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**IS THE RESTRUCTURING-PERFORMANCE RELATIONSHIP MODERATED BY
THE ECONOMIC CYCLE AND THE INSTITUTIONAL ENVIRONMENT FOR
CORPORATE GOVERNANCE?**

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IS THE RESTRUCTURING-PERFORMANCE RELATIONSHIP MODERATED BY THE ECONOMIC CYCLE AND THE INSTITUTIONAL ENVIRONMENT FOR CORPORATE GOVERNANCE?

Abstract

This study analyses the effect that the institutional environment for corporate governance and the economic cycle have on the relationship between the business portfolio restructuring (BPR) strategy and corporate performance. For this purpose, we use institutional theory, incorporating the notion of organizational slack to highlight the differences in firm performance between institutional settings along the different phases of economic cycle. We found that market-oriented corporate governance systems generate, during a period of economic growth, a smaller positive effect of each particular BPR movement on company performance, compared to network-oriented systems. Additionally, market-oriented corporate governance systems contribute to counteract part of the negative effect of the economic crisis. In contrast, network-oriented corporate governance systems are not able to avoid the potentially negative effect of an economic crisis on this relationship, amplifying the negative effect of the economic crisis on performance. We use data from 15 European countries for the period 1998-2015.

Keywords: business portfolio restructuring; institutional environment for corporate governance; performance; institutional theory.

Introduction

Business Portfolio Restructuring (BPR) refers to a modification of scope of the firm implying divesting from an important amount of assets and/or exiting at least one line of business (Bergh & Lim, 2008). These strategies have generated a growing interest in the management literature in recent years (Singh, Mahmood & Natarajan, 2017; Sánchez-Riofrío, Guerras-Martín & Forcadell, 2015). In particular, the relationship between BPR and corporate performance has been extensively examined in extant literature, mainly finding a positive influence of BPR on performance (Shunko *et al.*, 2017). However, this relationship is affected by a series of internal and external factors (Bergh & Lim, 2008; Hoskisson, Cannella, Tihanyi, & Faraci, 2004; Singh *et al.*, 2017).

Among the external factors, it is necessary to consider a variety of institutional factors influencing corporate strategy (Hoskisson *et al.*, 2004). Institutional environment encompasses the different laws, cultures and other particularities from each country or region (North, 1991), and can be defined in terms of economic, social, environmental and financial dimensions. Whitley (1999) proposes the NBS (National Business System) framework in order to characterize the institutional environment, composed of political, financial, educational, labour and cultural systems; i.e., formal laws, regulations and procedures, sociocultural ideas and beliefs, bureaucracy, and informal structures, among others.

The institutional environment for corporate governance is a well-known factor that influences the BPR-performance relationship (Kang, Lee & Na, 2010). Additionally, the economic cycle can affect the BPR-performance relationship (Choe & Roehl, 2007), but this factor has not been previously analysed in the literature. An economic potentially crisis could generate a negative effect on the BPR performance relationship (Ivashina & Scharfstein, 2010; Zhou, Li & Syejnar, 2011) derived from the difficulty of selling business units in the market. Nevertheless, this effect can vary among the different institutional settings as a consequence of

the differences on the way markets work and the firms' behaviour. Previous literature does not incorporate the effect of the different phases of the economic cycle into the analysis of the role that the different institutional environments for corporate governance exercise on the BPR-performance relationship. Therefore, understanding the combined effect of institutional settings and the economic cycle on this relationship requires additional research.

Institutional theory is the reference to understand the differences in the BPR-performance relationship across countries (Hoskisson *et. al.*, 2004; Hoskisson, Johnson, Tihanyi, & White, 2005). Nevertheless, it is necessary further theorizing in order to consider the effect of the economic cycle into this conversation. This can contribute to understand some of the differences between previous empirical studies performed without taking into account the different phases of the economic cycle. For that purpose, we incorporate the notion of organizational slack (i.e. the excess of resources in an organization, which may provoke suboptimal behaviour). to capture the origin of firms' BPR heterogeneous responses along the different economic cycle phases across different institutional environments. Thus, we contribute to this strand of literature with a finer-grained analysis of the effect that the different institutional environments for corporate governance exercise on the BRP-performance relationship along the different phases of the economic cycle. This can help to shed light on the contradictory evidence across different studies analysing only one part of the picture (i.e. considering one part of the cycle, or one institutional setting in isolation). Specifically, we explain why during an expansionary economic phase, network-oriented institutional settings propitiate superior performance from BPR strategies, or why during a recessionary phase of the cycle, market-oriented institutional settings generate superior performance from BPR strategies.

We use a sample of companies from 15 EU countries for the period 1998-2015. We find support for our hypotheses on the moderating effect of economic crisis and institutional environment for corporate governance on the BPR-performance relationship.

The effect of the institutional environment for corporate governance and the economic cycle on the BPR-performance relationship

Empirical evidence generally finds a positive effect of BPR on corporate performance (see table 1). Nevertheless, we can observe important differences in the empirical results between some studies when we compare economic cycle and institutional environment for corporate governance. This makes necessary additional theoretical work in order to shed light on those differences. In addition, there is a lack of studies on the BPR-performance relationship in the European context (Table 1). Then, the European context constitutes an opportunity to compare a set of firms sharing the same economic context (the European Union) but with different institutional environments for corporate governance. If we look at studies in the network-oriented corporate governance system, most empirical studies have focused their attention on Asian countries with the exception of Sanchís (1996) (Spain) and Fernández de Ávila, Garay & Pablo (2010) (Spain and Latin America). In addition, Veld & Veld-Merkoulova (2004) analyse the effect of spin-offs on performance in 15 European countries from different institutional systems.

Table 1 here

The effect of institutional environment for corporate governance on the BPR- performance relationship

The institutional environment for corporate governance is part of the overall institutional environment and defines the framework that organizes the coexistence between the different

stakeholders inside the firm (James & McGuire, 2016). There is a different criterion to classify the complex institutional environments for corporate governance worldwide, and in particular, in the case of European Union countries. We distinguish two different contexts, as originally identified by Moerland (1995), Weimer & Pape (1999): countries with a network-oriented corporate governance system and those with a market-oriented one¹. Table 2 shows some characteristics of the network-oriented systems compared to those of market-oriented systems.

The main feature of a network-oriented governance system is that companies' shares are relatively concentrated among a handful of shareholders (Renders & Gaeremynck, 2012). This situation very often implies blockholders in the ownership structure of the firm. Corporate control is, thus, fundamentally exerted by blockholders instead of by the market (Weimer & Pape, 1999). This is mainly because capital is split between a limited number of blockholders who manage the majority of the firm's shares. Therefore, highly concentrated ownership prioritizes blockholders' interests (Cuervo-Cazurra, 2002). Potential conflicts between managers and shareholders are usually regulated by civil law and good governance codes (Cuervo-Cazurra, 2002; Renders & Gaeremynck, 2012). This applies to most continental European countries, and to emerging and developed countries such as India, Pakistan, China and Japan (Chung & Luo, 2008; Dawson & Larke, 2004; Singh, Tabassum, Darwish, & Batsakis, 2018). In those countries characterized by this type of institutional environment for corporate governance, it is historically more complicated to launch a successful takeover (Cuervo-Cazurra, 2002; Moerland, 1995).

Table 2 here

¹ In addition, Weimer & Pape (1999) proposed three sub-types of network-oriented systems: the Germanic, the Latin and the Japanese system.

A market-oriented corporate governance system involves large and efficient markets, dispersal of firms' property, and strong protection for the interests of minority investors (Moerland, 1995). Subsequently, it is easier for a firm to sell or buy business units in the market. This system potentially promotes a higher number of corporate operations to benefit all shareholders. This external control mechanism based in markets intends to correct inadequate actions by managers (Markides & Singh, 1997). If investors are unsatisfied with financial performance, sales are triggered and the price will go down, making the firm more attractive for an eventual takeover. Thus, managers are pushed to pursue shareholder benefits at all points in order to avoid the firm becoming attractive for a hostile takeover (Markides & Singh, 1997). Therefore, managers are mainly disciplined by the market for corporate control of firms where institutional investors have an important role. Countries such as Australia, Canada, the USA, the UK, Ireland and New Zealand represent this type of system. In the UK, this system stands in contrast to the rest of the EU and increases the number of takeovers (Cuervo-Cazurra, 2002; Renders & Gaeremynck, 2012).

The inefficiency of markets generates organizational slack (OS) that “serves to reduce goal conflict, to reduce information processing needs, to promote political behaviour, or to facilitate certain strategic behaviours” (Bourgeois, 1981: 29). Thus, when OS is high (excess of available resources), it is easier to satisfy the whole set of stakeholders since there are plenty of resources. Hence, a resource surplus works as a security cushion against the consequences of poor performance. Authors like Singh (1986) assume that OS constitutes a protection against risk. The contrary occurs when OS is limited or non-existent. This lower OS squeezes any margin for inefficient behaviour within an organisation. We argue that the amount of OS may be conditioned by the system of corporate governance. In a market-oriented institutional environment for corporate governance, the higher efficiency of markets tends to generate a relatively low amount of OS. This leads to a low accumulation of OS, which forces managers

to take decisions trying to continuously maximize firm performance. In contrast, a network-oriented institutional environment for corporate governance is prone to generate a greater level of OS. Sharfman, Wolf, Chase & Tansik (1988) identify perceived threats as one of the factors that reduce firm OS. In our case, we consider that the threat of a hostile takeover contributes to reduce OS. This is the case for a market-oriented environment for corporate governance, but the contrary occurs for the case of a network-oriented environment for corporate governance because the threat of hostile takeover is lower. This reasoning has important implications for the analysis of the effect of BPR strategies on performance.

Empirical evidence shows that, in general terms, the BPR-performance relationship is positive. Nevertheless, the different institutional arrangements for corporate governance can exert an important moderating effect on the BPR-performance relationship. In other words, the institutional environment for corporate governance can moderate the influence that BPR strategies exert on firm performance. For those institutional environments that generate a relatively low OS (i.e., institutional environments characterized by a market-oriented corporate governance system), there are relatively high incentives for making efficient decisions (i.e., BPR strategies) because the financial cushion does not allow the firm to assume inefficiencies. Additionally, the credible threat of a hostile takeover pushes managers to improve performance through BPR strategies. Thus, managers are pushed to pursue shareholder benefits continuously in order to avoid the firm becoming attractive for a hostile takeover (Markides & Singh, 1997). Nevertheless, these environments are not completely free of agency problems (i.e. the difficulties the shareholders have to assure that their wealth is not wasted by top managers), as some authors such as Aguilera & Jackson (2003), or Shleifer & Vishny (1997) point out.

On the contrary, in those institutional environments that generate a relatively high OS (i.e., institutional environments characterized by a network-oriented corporate governance

system), the incentives for making corporate decisions that maximise firm performance (i.e., BPR strategies) are relatively low. Only when the situation inevitably deteriorates because OS vanishes, do managers use BPR strategies to restore firm performance. Additionally, managers not disciplined by low levels of OS are prone to invest financial surplus during growth periods in businesses that do not exploit synergies with the existing portfolio of business (Morck, Sheleifer & Vishny, 1990). Therefore, when the firm decides to sell this kind of businesses as part of a BPR strategy, the firm can generate two kinds of potential benefits from reducing costs. First, parent company costs derived from managing a multi-business firm (Campbell, Goold & Alexander, 1995). Second, financial costs derived from increasing debt as a consequence of continued poor performance (O'Brien, David, Yoshikawa & Delios, 2014).

Following all the above arguments, we suggest the following hypothesis:

***Hypothesis 1:** In an institutional environment characterized by a market-oriented corporate governance system, the positive effect of BPR on performance is less intense than in an institutional environment characterized by a network-oriented corporate governance system.*

The rationale of this hypothesis relies on the effectivity of the market as a mechanism for corporate control. The threat of a hostile takeover contributes to reduce OS in institutional environments characterized by a market-oriented corporate governance system. Additionally, the number of BPR activities can be expected to be higher. As a consequence, the contribution of a single BPR activity to improve performance tends to be lesser in this kind of institutional environment compared to a network-oriented governance system. The reason for this is because the situation before restructuring is less deteriorated than in an institutional system that does not incentivize corporate movements of BPR. In this latter case, BPR movements are made in more deteriorated situations, thus contributing in a more decisive way to restoring company performance.

According to Park & Kim (2008), changes in corporate governance and business environments have triggered the wave of corporate restructuring around the world since the 1980s. Nevertheless, these changes did not take place among the different EU countries in a homogenous way.

The effect of the economic cycle on the BPR-corporate performance relationship

Previously, echoing the mainstream literature on portfolio restructuring, we argued that BPR strategies have a positive effect on firm performance. Nevertheless, the economic cycle can potentially alter this relationship (Singh *et al.*, 2017). During a period of economic crisis, firms that need to restructure their portfolio may find a reduction in the number of transactions at the market for businesses (Ivashina & Scharfstein, 2010). For these reasons, it is difficult to find a buyer for the business units. Potential business acquirers carefully analyse the opportunity and profitability of the targeted business. At the same time, these acquirers can take advantage of the scenario to offer a price below the established one (Thompson, Peteraf, Gamble, & Strickland, 2018). Thus, even if that potential buyer exists, the offer will surely be at a lower price than it would in a period of economic growth (Singh *et al.*, 2017). Since the company that wants to get rid of the business is in crisis and needs liquidity to pay its debts (Shleifer & Vishny, 1992), they must accept the price offered by the buying company (Park & Kim, 2008). In this sense, the sale price of the business tends to be lower in a recessive stage than in a growth stage. Thus, firms that restructure will generate lower performance if they sell their assets in this stage of the economic cycle compared to a buoyant environment or one without an economic shock (Zhou *et al.*, 2011).

Following all the above arguments, we suggest the following hypothesis:

Hypothesis 2: An economic crisis negatively moderates the BPR-performance relationship.

The effect of the economic cycle on the BPR-corporate performance relationship for the different institutional environments for corporate governance

In the previous sections, we proposed, on the one hand, that the institutional environment for corporate governance moderates the BPR-performance relationship. On the other hand, we suggested that economic crisis negatively moderates the BPR-performance relationship. In this section we combine both effects in order to go deeper into the moderating effects of the institutional environment for corporate governance and the economic cycle. A joint analysis of the institutional environment with the economic cycle provides an opportunity to compare the behaviour of firms from different institutional environments in distinct periods of the economic cycle. We argue that a situation of economic crisis amplifies the differences in performance between both systems of corporate governance.

In general terms, under an expansionary economic cycle (relatively high environmental munificence), firms tend to generate a relatively high OS. The opposite takes place during an economic recession, wherein the corporate environment has relatively low munificence and OS decreases. In the case of network-oriented corporate governance systems, an expansionary economic cycle can lead some managers and blockholders to use OS for their own goals, and therefore, participate in inadequate strategies such as over-diversification. At the same time, the decision on BPR may be delayed since the takeover threat on the firm is inexistent and managers feel safe. If an economic crisis emerges, accumulated OS may start shrinking, thus reducing the available resources to maintain the stakeholders' coalition. Financial markets constrain liquidity in these periods, which may trigger the restructuring decision avoided in times of economic growth. Restructuring firms may face fewer gains if they restructure and sell in this part of the cycle. As a consequence, institutional environments characterized by a network-oriented corporate governance system can potentiate the negative effects that

economic crises can exert on the relationship between BPR and performance. Literature analysing BPR strategy under a network-oriented system of corporate governance during an economic recession offers evidence supporting this reasoning. In line with Choe & Roehl (2007), Korean firms restructuring before and after the 1997 Asian crisis achieved better performance than those doing it during the crisis. Zhou *et al.* (2011) also highlight that some Thai firms decided not to restructure their portfolio during the Asian crisis since their businesses would be undervalued, given the existence of fewer buyers in a contracting economy. Similarly, Kumar (2005) points out the benefits for investors of flexibility in postponing any type of purchase or sell in unstable environments. Moreover, Singh *et al.* (2017) argue that during economic shocks, firms may also encounter several challenges that hinder restructuring decisions.

In contrast, a market-oriented system of corporate governance potentially promotes a higher number of corporate operations to benefit all shareholders. OS remains low both during a period of economic growth and during a period of economic crisis. Managers will promote BPR strategies regardless of any pressure caused by, for example, a deep economic recession; i.e. these firms will restructure during an economic recession phase only when it is profitable for the firm to do so. Thus, this institutional environment generates incentives to implement BPR strategies in the appropriate moment and independently from the economic cycle. As a consequence, an institutional environment characterized by a market-oriented corporate governance system contributes to cushion the negative effect that an economic crisis can exert on the relationship between BPR and performance.

Following all the above arguments, we suggest the following hypothesis:

Hypothesis 3: During an economic crisis, the negative effect of BPR on performance is less intense in an institutional environment characterized by a market-oriented corporate

governance system than in an institutional environment characterized by a network-oriented corporate governance system.

Methods

Data

We test our hypotheses on a representative sample of EU-15 companies (Denmark, Finland, Sweden, Germany, Austria, Luxembourg, Belgium, the Netherlands, Spain, Portugal, Italy, Greece, France, the UK and Ireland) using the Thomson One Database². Financial institutions and banks have been excluded since their accounting methodology differs from that of other companies (Mak, Strong & Walker, 2011). The final sample comprises an unbalanced panel with 39,739 observations corresponding to 4,969 firms for the period 1998–2015. This sample includes both companies that make at least one BPR operation during the period analysed and those that not. Proceeding this way, we can get some conclusions on the effects BPR operations have in the whole sample.

Definition and measurement of variables

We analyse the consequences of restructuring in terms of performance. Corporate performance is one of the most important constructs in the management literature (March & Sutton, 1997). We use return on assets (ROA) as a proxy for performance (Richard, Devinney, Yipand & Johnson, 2009, p.730). As is usual in BPR-performance relationship studies (Bergh, 1995, 1998; Bergh & Lim, 2008; Hoskisson & Johnson, 1992; Park & Kim, 2008). We have first calculated the logarithm of ROA as a proxy for the performance of a firm. As some observations have a negative value of the variable ROA, it has been impossible to compute the

² As of October 1, 2018, Thomson One Database is now known as Refinitiv.

logarithm of such a variable. To overcome this issue, an index of the variable ROA has been calculated for each firm. We assume that the value of the index is 100 for the year 2005. Next, the value of the index for the rest of the years of the sample is calculated taking into account the variations (positive or negative) observed in the ROA variables. Once the index is constructed, logarithms are taken.

In order to identify the BPR strategy, and since BPR may involve both disinvestment and the acquisition of new businesses (Bergh, 1998; Bowman & Singh, 1993; Markides, 1995), we consider that a BPR decision has been made when firms divest at least 10% of total assets independent of other potential investments (Hoskisson & Johnson, 1992). Those firms which have only bought new assets will not be taken into consideration because, according to Hildebrandt, Oehmichen, Pidun, & Wolff (2018), they could be considered to be performing another type of portfolio transformation; i.e. diversification. It is widely agreed that this percentage (10%) constitutes a significant reduction and not a random fluctuation or gradual adjustment (Markides, 1995; Park & Kim, 2008). Thus, the dichotomous variable *BPR* is coded one when the value is above the ten per cent cut-off, and zero otherwise. However, in addition to our analysis, we present a robustness test in the event that the restructuring episode is less demanding, considering a percentage of 5% for this purpose (Park & Kim, 2008).

Our model includes two moderating variables considering the effect of the economic cycle and the institutional environment for corporate governance. The dichotomous variable *Crisis* identifies the period with economic recession (Singh *et al.*, 2017). This variable takes the value one for the period 2008-2014, and zero otherwise³. It is expected that this variable influences performance negatively (Sherman, 2011). Additionally, the variable *BPR*Crisis* is

³ The economic expansion period includes the years from 1998 to 2007 and 2015 when a new period of economic growth begins after the end of the crisis. For a discussion on the crisis' length, see European Commission (2016).

a dichotomous variable taking the value one for restructuring operations performed during the period 2008-2014 (economic recession) and zero otherwise. This allows us to observe the effect on performance of a restructuring operation depending on whether it is implemented in a period of growth or recession. In addition, a trend variable has been included in our model to capture non-observable time effects such as regulatory changes.

The variable *IE* considers the institutional environment (corporate governance system) and allows us segmenting the sample. If the data we analyse for each firm corresponds to a network-oriented corporate governance system, a value of one is given, and a value of zero otherwise. For our classification, we have followed Moerland (1995), Cuervo-Cazurra (2002), Renders & Gaeremynck (2012). According to Gerum, Mölls & Shen (2017), this classification can be considered valid during the period analysed. The moderating variable *BPR*IE* indicates whether the BPR operation was carried out under a market or network-oriented corporate governance system. Thus, *BPR*IE* is a dichotomous variable taking the value of one for restructuring operations performed by companies in a network-oriented corporate governance system and zero otherwise.

Moreover, we include the triple interaction *BPR*Crisis*IE* to observe the effect on performance of a restructuring operation depending on whether it is implemented in a period of growth or recession and in an institutional environment characterized by a network or market-oriented system. This variable takes the value one if a company is restructuring during a period of crisis in a network-oriented system, and zero otherwise. *Trend* picks up a linear tendency that allows us to improve the fit of the model. As a control variable, the logarithm of debt (*TDCE*) is calculated by dividing the total amount of debt (short- and long-term) by own capital (Markides, 1995). A high level of debt could negatively influence performance (Bergh, 1998; Hillier, McColgan & Werema, 2009). The variable *Sales* is a control variable of firm size. We expect to find a positive coefficient just as in Singh *et al.* (2017). The justification for

this effect is that size represents the availability of internal resources and potential access to external funds. In other words, the bigger the company is the more availability of resources and the easier the access to funding. The logarithm of capital expenditures (*CESales*), or investments in fixed assets different from acquisitions, measures capital expenditure as a percentage of sales. It is expected to have a positive effect on performance, since an increase in capital investment could lead to higher total factor productivity (Markides, 1995).

Econometric Model

Following the approach used in the literature (Bergh & Lim, 2008; Bergh, Johnson & Dewitt, 2008; Hillier, McColgan & Werema, 2009; Markides, 1995), a linear model has been defined to check the role that institutional environment and the economic cycle have played in the relationship between the business portfolio restructuring (BPR) strategy and corporate performance:

$$ROA = \beta_0 + \beta_1*BPR + \beta_2*BPR*Crisis + \beta_3*Sales + \beta_4*TDCE + \beta_5*CESales + \beta_6*Trend + v_{it}$$

[1]

Sales, *TDCE* and *CESales* are continuous variables expressed in logarithms and *ROA* is an index as explained before. Therefore, the coefficients β_3 , β_4 , and β_5 should be interpreted as elasticities. We assume that *Sales* is endogenous and has been instrumented with its own lagged value. Restructuring effects do not have an immediate impact on *ROA*. These effects occur with a certain temporal lag. In addition, episodes of restructuring can occur at any time of the year, both in the first months and in the last months of each year, although this information is unknown. For our estimations, we have considered a two-year lag (Bergh, 1995; Hoskisson & Johnson, 1992) for the variables *BPR* and *BPR*Crisis*. In practice, the aforementioned two-year lag would be equivalent to a period between 13 and 36 months depending on the month in which the restructuring episode occurs and the month in which it begins to have an effect on

performance⁴. In equation [1], the error term, ε_{it} , has been specified as a one way error component model, $\varepsilon_{it} = v_{it} + u_i$. Where u_i captures unobserved heterogeneity that is not directly observable and v_{it} is the idiosyncratic error term.

We divide our sample of EU companies into two institutional environment sub-samples, according to *IE* variable (see Table 3): market-oriented and network-oriented corporate governance systems. The first group features a network-oriented corporate governance system and corresponds to the Continental countries of the EU, presenting 922 (56%) BPR operations. The second group, involving market-oriented countries presents 739 (44%) BPR operations and corresponds to the UK and Ireland.

Table 3 here

Results

Figure 1 shows the evolution of the BPR strategy in our sample during the period 1998-2015. Table 3 summarizes the sample in terms of restructuring events and the country of origin. Within the sample analysed, those countries with a higher number of restructuring operations in the period 1998-2015 are: the United Kingdom (42.6% over the total of BPR operations), France (14%), Germany (13.4%), Sweden (4.6%), Denmark (3.6%), and the Netherlands (3.1%), among others. It may be observed that firms located in UK restructure more than any other in the EU-15. This result is coherent with a higher interest among academics to develop literature on BPR under this environment.

Figure 1 here

⁴ A period of 36 months occurs when the company restructures in January of year 1 and the effect begins to impact performance in December of year 3. A period of 13 months would occur when the episode occurs in December of year 1 and the effect begins in January year 3.

Table 4 shows a comparison between the BPR operations, the yearly average of BPR operations, the yearly average of firms in the sample analysed, and the percentage of firms making a BPR operation over the sample. If we compare the sample for the institutional systems we analyse (market-oriented vs. network-oriented), companies operating in market-oriented countries restructure more than those operating in network-oriented countries, especially during a period of growth, where they re-structure twice as much (3.16% market-oriented vs. 1.44% network-oriented). During a period of economic recession, the differences get reduced considerably (2.01% market-oriented vs. 1.97% network-oriented) with the figures for both groups being almost equal. In the case of the market-oriented countries, it is noteworthy that BPR decreases 36% from an economic growth to an economic recession period. On the contrary, in the case of the network-oriented countries, the percentage of firms performing BPR activities increases during the same period (36.81%).

Table 4 here

Table 5 shows a mean difference test for the number of BPR operations made by firms with at least one BPR episode operating in network- and market countries for the different economic periods. Results confirm the analysis presented in Table 4. Thus, during the crisis period, firms in network-oriented countries restructure more than firms in market-oriented countries. During a period of economic growth, the contrary occurs, i.e. firms in market-oriented countries restructure more than firms in network-oriented countries. In both cases, the differences are statistically significant. Altogether, these numbers are coherent with our arguments related to the frequency of BPR in different institutional contexts and periods of economic cycle.

Table 5 here

Table 6 shows the empirical results of our models. Models 1 to 3 analyse the effects of *BPR* on *ROA* controlling for the *Crisis* variable, and incorporating the variable *BPR*Crisis*, for

the whole sample (Model 1), the network-oriented countries (Model 2) and the market-oriented countries (Model 3). Finally, Model 4 incorporates the variable $BPR * Crisis * IE$ in order to determine if, in relative terms, the companies operating in a network-oriented country that restructure perform differently than the rest of the companies in the sample (e.g. companies operating in a market-oriented country).

In our models, we assume that *Sales* is an endogenous variable —that is, there is a bi-directional causal relationship between *Sales* and *ROA*. In all models, the null hypothesis of exogeneity is strongly rejected, which confirms that sales variable is endogenous. If so, the parameters estimated by ordinary least squares (OLS) would be biased. To overcome this problem, the instrumental variable fixed effect estimator (IV-FE) has been used. As usual in the literature, we use a lag of *Sales* as our instrument. The under-identification Kleibergen–Paap Wald test (Kleibergen & Paap, 2006) has been computed to check if the instruments are sufficiently correlated with the endogenous variable. The null hypothesis is strongly rejected in all estimations. For example, in the whole sample, the $\chi^2(1)$ is 13.887 and its p-value is 0.000. As expected, the instrumental variables are correlated with the instrumented variable. Most parameters are significant and have the expected sign. The results from the joint significance test shows that the model fit is good enough in all estimates.

Table 6 here

Model 1 shows the effect of *BPR* on performance for the total sample. The estimated value of the parameter of the *BPR* variable indicates that, on average, the ROA is 0.0987 points higher in companies that restructure than in those that do not, which is equivalent to a ROA difference of 10.37%⁵. This result is in line with literature analysing the BPR-performance relationship. When we divide the sample, the average ROA difference between companies that

⁵ Following Wooldridge (2002), the impact on ROA is calculated as $e^{-0.0295} - 1$.

restructure with those that do not restructure is greater in the case of Model 2 than in Model 3. This result means that in those firms operating in network-oriented countries the difference is 20.27%, while in those firms operating in market-oriented countries is 3.86%. In other words, on average, the effect of restructuring on *ROA* during the whole period analysed is greater in firms operating in network-oriented countries than in firms operating in market-oriented countries. These results support Hypothesis 1, showing that a BPR strategy performed in an institutional environment characterized by a network-oriented corporate governance system generates better performance than a BPR strategy performed in an institutional environment characterized by a market-oriented corporate governance system.

Models 1 to 3 control the cross effect that jointly BPR and economic crisis have on *ROA*. The results show, for the total sample, that the parameter is negative and significant with a value of 0.3497. This result therefore verifies Hypothesis 2. It means that an economic crisis negatively moderates the BPR-performance relationship. On average, the parameter indicates that companies that restructure during the crisis have a *ROA* that is approximately 29.32% lower than the companies that either do not restructure or do so during a period of economic expansion. However, the effect that an economic crisis exerts on the relationship between BPR and performance is significantly different in both institutional environments. Network-oriented contexts exacerbate the negative effect that an economic crisis exerts on the BPR-performance relationship. We found that, in this case, the effect is -51.66% versus -5.14% for the case of firms restructuring in a market-oriented context. These results offer evidence in line with Hypothesis 3.

In Model 4, the estimates for the total sample include the variable $BPR * Crisis * IE$, taking the value one for those continental companies (i.e. in a network-oriented context) that restructure during the economic crisis and zero otherwise. By construction, the latter group (zero group) includes those continental companies that restructured during the expansion

phases, the continental companies that did not have any restructuring episode during the whole period analysed, as well as the total cases of companies operating in a market-oriented context. The results show that, on average, those companies that restructured during the period 2008 to 2014 in a network-oriented context show a ROA 25.58% lower than the rest of the companies. These results therefore confirm Hypothesis 3.

We should note that the effect of *Crisis* is non-significant for most of the estimated models. This is important in order to reveal the role of an economic crisis on performance directly and as a moderator variable for the effect of *BPR* on performance. Thus, the negative effect on performance is originated only by the concurrence of *BPR* and *Crisis*. In other words, negative performance is generated only when firms restructure during a period of crisis. This negative effect is 13.77 times more intense (-0.7271 vs. -0.0528) for firms operating in network-oriented environments than for firms operating in a market-oriented setting. Separately, the effects of *BPR* and *Crisis* are very different. *BPR* exercises a positive effect on performance and *Crisis* a non-significant effect. This is coherent with our hypotheses that posit the moderating effect of institutional environment for corporate governance and economic crisis on the BPR and performance relationship.

For all models, the results show that *Sales* have a positive and significant effect on *ROA*. For the total sample, the estimated coefficient for these variables is 0.0632. Therefore, the elasticity of ROA to *Sales* is positive and significant although of a reduced magnitude. Such elasticity measures the impact of sales on ROA. Specifically, in this case, a 1% increase in sales generates an increase in the ROA of 0.0632%. The positive value of the elasticity shows that sales positively affect ROA. However, the value of the elasticity is less than one in absolute value suggesting that sales have a small impact on ROA. This elasticity is slightly higher in companies operating in a network-oriented setting than in a market-oriented one (0.1096 versus 0.0267). Finally, the results show that debt and capital expenditures have a negative effect on

ROA with a much-reduced value. For the total sample, the elasticities obtained for these variables are -0.0161 and -0.0076 respectively.

In order to analyse the results' sensitivity, Table 7 shows the estimates using an alternative definition of the restructuring variable. Specifically, we have softened the requirements to consider an episode of restructuring, reducing the amount of disinvestments made by companies from 10% to 5% as done by Park & Kim (2008). Models 5, 6 and 7 share the same specification as models 1, 2 and 3 respectively, but with *BPR* variable measured with a 5% of divestments. As can be seen, in these new models the sign of the relationship and its significance remain similar. Nevertheless, results in Model 6 show the same positive sign as in Model 2, but the coefficient is not significant. The results also show that the *Crisis* variable moderates the effect of *BPR* on *ROA*.

Table 7 here

Discussion and conclusions

Our sample of European companies for the period 1998-2015 has provided the opportunity of testing the relationship between BPR and performance in different institutional governance systems and during different stages of the economic cycle. We have found empirical support for the hypotheses we posit related to the moderating effect of the institutional environment for corporate governance and the economic cycle on the relationship between BPR and performance. In particular, European firms based in market-oriented institutional environments restructure more often, especially during periods of economic growth. As we argue, a higher frequency of BPR activities implies a less intense effect on firm performance in general terms, but also implies cushioning the negative effect that economic crisis exerts on those BPR strategies implemented during an economic crisis period. On the contrary, we find that European firms based in network-oriented institutional environments restructure less often,

especially during periods of economic growth. If BPR decisions are delayed to the point to coincide with an economic crisis period, their effect on firm performance is dramatically worse compared to companies from market-oriented systems.

Our empirical evidence shows in general terms that implementing a BPR strategy positively affects firm performance (in terms of ROA). These results are in line with previous studies (Bergh & Lim, 2008; Bowman & Singh, 1993; Bowman, Singh, Useem & Bhadury, 1999). The empirical evidence shows that the type of institutional environment and the economic cycle are key moderating variables on the effect of BPR on performance. Specifically, important differences have been found regarding the potential effect of economic crisis on the BPR-performance relationship. Additionally, we found that economic crisis moderates the effect of BPR on firm performance in a negative way. This is in line with literature linking BPR and economic shocks (Park & Kim, 2008; Singh *et al.*, 2017; Zhou *et al.*, 2011).

Evidence shows that positive performance is achieved when restructuring takes place during an economic growth period, in line with previous studies like Zhou *et al.* (2011). Nevertheless, we found that firms operating in a network-oriented corporate governance context restructure more frequently during a recessionary period than in a growth context. This occurs despite the BPR-performance relationship being negatively affected by recession. On the contrary, the frequency of firms restructuring during a recession in a market-oriented corporate governance context decreases. We argued the reasons explaining this behaviour from the notion of OS and the effect that the institutional environment for corporate governance exercises on it. In market-oriented institutional contexts, lesser amounts of OS generate less room to avoid restructuring during the growth period. For these reason, companies suffer less pressure to restructure during a crisis period, during which the performance generated by BPR strategies is negative. In this way, firms from market-oriented institutional settings are

prompted to avoid the implementation of BPR strategies during an economic period (crisis) in which they generate a worse performance.

We have argued that market-oriented corporate governance systems generate a context that demands a high degree of efficiency from companies, promoting more frequent BPR operations. In contrast, firms based in network-oriented institutional settings experience less pressure to be efficient, so they usually perform fewer BPR operations. As a consequence, firms based in market-oriented institutional settings tend to implement BPR movements in less deteriorated situations than firms based in network-oriented institutional settings. This entails a smaller positive effect of each particular BPR movement on company performance for the former compared to the latter. Nevertheless, for those BPR movements made during a period of economic crisis, the situation varies significantly. In general terms, an economic crisis makes the effect of BPR activities negative. However, market-oriented corporate governance systems contribute to counteract part of this negative effect that the economic crisis can exert on the relationship between BPR and performance. In contrast, network-oriented corporate governance systems are not able to avoid the potentially negative effect of an economic crisis on this relationship. Moreover, these systems amplify the negative effects of the economic crisis on performance.

Empirical evidence is coherent with those studies arguing that market-oriented institutional environments provide more flexibility and incentives for firms to merge, buy or disinvest in order to pursue the interests of shareholders (Hillier, McColgan & Werema, 2009). Firms operating in market-oriented environments prefer to hold their main assets to avoid undervaluation by the market in a context with few buyers and many sellers (Zhou *et al.*, 2011). These firms had the opportunity to re-structure during the period of economic growth if it had been necessary. Therefore, the economic situation of the company presumably is not as

deteriorated as if it had not performed BPR operations when necessary. Thus, this institutional environment sets up the appropriate incentives to time any restructuring action optimally.

The institutional environment for corporate governance constitutes a valid framework for a better understanding of corporate decisions, such as BPR. Particularly, we demonstrate how firms belonging to a certain environment restructure with different frequency and with different effects on performance, especially during the different phases of the economic cycle. Additionally, we have shown how the different institutional environments for corporate governance posit different incentives and degrees of flexibility for firms for maintaining efficiency, and thus for implementing BPR strategies when necessary.

Our evidence is in line with arguments supporting the notion of enhancing the market for corporate control in institutional environments characterized by a network-oriented corporate governance system as a means to improve economic performance through corporate strategies, particularly BPR. It seems that the market for corporate control is much more effective to discipline managers to seek the maximization of the company's performance than blockholders' influence through the board of directors' control (Albert-Rouilhac & Breen, 2005). Thus, economic policy actions may seek to enhance the market for corporate control as a way to increase the pressure to improve performance of firm corporate decisions. And it gives markets greater power to discipline managers. This will then contribute to avoiding a negative impact from periods of downturn on the performance of restructuring firms. Although the European Commission has made some decisions in this line, it is necessary to continue pushing in this direction to overcome the traditional resistance to change in European continental countries (Gerum *et al.*, 2017).

One limitation of this study relates to the measure of the institutional environment, which we limit to a dichotomous variable. This variable we used gathers the most important differences between network- and market-oriented institutional systems. Nevertheless, as a

future line of research, a more complex measure for institutional environment could be implemented. This measure could include more differences/similarities between the different countries, considering for example, institutional distance. Additionally, it could be worth the effort to replicate and extend this study to other areas in which we can learn more about the effect of the institutional environment for corporate governance on BPR and other kinds of corporate decisions. It could be particularly interesting to analyse the different attempts in different areas of the world trying to approximate both systems of corporate governance (Knowledge @ Wharton, 2008). As a future line of research, a more holistic model of BPR strategy should be developed. Following the work of Hildebrandt *et al.* (2018), this model should help show that BPR is not a single event in the history of a corporation and that BPR could occur at early and advanced stages in the strategy and structure development of firms. Another future line of research, related to other limitations of this study could be the use of other measures of BPR identifying, for example, the businesses that are disinvested by corporations. Further, combining the analysis of BPR strategies with other corporate strategies such as diversification or internationalization strategies could be interesting. Moreover, an unexpected environmental shock that can potentially affect corporate decisions (e.g. BPR) in the companies we analysed is Brexit. We consider that it would be interesting to incorporate this event in our model. Nevertheless, at this moment, we do not have enough data to analyse this issue. It may be pointed out as an interesting future research topic when data is available from British and other countries' companies for some years after the Brexit referendum and the actual Brexit, if this is the case.

From a managerial point of view, this research reveals the need for managers and consultants to incorporate the institutional determinants of BPR decisions into the different tools used to diagnose, evaluate and advice BPR activities in a real world context. To deepen

in this kind of analysis, it should be necessary to use both a quantitative and a qualitative approach.

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Appendix A: BPR distribution by year & country

	AUT	BEL	DEU	DNK	SPA	FIN	FRA	UK	GRC	IRL	ITA	LUX	NLD	PT	SWE	TOTAL
1998	1	2	10			1	3				3		1			21
1999		2	10	3	2	1	3	46		2	2	1	1	1	4	78
2000		2	11	8		4	2	53		2	2		3	1	5	93
2001		2	14	3	1	1	11	61	4	2	1	1	7	1	5	114
2002	1	3	12	4	3	2	12	46	2	2	1	1	7	1	5	102
2003	1	5	14	2	4	2	10	53	3	3	5	1	4		3	110
2004		4	5	5		7	6	57	2	6	3		4	1	7	107
2005	2	4	15	3	2	3	15	56	3	2	4		1	1	8	119
2006	1	5	14	5	3	4	10	54	6	1	6		7	1	4	121
2007	1	2	14	6	2	3	8	70	13	1	2		6	1	2	131
2008	1	2	10	6	1	4	5	56	10	3	6	1	2	1	5	113
2009		1	5	3	2	2	6	38	4	1	2		3	1	4	72
2010	1	3	6	2	1	2	4	33	4	1	1		3	1	7	69
2011	1	3	5	2	2	8	3	35	2	2	3		1	2	3	72
2012	1	1	24	1		1	36	13	3	1	2			2		85
2013	6	1	30	2	1		44	11	2		2					99
2014		1	24	2		7	46	15	2	2	3		2		13	117
2015		1		2	2	5	8	11	3		5				1	38
TOTAL	17	44	223	59	26	57	232	708	63	31	53	5	52	15	76	1661

TABLES

Table 1. Previous literature analysing the effect of BPR strategies on performance

BPR- performance relationship	Economic Cycle		
	<i>Growth</i>	<i>Growth and recession</i>	
Market-oriented corporate governance	<i>Positive</i>	Bergh (1998); Bergh & Lim (2008); Chang (1996); Haynes, Thompson & Wright (2002)*; Kose, Lang & Netter (1992); Markides (1995); Thompson & Wright (1995)	Borisova, John & Salotti (2013); Owen, Shi & Yawson (2010)
	<i>Negative</i>	Boone, Haushalter & Mikkelson (2003); Lee & Lin (2008)*	Hillier, McColgan & Werema (2009)*
	<i>Mixed</i>	Bergh, Johnson & Dewitt (2008)	Brauer & Wiersema, (2012)
Network-oriented corporate governance	<i>Positive</i>	Fernández de Ávila, Garay & Pablo (2010)	Sun (2012); Zakaria & Arnold (2016)
	<i>Negative</i>	---	---
	<i>Mixed</i>	Sanchís (1996)	Choe & Roehl (2007); Park & Kim (2008); Singh, Mahmood & Natarajan (2017); Zhou, Li & Syejnar (2011)
Both	<i>Positive</i>	Datta, Iskandar-Datta & Raman (2003); Kumar (2005); Michaely & Shaw (1995); Veld & Veld-Merkoulova (2004)**	Daley, Mehrotra & Sivakumar (1997); Desai & Jain (1984); Hite & Owers (1983); Hulburt (2011); Mulherin & Boone (2000); Powers (2003); Schipper & Smith (1983)
	<i>Negative</i>	---	Colak (2010)
	<i>Mixed</i>	---	---

* Studies focusing on UK companies

** Studies focusing on a set of European countries

Table 2. Corporate Governance Systems: Network-oriented vs. Market-oriented

	Market-oriented	Network-oriented
Countries	Anglo-Saxon countries: USA, UK, Canada, Australia, among others	Japan, India, China, Continental Europe, Germanic countries and emerging markets
Ownership	Dispersed between many (small) shareholders	Concentrated among few shareholders or blockholders (banks, companies and family)
Control	Union of several shareholders that gather at least 5% of the total of the shares	It is exercised by large shareholders (blockholders)
Concept of the firm	Instrumental, shareholder-oriented	Institutional
Capital markets	Very liquid and there is a developed and active market for corporate control and takeover market	Relatively illiquid and have limited ability for corporate control
Importance of stock market in the national economy	High	Moderate/high
Ownership rights	Defence of ownership rights of shareholders	There is no tradition of struggle for ownership rights
Performance-dependent executive compensation	High	Low/moderate
Legal system	Common law countries, judges can apply the codes of good governance directly, allowing these to become enforceable standards	Countries of civil law, judges can not apply the codes of good government with the force of regulation, since the law can only be developed in the parliament
Time horizon of economic relationships	Short term	Long term
Ways to reduce conflicts	Active institutional investors	Good governance codes
Hostile takeover	The administration faces possible hostile takeover bids when many of its shareholders sell their shares	The ad/ministration (usually) does not face hostile takeover bids
Resolution of governance problems	They depend on administrative compensation and the corporate control market	They use the control of traditional shareholders to align the behaviour of managers and owners

Source: Own elaboration based on Aguilera & Jackson, 2003; Becht, 1999; Chung & Luo, 2008; Cuervo-Cazurra, 2002; Gerum, Mölls & Shen, 2017; La Porta, Lopez & Shleifer, 1999; Moerland, 1995; Nguyen, Rahman & Zhao, 2013; Renders & Gaeremynck, 2012; Weimer & Pape, 1999

Table 3. Evolution of the BPR strategy in the sample: 1998-2015

	Corporate Governance System	Country	Number of restructuring episodes	Percentage
<i>Network-oriented</i>		Austria	17	1.0
		Belgium	44	2.6
		Denmark	59	3.6
		Finland	57	3.4
		France	232	14.0
		Germany	223	13.4
		Greece	63	3.8
		Italy	53	3.2
		Luxembourg	5	0.3
		Netherlands	52	3.1
		Portugal	15	0.9
		Spain	26	1.6
		Sweden	76	4.6
		Subtotal		922
<i>Market Oriented</i>		Ireland	31	1.9
		UK	708	42.6
		Subtotal		739
	Total		1,661	100%

Table 4. Firms and restructuring operations depending on the institutional environment for corporate governance and the economic cycle

		1998-2007 and 2015	2008-2014
<i>Network-oriented countries</i>	<i>BPR operations</i>	506	416
	<i>Yearly average of BPR operations (a)</i>	46	60
	<i>Yearly average of firms (b)</i>	3,195	3,047
	<i>% (a)/(b)</i>	1.44	1.97
<i>Market-oriented countries</i>	<i>BPR operations</i>	528	211
	<i>Yearly average of BPR operations (a)</i>	48	30
	<i>Yearly average of firms (b)</i>	1,521	1,493
	<i>% (a)/(b)</i>	3.16	2.01
<i>Total</i>	<i>BPR operations</i>	1,034	627
	<i>Yearly average of BPR operations (a)</i>	94	90
	<i>Yearly average of firms (b)</i>	4,716	4,540
	<i>% (a)/(b)</i>	1.99	1.98

Table 5. Mean difference test (companies with at least one BPR operation)

Standard	1998-2007 and 2015	2008-2014	Total
<i>Network-oriented countries</i>	0.09772 (0.0041)	0.13428 (0.0061)	0.11140 (0.0034)
<i>Market-oriented countries</i>	0.13764 (0.0055)	0.10368 (0.0067)	0.12587 (0.0043)
<i>Mean difference test</i>	Pr(T > t) = 0.0000***	Pr(T > t) = 0.0011***	Pr(T > t) = 0.0084***

parenthesis. * Significant at 90%, ** Significant at 95%, *** Significant at 99%

Table 6. IV-FE estimation results

Variables	Model 1	Model 2	Model 3	Model 4
<i>BPR</i>	0.0987***	0.1846*	0.0379**	0.0824***
<i>Crisis</i>	0.0074	-0.0018	0.0184	0.0688*
<i>BPR*Crisis</i>	-0.3471***	-0.7271*	-0.0528*	
<i>BPR*Crisis*IE</i>				-0.3632***
<i>Sales</i>	0.0632***	0.1096*	0.0267***	0.0545***
<i>TDCE</i>	-0.0161***	-0.0228***	-0.0113***	-0.0168***
<i>CESales</i>	-0.0076*	0.0040	-0.0217**	-0.0077**
<i>Trend</i>	-0.2299***	-0.3673*	-0.1236**	-0.2499***
N	34,906	25,968	8,938	36,164
Joint significance test	F(7, 3875) =15.15 Prob > F = 0.0000	F(7, 2750) = 6.34 Prob > F = 0.0000	F(7, 1124) = 7.11 Prob > F = 0.0000	F(7, 3884) = 13.39 Prob > F = 0.0000
Endogeneity test	Chi-sq(1)=38.600 p-value =0.0000	Chi-sq(1)=29.584 p-value =0.0000	Chi-sq(1)=9.030 p-value = 0.0027	Chi-sq(1)=18.864 p-value =0.0000
Under-identification test	$\chi^2(1) = 14.700$ p-value = 0.0001	$\chi^2(1) = 3.581$ p-value = 0.0585	$\chi^2(1) = 18.680$ p-value = 0.000	$\chi^2(1) = 18.864$ p-value = 0.0000

* Significant at 90%, ** Significant at 95%, *** significant at 99%

Table 7. IV-FE robustness test estimations

	Model 5	Model 6	Model 7
<i>BPR</i>	0.0669***	0.0700	0.0431***
<i>Crisis</i>	0.0066	-0.0081	0.0194
<i>BPR*Crisis</i>	-0.1812***	-0.3059*	-0.0746**
<i>Sales</i>	0.0689***	0.1172*	0.0267***
<i>TDCE</i>	-0.0163***	-0.0240***	-0.0115***
<i>CESales</i>	0.0077*	0.0059	-0.0218**
<i>Trend</i>	-0.2473***	-0.3839*	-0.1228**
N	34,906	25,968	8,938
Joint significance test	F(7, 3875) = 13.79 Prob>F = 0.0000	F(7, 2750) = 5.87 Prob>F = 0.0000	F(7, 1124) = 7.15 Prob>F = 0.0000
Endogeneity test	Chi-sq(1)=39.064 p-value =0.0000	Chi-sq(1)= 3.317 p-value = 0.0686	Chi-sq(1)= 9.295 p-value =0.0023
Under-identification test	$\chi^2(1) = 12.549$ p-value = 0.0004	$\chi^2(1) = 3.317$ p-value = 0.0686	$\chi^2(1) = 19.635$ p-value = 0.0000

* Significant at 90%, ** Significant at 95%, *** significant at 99%

FIGURES

Figure 1. BPR events evolution

