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Inflation absorption capability and its effect on the price of shares: a review of its literature

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ABSTRACT This article addresses the inflation absorption capability of companies classified by sectors, as well as its impact in the price of shares. It starts by justifying the importance of the subject of study and then it presents a review of the international literature on the subject. The pioneer works on the subject are highlighted and a classification of the studies that have been analyzed is provided. Then, it analyzes the Spanish case in order to complete the main conclusions of the study. According to the authors, the inflation absorption capability, allows us to know the capability that companies from a determined sector have to translate the inflationary changes that happen in the economy into prices. The companies with a high capability of absorption will tend to present higher quotations, and will be less sensitive to inflationary changes.

KEYWORDS sectorial analysis, inflation absorption capability, duration of assets, inflation expectation, types of nominal interest rate.

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Capacidad de absorción de la inflación y su efecto sobre el precio de las acciones: una revisión de la literatura

RESUMEN Este artículo aborda la capacidad de absorción de la inflación que tienen las empresas clasificadas por sectores, así como su impacto en el precio de las acciones. Se comienza justificando la importancia del tema objeto de estudio, para luego presentar una revisión de la literatura internacional. Se destacan los trabajos pioneros en la materia y se aporta una clasificación de los estudios examinados. Luego, se analiza el caso español, para finalizar con las principales conclusiones del estudio. Según los autores, la capacidad de absorción de la inflación permite conocer la habilidad que tienen las empresas de un determinado sector para trasladar a precios los cambios inflacionistas que acontecen en la economía. Las empresas con alta capacidad de absorción de la inflación tenderán a presentar cotizaciones más elevadas y, además, serán menos sensibles a cambios inflacionistas.

PALABRAS CLAVE análisis sectorial, capacidad de absorción de la inflación, duración de activos, expectativas de inflación, tipos de interés nominales.

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Capacidade de absorção da inflação e seu efeito sobre o preço das ações: uma revisão da literatura

RESUMO Este artigo aborda a capacidade de absorção da inflação que têm as empresas classificadas por setores, assim como seu impacto no preço das ações. Começa-se justificando a importância do tema objeto de estudo, para logo apresentar uma revisão da literatura internacional. Destacam-se os trabalhos pioneiros na matéria e fornece uma classificação dos estudos analisados. Logo, analisa-se o caso espanhol, para finalizar com as principais conclusões do estudo. Segundo os autores, a capacidade de absorção da inflação permite conhecer a habilidade que têm as empresas de um determinado setor para transladar a preços as mudanças inflacionárias que acontecem na economia. As empresas com alta capacidade de absorção da inflação tenderão a apresentar cotizações mais elevadas e, além disso, serão menos sensíveis a mudanças inflacionárias.

PALAVRAS CHAVE análise setorial, capacidade de absorção da inflação, duração de ativos, expectativas de inflação, taxa de juros nominal.

Introduction

The main objective of this work is to the review the concept presented as an estimation of the companies' ability to translate the inflationary changes that happen in the economy into the prices of the products sold or the services provided, through the application of relevant econometric techniques. Mainly, the effect of the inflation absorption capability on the prices of company shares in the stock market is analyzed. The results obtained can then be evaluated against existing international studies. The Spanish case in particular is also examined.

A thorough review of literature in this field is carried out, highlighting the works by Asikoglu & Ercan (1992) and Jareño & Navarro (2010) as a basis for our analysis. Also, this study provides a classification of the main studies reviewed and collects the conclusions drawn after their analysis.

Review of previous international literature

Concerning the companies' ability to reflect economic inflationary changes on prices, previous literature will be reviewed in order to lay the foundations for our work. The evolution of studies conducted to date in different countries will allow us to provide an innovative analysis.

Prior to the revision, it must be said that this study is based on the works by Asikoglu & Ercan (1992) for the American case and Jareño (2006a) and Jareño & Navarro (2010) for the Spanish case, although the term " inflation absorption capacity" was first introduced by Estep & Hanson (1980), whose work is part of the previously cited literature.

We will start by referring to Asikoglu & Ercan (1992), who analyzed the negative relationship between inflation and share performance after investigating the financial dependency hypothesis suggested by Lintner (1975), the tax system hypothesis by Feldstein (1980) and the hypothesis proposed by Fama (1981 and 1982), etc.

In the financial sector, it can be said that an interest rate increase makes the current value of banking assets fall more than its liabilities or obligations. In addition, the costs of those liabilities increase more rapidly than the profitability of banking assets. This fact confirms the negative relationship between inflation changes and share price.

In the rest of non-financial companies, interest rate changes have a significant effect on the value of such companies through different channels. First of all, within the framework of current value models, interest rate increases elevate the companies' cost of capital, which translates into higher discount rates for the estimation of future cash flows, which negatively affects stock prices of companies. Secondly, higher interest rates increase interest expenditures for leveraged or indebted companies and product demand from the most indebted consumers can also be reduced. This fact causes lower profitability for companies and has a negative impact on stock prices. Thirdly, interest rate changes alter the market value of financial assets and liabilities for non-financial companies. In addition, interest rate fluctuations affect the opportunity cost of equity investments. Higher interest rates make bonds more attractive as an alternative to share maintenance, which leads investors to adjust their portfolios through bond purchase and share sale, therefore lowering share prices.

All of these effects suggest an inverse relationship between interest rate changes and returns on stocks.

In this context, Asikoglu & Ercan (1992) studied the relationship between inflation and returns on stocks at the sector level in the United States, using the hypothesis that inflation changes translate into prices (taken from Estep and Hanson, 1980). Specifically, the negative effect of inflation increases on a company's listing price will be inversely related to their ability to reflect inflation changes on prices.

Thus, the empirical evidence presented suggests an effect of a company's inflation absorption capacity on the valuation of stocks, also demonstrating that their measuring coefficients differ substantially in the various sectors. Companies with higher coefficients have share prices or equity securities which are less sensitive to inflation-related changes and an increased inflation absorption capacity is associated to higher prices per share.

The model developed by Estep & Hanson (1980), which is based on the dividend discount model (DDM), is used. Specifically, the Gordon-Shapiro formula assumes that future dividends are determined by a constant growth rate, which

leads to the well-known stock valuation formula (Gordon, 1959; Gordon & Shapiro, 1956):

$$P = \sum_{t=1}^{\infty} \frac{D_0(1+g)^t}{(1+k)^t} = \frac{D_0(1+g)}{k-g} \qquad (1)$$

where P is equivalent to the theoretical share value, D_0 is the first dividend paid by the company, g is the expected growth rate of dividends and k is the nominal discount rate.

In addition, another aspect that we must bear in mind concerning share valuation, as Leibowitz & Kogelman (2000) did, is the franchise factor[1], that is, considering incremental profits generated for the company as a result of its analysis of capital costs. The inclusion of this new factor 1) clarifies the role of ROE[2], 2) facilitates the development of two-phase models which reflect the typical pattern of a company's profits (both short-term and long-term), 3) supports various PER[3] levels, solving artificiality problems when it takes higher values due to low estimations of risk premiums or inflation rate and 4) leads to stock durations which are equal to PER under certain stable conditions. Some of the concepts used in this work came from previous studies by authors such as Leibowitz & Kogelman (1990, 1991 and 1993).

Returning to the work by Estep & Hanson (1980), we must refer to the incorporation of the differential effect of inflation on dividend growth into the traditional dividend discount model suggested by them. However, the inclusion of inflation requires clarifying two aspects:

First, the rate of return on investments is adjusted to inflation according to the Fisher effect, which states that the nominal interest rate (k) in any period equals the real interest rate (R) plus the expected inflation rate (I).

$$(1+k) = (1+R)\,(1+I) \qquad (2)$$

In relation to the Fisher effect, Jareño & Tolentino (2012b) define it as the percentage in which nominal interest rates contain inflation expectations, while maintaining constant real interest rates. Therefore, when the expected inflation rate increases by one percentage point (π_t^e), the nominal interest rate (i_t) also increases by the same percentage if the real interest rate (r_t^e), is kept constant. Mathematically, the Fisher equation can be broken down as follows (without arbitrage opportunities):

$$(1+i_t) = (1+r_t^e)*(1+\pi_t^e) \rightarrow 1+i_t = 1+r_t^e+\pi_t^e$$
$$+(r_t^e*\pi_t^e) \rightarrow i_t = r_t^e+\pi_t^e+(r_t^e*\pi_t^e) \qquad (3)$$

However, the value of the product of the interest rate and the inflation rate ($r_t^e*\pi_t^e$) is generally negligible (almost 0), therefore it is omitted in most cases. This is how a simplified expression of the Fisher effect can be obtained, according to the information before equation (2):

$$i_t \approx r_t^e + \pi_t^e \qquad (4)$$

$$r_t^e \approx i_t - \pi_t^e \qquad (5)$$

Thus, a 1:1 relationship between i_t and π_t^e can be obtained. An increase in the expected inflation leads to a proportional increase in the nominal interest rate ($\Delta i_t = \Delta \pi_t^e$).

In this sense, the authors also provide relevant information for this work. The previously mentioned effect has implications on the inflation absorption capacity, in particular, on the sensitivity of equity asset prices when the nominal interest rate changes as a result of variations in the expected inflation rate (Jareño, 2005; Jareño & Navarro, 2010).

Thus, Jareño & Tolentino (2012b) analyze if in the Spanish case the majority of nominal interest rate movements are caused by the inflation rate, keeping real interest rates constant. According to literature, this effect occurs only partially and in the long run, so it cannot be assumed that a change in inflation expectations (at a given time) will impact nominal interest rates instantly and completely. In the Spanish case, a positive and significant statistical relationship between expected inflation variations and changes is nominal interest rates (for the period between 1993 and 2004) is found.

In addition, according to Jareño & Navarro (2010), changes in nominal interest rates may have a different impact on share price, depending

1 According to Leibowitz & Kogelman (1990 and 1993) and Jareño (2005), the theoretical share value can be divided into two components: tangible value (associated to a company's current activity) and the franchise factor (associated to investment and future growth opportunities or "new activity").

2 *Return On Equity*: a ratio that evaluates a company's profitability.

3 *Price to Earnings Ratio*: the quotient between a company's price per share and its profit.

on whether it is induced by a change in inflation expectations or a change in the real interest rate. In this context, if the Fisher effect exists, a company that is able to translate a general increase of the inflation rate into the price of its products (and, consequently, into its expected nominal earnings), would leave the stock price unchanged. Conversely, a low capacity to translate inflation changes into prices would lead to stock prices which are extremely sensitive to interest rate changes.

Also, the inflation absorption capacity will depend on the industry where the company operates. Therefore, if a sector or a company is exposed to foreign competition, its capacity would be almost null and it would not have the same response capacity if there were market power (where the response of stock prices to nominal interest rate changes due to inflation expectation variations would be minimal).

Secondly, the growth of corporate dividends is divided into real growth and inflation-induced growth.

$$(1+g) = (1+G)\,(1+f\,I) \qquad (6)$$

where G represents the real growth rate and f is the inflation absorption coefficient.

Thus, dividend growth rate is determined by a company's real growth rate and a term which represents inflation-induced growth. Replacing both settings in equation (1), Estep & Hanson (1980) obtained the inflation absorption capacity model:

$$P = \frac{D_0(1+g)(1+fI)}{(1+R)(1+I)-(1+G)(1+fI)} \qquad (7)$$

In addition, after clearing f in equation (6), the final formula to calculate inflation absorption coefficients can be obtained:

$$f = \frac{g-G}{(1+G)I} \qquad (8)$$

In this regard, if a company is able to transform all the inflation into future growth, its inflation absorption coefficient will be unitary and the real price of its shares will do not depend on inflation. If, on the other hand, there is fixed growth, the coefficient is zero. In general, the negative impact of a remarkably high inflation on share price is inversely related to the inflation absorption coefficient level and share price itself is positively related to such coefficient.

Authors like Estep & Hanson (1980) and Asikoglu & Johnson (1986) estimate the capacity of U.S. and Canadian industries, respectively, to translate inflation changes into prices. The statistical significance of the inflation absorption effect on share valuation has been demonstrated by Asikoglu & Johnson (1990), using data from seven industrialized countries in an aggregate market.

However, Asikoglu & Ercan (1992) go beyond, estimating these coefficients at the sector level for 14 American industries in the 1974-1988 period, following the guidelines of the Standard and Poor's analyst guide, while also analyzing its statistical validity through the following equation:

$$R_i = \beta_0 + \beta_1 * I + \beta_2 (DU_i * I) + \beta_3 * f_i + u_i \qquad (9)$$

where R_i is the percentage of stock price change for industry i, I is the inflation rate, DU_i is the specific categorical variable of industry i and f_i is the inflation absorption coefficient for industry i.

The specific categorical variable of every industry takes a unit value if the sample mean of each industry's inflation absorption capacity is equal to or greater than the unit (otherwise, its value will be 0).

The β_2 coefficient measures the differential effect of inflation on share price both in industries with a high inflation absorption coefficient (larger than the unit) and those with a low coefficient (less than the unit). In the latter case, share price will be influenced through the β_1 coefficient due to inflation rate increases. However, if the industry has a high inflation absorption coefficient, the effect of inflation over share price will be $\beta_1 + \beta_2$.

On the other hand, the observation vector of coefficients, which measure the ability to translate inflation changes into prices, for each specific sector (f_i) gathers the correlation between share price changes over time and inflation absorption coefficients.

As in previous studies, a negative relationship between inflation rate and share performance is expected, so the sign of β_1 will be negative a priori (as opposed to the sign of the β_2 *and* β_3 coefficients). In addition, the negative effect of inflation on stock price will be lower if the industry in question has a high inflation absorption coefficient ($\beta_2 > 0$). Similarly, an increase in the inflation absorption capacity of an industry over time will affect positively its stock price ($\beta_3 > 0$).

After analyzing the results of various regression tests, the empirical evidence reveals that,

despite the previously mentioned negative relationship, companies with higher inflation absorption coefficients are less sensitive to inflation than those with a low coefficient. In addition, stock prices benefit from increases in the capacity to translate inflation changes into prices over time.

In any case, clear differences between the inflation absorption coefficients for each of the industries can be found and such differences depend on whether coefficients are high or low. Thus, it has been demonstrated that not all of them have the same capacity to maintain profit growth over an inflation period. In addition, empirical evidence reflects the existence of an effect of the companies' ability to translate inflation changes into the price of their products or services in the valuation of shares within an inflationary environment, which operates in two ways:

- First, industries with a low capacity to absorb inflation are more sensitive to inflation rate changes (and vice versa). This result corroborates the main idea that when inflation grows pressure on share price through discount rate will be offset to some extent by increases in the expected growth of nominal profitability. This compensatory effect is positively related to the inflation absorption coefficient of the industry in question.
- Secondly, there is a positive relationship between stock price changes and the coefficients that measure the company's ability to translate inflation changes into prices, which means that investors would be willing to pay a higher price when most of the inflation rate affects stocks, expressed as profit growth.

The Spanish case

In the Spanish case in particular, several authors have addressed this issue, whether estimating inflation absorption coefficients or explaining other theoretical aspects about them, such as the stock duration paradox. According to Jareño & Navarro (2010), the paradox is defined as the difference between the theoretical duration of assets derived from the dividend discount model (MDD) and its empirical estimation. This idea suggests that if a company can translate inflation changes into product price and, therefore, into its profits and dividends, then the changes in nominal interest rates due to changes in expected inflation will have a limited impact on stock prices. Some of the most relevant studies in this regard will be analyzed below.

Let us start by analyzing the works by Jareño (2006b) and Jareño & Navarro (2010), whose main result is having obtained a strong negative relationship between sensitivity of returns on stocks given changes in nominal interest rates and the inflation absorption capacity, which could be a possible explanation for the so-called stock duration paradox. Specifically, the absorption capacity can explain around 50% of the differences found between sectors in stock duration before changes in nominal interest rates. Also, a large number of companies has a significant negative sensitivity before changes in real interest rates, as well as a non-significant negative sensitivity to changes in the expected inflation rate.

This is how the Spanish market and its sector performance sensitivity to changes in real interest rates are analyzed separately from sensitivity to changes in the expected inflation rate. Other factors that affect companies are also taken into account, such as borrowing, liquidity, size or growth options.

However, in the Spanish framework works as the one by Ballester et al. (2011) can also be highlighted. It establishes a permanent negative relationship between the Spanish inflation rate and long-term stock market returns. Also, the authors use the inflation absorption capacity as a factor to explain bank exposure to interest rate.

The ability of Spanish companies to translate inflation changes into prices is also used to analyze their relation to stock duration (their sensitivity to changes in interest rates), as we can see in Jareño & Tolentino (2012a). The study is based on the duration models proposed by Jareño (2006b and 2008) and separates the variations of nominal interest rates arising from changes in real interest rates and the expected inflation rate.

In addition, as in Jareño & Navarro (2010), there is evidence of the negative relationship between inflation duration and the inflation absorption capacity. However, this negative relationship is not definitive, which corroborates the results obtained by Jareño & Tolentino (2012b), due to a partial Fisher effect in Spain.

On the other hand, Diaz & Jareño (2009) analyze, first, the short-term response of the stock sector performance to announcements of the unanticipated component of inflation and, second, delve into the potential explanatory factors that influence it.

In this sense, the first analysis focuses on the direction of inflationary surprises and the status of economy, noting a significant positive response of returns on stocks before bad news in recession times (meaning a better-than-expected inflation rate), and also in the case of negative inflation or good news in the recession phases of the economic cycle. The explanation for this behavior is that traders may think that the economy is growing beyond expectations, which is also influenced by the high capacity of companies to translate inflation rate changes into prices.

In the second study, the dividend discount model is used as a theoretical structure to control the main components of stock prices: risk-free interest rate, the risk premium of those stocks and the company's profit growth expectations. Thus, the first two factors do not show significant responses before unexpected inflationary surprises, while it is true that the company's profit growth expectations can explain most of the behavior of return on stocks before inflation news.

The results are consistent with the evolution of a company's dividend growth expectations, since the relationship between this theoretical component of stock prices and unexpected inflation seems to explain the trajectory observed. Previously, Jareño (2007 and 2009) showed some of these aspects, as well as the impact of methodology change on CPI calculation on the sector response that we have been discussing.

Our last reference to the Spanish case is Diaz & Jareño (2013), whose preliminary works argue that short-term responses to stock price before certain macroeconomic news could lead to biased results, since the responses obtained in different scenarios can cancel each other out. Their hypotheses state that when analyzing inflation news on the Spanish stock market, the market's direction and the inflation absorption coefficient depending on each company's sector are particularly relevant.

This is how unexpected inflation news imply abnormal returns depending on their direction, the economy's status and the sector's ability to translate inflation changes into prices. In addition, positive inflation news affect profitability of many sectors much more than negative news do, especially in periods of economic recession or stagnation. These significant effects are mainly observed in sectors characterized by a low inflation absorption capacity. In this sense, the results obtained are quite consistent with regard to each industry's ability to translate inflation changes into prices and the claims by Veronesi (1999).

Other relevant cases

Apart from the Spanish context, an international review was also carried out and some interesting literature that analyzed Eastern countries was found. For example, Ergun et al. (2008) analyze the consequences of external aspects on the operation of the Istanbul Stock Exchange for the 1996-2008 period, using monetary and macroeconomic indicators of Turkey. The results obtained indicate an absence of the dollar effect on the internal relations of the Istanbul Stock Exchange and at the same time they reveal bilateral causality between this aspect and interest rate.

On the other hand, Limpanithiwat & Rungsombudpornkul (2010) examined the relationship between inflation and share price in Thailand for the 2000-2010 period, considering the impact of specific events such as the tsunami and the economic crisis. The results obtained show that share price variations are irrelevant with respect to inflation and this result corresponds with experts' opinions on the Thailand Stock Exchange.

Other studies such as Ertek (2009) are based on the FT capacity concept introduced by Estep & Hanson (1980). It argues that greater percentages of inflation changes will translate into higher profit rates for a company and this will bring major positive implications for it (and vice versa).

In that vein, Ertek (2009) takes the inflation absorption capacity as a variable to consider in order to build a quantitative model of stock selection including high quality portfolios with an inflation coverage at the European level. These portfolios are constructed by selecting individual companies based on a group of features that are believed to affect the yield obtained by the various assets, which is related to inflation coverage.

The variables that are taken into account to select companies, besides inflation absorption coefficients, are nominal growth rate of dividends per share, profit growth rate, market power, gross profit margin, the cyclical nature of the economic environment and profits obtained.

After building several portfolios, these are evaluated according to their inflation coverage features and their performance in general. The first test is the estimation of simple correlation coefficients between portfolio yield and inflation.

TABLE 1. Summary of reviewed literature on inflation absorption capacity (IAC)

AUTHORS	SCOPE	IAC	CONTENT
Estep & Hanson (1980)	U.S.	Estimated variable	IAC estimation (by sector) through a wider DDM
Asikoglu & Johnson (1986 y 1990)	Canada	Estimated variable	IAC estimation (by sector)
Asikoglu & Ercan (1992)	U.S.	Estimated variable	Inflation-stock return relation (by sector)
Jareño (2006a)	Spain	Estimated variable	IAC estimation (by sector)
Ertek (2009)	Europe	Estimated variable	Share selection model to create high quality portfolios with inflation coverage
Jareño (2005, 2006b and 2008); Jareño & Navarro (2010); Jareño & Tolentino (2012a); Jareño & Tolentino (2012b)	Spain	Explaining variable	Share duration and IAC (Fisher effect: separation of the real ti effect and inflation)
Ballester et al. (2011)	Spain	Explaining variable	Bank exposure to ti. Inflation and long term profit relation
Díaz & Jareño (2009 and 2013); Jareño (2007 and 2009)	Spain	Explaining variable	Unanticipated inflation/short term stock return relation. Effects of the CPI elaboration method and the situation
Ergun et al. (2008)	Turkey	Explaining variable	External changes/Stock Exchange performance relation
Limpanithiwat & Rungsombudpornkul (2010)	Thailand	Explaining variable	Inflation/share price relation. Crisis and tsunami effect
Ang et al. (2011)	Europe	New estimation method	Individual inflation coverage capacity (per share)

Source: Own elaboration

A second method is based on multivariate regressions, where portfolio yields form a regression with inflation and average portfolio yield of the market. Therefore, we see that value selection does not occur in a univariate environment, but in a multivariate one.

Finally, Ang et al. (2011) studied the individual shares' inflation coverage capacity, given their great ability to do so, even when the aggregate market has very poor properties. However, there is a wide dispersion of inflation beta factors through individual shares and it is quite difficult to find shares that offer a good ex-ante inflation coverage. In this sense, a new path to measure the inflation absorption capacity is provided.

Conclusions

The main objective of the approaches outlined in this paper is to analyze the concept that studies the companies' ability to translate inflation changes occurring in the economy into the prices of their products or services by grouping information according to activity sectors.

The literature analyzed highlights that the companies' inflation absorption capacity differs significantly according to their sector, with special emphasis on the works by Asikoglu & Ercan (1992) and Jareño & Navarro (2010). This result is given by the fact that each sector is characterized by a set of features that generally differs from the rest: competition level, competitive strategies, market power, exposure to the general economic situation, etc.

Also, a positive relationship between the variation experienced by the shares of companies in the same sector and the corresponding inflation absorption coefficient is evidenced. This happens because investors are willing to pay a higher price for shares when most of the inflation rate has an impact on them, expressed as profit/dividend growth. Thus, increased inflation absorption coefficients are associated to higher prices per share.

In addition, empirical evidence shows that in those industries with a greater ability to affect

prices, stock quotes are in most cases less sensitive to inflationary fluctuations. This is due to a negative relationship between inflation and stock quotes, although it is true that in those sectors where the inflation absorption capacity is relatively high, inflation changes will affect the price of products sold or services rendered almost completely. In this way, investors will not be wary about stock price, since their value may be kept intact.

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Analysis of the circular relationship between corporate reputation and the creation of patrimonial value

pp. 81-91

JULIO DAZA-IZQUIERDO[a]

ABSTRACT Determining if companies should incorporate social aspects in their management strategies to satisfy the expectations of their different stakeholders presents theoretical postures and previous empirical evidence both for and against it. The objective of this study consists of analyzing the existing relationship between corporate reputation and the creation of patrimonial economic value in the companies sought-after in the Spanish stock market in the 2000-2012 period by applying a methodology of panel data. The obtained results show us that reputation has a positive influence in the creation of patrimonial economic value and that, at the same time, a higher company value leads to a higher corporate reputation showing a bi-directional relationship, which provides feedback to the two variables that are the subject of this study. These results have important implications for management as they legitimize the integration of corporate social responsibility practices in big Spanish companies sought-after in the stock market.

KEYWORDS shareholders, value creation, panel data, interest groups, Tobin's Q Ratio, corporate reputation.

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Análisis de la relación circular entre reputación corporativa y creación de valor económico patrimonial

RESUMEN Determinar si las compañías deben incorporar aspectos sociales en sus estrategias de gestión conducentes a satisfacer las expectativas de sus distintos *stakeholders* presenta posturas teóricas y evidencia empírica previa tanto a favor como en contra. El objetivo del presente estudio consiste en analizar la relación existente entre reputación corporativa y creación de valor económico patrimonial en las empresas cotizadas en el mercado bursátil español durante el periodo 2000-2012 aplicando una metodología de datos de panel. Los resultados obtenidos nos indican que la reputación influye positivamente en la creación de valor económico patrimonial, y que, al mismo tiempo, un mayor valor empresarial repercute en una mayor reputación corporativa, dando muestras de una relación bidireccional que retroalimenta las dos variables objeto de estudio. Estos resultados tienen importantes implicaciones para la gestión, ya que legitiman la integración de prácticas de responsabilidad social corporativa en las grandes empresas españolas cotizadas en bolsa.

PALABRAS CLAVE accionistas, creación de valor, datos de panel, grupos de interés, ratio q de Tobin, reputación corporativa.

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Análise da relação circular entre reputação corporativa e criação de valor econômico patrimonial

RESUMO Determinar se as companhias devem incorporar aspectos sociais em suas estratégias de gestão conducentes para satisfazer as expectativas de seus distintos *stakeholders* apresenta posturas teóricas e evidência empírica prévia tanto a favor quanto contra. O objetivo do presente estudo consiste em analisar a relação existente entre a reputação corporativa e a criação de valor econômico patrimonial nas empresas cotadas no mercado da bolsa de valores espanhola durante o período 2000-2012 aplicando uma metodologia de dados de painel. Os resultados obtidos indicam-nos que a reputação influi positivamente na criação de valor econômico patrimonial, e que, ao mesmo tempo, um maior valor empresarial repercute em uma maior reputação corporativa, dando mostras de uma relação bidirecional que retroalimenta as duas variáveis objeto de estudo. Estes resultados têm importantes implicações para a gestão, já que legitimam a integração de práticas de responsabilidade social corporativa nas grandes empresas espanholas cotadas na bolsa.

PALAVRAS CHAVE acionistas, criação de valor, dados de painel, grupos de interesse, proporção q de Tobin, reputação corporativa.

Introduction

Corporate reputation is often identified with a company's public image or brand. However, this is a much broader concept that involves not only the external image but also the internal image that various stakeholders have about the company. In particular, reputation is the result of a long process that begins with the behavior of the company towards its participants. Later, specialized intermediaries who analyze disperse information and disseminate it take part in this process. Finally, economic agents evaluate the company and generate perceptions based on their relation with it and the information received from specialized intermediaries.

In this sense, corporate reputation may be defined as the general perception of a company's capacity to satisfy stakeholders' expectations, both in terms of behavior and informative transparency. It is, therefore, a very relevant intangible asset that in the last few years has generated interest not only from scholars but also from professionals, whether they are managers, analysts or investors. In addition, corporate reputation is a source of competitive advantage because it works as a strategic resource and a dynamic capacity that provides value when used strategically (Martinez & Olmedo, 2010).

From the academic point of view, there is a theoretical and empirical debate about the need to incorporate the relationship with stakeholders into management strategies. On the other hand, from a professional point of view, managers are interested in knowing the implications of incorporating social responsibility principles in their companies with the purpose of improving strategic relations with stakeholders. Also, institutional investors and portfolio managers are increasingly interested in the stock market impact of these measures and they also want to know if this type of management can increase the company's market value.

Nevertheless, previous empirical evidence that analyzes the nature of the relationship between corporate reputation and the creation of patrimonial value does not provide conclusive results. This is caused by a series of limitations such as the lack of theoretical foundations, the use of unsuitable variables to measure reputation or value, the specification of simplistic models that provide non-robust estimations which can lead to false results and the use of databases with minimum variability in terms of the underlying characteristics of companies. In this context, the objectives of this study are to provide additional empirical evidence to solve the limitations mentioned above and to provide robust results with respect to the nature of the relationship between corporate reputation and the creation of patrimonial value in the Spanish stock market for 2000 to 2012.

One of the contributions of this work is the analysis of a long time frame of over ten years of study. It includes some first years of expansion, as well as other years characterized by a strong international financial crisis. In order to control that macroeconomic impact and the specific effects for each company, a panel data analysis was chosen. Various methods such as those traditionally used (ordinary least squares, fixed or random effects) and the generalized method of moments are applied. This allows for conclusive results about the relationship between the two variables studied.

Specifically, the results obtained indicate that reputation influences the creation of patrimonial value in a positive way. Simultaneously, a greater business value implies a greater corporate reputation, which demonstrates a bidirectional relation that provides feedback for both variables studied. These results have important implications for management, because they legitimize the integration of social responsibility practices in major Spanish companies, as will be discussed throughout the text.

The rest of this work is structured as follows. The second section describes for and against theoretical positions about the incorporation of social aspects into management strategies. The third section describes the hypothesis studied about the nature of the relationship between the social strategy and patrimonial value. The group of Spanish companies with the best reputation during the 2000-2012 period is presented in the following section. The fifth part deals with the results obtained from the analysis of the relationship between reputation and value creation and the sixth section describes the conclusions and implications for management deriving from this study.

The stakeholder theory and intelligent value creation

The question of whether companies should incorporate social aspects into their management strategies in order to meet the expectations of the different stakeholders has for and against theoretical positions. On the one hand, we have the neoclassical position advocated by Friedman (1970), who argues that a company's responsibility is to use its resources in efforts to maximize profits, acting according to basic society rules incorporated in the law and ethical practices. Therefore, the social function of the company should be guaranteeing that the value of the results obtained is not inferior to the value of the resources used. This is achieved when companies maximize their benefits or the value of the owners or shareholders' equity. That is why it can be concluded that companies should maximize that value. When this is achieved, according to Friedman (1970) the company's contributions to society will be optimized. This implies that any other activity that prevents the company from maximizing patrimonial value will be unacceptable, since misallocation of resources may be taking place.

The neoclassical position argues that a company's management should only revolve around the interests of its owners or shareholders. In contrast with this position, we have the so-called stakeholder theory developed by Freeman (1984), which considers that the company does not belong to one single person (owner or shareholder), but it must be understood from the point of view of the plurality of stakeholders involved and who, therefore, make it possible. In this sense, the objective of a company should not be maximizing market value but making sure that the company creates value for all stakeholders, including employees, consumers, local communities, environmental or natural resources, etc.

According to this theory, some authors such as Post, Preston & Sachs (2002) argue that companies should involve all the necessary social aspects, regardless of costs incurred in this process and the income produced by it. Conversely, other authors like Jensen (2002) agree with the idea that a company's objective must be to maximize its patrimonial value while incorporating measures of social nature in management, which should be proposed in terms of value creation. Therefore, it is important to know whether these measures are profitable for the company or if they allow for the maximization of value for shareholders, which Jensen (2002) calls "intelligent value creation".

In this context, the objective of this study is to analyze whether social strategy policies adopted by the Spanish corporations, which are measured through their corporate reputation, can affect the company's market value and therefore its value for shareholders, contributing to the generation of the so-called "intelligent value" of a company.

Theoretical approach on the relationship between reputation and creation of patrimonial value

Before the empirical analysis, it is necessary to present the different alternatives that exist regarding the relationship between reputation and value creation, as well as the hypothesis that support that possible link. To do this, we used the conceptual framework developed by Preston & O'Bannon (1997), which was subsequently extended by Gomez (2008), to summarize the theoretical foundations of the relationship between social and financial performance shown in table 1. This table also presents different study alternatives, the possible results that they could provide and the name of the hypothesis associated to such results.

According to Preston & O'Bannon (1997), three possible alternatives to study the relationship between reputation (understood as the result of a company's social performance) and value creation can be found. First of all, the most widespread approach analyzes only the possible impact of corporate reputation on the creation of the company's patrimonial value. A second alternative would be to analyze the influence of value creation on social responsibility policies aimed at improving the relationships with the company's stakeholders. The last alternative is not very common and implies the analysis of existing synergies between both variables.

Specifically, when value creation is the dependent variable and the objective of the study is to analyze the influence of reputation as a result of social responsibility policies, there are two alternative hypotheses to explain possible outcomes. On the one hand, a positive result would be explained by the social impact hypothesis, which holds that when the company is able to manage efficiently the relationships with its stakeholders,