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The Benefits of Workforce Well-Being on Profitability in Listed Companies: A Comparative Analysis between Europe and Mexico from an ESG Investor Perspective

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Abstract: This paper evaluates the relationship between investing in workforce well-being and profitability of listed companies in Mexico compared to European companies from an Environmental, Social, and Governance (ESG) investor perspective. In this case, the Refinitiv workforce score or High-Performance Work Policies (HPWP) is used as an indicator of the quality of workforce well-being by including the industry effects (economic and business sectors) and the behavioral (sentiment) factors as control variables. Specifically, this article examines the relationships between HPWP, stock price changes (measured as a percentage), profitability (ROE), and market risk (betas). We used a sample of companies from the Refinitiv Mexico and European stock indices for this purpose. In the Mexican case, the results show that a higher level of well-being promotion relates to better company profits. The opposite happens in European companies. Regarding market prices, European companies show higher prices when they have higher HPWP and Mexican companies confirm the opposite. Regarding market risk, only European basic materials with high HPWP show less risk. Finally, in almost all Mexican business sectors, the relationship between market risk and workforce well-being is negative.

Keywords: workforce well-being; workforce happiness; high-performing working policies; company profitability; stock price performance; market risk; behavioral finance; labor economics

JEL Classification: G4; G12; J17; M59; M21

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1. Introduction

The workforce's well-being and impact on profits or productivity is a growing concern. Several studies have examined the effects of High-Performing Working Policies or HPWP (Guerci et al. 2022) on workers' and staff's well-being (or happiness). The World Health Organization (2022) defines workforce well-being as the condition of each employee to cope with life stress, work productively, and develop in a given community.

Previous works (Chang and Hsieh 2018; Pradenas et al. 2021; Chanda and Goyal 2020; Da Costa et al. 2020) have studied this relationship from a management perspective to enhance the company's performance. Little has been written about the advantages of this relationship for investors interested in Environmental, Social, and Governance (ESG) criteria. This motivation suggests the following research question: What impact could the investors have if they allocate their capital only to companies that promote workers' well-being? From a more quantitative perspective, what is the mean–variance (return–risk) relationship of investing mainly in companies with high HPWP standards?

It is worth mentioning that De la Torre-Torres et al. (2023) studied this relationship in European public companies and found no significant correlation between HPWP and

profits. This result does not mean testing this question is not relevant or unnecessary in other companies or regions. The fact that there is no significant correlation between these two variables gives proof that even if there is no significant positive relationship (better HPWP leads to better company performance), there is no evidence of the opposite, and, in practical terms, companies and investors could still promote well-being among its workforce without losing performance. Moreover, De la Torre-Torres et al. (2023) simulated the historical performance of a theoretical portfolio. This simulated portfolio did not show an over-performance against a European market portfolio, but no evidence of underperformance was found. Therefore, the authors concluded that there is no negative impact on firm earnings, market risk exposure (beta), or simulated HPWP portfolio if a given investor only makes a selection of companies with high HPWP. Consequently, investors could also perform activist investing in their companies to promote the workforce's well-being without performance loss.

In this investigation, workforce happiness and well-being are considered synonymous. We assumed this definition momentarily because happiness is a wider concept that includes spiritual well-being, and the concept of happiness is wider in several ways also under discussion in management (Chang and Hsieh 2018; Pradenas et al. 2021; Chanda and Goyal 2020; Da Costa et al. 2020; Popescu et al. 2022). The wideness in the context of happiness in management arises from the company's religious, social, or even cultural context. Therefore, the definition of happiness or well-being as synonyms is a necessary assumption in this paper, given the development of this study field in management and finance.

Following the previous assumption, Grant et al. (2007) define well-being as the sum of three dimensions or pillars in a person (an employee, manager, director, or vice president): physical, psychological, and social well-being; this definition will be used in the present paper. Physical well-being relates to actions that impact the individual's physique, such as health (nutrition, medical care, etc.) policies, workplace security (accident prevention, fire or earthquake protection, etc.), and medical policies. Psychological well-being refers to all the policies, group dynamics, or activities that enhance individual psyche and motivation. Finally, social well-being refers to all the policies and actions a company promotes in its workforce to improve its internal and external social links. Examples of these actions are group dynamics, the promotion of internal or external sports teams, group meetings, and policies with which the individuals can talk freely about labor or internal issues that affect their feelings or performance. All the actions related to enhancing these individual well-being dimensions are conceived as HPWP in the present paper.

Companies and investors measure the quality of the HPWP efforts of a listed company through the items related to workforce efforts in the Environment, Social, and Governance (ESG) scores of companies such as Refinitiv. In this paper, Refinitiv rates the presence of HPWP and quality in a company through 19 items that make up a workforce score for company i at time t ($HPWP_{i,t}$). This workforce score is between 0 and 100 points, and the higher the value, the better the HPWP quality. This paper uses this score as the quantitative proxy of HPWP. It extends the current literature by examining the relationships between the workforce score ($HPWP_{i,t}$), profits (return on equity) for company i at time t, $ROE_{i,t}$, the yearly percentage stock market price increase ($\Delta\%P_{i,t}$), and the market risk $(\beta_{i,t})$ of Mexican and European Public companies. This comparison will help developing countries' investors and policymakers find great opportunities if listed companies promote well-being in their workforce. Finally, the present investigation extends the work of De la Torre-Torres et al. (2023) by estimating the economic sector or business group leverage effect in the $HPWP_{i,t}$ regression coefficient.

The present research hypothesizes a positive relationship (in the sense of correlation) between $HPWP_{i,t}$ with $\Delta\%P_{i,t}$ and $ROE_{i,t}$ and a negative one with $\beta_{i,t}$. Furthermore, the authors believe it is possible to note differences in the results between European and Mexican companies because the former trade in countries where labor and well-being promotion have been ruled with laws. In the Mexican case, the interest in ruling proper labor conditions and promoting well-being is an emerging interest that has been

gaining momentum with the Mexican Federal Government since 2018, along with its well-being state reforms and legislations. This paper wants to deepen the discussion about workforce well-being activist practices and related legislation. Also, the paper looks to prove that implementing such legislation and promoting workforce well-being through activist investing does not hurt profits or portfolio performance. That is, even if no proof suggests that workforce well-being promotion leads to better performance, there is also no proof that reduces it. Therefore, promoting HPWP is appropriate for the workforce without negatively impacting the company and investors.

Specifically for this purpose, this investigation compares a highly evolved region (Europe) in terms of promoting workforce well-being with an emerging country, Mexico. The main question to address with the hypotheses of interest is as follows: Have related legislations hurt the productivity of companies? If not, what are the areas of opportunity in Mexico relative to those in Europe? In the Mexican case, the authors' position is that this country has a lot of potential in terms of productivity if it promotes the well-being of the workforce, after the successful case of Europe.

This paper stands out from the specialized literature in several aspects: (1) it is the first study on the relationship between workforce well-being and profitability for listed companies in Mexico and Europe, comparing a developing country with a developed region from an ESG investor perspective, (2) it includes behavioral (sentiment) factors as a control variable, (3) it considers leverage or Carhart's (1997) model factors, (4) it incorporates the industry effect in the regression model by testing the potential presence of a leverage effect in the factor loading of the $HPWP_{i,t}$, (5) it considers the business sector classification effect as a control variable, and (6) it includes several uncertainty indexes from Baker et al. (2016a, 2016b, 2020, 2021).

The reason for including these common financial, market, and behavioral factors is to control the potential endogeneity that financial (corporate) data has as exogenous (behavioral and market factors) and endogenous (leverage). These variables control for unexpected biases in the relations of interest. It is important to point out that the present investigation does not perform an instrumental variables regression because it would require the use of other factors whose inclusion and theoretical foundation is outside the scope of this paper. Another drawback is that the increase in ROE and the percentage change in share price could be outside the scope of our review and the view of other multifactor models. Furthermore, the length of the time series in each study unit is small and some companies in some countries have only one observation. Therefore, the first-differences approach could give rise to other biases. Consequently, following multi-factor models such as those in financial economics, we use these market and behavioral factors as proxies to control the possible endogeneity.

Although some works in the literature relate the ESG score to the financial performance of a listed company under the Bayesian approach that allows incorporating subjective beliefs, small samples, and non-linearities, having some advantages over conventional econometric models (Chanda and Goyal 2020), this type of Bayesian analysis is outside the scope of the present research for two reasons: (1) there is sufficient information and it is not necessary to incorporate additional information, from experts or investors, and (2) this work is not interested in investigating the asymmetry of the effects.

This paper's structure is as follows: the next section provides a brief literature review to support theoretical and practical motivations; Section 3 explains how the authors gathered the data; Section 4 discusses, in detail, the principal results and findings; finally, Section 5 concludes and suggests guidelines for further research.

2. Literature Review

Most of the literature related to the benefits between workforce well-being and profits analyzes the link following the two-step production function maximization suggested by MacKerron (2012) and Veenhoven (1988):

$$I = I[h(HPWP_{i,t})] \quad (1)$$

where $h(HPWP_{i,t})$ is the level of happiness or well-being (expressed as a utility function) and $I(\cdot)$ is a productivity function resulting from the well-being or happiness of the workforce.

Most of the literature in management tested either the validity of $h(HPWP)$ or $I(\cdot)$. As MacKerron (2012) points out, its theoretical definition and proper measure is a potential limitation (a sort of utility function). This type of test is more related to labor economics and suggests a theoretical complexity outside the scope of this paper. Among the works that examined the validity of $h(HPWP_{i,t})$ in (1) is that of Da Costa et al. (2020) and Momparler et al. (2011), which demonstrates that workforce happiness is a desirable (non-financial factor) input to increase company outputs. As MacKerron (2012) suggested, the real challenge is to have a proper measure of happiness (a proper utility function). Even if MacKerron's (2012) and Momparler et al.'s (2011) rationale is not so new, it is an appropriate theoretical (labor economics) guidance to test the benefits of promoting well-being in the workforce from the investor's perspective. The present research' aim is to test if there is a clear benefit on a company's productivity (profitability) and the investor's perception (informational efficiency) if a given company is more profitable or better for investors if it promotes workforce well-being.

At this point, it is essential to highlight that the relationship between workforce well-being and profitability is bidirectional. Several authors found that high-profit companies tend to be more socially responsible (Alessandro 2023; Halid et al. 2023; Bhatia and Marwaha 2022; Quintiliani 2022; Kalia and Aggarwal 2022; Samaniego et al. 2022; Chams et al. 2021; Conca et al. 2021). Other papers, such as the ones reviewed below, test the HPWP/profitability direction.

The work of Wright et al. (2007) was among the first to find a relationship between job satisfaction (well-being) and productivity. Using human resources theoretical models, the authors polled 109 employees on the West Coast of the US. Similar works, such as Ghadi and Almanaga'h (2020), Eisenberger et al. (1986), Magnier-Watanabe et al. (2017), Boerger et al. (2018), Chang and Hsieh (2018), Atan et al. (2018), Pradenas et al. (2021), Sattar et al. (2015), and Kessler et al. (2020), reached analogous conclusions in several industries. These works found empirical evidence of $h(HPWP_{i,t})$. The higher the $HPWP_{i,t}$ or well-being promotion, the more engaged the workforce feels.

Similarly, Chanda and Goyal (2020) used Bayesian neural networks to examine the relationship between CSR practices and their impact on worker's happiness and the company's financial performance. This investigation finds a significant relationship, suggesting the workforce's well-being and company performance could be closely related. This work relates to the present paper in two ways. First, it proves the positive correlation between social responsibility and a company's performance, and second, Chanda and Goyal (2020) use Bayesian and non-linear models that combine the subjective beliefs about this relationship with the observed relationship in the data sample. The advantage of using Bayesian neural networks on this type of test is estimating this relationship of interest by incorporating both beliefs and non-linearities in the original data, which could be more challenging to avoid in conventional least squares econometric models and small samples. However, the Bayesian analysis is outside the scope of the present investigation, as mentioned before.

Other works study the benefits of HPWP efforts through the level and quality of CSR practices (level of ESG scores) with profits (Quintiliani 2022; Godínez-Reyes et al. 2022; Alareeni and Hamdan 2020). The literature on ESG scores (CSR practices) and company profitability is vast, and Chatzitheodorou et al. (2019) properly map these works.

It could be interesting to test and compare the relationship between the quality of HPWP and profits ($ROE_{i,t}$) from an economic and industry group perspective. Still, the review would be incomplete if it only considers the "internal" performance. $ROE_{i,t}$ shows the company's profitability due to its operations and proper workforce well-being and tells nothing about ESG investors' perspective. At this point, it is essential to highlight that one perspective relates to the workforce and another is the company's stock demand in the market. Given this higher or lower demand, the price would be higher or lower due to screening and asset allocation issues. The works of Gibson et al. (2021), La Torre et al. (2020), De la Torre-Torres et al. (2016), Statman (2000), and Schröder (2004, 2007), among others, suggest either a superior or statistically equal performance of ESG portfolios against a market one. In this sense, Hong and Kacperczyk (2009) suggest a better performance of "sinful" companies with high (harmful) social or environmental practices (such as tobacco, gambling, weapons, oil, or alcoholic beverages).

From the literature related to ESG scores and the company's price performance, Edmans' (2012) work proves the benefit of HPWP in the company's market value. An ESG investor allocates his/her capital not only due to the company's financial performance and perspectives but also given the ESG score or practices. This result is explained by Derwall et al. (2011) and Cornell (2021). Derwall et al. (2011) suggest two contending hypotheses to explain the demand of companies with high ESG standards: (1) the shunned-stock hypothesis and (2) the errors in expectations. The first hypothesis explains that the stock price of companies with low or no ESG standards is lower because these companies are shunned by ESG investors who want to increase the ESG quality in their portfolios. On the other hand, Cornell (2021) explains that these stocks have higher expected returns because even if they are not so ESG, their internal performance ($ROE_{i,t}$) leads to better expected returns. The second hypothesis suggests that the ESG benefits in the company and market are not priced in the company's market valuation. Therefore, investing in this company could generate alpha (extra returns above a market portfolio).

Considering the above, few works tested the relationship estimating the relationship between ESG scores and market risk levels. In this sense, it is important to point out that several works have found a negative or a non-significant relationship, as can be seen in Bekaert et al. (2023), Martínez et al. (2022), Korinth and Lueg (2022), Xu et al. (2022), Shakil (2022), Liu et al. (2022), Feng et al. (2022), De Marco and Vuuren (2022), Gavira-Durón et al. (2020), and Han et al. (2016). These results imply that the better the ESG practices in a given company, the lower its market risk.

Therefore, under the framework of the previous works and the motivations stated in the introduction section, this research tested four working hypotheses:

1. H1: There is a positive relationship between $HPWP_{i,t}$ and $ROE_{i,t}$, suggesting that the better the efforts in workforce motivation, the better the profitability.
2. H2: There is a positive relationship between $HPWP_{i,t}$ and $\Delta P\%_{i,t}$, suggesting that the better the efforts in workforce motivation in a given company, the more attractive it is to investors due to better long-term financial performance and the ESG restrictions among portfolio managers.
3. H3: There is a positive relationship between $HPWP_{i,t}$ and $\beta_{i,t}$, suggesting that the better the efforts in workforce motivation in a given company, the less risky it is in stock market trading.
4. H4: The previous 3 hypotheses hold by controlling the economic and business sector (industry classification).

With these working hypotheses, this paper aims to contribute to the discussion between two antagonist positions in Financial Economics related to Corporate Socially Responsible (CSR) practices (such as HWPW): the Friedman vs. Freeman debate about the benefits of CSR. Friedman (2007), in the context of classical economics and finance, states that the company's performance has a negative financial relationship if it engages in CSR policies (including workforce well-being). The explanation for this statement comes from the cost incurred and cash-flow impact if the company invests resources and policies in

CSR practices due to lower productivity. On the other hand, Freeman (1984, 1994) suggests that the benefit of practicing CSR is a long-term issue because the company is less risky in legal, reputational, and operational aspects, which enhances better customer and supplier relations. These impacts lead to better productivity and sales. Related to this debate, enhancing HPWP could lead to higher production costs and potentially lower productivity (the classical or Friedman's position). Therefore, some ratios, such as $ROE_{i,t}$, could be lower in companies promoting well-being (through HPWP) in their workforce. This research will examine listed companies and real estate investment trusts (REITs) of the Refinitiv Mexico price returns index and companies traded in the Refinitiv Europe price return index.

Following these stock market demand hypotheses stated in previous research, it is interesting for the present paper to assess scores without negatively impacting the portfolio's performance. The work of Li and Zhang (2013) finds evidence that an ESG investor could create alpha in a portfolio by considering companies with a high level of happiness in their workforce. These authors conducted a test in several European countries and the U.S. and concluded that the result holds in countries in which the labor market is flexible (such as the US or the UK) and fails in countries with less flexible labor markets, such as Denmark or Germany.

To give a wider review of a high $HPWP_{i,t}$ portfolio's performance, it is also important to examine if there is a company with a high $HPWP_{i,t}$ (a high workforce score) that has a lower systematic market risk ($\beta_{i,t}$). The present investigation attempts to show that a company with high HPWP is less risky. A higher or lower $\beta_{i,t}$ value depends on the stock price demand, as Derwall et al. (2011) suggest.

Given these theoretical motivations, the following section explains how the authors gathered the input data and tested the working hypotheses.

3. Materials and Methods

To test the four hypotheses of interest, the authors made two unbalanced panel data samples with the historical yearly data of the variables of interest.

Departing from the four hypotheses of interest, this research will use the Refinitiv workforce score that summarizes (from a value between 0 and 100) the quality of the HPWP in the company of interest. Refinitiv is among the leading ESG score providers, covering over 70% of the world stock market capitalization with acceptable quality (Escrig-Olmedo et al. 2019). This score is the workforce dimension score in the social pillar and grades 19 items (from a set of 400) that Refinitiv (2022) checks every year with public data from the financial statements, investor's reports, social media, non-governmental organizations (NGO), and news. This score is a normalized value of the HPWP of a given company, compared with peers in the same industry and economic groups in the Refinitiv (2019) business classification methodology.

To estimate a proper $HPWP_{i,t}$-$ROE_{i,t}$ relationship and to reduce potential endogeneity in the dataset, this research will control for market or financial factors influencing this nexus.

For the case of the model of the second working hypothesis ($ROE_{i,t}$ as the dependent variable), this research includes the next regressors (financial or market factors):

1. The leverage or $leverage_{i,t}$ (total liabilities divided by the total equity) of the company of interest. In other words, the leverage directly impacts free cash flow generation, the corresponding company value, and the implementation of HPWP.
2. The implied volatility 1-month in-the-money and at-the-money put and call options of the S&P 500 (VIX), S&P/BMV IPC (MXVOL), Eurostoxx 50 (VSTOSXXVIX) indexes, and the one (OILVIX) of the West Texas Intermediate (WTI) oil futures (see, for instance, De la Torre-Torres et al. 2023).

For the case of the first and third hypotheses, the authors estimated the models with the following market factors:

3. Carhart's (1997) four factors: market factor ($MKT_{i,t}$), the small minus big (SMB) capitalization, the high minus low ($HML_{i,t}$) P/EV (growth minus value) stocks, and the 12-month momentum ($MOM_{i,t}$).

This research also used the subsequent uncertainty and fear indexes in the three models to control the relationships of interest in a behavioral context:

4. The mean yearly value of the Baker et al. (2016b) Global Economic Policy uncertainty index ($econUncertainty_t$) that measures the level of fear or uncertainty printed in news related to Economics, Economic policy, and politics in the leading newspapers around the globe.
5. The mean value of the Global epidemics and pandemics news uncertainty index ($pandemicNews_t$) of Baker et al. (2020). This index is similar to the previous one but focuses mainly on news related to Public health and infectious disease episodes in specific geographical regions or worldwide.
6. The Baker et al. (2020) mean yearly value of the Global geopolitical uncertainty ($geopolUncertainty_t$) index related to episodes. This index measures the uncertainty related to war or geopolitical tensions news.
7. The Baker et al. (2020) currency markets uncertainty index ($FXUncertainty_t$) that measures the uncertainty related to foreign exchange (FX) markets' news.
8. The Baker et al. (2020) Commodity markets news uncertainty ($commodityUncertainty_t$).
9. The Baker et al. (2021) social media (Twitter now X) uncertainty index ($socMediaUN_t$) that measures the uncertainty in social media posts related to every type of security markets (mainly stock markets) in the U.S.

The rationale for including these indexes is that uncertainty could affect a company's financial performance ($ROE_{i,t}$) through the sales or the cost channel and the conservativeness that the board of directors in a company could have in uncertainty episodes. Also, it could affect its market price ($\Delta\%P_{i,t}$), or risk level ($\beta_{i,t}$) due to investors' uncertainty in equity markets. Therefore, controlling for behavioral factors could be helpful to test the three hypotheses of interest, setting aside the effects of these. Furthermore, by aligning behavioral factors with market and financial factors, these were used to control for potential endogeneity.

To demonstrate hypotheses H1 and H2, the factor loading value of the regression model must be positive. For the case of the third hypothesis, it must be negative.

For the European sample, the panel dimensions are 50 companies, ranging from 3 to 12 years. For the Mexican case, the corresponding dimensions are 51 companies with the same length. This research extracted historical data from Refinitiv databases to gather the panel data. The ESG, social, environmental, and workforce scores were downloaded from the same provider. The later score was used to proxy the quality of the companies' well-being efforts (high-performing working policies). The original sample (in Europe and Mexico) was first filtered with the companies' grades in ESG efforts data from Refinitiv. This filter implies that a company with no review was not included. Companies with less than three years of historical data were also excluded to preserve the best time series properties.

Once the panel data were formed for Mexico and Europe separately, the unit root tests from Im et al. (2003) and Maddala and Wu (1999) were performed on the $ROE_{i,t}$, $\Delta\%P_{i,t}$, and $\beta_{i,t}$ as dependent variables. This paper did not test for unit roots in $ESG_{i,t}$, $ENV_{i,t}$, $GOV_{i,t}$, and $leverage_{i,t}$ because these variables have values either between 0 and 100 points or because the leverage has values around 0. Therefore, their values could be considered stationary. The variables $ROE_{i,t}$, $\Delta\%P_{i,t}$, and $\beta_{i,t}$ are company-specific in the model, and the others are control variables (common trends). Unfortunately, given the time series length in the European sample, the unit root tests were not feasible. Departing from this fact, only Wooldrige's (2002) serial correlation and Pesaran's (2004) cross-section dependence tests are estimated.

As mentioned before, the sample data panels have lengths from 3 to 12 years, an issue that could impact the conclusions of these tests. Due to panel data length, other fixed-effects

data panel unit root tests were omitted. To overcome this issue, Wooldrige's (2002) serial correlation test was performed for the following regression equation:

$$ROE_{i,t}/\Delta\%P_{i,t}/\beta_{i,t} = leverage_{i,t} + F + B + \varepsilon_{i,t} \quad (2)$$

where F is the set of market factors. In the case of the $ROE_{i,t}$ regressions in the European sample:

$$F = MOM_{i,t} + VIX_t + VSTOXX_t + OILVIX_t \quad (3)$$

Moreover, B in (2) is the set of factors related to the uncertainty (sentiment analysis in news text) of economic policy, pandemic, currency, and commodity markets news, and the sentiment on social media (X or Twitter) financial market posts. It is important to point out that Equations (1)–(3) constitute a single (one-step) regression model.

In the Mexican sample, the $VSTOXX_t$ (Eurostoxx implied volatility index) was substituted by the Mexican one ($MXVIX_{i,t}$) in (3). In the case of $\Delta\%P_{i,t}$ and $\beta_{i,t}$, F included the factors in (3) plus the market (MKT_i), small minus big ($SMB_{i,t}$), and high minus low ($HML_{i,t}$ growth minus value).

The uncertainty indexes data sample was retrieved from the Baker et al. (2016a) Saint Louis Federal Reserve Economic Data (FRED) website, and the rest of the financial factors, $ROE_{i,t}$, $\Delta\%P_{i,t}$, and $\beta_{i,t}$ data from the databases of Refinitiv.

To estimate the panel regression models, the authors used the Croissant and Millo (2008) plm R library for panel regression to perform the group of equations of panel regression and results estimation.

It is important to mention that the regressions estimated herein used 90% winsorized values of the three dependent variables ($ROE_{i,t}$, $\Delta\%P_{i,t}$, $\beta_{i,t}$). This research did this because there were some outliers in these variables that could influence the results. Also, it is important to mention that this investigation also normalized the values of the ESG score ($ESG_{i,t}$), the environmental pillar ($ENV_{i,t}$), governance ($GOV_{i,t}$), and workforce well-being ($HPWP_{i,t}$) or HPWP score. Even if the Refinitiv ESG scoring methodology normalizes the scores of interest, this normalization is for companies of the same industry worldwide. Therefore, the normalization process is performed in the sample, not in geographical terms. To have more standard or comparable scores in Europe or Mexico, the authors normalized the original scores ($ESG_{i,t}$) and related them as follows:

$$ESG_{i,t} = \frac{(ESG_{i,t}) - ESG_{i,t}}{ESG_{i,t} - min(ESG_{i,t})} \times 100 \quad (4)$$

The main factor of interest in this paper is Refinitiv's workforce score ($HPWP_{i,t}$). This score (with a normalized value from 0 to 100 in the Refinitiv (2019) business classification peer group) included 19 items measured by Refinitiv each year in the company of interest. Among these are the existence of employee health and safety policies, training and development ones, career development practices, gender and diversity inclusion policies, the existence of a health and safety team, the degree (from 0% to 100%) of employee satisfaction, flexible working hours, strikes, and the existence of salary gaps, among others. For a detailed review of all these items, please refer to Refinitiv (2019).

It is worth mentioning that when controlling for economic sector and industry group, the random effects model was not feasible due to the short duration of the time series in some countries and companies, and we were unable to perform an appropriate Hausman test in these cases. Hence, we use the fixed effects model with market, financial, and behavioral factors to control for random variability in the residuals and reduce, as much as possible, the correlation between the regressor of interest (HPWP only) with the residuals.

To estimate the within units (companies) fixed-effects panel regression models, Equation (3) was used, adding the environmental pillar score ($ENV_{i,t}$), the governance pillar one ($GOV_{i,t}$), and the well-being promotion or workforce score ($HPWP_{i,t}$) with either economic

sector or business sector leverage effects in the factor loading. This research does not include the general $ESG_{i,t}$ score to avoid multicollinearity.

The authors estimated the panel data regressions with the Driscoll and Kraay (1998) robust and consistent standard errors method, to control for potential serial correlation and cross-sectional effects. Because the three dependent variables of interest ($ROE_{i,t}$, $\Delta\%P_{i,t}$, and $\beta_{i,t}$) are related to internal and even industry or business sector characteristics, the authors performed hypothesis H4 by testing the relationship between $HPWP_{i,t}$ with these three variables by controlling the leverage effect of the economic and business sectors (the first two levels of the Refintiv business classification methodology).

The following section shows the main findings and results of the panel regression models.

4. Results and Discussion

4.1. Panel Data Statistical Summary and Related Statistical Tests

Table 1 shows the panel data serial correlation and cross-sectional dependence tests of the variables of interest in the European sample. Likewise, Table 2 does it for the Mexican one. As noted in Table 1, all the models show no serial correlation and $\Delta\%P_{i,t}$ shows cross-sectional dependence.

Table 1. Panel data serial correlation and cross-sectional dependence tests in the European sample.

Variable/Regression Model	Wooldridge Test	Pesaran Global Test
$ROE_{i,t}$	0.0000	0.0000
$\Delta\%P_{i,t}$	0.4389	0.1158
$\beta_{i,t}$	0.0000	0.0647

Source: Authors' elaboration.

Table 2. Panel data serial correlation and cross-sectional dependence tests in the Mexican sample.

Variable/Regression Model	Wooldridge Test	Pesaran Global Test
$ROE_{i,t}$	0.0000	0.0039
$\Delta\%P_{i,t}$	0.0049	0.3306
$\beta_{i,t}$	0.0000	0.0807

Source: Authors' elaboration.

It is essential to mention that detecting cross-sectional dependence in $\Delta\%P_{i,t}$ is an expected result due to common factors and stock-market dependence. This issue leads to clear endogeneity and supports using fixed effects with unit or company-specific effects (within) as a potential panel data model. For this reason, it is included in the market factors (F) and the behavioral (B) in (2). Table 2 shows the Mexican panel dataset.

In contrast to the European sample, there is no evidence of serial correlation, but it shows cross-sectional dependence, a situation shared with the European sample for the previously discussed reasons of common market and behavioral factors controlled in a fixed-effects model.

Table 3 shows the country-specific summary of the European sample in terms of European regions. Appendix A shows the summary by business sector in Table A1.

As noted from the previous Tables, the European sample is diversified in several companies by country, economic, and business sectors. The countries with the highest number of companies are France, Germany, and the United Kingdom. Also, only the automobiles and parts (base business sector in the regressions) and the retailers' business sectors have one company in the sample. The economic sectors included in the sample are basic materials (base economic sector in the regressions), consumer cyclical, consumer non-cyclical, energy, financials, healthcare, industrials, technology, and utilities. The business sectors are automobiles and parts (base business sector), banking and investment services, chemicals, consumer cyclicals, energy-fossil fuels, financial technology (fintech) and infrastructure,

food and beverages, healthcare services and equipment, industrial and commercial services, industrial goods, insurance, mineral resources, personal and household products and services, pharmaceuticals and medical research, retailers, software and IT services, technology equipment, telecommunication services, transportation, and utilities.

Table 3. Data summary by region and country of headquarters in the European sample.

Regions	Country	Market Value (Trillions)	Number of Companies	$ESG_{i,t}$	$HPWP_{i,t}$	Market Value (%)	Number of Companies (%)
Northern Europe	Denmark	2.13	1	81.86	87.22	30.25	2.04
Northern Europe	United Kingdom	1.11	12	84.90	92.44	15.80	24.49
Southern Europe	Italy	51.13	1	92.00	99.58	0.72	2.04
Southern Europe	Spain	118.48	2	88.86	96.92	1.68	4.08
Western Europe	Belgium	113.62	1	78.57	73.71	1.61	2.04
Western Europe	France	1385.63	12	78.08	95.42	19.60	24.49
Western Europe	Germany	600.79	8	89.16	96.57	8.50	16.33
Western Europe	Netherlands	330.53	3	74.29	90.11	4.67	6.12
Western Europe	Switzerland	1062.60	8	87.53	97.07	15.03	16.33
Total or mean values		7071.05	49	81.33	91.34	100.00	100.00

Source: Authors' elaboration.

A drawback of the European and Mexican samples is that not all the companies disclose their ESG practices, or Refinitiv still does not rate them. Therefore, some companies were excluded from the sample due to this issue or the selection process described in the previous section. This issue led to an unbalanced panel data sample that is considered representative of the European or Mexican markets due to (1) the business sector diversification, (2) the number of companies included in the sample, and (3) the added market capitalization. Even if some countries or business sectors have only one company, it is important to highlight that the business sector diversification (to control industry effects) and the number of companies in the sample are enough to test the four hypotheses of interest.

Table A2 of Appendix A shows the summary of the business sectors of the Mexican sample. As noted, the sample is also diversified (with a small concentration of 12 real estate companies or REITs in the 50 companies). The business sectors included are automobile and parts (base scenario), banking and investment services, chemicals, consumer goods conglomerates, consumer cyclical products, consumer cyclical services, energy-fossil fuels, food and beverages, food and drug retailing, mineral resources, personal and household products, and services, pharmaceuticals and medical research, real estate, retailers, and transportation.

An important feature of the sample data in Europe and Mexico is that the average $HPWP_{i,t}$ score is 91.34 in the former and 56.62 in the latter. This result could be an effect of the practices and public policies implemented in European countries. Also, it could impact the sensitivity that $HPWP_{i,t}$ could have in the three variables of interest.

4.2. Panel Regression Tests Review

Table 4 shows the first part of the panel regression model for the three variables of interest in the European sample. This table includes the market (F) and behavioral (B) factors in (3), along with the environmental ($ENV_{i,t}$) and governance score relationship ($GOV_{i,t}$). Related to the Carhart (1997) four-factor model, the size factor ($SMB_{i,t}$) hurts price change. This issue needs further review due to the expected sign of this factor. Here, the current sign suggests that investing in small-cap stock is less profitable than doing it in large-cap ones. The growth minus value factor ($HML_{i,t}$) has the expected sign because investing in growth stocks has a positive risk prime of 1.81%. A similar issue happens with momentum, suggesting that market movements support, on average, a 2.39% price increase.

Table 4. Panel data regression outputs for economic and business sector regressions in the European panel data (only the financial, behavioral, and ESG scores).

	Dependent Variable:					
	Economic Sector Panel Regression			**Business Sector Panel Regression**		
	$\Delta\%P_{i,t}$	$ROE_{i,t}$	$\beta_{i,t}$	$\Delta\%P_{i,t}$	$ROE_{i,t}$	$\beta_{i,t}$
MKT_t	0.2300		0.0000	0.1851		0.1851
SMB_t	−1.6807 **		0.0000	−1.7827 **		−1.7827 **
HML_t	1.8189 ***		0.0000	1.8953 ***		1.8953 ***
MOM_t	2.3993 ***		0.0000	2.5145 ***		2.5145 ***
$leverage_t$	−0.1501	0.3429	0.0003	−0.1114	0.3689	−0.1114
VIX_t	7.9179 ***	2.8205 **	−0.0581	8.1480 ***	2.7915 **	8.1480 ***
$VSTOXXVIX_t$	0.0306	0.2026 **	−0.0020	0.0592	0.1444	0.0592
$OILVIX_t$	−0.0216	−0.1277 *	0.0031	0.0000	0.0000	0.0000
$econUncertainty_t$	−0.2058 ***	0.0711 **	−0.0016	−0.0358	−0.0915	−0.0358
$pandemicNews_t$	−3.5783 ***	−0.9443 **	0.0136	−0.2111 ***	0.0600 *	−0.2111 ***
$geopolUncertainty_t$	0.0000	−0.1817 **	0.0044	−3.6444 ***	−0.9238 ***	−3.6444 ***
$FXUncertainty_t$	0.0000	23.9378 **	−0.6905 *	0.0000	−0.1781 **	0.0000
$commodityUncertainty_t$	0.0000	−6.5568 ***	0.1350	0.0000	21.3673 **	0.0000
$socMediaUN_t$	−0.0639	−0.0514 ***	0.0031 ***	0.0000	−6.2858 ***	0.0000
$ENV_{i,t}$	0.1568 **	−0.0091	−0.0007	−0.0698	−0.0483 ***	−0.0698
$GOV_{i,t}$	0.0064	−0.0477	0.0020 *	0.1788 **	−0.0603	0.1788 **
Akaike information criterion	−1643.8282	−1266.3757	198.5751	−1596.1983	−1150.1258	22.0608
Adjusted R^2	0.1328	−0.0603	−0.0809	−0.1006	0.0923	0.0205
F Statistic	5.9290 ***	2.2768 ***	1.9823 ***	1.6432 **	4.2149 ***	3.1226 ***

Note: *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

In contrast to the authors' expectation, leverage has no impact on the variables of interest, given the non-significant values in the factor coefficient. The US implied volatility index (VIX_t) unexpectedly has a positive and significant impact on both $\Delta\%P_{i,t}$ and $ROE_{i,t}$. The expectation was to have a negative value because higher VIX_t values mean more risk aversion either in investors or company managers. A similar result holds in the European and oil-implied volatility indexes. They are significant only in the $ROE_{i,t}$ equation. The impact of oil volatility has the expected influence on $ROE_{i,t}$ and suggests that the company's profit is reduced when oil volatility increases due to either conservativeness or cost impacts.

Related to behavioral factors, the global economic policy news showed the expected sign in $\Delta\%P_{i,t}$. The higher the fear or uncertainty in related news, the lower the stock-market price.

Uncertainty related to epidemic or pandemic news also has a significant and negative sign in $\Delta\%P_{i,t}$ and $ROE_{i,t}$. An expected effect due to risk aversion in financial markets and lower sales may impact either confinement (like the ones in the COVID-19 crisis) or consumption fear. A similar effect is geopolitical fear or uncertainty on $ROE_{i,t}$. Also of interest is to note that the higher the uncertainty about the commodity market and social media posts, the lower the $ROE_{i,t}$. Finally, only the environmental pillar score has a positive

impact on the stock price. The more environmentally responsible the company is, the higher its stock price. Table 5 shows the same analysis as Table 4 applied to the Mexican sample.

Table 5. Panel data regression outputs for economic and business sector regressions in the Mexican panel data (only the financial, behavioral, and ESG scores).

	Dependent Variables					
	Economic Sector Panel Regression			**Business Sector Panel Regression**		
	$\Delta\%P_{i,t}$	$ROE_{i,t}$	$\beta_{i,t}$	$\Delta\%P_{i,t}$	$ROE_{i,t}$	$\beta_{i,t}$
MKT_t	1.0489 **		0.0000	0.8805 *	0.0000	0.0000
SMB_t	0.0653		0.0000	0.0116	0.0000	0.0000
HML_t	0.2318	0.0000	0.0000	0.2356	0.0000	0.0000
MOM_t	0.5157 **	0.0000	0.0000	0.3880	0.0000	0.0000
$leverage_t$	0.2909	0.0035	0.0029	0.2819	−0.0118	0.0037
VIX_t	1.2927	3.4479	0.0638	0.8154	3.2724	0.0852
$VSTOXXVIX_t$	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
$OILVIX_t$	0.8008	0.0334	0.0119	0.8109	0.0536	0.0112
$econUncertainty_t$	−0.0202	−0.0742	−0.0019	0.0334	−0.0709	−0.0023
$pandemicNews_t$	0.1224 *	0.1719 *	0.0019	0.1116 *	0.1677 *	0.0024
$geopolUncertainty_t$	−1.5685	−1.0424	−0.0083	−1.1378	−1.0012	−0.0156
$FXUncertainty_t$	0.0000	−0.2405	−0.0046	0.0000	−0.2289	−0.0060
$commodityUncertainty_t$	0.0000	22.2854	0.2602	0.0000	21.0000	0.3854
$socMediaUN_t$	0.0000	−7.1066	−0.1134	0.0000	−6.7085	−0.1601
$ENV_{i,t}$	0.0000	−0.0834 ***	−0.0009	0.0000	−0.0824 ***	−0.0009
$GOV_{i,t}$	0.0490	0.0552	−0.00004	0.0730	0.0477	0.0012
Akaike information criterion	−1600.5879	−1155.6763	13.2668	−1596.1983	−1150.1258	22.0608
Adjusted R^2	−0.1004	0.0865	−0.0041	−0.1006	0.0923	0.0205
F Statistic	0.1153	0.2632	0.1967	1.6432 **	4.2149 ***	3.1226 ***

Note: *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

As noted in Table 5 and in contrast to the European panel data, Mexican companies are sensitive to the market factor in their stock price. They have the expected sign. In contrast to expectations, the pandemic news uncertainty significantly and positively impacts stock price performance, which is another issue that needs further review. In contrast to most of the literature on the subject and t the stakeholder's theory, the higher the environmental effort in Mexican companies, the lower their profitability ($ROE_{i,t}$).

Table 6 shows the second part of the panel regression analysis, related to the economic and business sector leverage effect between $HPWP_{i,t}$ and the three variables of interest. This table compares the results between Europe and Mexico. As noted in Table 6, the basic materials (the base sector in the European panel data model) significantly and positively impact profitability ($ROE_{i,t}$). In this specific European economic sector, the higher the well-being promotion efforts in the company at one point, the bigger the profitability or $ROE_{i,t}$ by 0.5787%. A 10-point increase in the $HPWP_{i,t}$ implies a 5.78% improvement in $ROE_{i,t}$ for companies in this sector. The opposite happens in the other European economic sectors except for industrials, where $HPWP_{i,t}$ has no significant relationship with $ROE_{i,t}$.

In the Mexican case, only the unique energy company in the sample has a positive relationship between $HPWP_{i,t}$ and $ROE_{i,t}$. According to these results, the second working hypothesis only holds in the European Basic materials Economic sector and in the Mexican Energy market.

A closer look at Table 6 shows that the first working hypothesis (a significant and positive relationship between $HPWP_{i,t}$ and $\Delta\%P_{i,t}$) only holds in the European consumer cyclical and utilities sectors. It also holds in the Mexican energy and real estate economic sectors in Mexico. In the specific case of the automobiles and parts sector in Mexico, the opposite happens. The higher the efforts in well-being promotion ($HPWP_{i,t}$), the lower the profitability in the only company in the sample.

Table 6. Continuation of Tables 4 and 5: Economic sector leverage effects for the well-being promotion (HPWP) factor.

	Dependent Variables					
	European Panel Data Regression			**Mexican Panel Data Regression**		
	$\Delta\%P_{i,t}$	$ROE_{i,t}$	$\beta_{i,t}$	$\Delta\%P_{i,t}$	$ROE_{i,t}$	$\beta_{i,t}$
$HPWP_{i,t}$	−0.2261	0.5785 **	−0.0116 ***	−0.3479 **	−0.0141	−0.0044
$HPWP_{i,t}$ (Consumer Cyclicals)	0.7084 *	−0.6157 *	0.0112 **	0.2107	−0.0966	0.0055 *
$HPWP_{i,t}$ (Consumer Non-Cyclicals)	−0.1991	−0.6524 **	0.0038	0.0772	0.0287	0.0003
$HPWP_{i,t}$ (Energy)	−0.5123	−0.7660 **	0.0249 ***	1.1851 ***	0.4994 ***	0.0026
$HPWP_{i,t}$ (Financials)	−0.0132	−0.4833 *	0.0087 *	0.2796	−0.0161	0.0023
$HPWP_{i,t}$ (Healthcare)	0.4227	−1.0772 ***	0.0108	0.0568	0.0417	0.0023
$HPWP_{i,t}$ (Industrials)	0.5664	−0.5022	0.0092	−0.0017	−0.0609	0.0070 **
$HPWP_{i,t}$ (Technology)	−0.2209	−0.5147 *	0.0084 **			
$HPWP_{i,t}$ (Utilities)	1.5041 *	−0.5998 **	−0.0105 *			
$HPWP_{i,t}$ (Real Estate)				0.2515 *	−0.0018	0.0054 *
Akaike information criterion	−1643.82	−1266.37	198.57	−1600.58	−1155.67	13.26
Adjusted R^2	0.1328	−0.0603	−0.0809	−0.1004	0.0865	−0.0041
F Statistic	5.9290 ***	2.2768 ***	1.9823 ***	1.8710 **	5.2145 ***	3.4280 ***

Note: *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

Related to market risk ($\beta_{i,t}$), only the basic materials and utilities show the expected sign and significance level. The higher the $HPWP_{i,t}$, the less risky the companies of these sectors will be. The opposite happens in the energy, financials, healthcare, and technology European Economic sectors, and in the consumer cyclicals and real estate Mexican ones. It is important to highlight the blank spaces in Table 6 because that specific economic sector does not exist in the sample.

Table 7 shows the results of Table 6 from a business sector perspective. Almost all the business sectors have a significant and positive relationship (except basic materials and retailers) related to the stock price increase in the European region. This result contradicts the one in Table 6 because the sectors are a broader set of business sectors. Therefore, the business sector provides a more specific perspective and shows that hypothesis 1 (a positive relationship between $HPWP_{i,t}$ and $ROE_{i,t}$) holds in all the European business sectors. In the Mexican sample, the opposite happens. There is a significant and negative relationship in almost all the sectors (except for automobiles and parts, consumer cyclical products, and retailers). These results suggest that previous work in Mexico that examined the relationship between $HPWP_{i,t}$ and $ROE_{i,t}$ is good enough but lacks the specific business sector perspective herein. Therefore, the authors find evidence demonstrating that investors appreciate the promotion of well-being in European companies, but in Mexico, this is not the case.

For the case of the second hypothesis (the relationship between $HPWP_{i,t}$ and $ROE_{i,t}$), the hypothesis is true in the following European business sectors: banking and investment services, mineral resources, retailers, and technology equipment. The higher the well-being efforts or workforce score, the more profitable the companies in these sectors are. In the Mexican case, almost all the business sectors show a positive and significant relationship between $HPWP_{i,t}$, and $ROE_{i,t}$. The exceptions are banking and investment services, as well as personal household products and services, which have no significant relationship. The food and beverages, pharmaceuticals, and medical research sectors have a negative relationship. Therefore, except for these four business sectors, almost all Mexican companies are more profitable if they promote well-being in their workforce.

Table 7. Continuation of Tables 4 and 5: Business sector leverage effects for the well-being promotion (HPWP) factor.

	Dependent Variables					
	European Panel Data Regression			**Mexican Panel Data Regression**		
	$\Delta\%P_{i,t}$	$ROE_{i,t}$	$\beta_{i,t}$	$\Delta\%P_{i,t}$	$ROE_{i,t}$	$\beta_{i,t}$
$HPWP_{i,t}$	−2.5923 ***	−0.2021	−0.0210 *	0.1824	−0.3000 ***	0.0058 **
$HPWP_{i,t}$ (Banking Investment Services)		2.3127 ***	0.2995	0.0083	−0.2411	0.2820 ***
$HPWP_{i,t}$ (Chemicals)	2.3194 ***	0.5618	0.0070	−0.3974 ***	0.4136 ***	−0.0151 ***
$HPWP_{i,t}$ (Consumer Goods Conglomerates)				−0.2068	0.1764 ***	−0.0029
$HPWP_{i,t}$ (Cyclicals Consumer Products)	3.0267 ***	0.2425	0.0212 **	−0.1040	0.2650 ***	0.0167
$HPWP_{i,t}$ (Cyclicals Consumer Services)				−0.4827 ***	0.2298 ***	−0.0079 ***
$HPWP_{i,t}$ (Energy - Fossil Fuels)	1.8680	−0.0159	0.0343 ***	0.6553 ***	0.8149 ***	−0.0093 ***
$HPWP_{i,t}$ (Financial Technology, Fintech)	0.4025	0.3442	0.0098			
$HPWP_{i,t}$ (Food & beverages)	2.1479 **	0.1523	0.0272 ***		−0.7194 *	0.3282 ***
$HPWP_{i,t}$ I (Healthcare Services & equipment)	2.2939 ***	−0.0191	0.0340 ***			
$HPWP_{i,t}$ (Industrial & commercial services)	3.9239 ***	0.3958	0.0237 *			
$HPWP_{i,t}$ (Industrial Goods)	2.7772 **	0.2404	0.0172			
$HPWP_{i,t}$ (Insurance)	2.3228 **	0.3271	0.0217 **			
$HPWP_{i,t}$ (Food & Drug Retailing)					0.8657 ***	0.3534 ***
$HPWP_{i,t}$ (Mineral Resources)	2.3220 ***	0.9820 **	0.0128	−0.6586 **	0.2032 ***	−0.0085 **
$HPWP_{i,t}$ (Personal household products & services)	2.1068 **	0.1773			0.0092	−0.9828 ***
$HPWP_{i,t}$ (Pharmaceuticals & medical research)	3.2312 ***	−0.4096	0.0049		−0.4546 ***	0.3411 ***
$HPWP_{i,t}$ (Real Estate)				−0.2771 **	0.3015 ***	−0.0062 ***
$HPWP_{i,t}$ (Retailers)	−9.5556 ***	11.4983 ***	−0.0443	−0.2826	0.2057 ***	−0.0039
$HPWP_{i,t}$ (Software & It services)	2.2250 ***	0.1878	0.0184 *			
$HPWP_{i,t}$ (Technology Equipment)	2.0148 **	2.6820 ***	0.0367 ***			
$HPWP_{i,t}$ (Telecommunications Services)	3.9864 ***	0.2649	0.0282*			
$HPWP_{i,t}$ (Transportation)	7.9052 ***	−0.0175	−0.0046	−0.5285 ***	0.2450 ***	−0.0047 **
$HPWP_{i,t}$ (Utilities)	3.8454 ***	0.1876	−0.0016			
Akaike information criterion	−1640.214	−1245.34	216.2547	−1596.19	−1150.12	22.0608
Adjusted R^2	0.1182	0.0139	−0.0212	−0.1006	0.0923	0.0205
F Statistic	4.0609 ***	2.7035 ***	2.2850 ***	1.6432 **	4.2149 ***	3.1226 ***

Note: *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

Finally, in the case of the third hypothesis (the relationship between $HPWP_{i,t}$ and $\beta_{i,t}$), only the companies of basic materials are less risky with well-being promoting efforts.

Consumer cyclical products, energy-fossil fuels, food and beverages, healthcare services and equipment, industrial and commercial services, software and IT services, technology equipment, and telecommunications services have a positive relationship. This result means that the companies in these sectors are riskier even if they have a better workforce score.

In the Mexican case, the third hypothesis holds except for automobiles and parts, banking and investment services, food and beverages, food and drug retailing, pharmaceuticals and medical research, and retailers. Mexican companies in most sectors are considered less risky if they promote the workforce's well-being.

Finally, and as noted from Tables 6 and 7, the first three hypotheses hold in some economic and business sectors in Mexico and Europe, suggesting that, in these specific cases, it is better to promote the workforce's well-being to either investors or the company.

4.3. Implications of the Observed Results Regarding Policy and Managerial Practices in Europe and Mexico

As a consequence of the results obtained, it is important to highlight the impact that the results (correlations) have on financial management practice, financial economics discussion, and even legislation matters.

In the previous analysis, the authors find either a positive or non-significant relationship between $HPWP_{i,t}$ and $ROE_{i,t}$. This preliminary result refutes the Friedman (classical) theoretical position that being more socially responsible (promoting the workforce's well-being) hurts profits. As noted in almost all the business sectors of the European and Mexican samples, the non-significant relationship neither refutes the benefits of promoting the workforce's well-being in profits nor favors the classical position. In this sense, promoting workforce well-being does not significantly affect stock market prices in some business sectors. This result implies no shunned effect in companies with better $HPWP_{i,t}$ practices. In the sectors in which this relationship holds, it is interesting to mention that the demand of companies with high workforce motivation standards tend to show more demand and a significant increase in their market price.

At this point, it is necessary to highlight that the Mexican sample has more business sectors than the European one, with a significant and positive relationship between the $HPWP_{i,t}$ and the company's profits. This result is due to the higher mean workforce score ($HPWP_{i,t}$) in European companies due to their workforce well-being regulations. Therefore, Mexican companies have an opportunity because being more responsible for their workforce's well-being relates to higher profitability. Consequently, a regulation in Mexico that motivates the adoption of HPWP is a feasible task that, instead of hurting Mexican companies' profits, will enhance it (the Mexican sample has a 56.62 mean $HPWP_{i,t}$ value versus the 91.34 European one). This result could be useful for both Mexican companies and the government since there is a bill to reform labor legislation focused on improving workers' psychological well-being through shorter and more flexible work times, along with an increase in retirement pensions.

Finally, with respect to the market risk influence of $HPWP_{i,t}$, this work is not conclusive because this relationship holds in a few business sectors in both the European and Mexican samples.

5. Conclusions

The discussion of promoting workforce well-being and its impact on company profits and pricing valuations has been a topic of interest for decades and in several research areas, such as management or financial economics.

Several works have tested the well-being promotion efforts through the high-performing working policies ($HPWP_{i,t}$)–productivity ($ROE_{i,t}$) relationship in a two-step process in a productivity function $I(h(HPWP_{i,t}))$. Some works have shown empirical evidence that well-being promotion and happiness ($h(HPWP_{i,t})$) are related, and others that happiness and productivity are related ($I(h(\cdot))$). This paper is among the ones that show empirical direct evidence in European and Mexican listed companies that the well-being promotion–

profitability relationship ($I(HPWP_{i,t})$) holds. Also, it extends the current ESG investing literature by testing the effects of $HPWP_{i,t}$ either in stock price increase ($\Delta\%P_{i,t}$) or market risk ($\beta_{i,t}$). Moreover, this paper extends the literature by assessing the effects not in a general market view but by analyzing the relationships from an economic and business point of view, that is, from an ESG investor perspective according to the first two classification levels in the Refinitiv (2019) business classification methodology.

Using fixed-effects panel data regression models to control cross-sectional dependence among companies, the empirical results suggest that higher efforts of European companies to promote well-being in their workforce relate to higher stock prices. This result holds in almost all the business sectors. In the Mexican case, the opposite happens. Almost all the business sectors have lower stock prices when the companies are related to promoting the workforce's well-being.

Related to workforce well-being and profitability ($ROE_{i,t}$), European banking and investment services, mineral resources, retailers, and technology equipment companies are more profitable. For Mexican companies, almost all the business sectors are more profitable if their companies promote the workforce's well-being.

Finally, this research suggests that companies with higher promotion standards for well-being relate to lower market risk values. This result holds only in European basic materials companies and almost all Mexican business sectors, except for automobiles and parts, banking and investment services, food and beverages, food and drug retailing, pharmaceuticals and medical research, and retailers.

The empirical evidence supports the view that promoting well-being or happiness in the workforce benefits companies and investors. More specifically, European companies show higher market pricing if they promote well-being. A potential explanation comes from the laws promoting well-being in some European countries. For example, France does not allow working after 6:30 PM. Also, the ESG investing legislation in these countries is highly developed and impacts the portfolio selection screening process. Therefore, the observed stock price could be higher due to ESG/$HPWP_{i,t}$ demand.

The relationship between $HPWP_{i,t} - and\text{-}ROE_{i,t}$ is negative in Europe, not because this is untrue. This result happens because the average $HPWP_{i,t}$ score is 91.34 in this region. Therefore, there is little room for improvement in the well-being promotion efforts, and a non-linear relationship could suggest equilibrium points in this relationship, an issue left for further research.

For the Mexican case, there is an inverse relationship between $HPWP_{i,t}$ and stock price increase. This result could happen due to a lack of workforce well-being promotion laws and policies or because investors do not consider this factor relevant for portfolio selection. Due to a mean 56.62 $HPWP_{i,t}$ value in the Mexican sample, there is an interesting opportunity area to promote labor and ESG legislations and policies in Mexico. A positive result would be that with higher well-being promotion efforts ($HPWP_{i,t}$) almost all the business sectors show more profitability, and the stock demand factors of Mexican companies could change for the better. Therefore, companies with high $HPWP_{i,t}$ could have more demand and a higher price increase.

As guidelines for further research, extending this investigation considering non-linear relationships could be interesting. As the European results suggest, there could be an equilibrium point at which a company's profits or stock price could be lower beyond that point (due to economies of scale).

Also, it could be interesting to include different behavioral factors or sentiment indexes along with other model estimation techniques, such as neural networks or Markov-switching panel regression.

A relevant extension of the happiness (well-being) and company performance relationship could be the discussion and proper measurement of another pillar of happiness or well-being: spiritual development or spiritual well-being. From the authors' perspective, this could be a promising research area in management and financial economics.

Finally, and because this paper used yearly data, estimating a workforce's well-being market factor (a low-minus-high $HPWP_{i,t}$ portfolio factor) could be interesting to have a more extended data panel and test for a two-way relationship between $HPWP_{i,t}$ and the three relevant variables studied here.

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Appendix A

This appendix summarizes the European and Mexican data panel sample from an ESG investor perspective. Table A1 shows the European samples, and Table A2 shows the Mexican ones.

Table A1. European data panel summary by business sector.

Business Sector	RIC (Refinitiv)	Company Name	Years in Sample	Market Value (EUR Billions)	$ROE_{i,t}$	$ESG_{i,t}$	$ENV_{i,t}$	$GOV_{i,t}$	$HPWP_{i,t}$
Automobiles & Auto Parts	MBGn.DE	Mercedes Benz Group AG	12	30.29	15.47	92.92	92.37	91.32	98.22
Banking & Investment Services	HSBA.L	HSBC Holdings PLC	12	87.74	7.67	78.44	90.57	91.39	83.15
	SAN.MC	Banco Santander SA	12	49.85	7.89	88.43	90.41	88.86	87.88
	UBSG.S	UBS Group AG	10	76.28	9.38	84.44	93.16	82.65	93.87
Chemicals	AIRP.PA	L'Air Liquide Societe Anonyme pour l'Etude et l'Exploitation des Procedes Georges Claude SA	12	29.83	13.86	66.57	58.10	87.23	90.39
	BASFn.DE	BASF SE	12	49,496,816,819.66	16.56	88.54	91.49	82.64	96.26
Cyclical Consumer Products	CFR.S	Compagnie Financiere Richemont SA	10	24,800,220,000.00	12.29	61.18	50.19	51.11	80.96
	HRMS.PA	Hermes International SCA	12	24,113,984,037.50	27.23	52.93	53.29	60.58	82.48
	LVMH.PA	LVMH Moet Hennessy Louis Vuitton SE	12	50,063,756,579.69	18.17	59.62	84.41	20.07	96.03
Energy—Fossil Fuels	BP.L	BP PLC	12	87,384,030,496.74	11.15	87.15	81.10	86.10	94.19
	SHEL.AS	Shell PLC	12	104,384,083,034.80	11.09	87.80	91.54	92.48	89.24
	TTEF.PA	TotalEnergies SE	12	93,162,474,135.50	13.81	85.90	91.84	70.72	98.71
Financial Technology (Fintech) & Infrastructure	ADYEN.AS	Adyen NV	5	14,039,564,043.30	27.57	44.79	30.71	58.48	65.91
Food & Beverages	ABI.BR	Anheuser-Busch Inbev SA	12	75,956,290,827.85	12.80	59.37	62.51	73.91	55.67
	BATS.L	British American Tobacco PLC	12	60,162,456,083.94	35.74	85.13	85.92	80.82	98.73
	DGE.L	Diageo PLC	11	35,164,852,933.85	35.63	85.39	85.71	82.37	97.01
	NESN.S	Nestle SA	12	178,200,000,000.00	20.19	89.12	95.86	68.89	98.16
Healthcare Services & Equipment	ESLX.PA	EssilorLuxottica SA	11	16,227,024,706.20	10.64	66.16	58.65	67.88	82.61
Industrial & Commercial Services	REL.L	Relx PLC	7	67.69	57.55	83.40	77.67	90.54	98.54
	SGEF.PA	Vinci SA	12	18,889,453,754.31	14.50	76.21	90.44	80.51	91.55

Table A1. *Cont.*

Business Sector	RIC (Refinitiv)	Company Name	Years in Sample	Market Value (EUR Billions)	$ROE_{i,t}$	$ESG_{i,t}$	$ENV_{i,t}$	$GOV_{i,t}$	$HPWP_{i,t}$
Industrial Goods	ABBN.S	Abb Ltd.	12	39,497,045,314.19	18.27	91.69	96.38	86.55	95.47
	AIR.PA	Airbus SE	12	19,808,616,106.65	33.96	78.67	96.08	60.95	78.26
	SAF.PA	Safran SA	12	9,677,171,519.92	17.46	47.24	51.79	31.87	82.80
	SCHN.PA	Schneider Electric SE	12	22,326,637,170.96	12.60	68.95	62.24	67.28	99.15
Insurance	ALVG.DE	Allianz SE	12	33,651,223,000.00	10.35	89.61	95.99	90.54	97.03
	AXAF.PA	AXA SA	12	23,677,758,355.97	10.96	82.42	76.32	83.43	90.03
	ZURN.S	Zurich Insurance Group AG	12	31,315,079,075.00	11.44	62.65	79.85	69.21	63.06
Mineral Resources	GLEN.L	Glencore PLC	12	26,226,146,527.02	12.90	86.62	86.10	83.18	95.00
	RIO.L	Rio Tinto PLC	4	108.95	22.42	78.40	78.36	67.56	85.53
Personal & Household Products & Services	BNPP.PA	Unilever PLC	11	36,654,905,904.30	8.22	84.53	94.35	85.91	95.98
	OREP.PA	L'Oreal SA	12	48,500,101,690.20	16.17	80.66	79.22	65.59	97.78
	RKT.L	Reckitt Benckiser Group PLC	12	22,646,544,340.84	26.43	78.68	82.46	71.31	70.13
	ULVR.L	Unilever PLC	7	109.60	38.34	87.71	88.69	87.11	86.01
Pharmaceuticals & Medical Research	AZN.L	AstraZeneca PLC	12	38,447,099,321.75	32.11	91.24	91.59	92.13	92.04
	BAYGn.DE	Bayer AG	12	40,851,223,560.45	20.24	83.09	82.24	65.70	97.91
	GSK.L	GSK plc	12	37,869,656,981.99	57.62	87.47	79.77	87.60	91.31
	NOVN.S	Novartis AG	12	130,335,594,172.49	18.39	84.04	82.02	76.60	97.98
	NOVOb.CO	Novo Nordisk A/S	12	311,858,448,000.00	59.94	74.49	70.59	57.76	80.67
	ROG.S	Roche Holding AG	12	138,503,981,840.00	55.96	88.07	89.45	78.27	99.62
	SASY.PA	Sanofi SA	5	112.65	12.95	87.35	86.35	82.26	94.02
Retailers	PRTP.PA	Kering SA	12	12,824,093,925.65	17.56	75.64	96.77	49.74	98.96
Software & IT Services	PRX.AS	Prosus NV	3	107,742,814,912.66	14.75	19.34	8.05	21.62	28.14
	SAPG.DE	SAP SE	12	49,879,766,629.88	21.95	92.27	78.38	93.19	96.57
	SIEGn.DE	Siemens AG	12	59,048,228,006.35	14.57	85.50	78.89	89.36	97.34
Technology Equipment	ASML.AS	ASML Holding NV	12	11,123,381,971.02	28.46	68.45	54.04	63.60	91.47
Telecommunications Services	DTEGn.DE	Deutsche Telekom AG	12	38,308,494,761.19	14.03	78.52	81.61	64.61	92.63
Transportation	DHLn.DE	Deutsche Post AG	12	14,363,108,583.12	20.49	81.88	78.89	75.08	98.52
Utilities	ENEI.MI	Enel SpA	12	29,564,156,907.48	12.68	88.77	94.95	76.51	99.34
	IBE.MC	Iberdrola SA	12	30,590,226,994.89	8.37	86.28	92.05	72.30	87.74
	NG.L	National Grid PLC	11	20,467,723,308.44	15.02	65.52	50.07	76.98	60.96

Source: Authors' elaboration.

Table A2. Mexican panel data summary by Business Sector.

Sector Económico	RIC (Refinitiv)	Company Name	Years in Sample	Market Value (MXN Billions)	$ROE_{i,t}$	$ESG_{i,t}$	$ENV_{i,t}$	$GOV_{i,t}$	$HPWP_{i,t}$
Automobiles & Auto Parts	NEMAKA.MX	Nemak SAB de CV	8	71.93	8.57	39.50	36.27	28.48	40.53
Banking & Investment Services	BBAJIOO.MX	Banco del Bajío SA Institución de Banca Múltiple	5	42.83	16.48	0.00	0.00	0.00	0.00
	BOLSAA.MX	Bolsa Mexicana de Valores SAB de CV	12	13.18	17.21	12.97	13.28	11.00	23.46
	GENTERA.MX	Gentera SAB de CV	12	27.65	20.46	51.59	24.94	56.33	72.84
	GFINBURO.MX	Grupo Financiero Inbursa SAB de CV	12	17.1	12.75	9.15	11.30	15.27	5.81
	GFNORTEO.MX	Grupo Financiero Banorte SAB de CV	12	98.45	16.02	61.70	58.53	76.62	68.77
	RA.MX	Regional SAB de CV	12	9.93	18.25	13.51	6.71	13.75	21.62

Table A2. *Cont.*

Sector Económico	RIC (Refinitiv)	Company Name	Years in Sample	Market Value (MXN Billions)	$ROE_{i,t}$	$ESG_{i,t}$	$ENV_{i,t}$	$GOV_{i,t}$	$HPWP_{i,t}$
Chemicals	ALPEKA.MX	Alpek SAB de CV	11	73.77	12.27	26.28	21.24	36.40	54.19
	ORBIA.MX	Orbia Advance Corporation SAB de CV	12	79.03	11.79	59.17	56.30	46.43	53.80
Consumer Goods Conglomerates	ALFAA.MX	Alfa SAB de CV	12	62.45	13.25	37.96	29.31	42.63	76.62
	GCARSOA1.MX	Grupo Carso SAB de CV	9	77.40	14.74	12.31	7.37	22.56	17.83
Cyclical Consumer Products	AGUA.MX	Grupo Rotoplas SAB de CV	5	14.11	8.06	33.72	27.91	35.74	39.06
Cyclical Consumer Services	ALSEA.MX	Alsea SAB de CV	12	8.53	9.09	25.98	30.13	24.47	37.43
	TLEVISACPO.MX	Grupo Televisa SAB	12	15.11	10.75	39.03	24.72	51.75	56.27
Energy—Fossil Fuels	VISTAA.MX	Vista Energy SAB de CV	4	12.67	8.97	38.24	24.34	57.05	33.08
Food & Beverages	AC.MX	Arca Continental SAB de CV	12	95.74	12.23	51.42	53.18	34.96	61.73
	BIMBOA.MX	Grupo Bimbo SAB de CV	12	381.76	13.11	70.29	85.40	54.71	74.68
	CUERVO.MX	Becle SAB de CV	6	115.10	9.59	17.39	9.83	15.00	25.82
	GRUMAB.MX	Gruma SAB de CV	12	14.88	23.96	16.39	5.58	24.80	21.94
	HERDEZ.MX	Grupo Herdez SAB de CV	12	15.20	15.05	0.00	0.00	0.00	0.00
	KOFUBL.MX	Coca-Cola Femsa SAB de CV	11	295.46	10.58	65.15	65.15	57.96	66.98
Food & Drug Retailing	CHDRAUIB.MX	Grupo Comercial Chedraui SAB de CV	12	33.56	8.78	20.55	10.57	41.71	24.74
	ELEKTRA.MX	Grupo Comercial Chedraui SAB de CV	5	335.54	15.25	16.65	18.00	33.20	16.59
	FEMSAUBD.MX	Fomento Económico Mexicano SAB de CV	11	320.27	12.43	74.30	77.60	59.84	85.88
	LACOMERUBC.MX	La Comer SAB de CV	6	9.29	5.57	0.00	0.00	0.00	0.00
Mineral Resources	CEMEXCPO.MX	Cemex SAB de CV	11	194.48	4.87	86.02	88.22	76.30	92.37
	GCC.MX	GCC SAB de CV	6	30.41	11.28	35.03	43.56	19.99	19.48
	GMEXICOB.MX	Grupo Mexico SAB de CV	12	283.91	19.44	56.56	72.79	29.68	70.39
	ICHB.MX	Industrias CH SAB de CV	11	20.44	10.35	2.47	2.01	6.13	1.48
	PEOLES.MX	Industrias Penoles SAB de CV	12	243.05	10.43	59.46	63.32	52.23	83.52
Personal & Household Products & Services	KIMBERA.MX	Kimberly-Clark de Mexico SAB de CV	12	70.55	33.03	43.32	31.04	56.81	52.15
Pharmaceuticals & Medical Research	LABB.MX	Genomma Lab Internacional SAB de CV	12	28.39	16.23	38.02	40.45	22.81	51.09

Table A2. *Cont.*

Sector Económico	RIC (Refinitiv)	Company Name	Years in Sample	Market Value (MXN Billions)	$ROE_{i,t}$	$ESG_{i,t}$	$ENV_{i,t}$	$GOV_{i,t}$	$HPWP_{i,t}$
Real Estate	DANHOS13.MX	Concentradora Fibra Danhos SA de CV	10	26.00	5.61	0.00	0.00	0.00	0.00
	FIBRAMQ12.MX	Macquarie Mexico Real Estate Management SA de CV	11	25.41	12.31	11.20	9.34	8.18	13.51
	FIBRAPL14.MX	Prologis Property México SA de CV	9	15.56	10.07	5.90	7.58	0.95	9.92
	FINN13.MX	Concentradora Fibra Danhos SA de CV	4	4.98	3.12	0.00	0.00	0.00	0.00
	FUNO11.MX	Fibra Uno Administración SA de CV	11	27.13	10.40	43.03	43.33	48.28	51.19
	FIBRAMQ12.MX	Macquarie Mexico Real Estate Management SA de CV	11	8.84	14.97	5.63	4.37	3.92	12.60
	TERRA13.MX	CI Banco SA Institución de Banca Múltiple FF/00939	9	6.63	7.48	5.61	3.21	7.17	6.88
	VESTA.MX	Vesta Real Estate Corporation SAB de CV	11	8.60	9.19	20.75	19.34	19.31	20.53
Retailers	LIVEPOLC1.MX	El Puerto de Liverpool SAB de CV	11	181.29	12.26	19.46	22.07	16.98	28.17
	Q.MX	El Puerto de Liverpool SAB de CV	8	13.74	23.90	6.17	1.95	6.60	8.53
	WALMEX.MX	WalMart de México SAB de CV	12	663.81	20.56	87.99	92.71	79.40	88.60
Transportation	ASURB.MX	Grupo Aeroportuario del Sureste SAB de CV	12	21.76	15.77	55.66	45.82	65.85	52.02
	GAPB.MX	Grupo Aeroportuario del Pacifico SAB de CV	12	18.29	17.84	23.33	9.72	52.72	13.04
	GMXT.MX	GMexico Transportes SAB de CV	6	124.78	13.95	33.47	40.82	9.46	39.98
	OMAB.MX	Grupo Aeroportuario del Centro Norte SAB de CV	12	6.43	23.12	29.06	23.85	34.64	22.58
	PINFRA.MX	Promotora y Operadora de Infraestructura SAB de CV	11	30.97	16.96	9.12	2.89	24.75	4.99
	PINFRAL.MX	Promotora y Operadora de Infraestructura SAB de CV	6	71.95	11.70	14.37	4.58	39.42	6.75
	TRAXIONA.MX	Grupo Traxion SAB de CV	6	8.45	5.56	0.00	0.00	0.00	0.00
	VOLARA.MX	Controladora Vuela Compañia de Aviación SAB de CV	8	11.62	17.88	38.94	29.70	45.76	52.70

Source: Authors' elaboration.

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