Corporate capital structure and employment protection: The role of financial flexibility to avoid job cuts*

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Abstract

The COVID-19 pandemic has highlighted the relevant role of companies in protecting employment levels. To shed new light on such important issue, this study analyzes the impact of firm financial flexibility on employment, given that being financially flexible can be an effective strategy to protect human capital. To this aim, we have developed a continuous financial flexibility variable that allows us to measure its impact more precisely. Our empirical evidence shows that financial flexibility helps companies to maintain their employment levels. Nonetheless, such beneficial effect depends on the legal form and size of the firm. In particular, private limited companies (vis-à-vis public ones) and small firms (compared to large firms) benefit most from financial flexibility in terms of avoiding job cuts. Finally, we find that small private companies are the ones that make the most of remaining financially flexible.

Keywords: capital structure, financial flexibility, employment, legal form, firm size.

JEL Classification: G32, M51.

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1. Introduction

The COVID-19 pandemic has highlighted the importance of maintaining employment, even when economic activity drops to levels well below normal due to a sudden macroeconomic shock. Under such circumstances, avoiding job cuts is essential from a macroeconomic point of view, so that the economy does not suffer severely. Similarly, preserving employment is relevant from a microeconomic perspective, to avoid a loss of human capital. External shocks, such as the COVID-19 pandemic, highlight that there are companies for which a weak financial structure (involuntarily) leads to inefficient decisions from the point of view of human resource management.

Given that the labor force is an asset that cannot be offered as collateral, the costs of employees are difficult to finance with external funds. As a consequence, companies are sometimes forced to adopt job cuts as a reactive strategy to cope with lack of credit supply, cash flow shortages and other financial distress threats. However, reducing the workforce may even increase the imminent financial distress risk as dismissals automatically entail immediate employment protection costs (Simintzi, Vig & Volpin, 2015; Dewaelheyns, van Hulle & van Landuyt, 2019).

Despite the importance of corporate finance to human resources management, the finance literature has paid little attention to this issue and thus far it has provided no solution that could be implemented in advance to avoid a reactive workforce downsizing strategy. Previous research that investigates the link between the human resource and corporate finance policies has primarily focused on the relation between leverage and employment protection, which is also considered relevant when it comes to changes in target leverage and the adjustment speed towards such debt level (Simintzi et al., 2015; Dewaelheyns et al, 2019).

In light of these arguments and considering the pervasive use of workforce downsizing as a strategy to avoid financial distress, we ask whether keeping financial flexibility (achieved through the adoption of a low leverage strategy in previous years) can be an alternative way to protect the employment level and thus human capital. This question is relevant and has notable implications for the corporate finance literature, which has mainly focused on capital investment (Cao & Rees, 2020). In addition, an analysis of employment protection is relevant from a corporate finance perspective because labor is a factor of production. Heil (2020) corroborates the relevance of our study by noting that there is room for an economic analysis of the impact of finance on employment, given that finance plays an important role for job quantity and quality.

Furthermore, this empirical question deserves a careful analysis because human capital cannot be owned, and employees act strategically, behaving according to their own personal interests and deciding which company to support (Matsa, 2018). Therefore, designing strategies to protect human capital is as relevant to a company's success as is developing strategies to protect its other assets. Moreover, there is a social dimension in the study of the ability of companies to protect their workforce. In this vein, our study aims to show under what circumstances a company can benefit from a low leverage strategy in terms of maintaining or increasing their employment level, in turn contributing directly to a reduction in unemployment rates in the economy.

The objective of this paper is to analyze the impact of a firm's financial flexibility on its employment level. Therefore, our research brings the corporate finance literature closer to human resource management decisions, by focusing particularly on such relevant strategies as employment downsizing and low leverage preferences. Our analysis should benefit researchers and practitioners alike by highlighting the extent to which strategies linked to financial flexibility are effective in the protection of human capital.

In our study, we define financial flexibility as the ability of a company to protect its assets against external frictions. It captures the efficiency of the company's response to unexpected changes in cash flows or in the investment opportunity set (Denis, 2011). Over the last 20 years, financial flexibility has been regarded as one of the most important driver of capital structure decisions. Since Graham & Harvey (2001) noted that managers tend to adopt a conservative behavior to protect their companies from future shocks, the financial flexibility related literature has grown substantially. In this respect, Gamba & Triantis (2008) show that a financially flexible company must be valued at a premium compared to inflexible companies. However, scant literature investigates whether financial flexibility can help to preserve and enhance the company labor force, and thus to protect its human capital.

An additional challenge in this strand of research is the fact that, despite the importance of financial flexibility, there is no defined measure or even a proposed continuous variable that captures the degree to which firms are financially flexible. In this paper, we develop an innovative financial flexibility variable and explore its effect on a firm's employment level.

We have chosen Spain for our empirical analyses because, according to the International Monetary Fund (IMF), it is a service-based economy, heavily reliant on tourism, mostly made up of small and medium-sized enterprises and characterized by a

high temporary employment level (IMF, 2020). Specifically, the data from the Spanish Office for National Statistics (INE by its name in Spanish) reveal that small and private limited companies represent 95% of the entire corporate sector in Spain and are responsible for two thirds of its employment (INE, 2020). The chosen period (2008-2015) is also relevant as it covers the 2008 global financial crisis and the subsequent recovery phase, thus enabling a more comprehensive analysis of the effects of financial flexibility on firm employment levels.

The empirical evidence comes from the estimation of several employment models with a method that solves two of the most important econometrical problems. First, we address the individual heterogeneity problem by using the panel data methodology. Second, we control for endogeneity by using an instrumental variable method. Specifically, we have used the difference generalized method of moments (GMM) derived by Arellano & Bond (1991).

Our results show that achieving financial flexibility through a previous conservative behavior allows companies to maintain their employment levels. We also shed new light on how the beneficial effect of financial flexibility varies depending on the type of company according to its legal form and size. In particular, the influence of being financially flexible is more relevant for private limited companies than for their public counterparts. Additionally, we show that firm size plays an important moderating role in the relation between financial flexibility and employment, in that small companies are those that benefit most from financial flexibility. Furthermore, when we account for both moderating effects simultaneously (i.e., firm size and the legal form), we observe that the role of financial flexibility in the protection of employment levels is most pronounced in small private companies.

We contribute to the corporate finance literature in several ways. First, we develop a continuous variable to measure the level of financial flexibility, which can be useful in future research that aims to explore the effects of previous managerial decisions regarding capital structure. Furthermore, the continuous variable captures the total effect of financial flexibility on employment, thus substantially improving the dummy variable approach used in previous studies.

Second, we provide new insights on the relationship between employment and leverage. To date, the corporate finance literature has analyzed the effect of employment protection on leverage, as discussed by Simintzi et al. (2015). In a similar vein, Falato & Liang (2016) identify human capital protection as an important driver of corporate

leverage decisions. However, the relation investigated in our paper goes in the opposite direction; that is, we study the effect of capital structure decisions on employment levels. More precisely, we focus on how financial flexibility affects a firm's employment, an issue that has gained importance for any country during the COVID-19 pandemic.

Third, to the best of our knowledge, we are among the first scholars that identify the different impact of financial flexibility on employment depending on the legal form of the company. In this sense, we find that the advantages of financial flexibility in terms of employment are more important for private limited companies than for their public counterparts. Our findings will help future research to better understand the corporate finance puzzle and highlight the importance of considering heterogeneity among companies and in their behavior. Fourth, our paper also makes a contribution from a social perspective. As noted by Berk, Stanton, & Zechner (2010), a reduction in employment levels entails costs to unemployed people associated with the effort and time spent finding a new job and with the probability of having to accept a substantially lower salary. The human resource management literature also points to the psychological and health problems linked to job cuts, along with the higher workload and the ensuing uncertainty that affects the remaining employees of the company (e.g., Dlouhy & Casper, 2020; Ritter-Hayashi, Knoben, & Vermeulen, 2020). The empirical evidence that we provide offers a new alternative strategy that researchers in the human resource management field should consider while assessing the costs and benefits of workforce downsizing.

Finally, this paper also has a series of practical implications. The development of a new, continuous financial flexibility variable could help practitioners to better understand and decide the firm's target leverage, considering the protection of human capital and its related performance. Meanwhile, our empirical evidence highlights that policymakers should consider companies' heterogeneous behavior in order to propose a more efficient employment protection legislation that takes into account the importance of financial flexibility and promotes credit supply to those firms that provide more stable employment.

The remainder of the paper is structured as follows. Section 2 provides a literature review, describes the theoretical framework and presents our hypotheses. The data and research method are described in Section 3. Section 4 discusses the main findings, and Section 5 presents the robustness tests. Finally, Section 6 highlights our main conclusions.

2. Literature review and hypothesis development

2.1. Capital structure and employment

Given that human capital is an intangible, highly specific and costly redeployable firm asset, there are obstacles to finance it. Benmelech, Frydman, & Papanikolaou (2019) highlight that human capital cannot serve as collateral and, therefore, firms face challenges to maintain it during credit supply shortage. Such particular characteristics of human capital could encourage the employee downsizing strategy as a common and expensive way to avoid financial distress.

From a financial perspective, reducing the workforce is considered an inefficient approach to financial tension because it leads to human capital loss and immediate employment protection costs (Dewaelheyns et al., 2019). From a human resource perspective, it could lead to a negative reaction from the remaining employees, which would in turn limit the potential positive effects of such strategy. Employee downsizing is indeed considered a stressful event that harms surviving employees in both their engagement and health (Dlouhy & Casper, 2020). Furthermore, it dampens innovation and performance (Ritter-Hayashi et al., 2020), which results in a loss of firm competitiveness.

The relation between capital structure and employment is endogenous in that both are affected by employment regulation. Simintzi, Vig, & Volpin (2015) follow the trade-off theory and state that an increase in employment protection level positively affects the restructuration and financial distress costs. Dewaelheyns et al. (2019) declare that the fixed and lawfully imposed cost of hiring and firing personnel are relevant for capital structure decisions, lowering the optimal target leverage level. Meanwhile, Quadrini & Sun (2018) identify a positive correlation between the ability to acquire debt and that to hire personnel.

While some authors conclude that financial constraints do not affect employment growth (e.g., García-Posada Gómez, 2019), others consider that employment level might be determined by capital structure (e.g., Benmelech et al., 2019). Additionally, this second strand of research suggests that employment level is affected by company's financial flexibility because constrained firms tend to cut jobs.

At the same time, workers' bargaining power might affect a firm's capital structure by lowering the target leverage due to the existing trade-off between labor costs and interest expenses (Campello, Graham, & Harvey, 2010; Quadrini & Sun, 2018). Frank & Goyal (2009) argue that firms that need more specific labor due to the uniqueness of the

industries in which they operate will opt for less debt in order to protect human capital. Such observation supports Denis' (2011) definition of financial flexibility, according to which companies tend to seek lower leverage to be protected against unexpected adverse eventualities. This line of thought justifies a detailed analysis of the relation between financial flexibility and employment level, in an effort to disentangle under which circumstances companies benefit from financial flexibility as a way to protect or enhance their employment levels.

2.2. Where does financial flexibility come from?

Denis (2011) and Bonaimé et al. (2014) provide a definition of financial flexibility that leads to a broad and complex construct. Accordingly, several strategies are involved to achieve financial flexibility, such as the adoption of a low leverage policy, high flexibility in the payout policy, an increase in the bargaining power with suppliers, employees and other stakeholders, and/or even generating a closer relationship with financial institutions.

Morais, Serrasqueiro & Ramallo (2020) differentiate between both financial flexibility and pecking order theories to disentangle the reason why companies tend to prefer internal funds over debt. The financial flexibility argument advocates that companies should preserve borrowing capability to invest in future investment opportunities, while the pecking order contends that companies should use internal funds instead of more expensive external finance sources.

Considering the previous literature and the aim of our paper, we focus on strategies adopted by a company to protect itself from unexpected economic shocks, including events like the recent COVID-19 pandemic, to define financial flexibility. Among the diverse strategies observed in the finance literature, the one on which most measurements of financial flexibility have relied is the adoption of low leverage (see, e.g., Marchica & Mura, 2010; Ferrando et al., 2017; among others).

Morais et al. (2020) show that tangibility increases the credit supply without affecting debt demand, and hence results in a higher difference between predicted and observed leverage; thus, positively affecting financial flexibility.

Further investigating the effects of tangibility, Campello & Hackbarth (2012) mention that it relaxes firms' financial constraints and increases debt capacity, thus allowing future investment. These authors conclude that tangibility has a similar effect to that of financial flexibility for firms that lack credit capability (i.e., it leads to higher credit

access and consequently to higher investment expenditures). Lei, Qiu & Wan (2018) conclude, for their part, that the lack of tangibility among companies might limit their credit access and that this effect is stronger in less financially developed countries.

Profitability is also regarded in the literature as one important determinant of leverage. Abel (2018) studies the correlation between profitability and leverage from a trade-off theory perspective and identifies thresholds of profitability where this theory applies. From the financial flexibility perspective, the most profitable companies are better able to accumulate cash and depend less on debt (Denis, 2011). Morais et al. (2020) show that profitability increases debt supply and reduces debt demand, which translates into higher financial flexibility as captured by the difference between the available and actual leverage of the firm. Therefore, profitability is also a source of financial flexibility. This relation is also observed in zero leverage companies (Strebulaev & Yang, 2013) and is consistent with the model of Marchica & Mura (2010), according to which financial flexibility is attained through low leverage.

Support from suppliers can also be considered as a financial flexibility source. For Rahaman, Rau & Al (2020), the relationship with suppliers can reduce loan costs and increase credit access. Part of this support relies on trade credit (i.e., the monetary amount of credit offered by suppliers). Furthermore, trade credit is viewed in the finance literature as both a complement and a substitute of bank loans (Andrieu, Staglianò & van der Zwan, 2018; Yang, 2011). As a sign of external approval of the company for financial intermediaries, it leads to lower agency costs, acting as a complementary financing mechanism to debt (Andrieu et al., 2018). One example is provided by Casey & O'Toole (2014), who show that, when credit from financial institutions is constrained, companies tend to resort to trade credit as a substitute for bank loans; by contrast, trade credit serves as complementary source of credit in a monetary ease scenario. Shang (2020) reveals that trade credit is also a substitute for stock liquidity, as companies with higher stock liquidity depend less on their supplier and offer more trade credit to customers.

All the dimensions discussed above might be reflected in a low leverage strategy, which is an approach that has been commonly used in the literature to measure the degree to which firms are financially flexible (Marchica & Mura, 2010; Ferrando et al., 2017).

2.3. The relevance of financial flexibility for employment

Financial flexibility is one of the most important drivers of capital structure decisions (Graham & Harvey, 2001; Gamba & Triantis, 2008). Hence, we focus on this

driver and, more precisely, on its potential effect on the ability of companies to protect their employment levels. In this respect, Graham & Harvey (2001) have identified, through direct survey data, that companies purposely seek financial flexibility to avoid having to downsize their business in case of an economic downturn. In this vein, Lambrinoudakis, Skiadopoulos & Gkionis (2019) show that managers reduce leverage when they expect future economic shocks. This previous evidence highlights that financial flexibility is remarkably relevant to employment levels and thus a study of the relation between the two is warranted and necessary.

The influence of financial flexibility has already been documented in the academic literature, which has traditionally studied the correlation of this capital structure dimension with other financial aspects of the company. Agha & Faff (2014) observe a positive association between changes in the financial flexibility status of the firm and its credit rating, whereas higher financial flexibility is negatively related to the cost of capital. Financial flexible companies tend to exhibit higher capital expenditures (Agha & Faff, 2014; Ferrando, Marchica, & Mura, 2017).

Other consequences of financial flexibility emphasized in prior research are, for instance, its positive impact on firm profitability, value and dividend payouts (Bessler, Drobetz, Haller, & Meier, 2013; Bonaimé, Hankins, & Harford, 2014; Rapp, Schmid, & Urban, 2014). Related to these effects, Gamba & Triantis (2008) and Rapp et al. (2014) suggest that firms should be valued with a premium for preserving financial flexibility.

The literature that explores a firm's financial constraints has also reported the negative side of lacking financial flexibility. For example, Campello et al. (2010) highlight that, during the 2008 financial crisis, financially constrained firms adopt downsizing plans that are four times more aggressive than the plans of their unconstrained counterparts.

The role of financial flexibility described in the previous paragraphs is reflected in the abovementioned definition of this phenomenon proposed by Denis (2011) and could be defined as the adoption of a conservative behavior in order to protect assets from future shocks. In this framework, it can be logically assumed that managers follow conservative practices to protect human capital (and employment levels) from financial distress and underinvestment. This idea is in line with the relation between capital structure and employment documented by Frank & Goyal (2009), who explain this relation by arguing that companies tend to protect their unique set of assets by reducing leverage.

Therefore, prior literature implicitly suggests that there is a link between financial flexibility and the preservations of employment at the firm level. In particular, the financial logic supports a positive effect of financial flexibility on the level of employment. However, this relation remains unexplored by the academic literature. Hence, we formulate our first hypothesis as follows:

H1. Financial flexibility positively affects a firm's employment level.

We next consider the legal form of the business and differentiate between private limited and public limited companies, both of which are established for commercial purpose. Some notable differences between both firm types are the capability of trading shares, the mandatory board of directors (required only for public companies), and the percentage of capital owned by managers. Campello et al. (2010) also identify a different behavior according to the company's legal form during crisis, whereby private companies tend to cut on marketing and capital expenditures while public companies tend to reduce investments in technology.

With all these considerations in mind, it is reasonable to argue that public limited companies are less debt dependent than their private limited peers (Brav, 2009; Goyal, Nova, & Zanetti, 2011). More recently, Shang (2020) suggests that stock liquidity reduces the dependence on debt by showing that more stock liquid companies opt for less trade credit from its suppliers and that they simultaneously offer more trade credit to its customers. There is additional empirical evidence that supports a different behavior of public vis-à-vis private companies and that could shed light on the effect of financial flexibility on employment. Specifically, Graham & Harvey (2011) identify that private companies paid higher spreads and presented lower debt maturity during the 2008 crisis. These same authors also find that private companies are twice more likely to experience difficulties obtaining credit and reduce leverage three times more than their public counterparts during the previously mentioned crisis.

Apart from the direct effect of the legal form on the access to credit during crisis times, there are other aspects of this firm characteristic that may also affect its financing options and thus alter the importance of financial flexibility for firm employment. Such aspects include the debt dependence, the differences between their typical ownership structures and the separation of ownership from management. Regarding the dependence on debt, Keasey, Martinez, & Pindado (2015) highlight the willingness of large shareholders to maintain control by choosing leverage over capital for company financing, which increases the important role of financial flexibility. Given that private

limited firms are characterized by having large shareholders, these companies benefit most from financial flexibility. In respect with the ownership structure, as the board of directors should be approved by shareholders in public firms, these companies typically exhibit higher divergence between their ownership structure and the composition of management, and a higher propensity of having owner-manager agency problems than private companies, where the shareholders are usually directors.

Regarding the traditional separation between ownership and management, the finance literature usually focuses on public companies and emphasizes the lack of efficiency of cash holdings in poorly governed companies due to agency problems. For example, Chang & Ma (2019) study the agency problems caused by excess cash and find that the continuous use of financial flexibility reduces managerial efficiency of Chinese listed firms. This negative effect of financial flexibility is also found in Riddiough & Steiner (2020), who observe that, under weak governance and freedom environments, managers can exhaust indebtedness capability inappropriately. Other authors support the use of short-term debt mitigate the public companies' manager-shareholder agency conflicts. In this vein, Huang, Jiang & Wu (2018) show that a disciplinary use of low maturity debt avoids agency problems of poorly governed companies. Another alternative to mitigate these agency problems is direct manager supervision. In this vein, Dittmar & Mahrt-Smith (2007) show that corporate governance quality determines the cash holding efficiency for firms' value protection.

In sum, as discussed above, companies tend to behave differently depending on their legal form, being some notable differences between private and public companies their access to credit and the separation between ownership and management. Therefore, taking these two dimensions related to the legal form into account, we expect that financial flexibility has a stronger impact on employment in the case of private firms and, consequently, our next hypothesis is:

H2. The positive impact of financial flexibility on employment is more pronounced for private companies than for public ones.

Small companies are more heavily dependent on debt than their larger peers, which leads to a higher probability of excess leverage (Daskalakis, Balios, & Dalla, 2017). They also have lower capability of offering collateral or downsizing, thus exposing them to higher financial distress risk (Aybar-Arias, Casino-Martínez & López-Gracia, 2012; Begeneau & Salomao, 2019). Furthermore, Kudlyak & Sánchez (2017) show that small companies respond more slowly to the economic scenario and tend to deleverage less

than large companies, which translates into longer tight credit periods for small compared to large enterprises.

In addition, banks do not offer credit equally among firms and they cut the access to credit depending on the peculiarities of each borrower. In this vein, Liberti & Sturgess (2018) show that lenders tend to choose borrowers in a credit supply shock prioritizing better payers, instead of cutting loans equally among all borrowers. Van Hoang, Gurău, Lahiani & Seran (2018) report that small companies tend to use long-term debt to finance tangible assets and, during a financial crisis, they tend to stop investing on tangible assets and using long-term investments, focusing on operational growth, entering in a survival mode and resorting to debt of lower maturity.

Considering the heterogeneity of debt dependence and credit supply of firms based on their size, we expect that financial flexibility will be more helpful to small companies than to large ones when it comes to protecting their employment levels. Consequently, we pose the following hypothesis:

H3. The positive impact of financial flexibility on employment is more pronounced for small companies than for large ones.

3. Data, methodology and key variables

3.1. Sample

We focus on the Spanish economy to test the proposed hypotheses because it is primarily composed of service small and medium enterprises (SMEs) that operate in the tourism sector and it is characterized by widespread temporary employment (IMF, 2020), thus leading to high unemployment rates, which are more pronounced during downturns. We use the Amadeus (Bureau Van Dijk) database to obtain the needed data and our final sample comprises 3,934 Spanish private limited and public limited companies (21,540 observations) from 2006 to 2015. The sample excludes invalid observations, observations with outlier values in any of the relevant variables, and financial and public administration related companies. We consider as invalid observations those without employee and financial data, as well as those with unusual, unjustified, or clearly wrong data. The final sample includes 2,631 private limited companies (13,986 observations) and 1,302 public limited companies (7,554 observations).

Additionally, for methodological reasons, we have only considered companies with at least five consecutive years of data. On the one hand, we lose one period in the estimation of financial flexibility (FFSR) and to measure the growth of sales (ΔSAL), the

latter variable needed to predict leverage. On the other hand, the previously discussed restriction results in a minimum of four consecutive observations per firm, which is needed to test for the lack of second order serial correlation in our main regression analyses. The summary statistics of the final sample (after removing the two observations lost for each company due to our empirical strategy) are presented in Table 1. For ease of interpretation, all variable definitions are reported in Appendix A.

[Insert Table 1 about here]

3.2. Financial flexibility measure

As previously discussed, there is a broad literature that measures different sources of financial flexibility, but the vast majority of works relies on a low leverage approach. Related to this approach, authors differ in the way in which they measure a low leverage behavior. In this vein, DeAngelo, Gonçalves & Stulz (2018) use market leverage variations to estimate the effects of deleveraging on a company while pursuing financial flexibility. Alternatively, Fliers (2019) uses the difference between the actual leverage and the predicted leverage at which the firm would lose its investment-grade rating to define financial flexibility.

Other authors prefer to assign a financial flexibility status (that is, a dummy variable) to firms that adopt a conservative behavior. In this way, Baños-Caballero, García-Teruel & Martínez Solano (2016) generate ratios of debt and cash per total assets and compare a firm's values to the sample means of Spanish manufacturing companies. They regard as financially flexible those companies with lower leverage and higher cash per asset ratio. Finally, we highlight the strategy of Marchica & Mura (2010) and Ferrando, Marchica & Mura (2017), which consists in a two-stage procedure for the estimation of financial flexibility. In the first stage, they estimate target leverage. In the second stage, they assign the financial flexibility status to those companies with observed leverage at least 5% lower than the predicted target.

Despite the alternative approaches, one commonly accepted strategy to measure financial flexibility consists in estimating a firm's target leverage and then comparing it with the observed leverage, to obtain a conservativeness index that reflects the degree of financial flexibility, when the difference between predicted and actual debt is positive. Moreover, prior research also agrees that financial flexibility depends on the individual effect, which captures the manager's ability to predict future options and risks, and hence his/her capability to adopt a more conservative strategy in order to protect the business

from undesired consequences (Marchica & Mura,2010; Rapp et al., 2014; Baños-Caballero et al., 2016; Ferrando et al., 2017). This manager ability, as well as the corporate values and other business dimensions that could be determined by the manager, are captured by an individual effect in a leverage prediction model. Given that this individual effect is unobservable, it will be a component of the error term that is correlated with the explanatory variables, thus creating a bias in the estimation. To deal with such a bias, we estimate the correct specification of our leverage model by using a panel data method. The resulting model, which also takes in account the previous leverage of the firm, thus capturing the variation in the debt level of the firm and the deleverage status mentioned by DeAngelo et al. (2018), is presented in Equation (1):

$$LEV_{it} = \alpha + \beta_1 LEV_{i,t-1} + \beta_2 SIZ_{i,t-1} + \beta_3 TNG_{i,t-1} + \beta_3 TRD_{i,t-1} + \beta_4 PRF_{i,t-1} + \beta_5 \Delta SAL_{i,t-1} + \eta_i + d_t + \upsilon_{it} \quad (1)$$

where *LEV* stands for the book leverage of the company, calculated as the ratio of total debt to total assets of the company (we use book rather than market leverage to be able to use the model in our sample of private limited and public limited companies); *SIZ* is the size of the company and is calculated as the natural logarithm of total assets; *TNG* is asset tangibility and is computed as the ratio of tangible fixed assets to total assets; *TRD* is the ratio of trade credit to total debt and serves as a proxy for the support of suppliers to the firm's operations; *PRF* is the ratio of profit (measured as EBITDA) to the company's total assets; and *ΔSAL* is the growth of sales related to the previous period. Additionally, η_i stands for the individual effect, which is then eliminated by taking first differences of the regressors. We also control for the impact of macroeconomic variables on firm leverage by entering a time dummy variable per year, which are labeled as d_t. Finally, υ_{it} stands for the random disturbance.

Table 2 reports the results from the estimation of the above-mentioned model, being the objective of this estimation to test for the correct specification of Equation (1). That is, we aim to test that the capital structure model that will be used for building the financial flexibility measure is correctly specified. To achieve this goal, we should choose a dynamic panel data estimator. The literature offers two alternatives: the difference GMM estimator derived by Arellano & Bond (1991) and the system GMM estimator based on the work by Blundell and Bond (1998). The first column of Table 2 presents the estimation results from the system GMM estimator and the second column provides the results using the difference GMM estimator. As can be seen in the first column of Table 2, the Hansen test rejects the validity of the instruments in the system GMM estimation,

which leads us to conclude that the stationarity assumption required by this estimator is violated and, consequently, we cannot use it.

In light of this finding, we focus our attention on the second column of Table 2, where the results obtained using the difference GMM estimator are reported. The estimated coefficients show that the lag of leverage plays a crucial role in explaining current leverage. Our empirical evidence is thus consistent with the partial adjustment effect previously found in most empirical studies on corporate capital structure (e.g., Miguel & Pindado, 2001; Flannery & Rangan, 2006; Flannery & Hankins, 2013). In addition, the sign of the remaining variables is in accordance with the finance theory. Specifically, tangibility (which represents the ability to offer collateral) and the trade ratio (which reinforces suppliers' confidence in the business) affect leverage positively. On the contrary, changes in sales and profitability are often related to higher cash holding capacity and a lower need to resort to debt. As expected, firm size impacts negatively on leverage, since the amount of total assets is inversely related to leverage (Ferrando et al., 2017; Horsch, Longoni & Oesch, 2020).

Furthermore, we have checked for the potential misspecification of this model by using several tests. First, we use the Hansen J statistic of overidentifying restrictions to test for the absence of correlation between the instruments and the random disturbance. The value 95.10 of the Hansen test supports the validity of the set of 96 instruments. Second, we perform the m_2 statistic (Arellano & Bond, 1991) to test for the lack of second-order serial correlation in the first-difference residual. Finally, we use two Wald tests to check for the joint significance of the reported coefficients and the time dummy variables, respectively. In sum, all results reported in the second column of Table 2 show that the specification of the leverage model is correct.

[Insert Table 2 about here]

Using the correctly specified leverage model just discussed, we obtain a measure of the "estimated leverage deviation" (EL). Note that, to compute the EL value, we take into account the important role of the individual effect (η_i) for corporate leverage. In particular, we get the value of the predicted leverage in a first stage by estimating the developed leverage model cross-sectionally for each year of the sample. In the second stage, the EL value is computed as the difference between the predicted and the observed leverage for a specific company (i) in a specific time period (t). That is, we use the following formula, as captured in Equation (2).

$$EL_{it} = \overline{LEV}_{it} - LEV_{it} \quad (2)$$

As can been seen in Table 3, the values obtained for the EL variable are very similar across time and, in the whole sample, the EL values range between -0.649 and 0.673.

[Insert Table 3 about here]

Following previous literature (e.g., Marchica & Mura, 2010; Baños-Vaballero et al., 2016; Ferrando et al., 2017), we consider that companies with a positive EL in period t are financially flexible in the next period. Accordingly, we define a new Financial Flexibility variable (FF) that takes the value of EL in the previous year when such value is positive (i.e., $FF=EL_{(i,t-1)}$), and zero otherwise (i.e., FF=0). Consequently, we consider that firms do not have any financial flexibility at all when EL is negative or zero. To get a continuous variable of financial flexibility, we argue that managers tend to pursue lower leverage ratios as they anticipate future growth options (or they expect an increase in financial risk). This preference for low leverage depends on managers' decisions and limitations to pursue extremely low leverage for financial flexibility purposes (both captured, as previously mentioned, in the individual effect).

According to our empirical strategy, an extreme level of financial flexibility would exist when the EL measure takes values close to one. But in the real world, changing the leverage level by a large amount in a single period is quite hard as companies have long-term debt and thus leverage is only adjusted gradually over time, as shown by Flannery & Rangan (2006). In fact, these authors suggest that on average companies' speed of adjustment towards their target level is about one third per year. Aybar-Arias et al. (2012) find a similar adjustment rate (i.e., 26%) for Spanish medium and large companies, pointing to transaction costs as an important driver of the low speed. Consequently, transaction costs can be seen as a market friction that leads to little variation in the EL variable as defined above. To overcome this problem of a low variance in our main explanatory variable of interest, we define a new variable that is computed as the square root of the original EL measure, which we label FFSR.

The use of a financial flexibility variable that is defined as the square root of the previous positive EL ($FFSR = \sqrt{EL_{(i,t-1)}}$) entails a series of advantages. For example, this strategy prevents that the variable ends up being a conservativeness index measurement, as it is not the direct difference from a predicted leverage neither directly represents spare-debt capacity. It is worth noting that the resulting variable (FFSR) exhibits an extremely high correlation with EL (i.e., 0.9085). Additionally, our approach considers managers' difficulty to adopt a low leverage strategy (and the ensuing small

variability), while simultaneously increasing the variance of the measure without losing the innate properties of the original index; that is, it remains bounded between 0 (if FF=0) and 1 (if FF=1). A notable advantage of the new measure is that is has a slightly positive skewed distribution that facilitates future inference. Consequently, the new financial flexibility measure, FFSR, is computed based on the EL variable as detailed in Equation (3):

$$\begin{cases} FF\mathrm{SR}_{i,t} = \sqrt{EL_{i,t-1}} & if\ EL_{i,t-1} > 0 \\ FF\mathrm{SR}_{i,t} = 0 & if\ EL_{i,t-1} \leq 0 \end{cases} \quad (3)$$

In a nutshell, our financial flexibility measure considers financial flexibility as the result of adopting a low leverage strategy (positive EL in the previous period) and it takes in account the frictions faced by a company and its manager to adopt such low leverage strategy. In addition, the explained transformation increases the variation among low leverage adopters and enables more precise inference.

4. Employment models and regression results

The first step to test our hypotheses is to derive and estimate a model that explains firm employment. To this aim, we adapt Pinnuck & Lillis' (2007) abnormal net hire specification, which is a static model proposed to analyze to which extent economic fundamental characteristics of the firm can explain hiring decisions. This model has been used by other authors (e.g., Jung, Lee & Weber, 2014; Ben-Nasr & Alshwer, 2016; Khedmati, Sualihu & Yawson, 2019) to measure labor investment. Their model suggests that the variation in the number of employees depends on changes in sales, profit, size, book leverage, profitability, and other leverage related variables which are absorbed by both our financial flexibility and leverage variables.

Given that the static model is a particular case of the dynamic one, we estimate a dynamic and more general model as in Equation (4). Consequently, our model includes in its right-hand side the following variables: lagged employment, which is implicit in Jung et al., (2014) Ben-Nasr & Alshwer (2016), and Khedmati et al. (2019) models and allows us to capture the change in employment over time; LEV is the book leverage of the firm; age is calculated as the natural logarithm of the difference between the corresponding year and the year when the company was founded; SIZ stands for firm size, defined as the natural logarithm of total assets; PRF is the ratio of profit (EBITDA) to company's total assets; ln(SAL) stands for the natural logarithm of sales; and TAX is the ratio of paid taxes to profits. Additionally, time dummy variables are considered to

control for the impact of macroeconomic variables on employment. Furthermore, we understand that hiring and firing decisions, like capital structure ones, depend on a series of individual related unobservable variables, which enter the model as an individual effect. Finally, the econometric model contains the random disturbance. Consequently, Equation (4) is the employment model whose parameters need to be estimated to test the proposed hypotheses.

$$\mathrm{EMP}_{i,t} = \alpha + \beta_1 EMP_{i,t-1} + \beta_2 \mathrm{LEV}_{it} + \beta_3 AGE_{it} + \beta_4 SIZ_{it} + \beta_5 PRF_{it} + \beta_6 \ln(SAL)_{it} + \beta_9 TAX_{it} + d_t + \eta_i + \upsilon_{it} \quad (4)$$

As previously discussed for the capital structure model, we have tested both the difference GMM estimator derived by Arellano & Bond (1991) and the system GMM proposed by Blundell & Bond (1998). As can be seen in Table 4, the Hansen test rejects the validity of the instruments for the system GMM estimator (see column 1), thus leading us to conclude that the stationarity assumption required by this method is violated and, consequently, it cannot be used. Therefore, we use the two-step difference GMM estimator to test our employment related hypotheses. In this way, after taking first differences, we eliminate the individual effect and solve the problem posed by the individual heterogeneity. Additionally, to mitigate endogeneity concerns, we use previous values of the independent variables as internal instruments. To be more precise, we use the second and third lags as instruments for the dependent variable ($EMP_{i,t-1}$) and the first and second lags for the remaining variables.

[Insert Table 4 about here]

The results from the estimation of Model (4) are reported in the second column of Table 4. The first result worth noting is the dynamic nature of the model, which contrasts with the previous literature (Pinnuck & Lillis, 2007; Ben-Nasr & Alshwer, 2016; Khedmati et al., 2019). As expected, the coefficient on the lagged employment variable is positive, thus supporting a partial adjustment model for the employment decision. This makes sense since changes in a firm's workforce to approach the target level depend, among other issues, on the transaction costs in the labor market. Such costs are especially high for Spanish companies because labor regulation is very rigid in Spain and the conditions in the labor market do not facilitate that firms adjust their levels of employment as desired to approach their target level. The age variable exhibits a positive and slightly significant coefficient, which is in agreement with the economic theory and with the results from prior research (e.g., Pinnuck & Lillis, 2007; Ben-Nasr & Alshwer, 2016; Khedmati et al., 2019). The rationale is that surviving companies (i.e., older firms)

eventually tend to grow and thus present higher employment levels. Size impacts positively on employment, which is expected as companies should define a specific ratio between their assets and workforce in order to maximize their performance. The same occurs with sales (measured as ln(SAL)) since a firm that sells more needs to hire more employees to respond to the increasing demand. Conversely, profitability has a negative effect on employment. Taking profitability as a proxy measure of efficiency, the results support that an efficient company hires more parsimoniously, trying to obtain the highest possible value from its resources.

We also perform several specification tests that support the proposed model. In fact, the second column of Table 4 shows that there is no problem of second-order serial correlation since the m_2 test is larger than 0.1. Additionally, the 80.26 value of Hansen test supports the validity of the set of 89 instruments; in this respect, it is worth noting that we cannot reject the null hypothesis that the instruments are valid with a p-value of 0.318. Finally, the Wald test of the joint significance of the seven explanatory variables (see z_1 in the second column of Table 4) takes a value of 119.07, which corresponds with a p-value of 0.000 and confirms that the explanatory variables are jointly highly significant. The same applies to the 14.45 value obtained for the Wald test of the joint significance of the six time dummy variables (see z_2).

In sum, we can conclude that Model (4) is correctly specified not only due to the results from the specification tests, but also because the coefficients exhibit signs that are in line with the economic theory and with the results from previous related literature. As a consequence, the empirical model in Equation (4) is the baseline specification on which the subsequent regression analyses are based.

Once the correct specification of Model (4) has been confirmed, we next proceed to test the effect of financial flexibility on the employment of the company. To provide uniform and comparable tests for all our hypotheses, we take Equation (4) as the starting point and extend it in various ways. First, the financial flexibility variable (FFSR) enters the right-hand side of the model. Second, we also include the corresponding interaction terms between FFSR and the appropriate variable to study the moderating effects described in Section 2.

4.1. The effect of financial flexibility on employment

In order to test Hypothesis 1, we need to disentangle to what extent financial flexibility is useful in protecting the employment level and in maintaining human capital.

To achieve this goal, we extend Model (4) by including the financial flexibility variable (FFSR) in the right-hand side. As a result, Equation (5) is estimated using the same method and instruments as the ones discussed in the previous section.

$$\mathrm{EMP}_{i,t} = \alpha + \beta_1 EMP_{i,t-1} + \beta_2 FF\mathrm{SR}_{it} + \beta_3 \mathrm{LEV}_{it} + \beta_4 AGE_{it} + \beta_5 SIZ_{it} + \beta_6 PRF_{it} + \beta_7 \ln(SAL)_{it} + \beta_8 TAX_{it} + d_t + \eta_i + \upsilon_{it} \quad (5)$$

The first column of Table 5 presents the regression results. As can been seen, the estimated coefficient on the financial flexibility variable is positive and significant. This means that being financially flexible has a positive impact on the level of employment of the firm, hence providing empirical support to Hypothesis 1. Our results indicate that a company might use the financial flexibility attained through a previous low leverage strategy to protect its employment level. The underlying idea is that financial flexibility reduces the default risk and the cost of debt, thus allowing flexible companies to take advantage of their leverage slack by investing efficiently when any new opportunity arises. This interpretation is in line with the arguments that financially flexible companies are better prepared to react to unexpected changes in the economic scenario (Gamba & Triantis, 2008; Denis, 2011; Bonaimé et al., 2014) and that they tend to invest better when an opportunity is identified (Gamba &Triantis, 2008; Ferrando, Popov, & Udel, 2013; Ferrando et al., 2017). Our empirical evidence extends the literature on the beneficial effects of financial flexibility in the face of new threats and opportunities by documenting the ability of financially flexible firms to protect their employment level.

[Insert Table 5 about here]

4.2. The effect of financial flexibility on employment in private versus public limited companies

We next try to better understand the effect of financial flexibility by studying how it influences the behavior of different types of companies. As argued in Section 2, we base our remaining hypothesis on the idea that the relevance of financial flexibility in terms of contributing to maintain the level of employment should be more pronounced in companies that depend more heavily on debt.

Accordingly, we extend Model (5) by considering the interaction between financial flexibility and a dummy variable, DP_{it}, that moderates the effect of financial flexibility on employment. Specifically, this DP_{it} dummy variable takes the value of 1 for public limited companies and 0 for private limited companies. Consequently, we proceed to estimate the following model:

$$\mathrm{EMP}_{i,t} = \alpha + \beta_1 EMP_{i,t-1} + (\beta_2 + \gamma_1 DP)FF\mathrm{SR}_{it} + \beta_3 \mathrm{LEV}_{it} + \beta_4 AGE_{it} + \beta_5 SIZ_{it} + \beta_6 PRF_{it} + \beta_7 \ln(SAL)_{it} + \beta_8 TAX_{it} + d_t + \eta_i + \upsilon_{it} \quad (6)$$

The results from estimating Equation (6) are reported in the second column of Table 5. Consistent with the estimated coefficients presented in the first column of this table, financial flexibility (FFSR) impacts positively on the employment level. On the contrary, the interaction between FFSR and the public company dummy variable has a negative and significant coefficient (see column 2). The opposite signs along with the fact that the sum of both coefficients results in a value that is relatively close to zero in absolute terms (i.e., -0.012) require that we conduct a linear restriction test for a better understanding of the effect of financial flexibility in public companies.

The objective of such linear restriction test is to disentangle whether the sum of the coefficients on both the FFSR and (DP*FFSR) variables is equal to zero in statistical terms. The value of the t-statistic is 0.543. Therefore, we cannot reject the null hypothesis of the irrelevance of the sum of both coefficients, thus corroborating that financial flexibility does not affect public companies' employment.

Our second hypothesis is supported as the empirical evidence confirms that the impact of financial flexibility on employment is more important in private companies. This result is also in line with previous literature that contends that private companies are more debt dependent than their public counterparts (Brav, 2009).

4.3. The moderating role of firm size in the relation between financial flexibility and employment

Does firm size matter? This is a very relevant question when it comes to the effect of financial flexibility on employment, because Spain has always had a high rate of structural unemployment. One of the main explanations for such situation is the small size of Spanish companies in general terms compared to other countries in the eurozone, such as Germany. For this reason, it is timely to test the possible differential impact of financial flexibility on employment in small versus large companies, as proposed in Hypothesis 3.

To achieve this objective, we define a small dummy variable (DS) that takes the value of 1 for companies that fall below the European Commission total assets threshold for micro and small enterprise; in other words, companies with total assets below ten million euros are included in the 1 category and, in the remaining cases, the dummy variable takes the value of 0. Then, we extend Model (5) by incorporating as an additional

explanatory variable the interaction between the dummy variable (DS) and financial flexibility; that is, DS*FFSR. Consequently, we obtain the following model:

$$\mathrm{EMP}_{i,t} = \alpha + \beta_1 EMP_{i,t-1} + (\beta_2 + \gamma_1 DS_{it})FFSR_{it} + \beta_3 \mathrm{LEV}_{it} + \beta_4 AGE_{it} + \beta_5 SIZ_{it} + \beta_6 PRF_{it} + \beta_7 \ln(SAL)_{it} + \beta_8 TAX_{it} + d_t + \eta_i + \upsilon_{it} \quad (7)$$

The third column of Table 5 shows the results concerning our third hypothesis. We focus on the financial flexibility variable and its interaction with the small dummy variable. The effect of FFSR on employment for large companies is β_2 in Model (7), since DS takes the value of 0; consequently, financial flexibility has no impact on employment in the case of large firms. However, for small companies the total effect is captured by $\beta_2+\gamma_1$ in Equation (7), since DS equals 1 in this case. Therefore, given that β_2 is not statistically different from 0, the coefficient to be considered now is γ_1. Hence, we conclude that financial flexibility impacts positively on the employment level of small companies.

This result confirms our third hypothesis and suggests that the impact of financial flexibility on employment is more pronounced in small than in large companies. Our empirical evidence is in accordance with the theoretical arguments presented in previous literature that small companies are usually exposed to higher agency costs in their relationships with lenders (Lopez-Gracia & Mestre-Barberá, 2015; Van Hoang et al., 2018). Small companies are also typically characterized by lower leverage as they have less collateral that could back higher indebtedness (Frank & Goyal, 2009), thus making them more reliant on their accumulated financial flexibility.

Given that the impact of financial flexibility on employment is more relevant for private limited companies, one could expect that this effect is even greater for those companies that are both private limited and small. Consequently, we define a new dummy variable, DPS, that takes the value of 1 for companies that are both small and private, and 0 otherwise. As a result, the following Model (8) is derived:

$$\mathrm{EMP}_{i,t} = \alpha + \beta_1 EMP_{i,t-1} + (\beta_2 + \gamma_1 DPS_{it})FFSR_{it} + \beta_3 \mathrm{LEV}_{it} + \beta_4 AGE_{it} + \beta_5 SIZ_{it} + \beta_6 PRF_{it} + \beta_7 \ln(SAL)_{it} + \beta_8 TAX_{it} + d_t + \eta_i + \upsilon_{it} \quad (8)$$

The fourth column of Table 5 displays the results from estimating this model. As expected, the total effect of financial flexibility on employment for small and private companies ($\beta_2+\gamma_1$) is positive, whereas it is not statistically different from zero for the remaining firms (β_2). These results and their comparison with the previous estimated coefficients represent two notable contributions. First, we conclude that the empirical

evidence reported in the study is consistent when it comes to the magnitude of the coefficients that capture the impact of financial flexibility on employment from the different regressions. Specifically, the estimated coefficient for companies that are both small and private (0.067, see column 4) is greater than the coefficients for just small companies (0.060, see column 3) and just private companies (0.054, see column 2). Additionally, the effects in all these cases are greater than the estimated impact for the whole sample (0.031, see column 1). Second, our findings show that small private companies are the ones that benefit most from a previous conservative behavior aimed at attaining financial flexibility.

5. Robustness tests

We have conducted a series of robustness tests to check the validity of our main regression results. The new empirical strategy involves estimating the employment models previously developed but using the financial flexibility variable first proposed in the work by Marchica & Mura (2010) and later used by Ferrando et al. (2017). More precisely, we generate a dummy variable that captures financial flexibility, DFF, using the same approach as the aforementioned authors. That is, the DFF dummy variable takes the value of 1 for companies in which the $EL_{(i,t-1)}$ value is above 0.05, and 0 otherwise. Consequently, the dummy variable captures the financial flexibility status of the company, and we take the 0.05 threshold (as argued by Marchica & Mura, 2010) in order to avoid that a sudden credit supply shortage implies an unjustified change in the firm status. The variable definition is captured in Equation (9).

$$\begin{cases} DFF = 1 \; if \; FF > 0.05 \\ DFF = 0 \; if \; FF \leq 0.05 \end{cases} \tag{9}$$

Once the new financial flexibility variable is defined, we base the new regression analyses on the same baseline empirical model proposed in Equation (4). Following a strategy similar to the one described in Section 4, we use the same models and substitute the continuous financial flexibility FFSR variable with the DFF dummy variable. In this way, we are able to verify the validity and explanatory power of the more innovative continuous measure of financial flexibility developed in this paper. To test the first hypothesis, we use Model (5), substituting the financial flexibility continuous variable (FFSR) with the dummy variable (DFF) as previously mentioned.

The results from our robustness test for the first hypothesis, presented in the first column of Table 6, show that financial flexibility (as captured by the DFF dummy

variable) impacts positively on the employment level. This finding provides further support for our first hypothesis. More importantly, focusing on the magnitude of the estimated coefficient and comparing it with the values reported in the first column of Table 5, we can conclude that the DFF dummy variable has lower explanatory power. The smaller estimated coefficient on the DFF variable is due to the higher value that this variable takes for any company with a certain degree of flexibility (for which the dummy variable equals 1), regardless of the level of flexibility attained. In sum, we observe that the estimated coefficient on the continuous financial flexibility variable is approximately three times higher (0.031) than the coefficient on the dummy variable (0.011), thus corroborating the higher explanatory power of the former variable. This robustness test highlights the important contribution that emerges from our research thanks to the development of a continuous financial flexibility variable.

[Insert Table 6 about here]

After re-estimating the model that allows us to test the first hypothesis, we proceed to check whether the empirical evidence related to the testing of the second hypothesis remains robust to the new variable definition. We again follow the same strategy as the one implemented in Section 4, adapting the Equation (6) by substituting FFSR with DFF.

The results from the estimation of the adjusted Model (6) are reported in the second column of Table 6 and they again highlight the advantages of using a continuous variable to capture a firm's financial flexibility. In fact, the estimated coefficient on the continuous financial flexibility measure (0.054) is almost four times larger than the coefficient obtained for the dummy variable (0.014), as can be observed when comparing the second columns of Tables 5 and 6. Regardless of the difference in the magnitude of the coefficients, we can conclude that, even when we rely on the more traditional DFF dummy variable, financial flexibility impacts positively on employment in the case of private limited companies. However, the poorer properties of the financial flexibility dummy variable (in terms of lower variance and a certain bias in capturing the financial flexibility status) is more visible when we analyze the case of public limited companies. Although we again obtain a negative sign for the coefficient γ_1, its absolute value is notably smaller, as can be seen in the second column of Table 6. The new estimated coefficient is -0.010, whereas the value obtained when we use the continuous financial flexibility variable is -0.066, which is more than six times larger when we compare the absolute values. Another difference between the two estimated coefficients worth noting

is that the statistical significance of the γ_1 coefficient decreases and the effect of the interaction term is no longer significant.

The third hypothesis refers to firm size as a characteristic that moderates the effect of financial flexibility on employment. To check such moderating role, we have adapted the Equation (7) to use the financial flexibility dummy variable (DFF) instead of the continuous variable FFSR.

The new regression results are reported in the third column of Table 6. The empirical evidence obtained when we use the DFF dummy variable is again affected by the limitations of this measurement and highlights the importance of using a continuous financial flexibility variable. Specifically, the coefficient that captures the moderating impact of firm size in the model where the continuous measure is used ($\gamma_1 = 0.060$) is about five times larger than the coefficient obtained with the financial flexibility dummy variable (0.012). As a result, the γ_1 is no longer significant.

Finally, we analyze simultaneously the legal form and the size of the firm. To this aim, we now substitute the financial flexibility continuous variable in Equation (8) with the dummy variable DFF.

Once again, the regression results point to serious biases when we rely on the financial flexibility dummy variable, as can be seen in the fourth column of Table 6. Note that the estimated coefficient that captures the moderating impact of firm size in our initial regression analyses (i.e., $\gamma_1 = 0.067$, as shown in column 4 of Table 5) is almost seven times larger than the value of the coefficient when we use the dummy variable (0.010, statistically not significant).

In sum, given that in all models estimated in this paper the γ_1 is no longer significant when the financial flexibility is measured by a dummy variable, it is not possible to compare the size of the coefficients that capture the impact of financial flexibility on employment obtained from the different regressions. This fact shows the importance of measuring financial flexibility with a continuous variable instead of a dummy variable, since the latter forces the value of each level of financial flexibility to be 1, which leads to the loss of momentum of the dummy variable over the dependent variable. Therefore, the bias introduced by the dummy variable to measure financial flexibility makes it impossible to study the varying effects of financial flexibility on employment across different firm categories.

6. Conclusions

This study investigates the effect of financial flexibility on employment at the firm level, which is a very important matter for countries like Spain, where the level of unemployment has been traditionally high. In light of the economic consequences that are likely to derive from the recent COVID-19 pandemic, it is particularly timely to better understand under what conditions companies are able to maintain their employment levels and avoid job cuts.

To explore this issue, we develop a continuous measure of firm financial flexibility that allows us to conduct new regression analyses and to obtain more reliable empirical evidence on the moderating role that the legal form and the size of the firm may have in the relation between financial flexibility and employment.

First, we show that financial flexibility is an important firm-level characteristic when it comes to explaining the preservation of employment. In particular, financial flexibility impacts positively on the level of employment of the firm. This finding highlights that financing human capital is especially costly for the firm as this type of resource cannot be offered as collateral and is legally protected. Such legal protection enjoyed by employees is also likely to increase default risks. These characteristics of human capital imply that financial flexibility plays an important role in the preservation of employment. Considering that labor is a factor of production (Cao & Rees, 2020), the effect of financial flexibility on employment becomes particularly relevant from a corporate finance perspective. In other words, financial flexibility becomes an important dimension of capital structure decisions and managers, when deciding the level of indebtedness of the company, should be aware of the important consequences that remaining financially flexible could entail for the protection of a firm's human capital.

Second, we find that the positive effect of financial flexibility on employment is driven by private limited companies. By contrast, the level of employment of public limited firms is unaffected by their degree of financial flexibility. Such effect could be explained by the greater information asymmetries between private firms and lenders. Another explanation for the lack of significance for public firms might be the moderating effect of shareholder-manager agency conflicts and a possible moderating effect of governance efficiency which (as described in Section 2) limits the financial flexibility impact. As a result, private limited companies are more reliant on their own accumulated financial flexibility.

Our third conclusion revolves around the moderating role of firm size in the relation between financial flexibility and employment. Specifically, the positive link between these two firm-level dimensions is more pronounced in small companies. A plausible explanation is that lenders are more prone to provide funds to firms that are less volatile and/or that offer higher assurances; that is, large companies, which typically have more collateral. As a result, small companies suffer from greater credit constraints and have fewer alternative ways to avoid the negative consequences of credit supply shocks for employment.

Fourth, our study reveals that small and private limited firms are the ones for which the influence of financial flexibility is more relevant. This is a notable finding that brings a series of practical implications that are relevant for managers when making decisions on the target leverage. But also, from a broader and more social perspective, these practical implications are relevant to policymakers, which can adopt better policies to protect employment.

Fifth, by defining a continuous financial flexibility measure, we provide practitioners an important tool to better understand their financial flexibility needs, while simultaneously enabling them to set more precise target leverage levels considering human capital protection. The use of such variable during capital structure decision might also offer an alternative way to avoid social problems by adding higher protection to a firm's employees.

Sixth, the higher protection to human capital from financial flexibility could be seen as a safeguard to the employees of the firm, thus precluding lower company's performance due to a reduction in innovation (Ritter-Hayashi et al., 2020) and a lack of employee engagement (Dlouhy & Casper, 2020). Both factors are of extreme importance to managers, shareholders and employees, which might also face costs due to workforce downsizing. The final goal should be to adopt a more effective financing policy that better protects physical assets and human capital.

Finally, we offer a new approach that policymakers could consider as a way to protect human capital during financial turmoil, such as the economic crisis that has derived from the COVID-19 pandemic. Specifically, our empirical evidence suggests that financial flexibility may spur an improvement in the level of employment. Accordingly, policymakers should promote strategies that facilitate the financial flexibility of those companies that benefit the most from such finance policy (e.g., private and small firms) in an effort to maximize the preservation of jobs. In this sense, lawmakers and regulators

should be aware of the fact that, to alleviate the negative impact of disruptive shocks in the market (such as the COVID-19 pandemic) on the level of employment, they should promote measures that facilitate easier access to credit to small and private companies.

The conclusions that can be derived from our empirical evidence have far-reaching implications with immediate validity for two reason. On the one hand, our findings are especially timely and they suggest that the financial resources available at the different government levels to tackle the devastating economic consequences of the COVID-19 pandemic should be carefully allocated to achieve the best possible results in terms of job creation and economic recovery. In this context, it is of the utmost importance that the funds reach those economic agents whose activity has a greater expansionary effect on the economy. On the other hand, the empirical evidence provided in our work has validity beyond the borders of the country that we investigate, Spain. The reason is that companies that seem to benefit most from financial flexibility (i.e., small private firms) constitute a large fraction of the corporate sector throughout the world. In this respect, official figures show that this type of company represents 98% of European firms (Eurostat, 2020) and about 95% of all Spanish businesses (INE, 2020).

Appendix A

Variable		Definition
AGE	$\ln(year - constitution\ year)$	Age of the company measured as the natural logarithm of the difference of the observed year to constitution year.
DFF	$\begin{cases} EL_{(i,t-1)} > 0.05 = 1 \\ EL_{(i,t-1)} \leq 0.05 = 0 \end{cases}$	Financial Flexibility Status is a dummy that takes the value of one if FF>0.05 , in order to avoid noise from changes in credit supply and 0 otherwise.
DS	$\begin{cases} Total\ Assets < 10^7 = 1 \\ Total\ Assets > 10^7 = 0 \end{cases}$	DS or Small Dummy of is a dummy that takes the value 1 if the company's Assets fits the European commission micro and small enterprises definition (maximum of 10,000,000 €).
DP		Public Dummy which takes the value of 1 if the company is public limited, and 0 otherwise.
EL	$\mathrm{E(LEV)} - LEV$	Error Leverage as the difference from estimated leverage to observed leverage.
EMP	$\ln(number\ of\ employees)$	Employment as the natural logarithm of number of employees, which allows to infer in a more diverse sample.
FF	$\begin{cases} EL_{(i,t-1)} > 0 = EL_{(i,t-1)} \\ EL_{(i,t-1)} \leq 0 \quad = 0 \end{cases}$	Financial Flexibility is the result of adopting a low leverage strategy, over-levered companies are considered inflexible and assume value of 0.
FFSR	$\sqrt{FF}$	Square root of Financial Flexibility in a continuous variable, treated in order to represent the frictions faced in order to reduce leverage and increase variance.
LEV	$\frac{total\ debt}{total\ assets}$	Book leverage measured as the ratio of total debt to total assets (both in thousands of €)
PRF	$\frac{EBIT}{total\ assets}$	Profitability, measured as the ratio between Earns before interests, taxes and depreciation to total assets
ln(SAL)	$\ln SAL$	Natural logarithm of the total sales (thousands of €) expressed in real values.
ΔSAL	$\frac{SAL_{(i,t)} - SAL_{(i,t-1)}}{SAL_{(i,t-1)}}$	Sales variation as the proportional variation in sales.
SIZ	$\ln(total\ assets)$	Size of the company measured as the natural logarithm of total assets (thousands of €) expressed in real value.
TAX	$\frac{taxes\ paid}{EBIT}$	Tax rate as the ratio of paid taxes to profit.
TNG	$\frac{tangible\ fixed\ assets}{total\ assets}$	Tangibility as the proportion of tangible assets to total assets.
TRD	$\frac{trade\ credit}{total\ debt}$	Trade ratio as the ratio of trade-credit to total debt.

All information was collected from the Amadeus database.

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Table 1. Summary statistics

The table represents the summary statistics for key variables in our analysis. EMP is the natural logarithm of the number of employees, LEV stands for the book leverage measured as the ratio of total debt to total asset, AGE is computed as the natural logarithm of the difference between observed year to the constitution year, SIZ is the natural logarithm of total assets, PRF stands for profitability calculated as the ratio of EBITDA to total assets TAX is the proportion of profit paid in taxes; TNG stand for the tangibility measured as tangible fixed assets to total assets TRD is the trade credit ratio to the total debt. The full description and measurements of each variable can be found on Appendix A.

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
EMP	21,540	3.2972	1.3776	0.6931	12.2918
LEV	21,540	0.3929	0.1751	0.0010	0.9908
AGE	21,540	3.0074	0.5158	1.0986	4.9767
SIZ	21,540	8.4869	1.6022	4.3307	17.7551
PRF	21,540	0.0816	0.0791	-0.9152	0.6941
LN(SALES)	21,540	8.2997	1.6134	3.2188	17.4634
TAX	21,540	0.2612	0.0830	0.0003	0.7916
TNG	21,540	0.3755	0.2397	0.0003	0.9976
ΔSAL	21,540	0.0263	0.3227	-0.9937	9.4968
TRD	21,540	0.2532	0.2220	0.0000	0.9985

Table 2. Leverage estimation using GMM

This table presents the coefficients and standard deviation of the variables of the models (defined in section 4), estimated by the two-step system and difference GMM. The dependent variable is leverage. Time dummies are included but not reported. z_1 and z_2 are Wald tests of the joint significance of the explanatory variables and the time dummy variables, respectively, under the null of no relation, with the degrees of freedom in parenthesis. m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation. Hansen is a test of the overidentifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, degrees of freedom in parentheses.

	System GMM	Difference GMM
LEV(i,t-1)	0.935***	0.723***
	(0.016)	(0.049)
SIZ(i,t-1)	0.000	-0.040
	(0.001)	(0.025)
TNG(i,t-1)	0.011	0.199***
	(0.016)	(0.060)
TRD(i, t-1)	0.074***	0.057***
	(0.008)	(0.018)
PRF(i, t-1)	-0.021	-0.087**
	(0.019)	(0.040)
ΔSAL(i, t-1)	0.000	-0.001
	(0.002)	(0.003)
z_1	677.160(6)	81.690(6)
z_2	4.030(7)	5.150(6)
m_1	-19.910	-14.580
m_2	0.730	0.680
Hansen	177.43(118)	95.10(84)

***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 3. Summary statistics of predicted variables

	Variable	Obs.	Mean	Std. Dev.	Min.	Max.
2008	EL	719	- 0.007	0.080	- 0.427	0.348
2009	EL	1,064	- 0.000	0.066	- 0.327	0.336
2010	EL	3,752	- 0.006	0.077	-0.636	0.336
2011	EL	3,933	- 0.005	0.070	- 0.462	0.466
2012	EL	3,933	- 0.002	0.073	- 0.430	0.614
2013	EL	3,801	- 0.002	0.074	- 0.649	0.673
2014	EL	3,604	0.001	0.071	- 0.571	0.525
2015	EL	734	- 0.002	0.072	- 0.345	0.383
	EL	21,540	- 0.003	0.073	- 0.649	0.673
	FF	21,540	0.019	0.037	0.000	0.673
	FFSR	21,540	0.081	0.112	0.000	0.821

Table 4. Employment estimation using GMM

This table presents the coefficients and standard deviation of the variables of the models (defined in section 4), estimated by the system GMM in the first column, and the two-step difference GMM for the second column. The dependent variable is the natural logarithm of the number of employees. Time dummies are included but not reported. z_1 and z_2 are Wald tests of the joint significance of the explanatory variables and the time dummies, respectively, under the null of no relation, with the degrees of freedom in parenthesis. m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation. Hansen is a test of the overidentifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, degrees of freedom in parentheses.

	System GMM	Difference GMM
EMP(t-1)	0.711***	0.480***
	(0.026)	(0.035)
LEV	-0.067	-0.136
	(0.042)	(0.093)
AGE	0.005	0.075*
	(0.009)	(0.039)
SIZ	-0.028	0.244***
	(0.017)	(0.066)
PRF	-0.034	-0.286***
	(0.061)	(0.081)
ln(SAL)	0.239***	0.178***
	(0.017)	(0.037)
TAX	-0.024	-0.047
	(0.029)	(0.029)
z_1	6590.55(7)	119.07(7)
z_2	35.96(6)	14.45(6)
m_1	-17.15	-10.37
m_2	1.78	1.19
Hansen	280.87(121)	80.26(75)

***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 5. Effects of financial flexibility level on employment level

This table presents the coefficients and standard deviation of the variables of the models (defined in section 4), estimated by the two-step difference GMM. The dependent variable is the natural logarithm of the number of employees. Time dummies are included but not reported. t_1 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\gamma_1=0$; z_1 and z_2 are Wald tests of the joint significance of the explanatory variables and the time dummies, respectively, under the null of no relation, with the degrees of freedom in parenthesis. m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation. Hansen is a test of the overidentifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, degrees of freedom in parentheses.

	H1	H2	H3	Consistency
EMP(t-1)	0.479***	0.470***	0.476***	0.475***
	(0.034)	(0.034)	(0.035)	(0.035)
FFSR	0.031**	0.054***	-0.011	-0.005
	(0.013)	(0.019)	(0.022)	(0.018)
FFSR*DP		-0.066**		
		(0.032)		
FFSR*DS			0.060**	
			(0.029)	
FFSR*DPS				0.067**
				(0.030)
LEV	-0.138	-0.130	-0.149*	-0.136
	(0.092)	(0.092)	(0.090)	(0.092)
AGE	0.085**	0.089**	0.087**	0.089**
	(0.039)	(0.038)	(0.038)	(0.038)
SIZ	0.264***	0.256***	0.277***	0.269***
	(0.067)	(0.066)	(0.065)	(0.068)
PRF	-0.269***	-0.274***	-0.262***	-0.258***
	(0.083)	(0.083)	(0.082)	(0.084)
ln(SAL)	0.178***	0.185***	0.177***	0.180***
	(0.036)	(0.035)	(0.035)	(0.036)
TAX	-0.046	-0.043	-0.047	-0.045
	(0.029)	(0.029)	(0.029)	(0.029)
t_1		-0.543		
z_1	105.4(8)	92.27(9)	94.39(9)	92.19(9)
z_2	14.46(6)	14.66(6)	15.28(6)	14.65(6)
m_1	-13.470	-13.330	-13.330	-13.230
m_2	1.300	1.300	1.300	1.310
Hansen	83.16(85)	93.76(95)	90.13(95)	94.22(95)

***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 6. Effects of financial flexibility status on employment level

This table presents the coefficients and standard deviation of the variables of the models (defined in section 5), estimated by the two-step difference GMM. The dependent variable is the natural logarithm of the number of employees. Time dummies are included but not reported. z_1 and z_2 are Wald tests of the joint significance of the explanatory variables and the time dummies, respectively, under the null of no relation, with the degrees of freedom in parenthesis. m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation. Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term.

	R1	R2	R3	Consistency
EMP(t-1)	0.484***	0.475***	0.478***	0.478***
	(0.034)	(0.034)	(0.034)	(0.034)
DFF	0.011***	0.014**	0.003	0.005
	(0.004)	(0.006)	(0.006)	(0.005)
DFF*DP		-0.010		
		(0.009)		
DFF*DS			0.012	
			(0.008)	
DFF*DPS				0.010
				(0.009)
LEV	-0.124	-0.130	-0.105	-0.100
	(0.091)	(0.091)	(0.090)	(0.091)
AGE	0.085**	0.084**	0.093**	0.091**
	(0.039)	(0.038)	(0.038)	(0.038)
SIZ	0.240***	0.249***	0.246***	0.239***
	(0.065)	(0.064)	(0.062)	(0.064)
PRF	-0.276***	-0.278***	-0.270***	-0.264***
	(0.082)	(0.082)	(0.082)	(0.083)
ln(SAL)	0.184***	0.182***	0.189***	0.197***
	(0.037)	(0.036)	(0.035)	(0.036)
TAX	-0.041	-0.045	-0.050*	-0.049*
	(0.029)	(0.029)	(0.028)	(0.028)
z1	104.95(8)	92.8(9)	93.63(9)	91.73(9)
z2	13.92(6)	14(6)	13.58(6)	12.89(6)
m_1	-13.59	-13.49	-13.49	-13.45
m_2	1.37	1.36	1.36	1.36
Hansen	0.484***	0.475***	0.478***	0.478***

***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.