates

Table B1
Selected Dates for All Countries

ITALY			
Dates	Event Description	Dates	Event Description
Jan 24, 2008	Prime minister resignation (Prodi)	Jan 31, 2015	Presidential election (Mattarella)
Jan 30, 2008	Prime minister selection (Marini)	May31, 2015	Regional elections
Apr 14, 2008	General elections	Apr 10, 2015	DEF
May 7, 2008	Prime minister appointment (Berlusconi)	Sep 18, 2015	DEF (update)
Jun 18, 2008	DEF (Documento di Economia e Finanza)	Oct 15, 2015	Draft Budgetary Plan
Sep 22, 2008	DEF (update)	Apr 8, 2016	DEF
Jun 22, 2009	Abrogative referendum	Sep 27, 2016	DEF (update)
Jul 15, 2009	DEF	Oct 19, 2016	Draft Budgetary Plan
Sep 22, 2009	DEF (update)	Oct 27, 2016	Italy sends letter to European Commission
Mar 29, 2010	Regional elections	Dec 5, 2016	Referendum and resignation of prime minister (Renzi)
Sep 29, 2010	DEF	Dec 12, 2016	Prime minister appointment (Gentiloni)
Apr 13, 2011	DEF	Apr 11, 2017	DEF
Sep 22, 2011	DEF (update)	Sep 25, 2017	DEF (update)
Oct 18, 2011	DEF	Oct 17, 2017	Draft Budgetary Plan
Oct 29, 2011	Italy sends letter to European Commission	Oct 30, 2017	Italy sends letter to European Commission
Nov 12, 2011	Prime minister resignation (Berlusconi)	Mar 5, 2018	Italian General Elections
Nov 13, 2011	Prime minister appointment (Monti)	Apr 26, 2018	DEF
Apr 18, 2012	DEF	May 23, 2018	Prime minister selection (Conte I)
Sep 20, 2012	DEF (update)	May 28, 2018	Prime minister selection (Cottarelli)
Dec 21, 2012	Prime minister resignation (Monti)	May 31, 2018	Prime minister appointment (Conte II)
Feb 25, 2013	General elections	Sep 27, 2018	DEF (update)
Apr 10, 2013	DEF	Oct 4, 2018	Draft Budgetary Plan
Apr 24, 2013	Prime minister appointment (Letta)	Oct 22, 2018	Italy sends letter to European Commission
Sep 20, 2013	DEF (update)	Nov 13, 2018	Revised Draft Budgetary Plan
Oct 15, 2013	Draft Budgetary Plan	Dec 19, 2018	Italy sends letter to European Commission
Feb 14, 2014	Prime minister resignation (Letta)	Apr 9, 2019	DEF
Feb 17, 2014	Prime minister appointment (Renzi)	May 31, 2019	Italy sends letter to European Commission
Apr 8, 2014	DEF	Aug 20, 2019	Prime minister resignation (Conte)
Sep 30, 2014	DEF (update)	Sep 05, 2019	Prime minister appointment (Conte II)
Oct 15, 2014	Draft Budgetary Plan	Oct 16, 2019	Draft Budgetary Plan
Nov 21, 2014	Italy sends letter to European Commission	Oct 23, 2019	Italy sends letter to European Commission

SPAIN			
Dates	Event Description	Dates	Event Description
Mar 9, 2008	General elections	Dec 20, 2015	General elections
Apr 12, 2008	Prime minister appointment (Zapatero)	Jun 26, 2016	General elections
Dec 23, 2008	Presupuestos Generales del Estado	Oct 14, 2016	Draft Budgetary Plan
Dec 23, 2008	Presupuestos Generales del Estado	Oct 29, 2016	Prime minister appointment (Rajoy II)
Dec 22, 2010	Presupuestos Generales del Estado	Nov 8, 2016	Spain replies to European Commission
May 22, 2011	Regional elections	Dec 9, 2016	Revised Draft Budgetary Plan
May 22, 2011	Regional elections	Jun 27, 2017	Presupuestos Generales del Estado
Sep 26, 2011	End of Zapatero's Government	Oct 1, 2017	Catalan Independence Referendum
Nov 21, 2011	General elections	Oct 16, 2017	Draft Budgetary Plan
Dec 19, 2011	Prime minister appointment (Rajoy I)	Oct 30, 2017	Spain replies to European Commission
Jun 9, 2012	Meeting on bailout program	Apr 30, 2018	Revised Draft Budgetary Plan
Jun 30, 2012	Presupuestos Generales del Estado	Jun 1, 2018	Prime minister resignation (Rajoy)
Dec 27, 2012	Presupuestos Generales del Estado	Jun 2, 2018	Prime minister appointment (Sanchez)
Oct 15, 2013	Draft Budgetary Plan	Jun 3, 2018	Presupuestos Generales del Estado
Dec 23, 2013	Presupuestos Generales del Estado	Oct 15, 2018	Draft Budgetary Plan
Oct 15, 2014	Draft Budgetary Plan	Jan 22, 2019	Spain sends letter to European Commission
Dec 26, 2014	Presupuestos Generales del Estado	Apr 28, 2019	General and regional elections
May 25, 2015	Regional elections	Oct 15, 2019	Draft Budgetary Plan
Sep 11, 2015	Draft Budgetary Plan	Nov 10, 2019	General and regional elections
Oct 29, 2015	Presupuestos Generales del Estado		

IRELAND			
Dates	Event Description	Dates	Event Description
Apr 2, 2008	Prime minister resignation (Ahern)	Apr 30, 2014	Stability program update
May 7, 2008	Prime minister appointment (Cowen)	Oct 15, 2014	Draft Budgetary Plan
May 28, 2008	Stability program	Apr 28, 2015	Stability program update
Jun 12, 2008	Referendum Lisbon Treaty (I)	Oct 13, 2015	Financial statement
Oct 14, 2008	Stability program update	Oct 15, 2015	Draft Budgetary Plan
Jun 11, 2009	Stability program	Feb 26, 2016	General elections
Oct 2, 2009	Referendum Lisbon Treaty (II)	Apr 29, 2016	Stability program update
Dec 8, 2009	Stability program update	May 6, 2016	Prime minister appointment (Kenny)
Nov 28, 2010	Agreement with Troika on bailout	Oct 11, 2016	Financial statement
Dec 7, 2010	Financial statement	Oct 17, 2016	Draft Budgetary Plan
Jan 22, 2011	Prime minister resignation (Cowen)	Apr 11, 2017	Stability program update
Feb 25, 2011	General elections	May 17, 2017	Prime minister resignation (Kenny)
Mar 9, 2011	Prime minister appointment (Kenny)	Jun 14, 2017	Prime minister appointment (Varadkar)
Apr 29, 2011	Stability program update	Oct 10, 2017	Financial statement
Oct 27, 2011	Presidential elections	Oct 16, 2017	Draft Budgetary Plan
Dec 6, 2011	Financial statement	Apr 17, 2018	Stability program update
Apr 27, 2012	Stability program update	Oct 9, 2018	Financial statement
May 31, 2012	Referendum on European Fiscal Compact	Oct 15, 2018	Draft Budgetary Plan
Dec 6, 2012	Financial statement	Oct 26, 2018	Presidential elections (Higgins)
Apr 30, 2013	Stability program update	Apr 16, 2019	Stability program update
Oct 5, 2013	Referendum 32-33 amendments	Oct 8, 2019	Financial statement
Oct 15, 2013	Financial statement	Oct 15, 2019	Draft Budgetary Plan

PORTUGAL			
Dates	Event Description	Dates	Event Description
Oct 10, 2008	Regional elections	Oct 4, 2015	General elections
Nov 21, 2008	State budget	Nov 24, 2015	Prime minister appointment (Costa)
Jan 21, 2009	1st Amendment of State Budget	Dec 23, 2015	1st Amendment of State Budget
Sep 27, 2009	General elections	Jan 22, 2016	Draft Budgetary Plan
Oct 26, 2009	Prime minister appointment (Socrates)	Jan 24, 2016	Presidential elections (De Sousa)
Nov 25, 2009	2nd Amendment of State Budget	Feb 5, 2016	State Budget
Jan 26, 2010	State budget	Oct 14, 2016	State Budget
Oct 15, 2010	State budget	Oct 16, 2016	Regional elections
Jan 23, 2011	Presidential election	Oct 27, 2016	Portugal replies to European Commission
Apr 6, 2011	Announce application for bailout program	Oct 13, 2017	State Budget
Jun 5, 2011	General elections	Oct 16, 2017	Draft Budgetary Plan
Jul 29, 2011	1st Amendment of State Budget	Oct 31, 2017	Update Draft Budgetary Plan
Oct 10, 2011	Regional elections	Nov 1, 2017	Portugal replies to European Commission
Oct 17, 2011	2nd Amendment (& new) State Budget	Oct 15, 2018	State Budget
Mar 30, 2012	1st Amendment of State Budget	Oct 16, 2018	Draft Budgetary Plan
Oct 15, 2012	2nd Amendment (& new) State Budget	Oct 22, 2018	Portugal replies to European Commission
May 31, 2013	1st Amendment of State Budget	Sep 23, 2019	Regional elections
Oct 15, 2013	2nd Amendment (& new) State Budget	Oct 6, 2019	General elections & Costa Prime minister appointment
Jan 10, 2014	1st Amendment of State Budget	Oct 15, 2019	Draft Budgetary Plan
Sep 2, 2014	2nd Amendment of State Budget	Dec 16, 2019	State Budget
Oct 15, 2014	Draft Budgetary Plan & State Budget	Dec 17, 2019	Re-submission of Draft Budgetary Plan
Mar 29, 2015	Regional elections		

GREECE			
Dates	Event Description	Dates	Event Description
Sep 9, 2009	Announcement on Parliament dissolution	Dec 29, 2014	Prime minister resignation (Samaras)
Oct 4, 2009	General elections	Jan 25, 2015	General elections
Oct 6, 2009	Prime minister appointment (Papandreou)	Jan 26, 2015	Prime minister appointment (Tsipras I)
Feb 3, 2010	Presidential election (Papoulias)	Feb 18, 2015	Presidential elections (Pavlopoulos)
Apr 23, 2010	Announcement on bailout application	Jul 5, 2015	Referendum to accept bailout conditions
Nov 8, 2010	Local elections	Jul 13, 2015	Agreement on the III bailout program
Jun 15, 2011	Cabinet reshuffle	Aug 20, 2015	Prime minister resignation (Tsipras)
Jun 29, 2011	Parliament votes in favor of the bailout	Aug 27, 2015	Prime minister appointment (Thanou-Christophilou)
Oct 31, 2011	Announce on a referendum to continue government	Sep 20, 2015	General elections
Nov 4, 2011	Prime minister resignation (Papandreou)	Sep 23, 2015	Prime minister appointment (Tsipras II)
Nov 11, 2011	Prime minister appointment (Papademos)	Oct 15, 2018	Draft Budgetary Plan
May 6, 2012	General elections	Oct 18, 2018	Draft Budgetary Plan (Addendum)
May 16, 2012	Prime minister appointment (Pikrammenos)	Nov 20, 2018	Greece sends a letter to the European Commission
Jun 17, 2012	General elections	Jul 7, 2019	General elections
Jun 20, 2012	Prime minister appointment (Samaras)	Jul 8, 2019	Prime minister appointment (Mitsotakis)
May 18, 2014	Local elections	Oct 15, 2019	Draft Budgetary Plan

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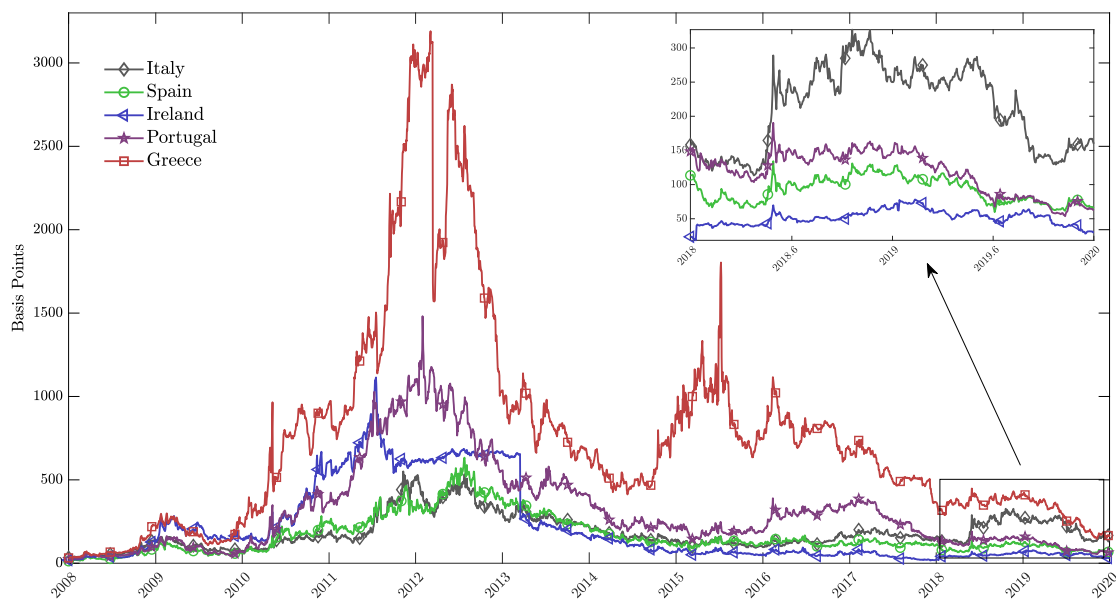


Figure 1

Sovereign Yield Spreads for Italy, Spain, Ireland, Portugal, and Greece

Notes. The main quadrant shows the ten-year yield spread on sovereign bonds relative to the German Bund for Italy, Spain, Ireland, Portugal, and Greece from January 1, 2008 to December 31, 2019. The expanded quadrant shows the same variables (except for the spread for Greece) from January 1, 2018, to December 31, 2019. Daily frequency. Source: Bloomberg.

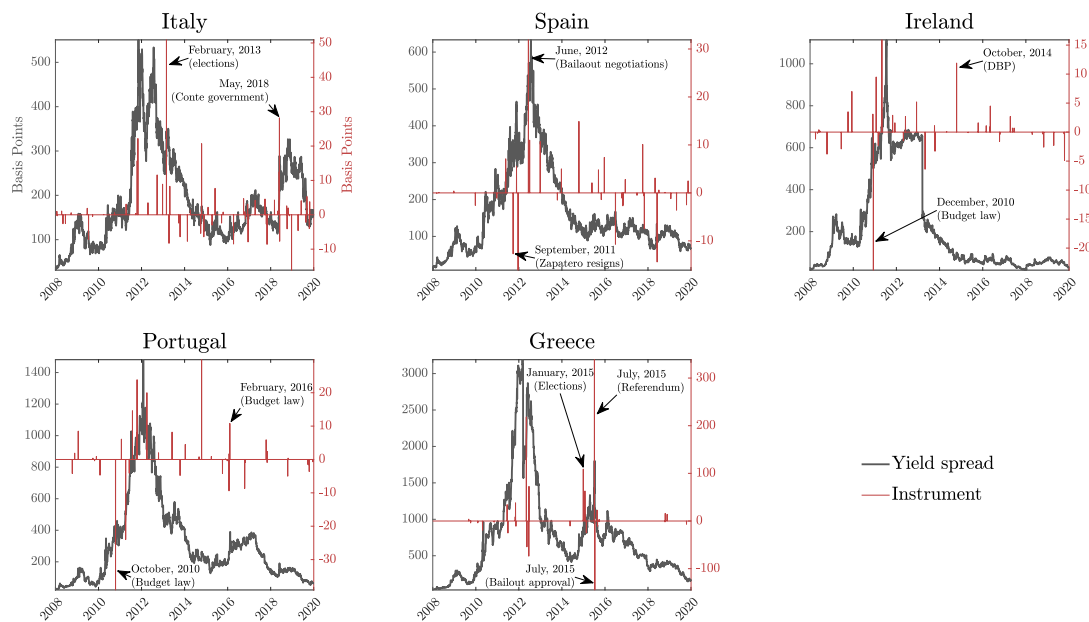


Figure 2

Sovereign Yield Spreads and Instruments for Political Risk Shocks

Notes. Each quadrant shows the country-specific ten-year yield spread on sovereign bonds relative to the German Bund (left axis) together with the instrument for the country-specific political risk shock (right axis) from January 1, 2008, to December 31, 2019. Daily frequency. Source: Bloomberg.

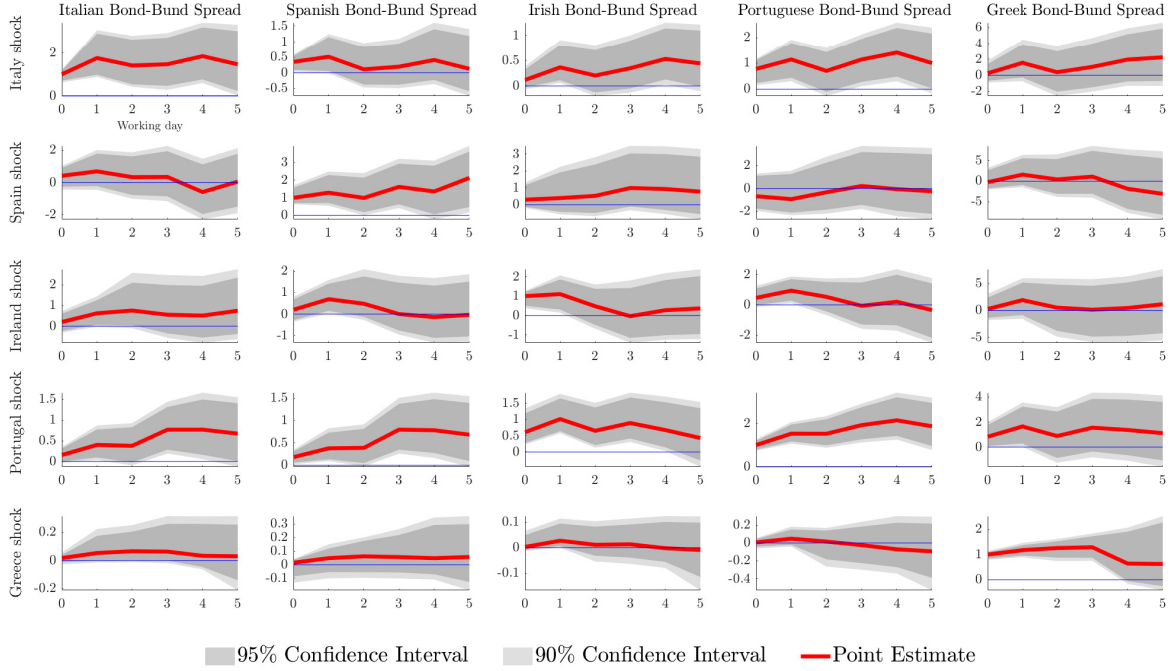


Figure 3
Political Risk Shocks and Sovereign Yield Spreads

Notes. Impulse response functions of the 10-year sovereign yield spreads (relative to the German Bund) to a political risk shock that increases the domestic sovereign yield spread by one basis point on impact (daily frequency). In each row, we report the effects of a political risk shock on the domestic sovereign yield spread and the yield spread of the other countries in our sample. The model is estimated via LP-IV, where the instrument is the change in the domestic sovereign yield spread on the selected dates for each country and is zero otherwise. The controls in the second stage are the ones indicated in $\mathbf{w}_t$. All variables enter the LP-IV regressions in first differences. The estimated responses are then cumulated in the graph above. Confidence bands are estimated with 2000 block-bootstrapped simulations (see Section B of the Online Appendix for details).

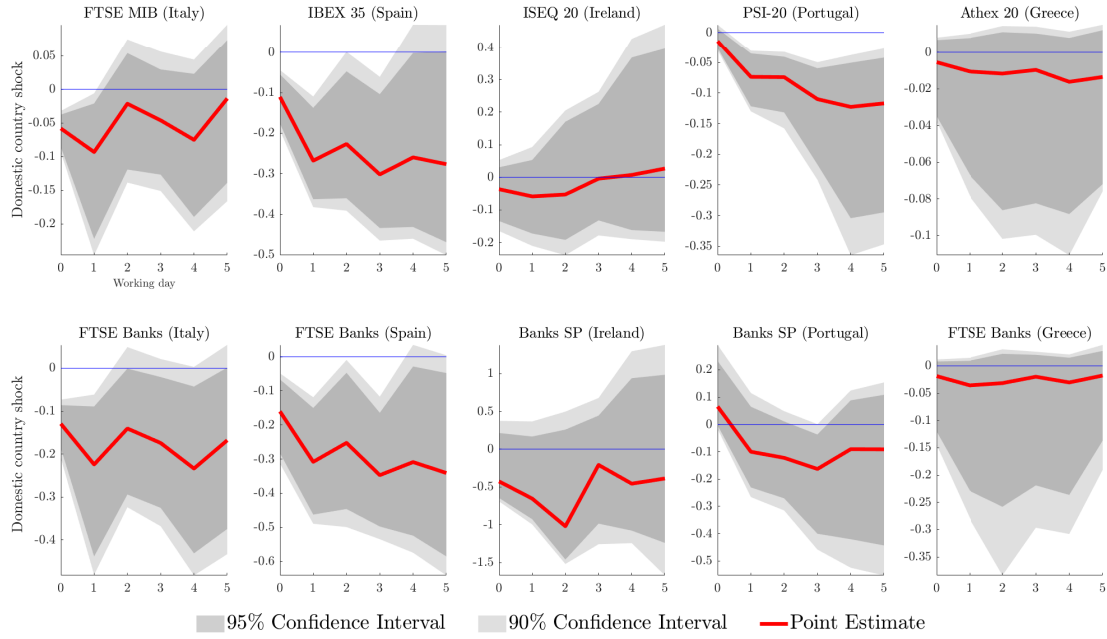


Figure 4

Political Risk Shocks and Stock Prices

Notes. Impulse response functions of (the log of) stock price indices (top row) and bank stock prices (bottom row) to a political risk shock that increases the domestic sovereign yield spread by one basis point on impact (daily frequency). The model is estimated via LP-IV, where the instrument is the change in the sovereign yield spread on the selected dates for each country and is zero otherwise. The controls in the second stage are the ones indicated in $\mathbf{w}_t$. All variables enter in the LP-IV regressions in first differences. The estimated responses are then cumulated in the graph above. Confidence bands are estimated with 2000 block-bootstrapped simulations (see Section B of the Online Appendix for details).

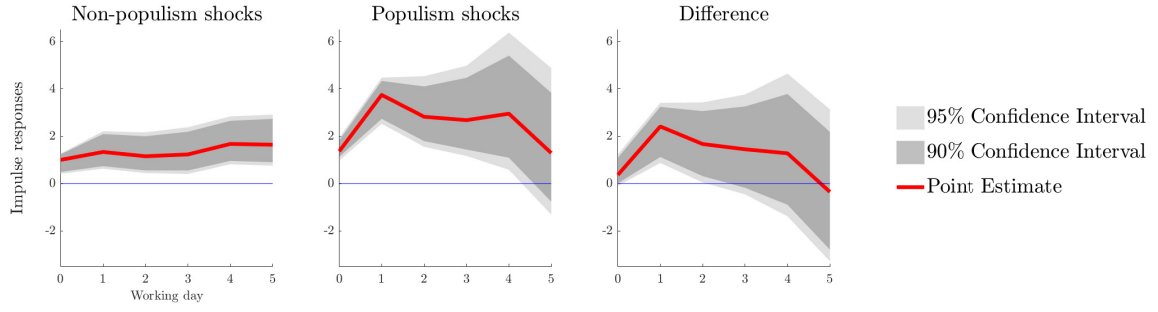


Figure 5

Differential Effect of Populism on the Italian Sovereign Yield Spread Using the Narrative Approach

Notes. Impulse response functions of the 10-year Italian yield spreads (relative to the German Bund) to a political risk shock at a daily frequency. The normalization implies that a non-populism political risk shock has a unitary effect on impact on the yield spread. The model is estimated via LP-IV, where the instruments are the change in the sovereign yield spread on the selected dates and its interaction with the dummy of the populism-related dates identified with the narrative approach. The controls in the second stage are the ones indicated in $\mathbf{w}_t$. All variables enter the LP-IV regressions in first differences. The estimated responses are then cumulated in the graph above. Confidence bands are estimated with 2000 block-bootstrapped simulations (see Section B of the Online Appendix for details).

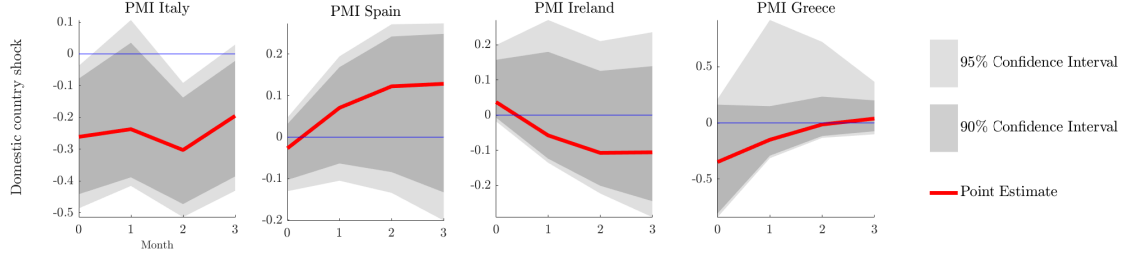


Figure 6

Real Effects Using the Monthly PMI

Notes. Impulse response functions of the Purchasing Manufacturing Index (PMI) to a political risk shock that increases the domestic sovereign yield spread by one basis point on impact (monthly frequency). The model is estimated via LP-IV, where the instrument is the unpredictable (given $\mathbf{w}_t$) daily change in the domestic sovereign yield spread on the selected dates cumulated over the month. All variables enter the LP-IV regressions in first differences. The estimated responses are then cumulated in the graph above. The additional monthly controls are one lag of the instrumented variable and the dependent variable. Confidence bands are estimated with 2000 block-bootstrapped simulations (see Section B of the Online Appendix for details).

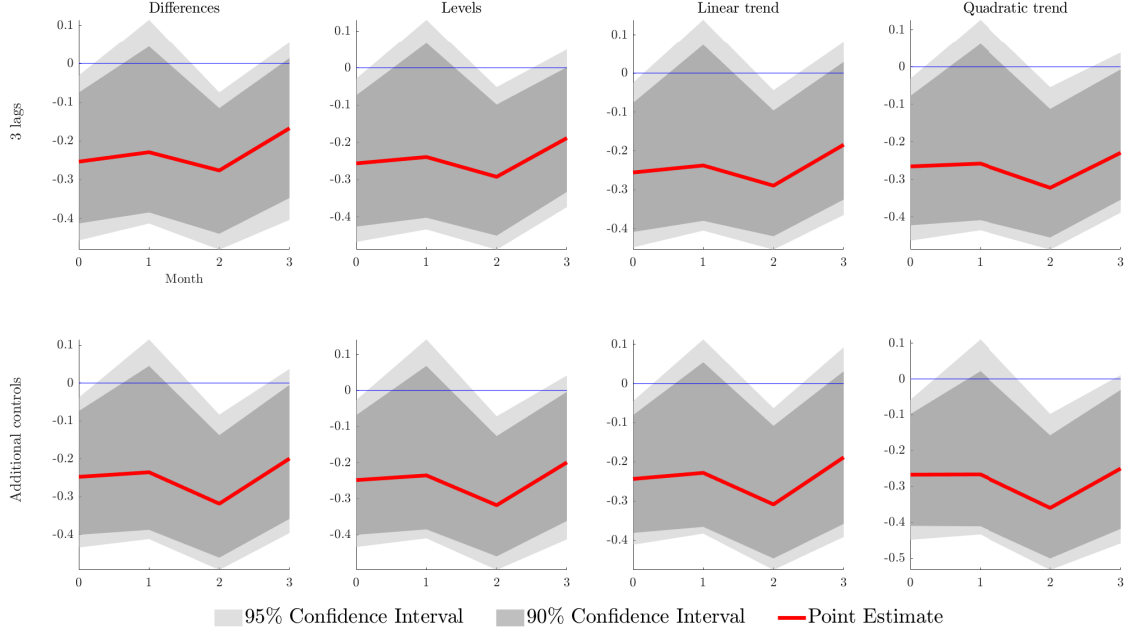


Figure 7
Robustness for Italy

Notes. Impulse response functions of the Italian Purchasing Manufacturing Index (PMI) to a political risk shock that increases the domestic sovereign yield spread by one basis point on impact (monthly frequency). We estimate the model via LP-IV, where the instrument is the unpredictable (given $\mathbf{w}_t$) daily change in the domestic sovereign yield spread on the selected dates cumulated over the month. In the first column, the variable enters the LP-IV regressions in first differences and the estimated responses are then cumulated in the graph above. In the second column, the variable enters the LP-IV regressions in levels. In the third and fourth columns, the variable enters in levels, allowing for a linear and quadratic trend, respectively. In the first row, we control for three lags (instead of one). The second row shows results controlling for the contemporaneous German PMI and three lags of the monthly instrumented variable and the dependent variable. Confidence bands are estimated with 2000 block-bootstrapped simulations (see Section B of the Online Appendix for details).

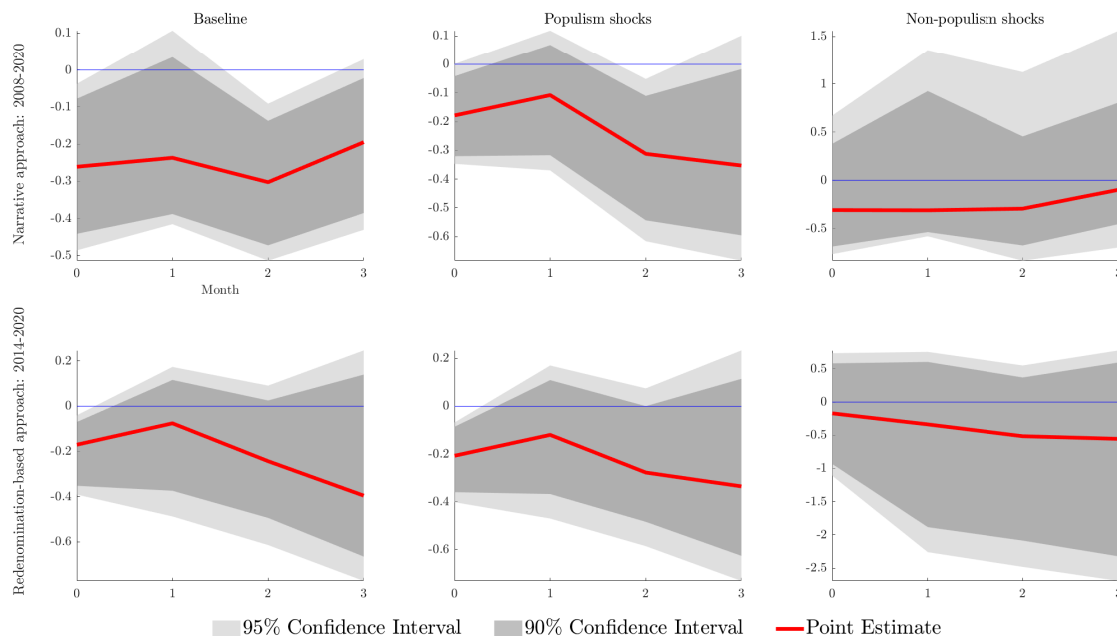


Figure 8

Real Effects of Populism- and Non-Populism-Related Political Risk Shocks in Italy

Notes. Impulse response functions of the Italian Purchasing Manufacturing Index (PMI) to a political risk shock that increases the domestic sovereign yield spread by one basis point on impact (monthly frequency), using the first difference specification. We estimate the model via LP-IV, where the instrument is the unpredictable (given $\mathbf{w}_t$) daily change in the domestic sovereign yield spread on the selected dates cumulated over the month. In the first column, we show the baseline specification with the effect of political risk over the entire 2008-2020 sample (first row) and the 2014-2020 sample (second row). In the second and third columns, we show the effect of populism-related political risk shocks and non-populism shocks, respectively. In the second and third column of the first row, we show the effects of the shocks due to populism using the narrative approach, i.e., by defining a dummy variable equal to one if the period is after the first electoral success of the 5 Stelle Movement (February 2013) until the end of the populism government (September 2019), and zero otherwise. In the second and third column of the second row, we show the effects of the shocks due to populism using the redenomination-based approach, i.e., by defining a dummy variable equal to one if a month has a number of populism-related shocks at a daily frequency above the median (equal to zero). The variable always enters the LP-IV regressions in first differences and the estimated responses are then cumulated in the graph above. Confidence bands are estimated with 2000 block-bootstrapped simulations (see Section B of the Online Appendix for details).

Table 1
Forecast Error Variance of Sovereign Yield Spreads due to Political Risk Shocks

10-year Bond-Bund Spread					
	Italy	Spain	Ireland	Portugal	Greece
Entire sample					
1st day	1.76%	0.53%	0.21%	0.82%	4.75%
5th day	2.19%	1.06%	0.36%	0.96%	6.62%
Sample 2014-2020					
1st day	5.93%	2.04%	1.15%	1.56%	13.15%
5th day	8.77%	2.72%	3.32%	2.95%	29.12%
5-year Bond-Bund Spread					
	Italy	Spain	Ireland	Portugal	Greece
Entire sample					
1st day	4.03%	0.43%	0.24%	0.84%	0.31%
5th day	4.98%	1.16%	0.25%	0.92%	0.50%
Sample 2014-2020					
1st day	21.21%	4.63%	1.10%	1.75%	3.82%
5th day	28.43%	5.07%	2.76%	3.07%	5.29%

Notes. Share of the forecast error variance of the domestic yield spreads explained by domestic political risk shocks at a daily frequency. The values are obtained applying to the model described in Figure 3 the methodology “LP-B” by Gorodnichenko and Lee (2020) (see Equation 10, page 923 for further details).

Table 2
*Differential Effect of Populism on the Italian Sovereign Yield Spread Using the
Redenomination-Based Approach*

	(1)	(2)	(3)
Impact	-0.075 (0.694)	-0.167 (0.916)	0.055 (0.398)
1st day	-1.859 (0.796)	-1.382 (0.765)	-0.671 (0.706)
2nd day	-0.658 (0.678)	-0.380 (0.635)	0.266 (0.256)
3rd day	0.108 (0.212)	0.377 (0.122)	0.761 (0.126)
4th day	1.125** (0.035)	1.198* (0.080)	2.444** (0.034)
5th day	1.297** (0.049)	1.307** (0.047)	1.789** (0.042)

Notes. This table reports the estimated values of $\Delta_{\Theta,h}^i$ and the p-values for the one-tail test of $H_0 \Delta_{\Theta,h}^i \geq 0$, in parentheses. In column 1, the identification of populist dates is only based on the comovement of the yield spread with the redenomination risk (ISDA basis). In column 2, we also require that the absolute change in redenomination risk is above the median of its distribution, while in column 3, we require its change relative to the change in the yield spread to be above the median. The model is estimated via LP-IV, where the instruments are the change in the sovereign yield spread on the selected dates and its interaction with the dummy of the populism-related dates identified with the redenomination-based approach. The controls in the second stage are the ones indicated in $\mathbf{w}_t$. All variables enter the LP-IV regressions in first differences. The estimated values are then cumulated in the table above. The normalization we have chosen implies that a non-populism-related political risk shock has a unitary effect on impact on the yield spread. Confidence bands are estimated with 2000 block-bootstrapped simulations (see Section B of the Online Appendix for details).

Table 3

Forecast Error Variance of the Italian PMI Explained by Italian Political Risk Shocks

	impact	1st month	2nd month	3rd month
Sample 2008 - 2020	9.79%	7.63%	8.20%	9.23%
Sample 2013.2 - 2019.9	5.22%	5.87%	12.45%	12.74%

Notes. Share of the forecast error variance of PMI explained by Italian political risk shocks at a monthly frequency. The values are obtained applying to the model described in Figure 6 the methodology “LP-B” by Gorodnichenko and Lee (2020) (see Equation 10, page 923 for further details).