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The effects of promoting the workforce's well-being on the financial performance and stock market price of global tourism companies

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Abstract: This paper tests if there is a direct and significant relationship between the workforce's well-being promotion (high-performing working policies or HPWP) and global tourism companies' profits and stock market price. With panel data of 141 companies of the Refinitiv Global Hotel and Entertainment Services price returns index (yearly data from 2011 to 2024), the authors tested if the happy/productive workers hypothesis (the relationship between HPWP and the return on equity ROE) holds. Also, they tested if the HPWP and stock price relationship holds, suggesting that the HPWP is a proper signal to price such companies. By controlling for market, volatility, and behavioral factors, the authors found that tourism companies in countries like Brazil, Canada, Cambodia, China (including Macau), France, Greece, Hong Kong, Ireland, Israel, Italy, Malaysia, Malta, Philippines, Singapore, South Africa, Switzerland, Taiwan, the U.K. (including Gibraltar, the isles of Man and the Virgin Islands), and the U.S. the HPWP are a proper signal and tourism companies of such countries have higher prices with such efforts. Also, the authors found that the happy/productive workers hypothesis does not hold. Consequently, the high stock price of global tourism in companies that promote workers' well-being is due to investors' expectations and not to the impact of such efforts on profits.

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

1 Introduction

Workforce's happiness or well-being (WB), assumed as a synonymous term herein, is a concept that has been recognized in recent decades. It has attracted interest from the origins of management sciences because a proper working environment focused on human resources leads to higher productivity and better company performance. The link between WB and productivity has significant attention in management sciences. Works like the ones of Cropanzano and Wright (2001; 2007; 2007) show the relevance of this link, leading to the Happy/productive workers hypothesis.

In parallel, economists have been interested in happiness or well-being, trying to define, measure, and link its impact on productivity. Veenhoven (1988) and MacKerron (2012) first provide definitions and theoretical links to the subject. Veenhoven starts with a dissertation on the historical, psychological evolution of the term well-being in the workforce. The author discusses the original XIX-century utilitarian's position of happiness or well-being as the "highest good." Unfortunately, the measurement of such good is not directly related to agent-based decisions, leading to a dissociation between classical economics and the proper measure of happiness or well-being. MacKerron (2012) is the first to suggest that the link between profits or income $r(\cdot)$ is a two-step function of the happiness $h(x)$ value, given several goods, actions, policies, conditions, or inputs x in the individual (the worker in the case of this paper):

$$I = r(h(x)) \quad (1)$$

This two-step function view of the link between happiness level and productivity, and the one of productivity with company performance, has been discussed in parallel in several works, either in management or labor/happiness economics.

From a theoretical perspective, the literature on the relationship between the quality and quantity of actions (x) focused on promoting the workforce's well-being is scant. One of the reasons is the lack of a clear definition of the workforce's WB. Following Popescu et al. (2022) introduction, a closely related concept of WB for the interest herein is the one given by the World Health Organization: "the condition of each employee in which they understand their abilities, cope with life stress, work productively and contribute to their development in the community" (Misselbrook, 2014).

As previous works suggested, there is a positive correlation between the different efforts of companies and the intended well-being or happiness ($h(x) > 0$ in (1)). Consequently, these works suggest that the Happy/productive workers hypothesis could hold.

If the workers are more productive, among other factors and channels of influence, the company of interest must be more profitable. Also, if it trades its stock in a given equity market, this company could have a better stock price performance or valuation. This led to testing a new perspective on the quality and quantity of the well-being promotion efforts (x) and the company's profits or stock price performance (a result due, in part, to profits):

$$r(x) \quad (2)$$

Previous works tested this relationship, finding either a positive or no relationship between these efforts and profits. As a departing point, the definition of profits or rentability is wide. In this paper, the authors followed the two proxies used in Financial Economics and management: 1) the return on equity (ROE), the ratio of the 12-month net profits with the 12-month average equity, and 2) the company's stock market price that, under the assumption of a proper level of informational efficiency (Carhart, 1997; E. Fama, 1965; E. F. Fama & French, 2007, 2012), reflect investor's perspective in the company's productivity, profits, and future cash-flow generation (proper signal processing a concept discussed next).

The rationale behind this theoretical motivation is to prove that a company with high standards of workforce well-being promotion is more profitable (the happy/productive worker hypothesis) and has higher value or demand among investors.

Concerning this paper's motivation, Krausert's (2016) rationale regarding the relationship between well-being promotion and stock market price is interesting. It suggests that investors should price companies that disclose good human resources management practices and promote proper high-performing working practices (HPWP). His work shows that even if publicly traded companies disclose HPWP, investors do not price their long-term benefit, leading to a "market of lemons" situation (Akerlof, 1978). Following Akerlof, there could be agency problems and, most of all, information asymmetries that could lead to signal fading. This means a company could have a signal in its equity's inner value (like HPWP), but investors could not process it properly. This could result in a market situation where the investors could not distinguish properly between high-quality and

low-quality companies (lemons). This means distinguishing between companies with high HPWP and a positive impact on long-term performance from those with the opposite position. Consequently, the adoption of HPWP could be mispriced by investors, leading to the underperformance of HPWP companies against "conventional" or not-so-HPWP.

Apart from Krausert and Akerlof, this paper wants to test if the quality and quantity of HPWP positively impact profits and stock market prices of global tourism companies. Following Krausert and the ESG scoring practices, there should be a third party that rates the quality and impact of HPWP and also combines several signals related to human resources management (HRM), like the HPWP. As a proxy of such signal processing and rating, several ESG rating companies measure and compile several items that lead to a score or rate in the workforce policies and HPWP quality. They rate the workforce's well-being, following direct assessments of their HPWP or a review of the public data or information from ONGs and social media. From this review, these ESG rating companies estimate a workforce score that is a proxy and grade of all the signals related to HPWP.

Given the previous theoretical reasoning, this paper's authors tested the two following null hypotheses :

H1: "By controlling behavioral and company-specific factors, there is a direct influence of the quality and quantity of HPWP (workforce score) with the return on equity (ROE) of Global tourism companies".

H2: "By controlling behavioral and market-specific factors, there is a direct influence of the quality and quantity of HPWP (workforce score) with percentage stock price increase Global tourism companies".

This paper's authors' position is that there is a positive long-term effect on company profits and investors' valuation (stock price) in global tourism companies. These companies must focus on motivated personnel to enhance sales and productivity. This test pretends to contribute to the Friedman (2007) v.s. Freeman (1984; 1994) debate. The former author argues that the only social responsibility of a company must be to generate profits, and any social responsibility effort significantly impacts the company's performance. The latter argues that such efforts' benefit has a positive long-term impact. This paper's authors assume this position to be true.

Previous works tested Krausert's position of developing tailored HRM signals (like the workforce score) to assess long-term profits and stock price performance. This paper contributes to this effort, following Edmans (2012), Cao, and Chen (2016), Li et al. (2017), Flammer and Bansal (2017), Goetzel et al. (2019), Edmans et al. (2024), and De la Torre-Torres et al. (2024, 2024). These works found either an overperformance of a portfolio of companies with a "best place to work" distinction against conventional ones, a reduction of stock price market risk (beta), or either a null or positive impact on ROE or the return on assets (ROA).

These works focused on companies in different industries or economic sectors. Only the work of De la Torre-Torres et al. (2024) controls for business sector or region effects and found no relationship between HPWP and company performance.

The present paper aims to extend these previous works by testing the impact of HPWP on profits and stock price performance in a very sensitive and important sector: tourism. By testing whether there is a positive relationship between HPWP scores and stock price performance, the authors also tested whether there is a positive influence of the former and not a "lemons market" in which, even if the tourism company makes important efforts to promote well-being among its workforce, there is no proper signal processing. As a definition of well-being, the authors take Grant et al.'s (2007) three-pillar and eudaimonic well-being concept:

a summary of the physical, psychological, and relational (social) well-being, measured with the HPWP workforce score.

Given the theoretical and practical motivations, the paper's outline is as follows: The next section briefly discusses the related and previous works. How do these works influence this paper's tests, and what results are expected? Also, this second section discusses why the input data and tests are used in the third section. The third section presents the data gathering and processing method and the Econometric tests to prove the working hypotheses. This same section discusses the main findings, leading to the fourth section with the conclusions and guidelines for further research.

2 Literature review

This literature review starts with the works that properly define the workforce's well-being or happiness. It is a necessary definition to know how to measure (proxy) such a concept. A proxied definition of well-being is given by the World Health Organization (WHO) and promoted by Misselbrook (2014): "the condition of each employee in which they understand their abilities, cope with life stress, work productively, and contribute to their development in the community." This definition could be translated to the sum of three dimensions of interest for the individual and, consequently, the workforce as a whole (Grant et al., 2007):

1. Physical well-being or health status.
2. Psychological well-being (a technical and mental "happiness" status).
3. Relational (or social) well-being.

These three dimensions are a subset of the five dimensions that Clifton and Harter (2010) depict in a study performed by Gallup. These five dimensions relate to the essential day-to-day aspects of people in more than 150 countries. These authors, in a representative study of 98% of the world population, found five elements that are important to people in their day-to-day lives:

1. Career well-being: how do they occupy their time by liking what they do day after day?
2. Social well-being: the strength of their human relationships and even the presence of a love relationship.
3. Financial well-being: Are they properly managing their economic life?
4. Physical well-being: good health and enough energy to get things done daily.
5. Community well-being: the level of engagement with the area they live.

From these five essential aspects, the dependent variable in this paper is the workforce's well-being (element one), meaning they are happy with their career. The higher their well-being, the more productive and empathic they will be and, consequently, the more profitable and valuable the company.

Community well-being is important in terms of productivity. The measurement of the workforce's well-being level and impact on company profits is a relationship that needs a proper epistemic and practical discussion. Will community well-being have an impact through sales, better supplier relationships, or even reputational or legal risk reductions? is a question outside the scope of this paper. Consequently, community well-being will be considered as part of the workforce's well-being and not a result. The measurement of the workforce's well-being will be detailed next.

Similarly, the link between financial well-being and the sequential impact of the workforce's well-being on the company's profitability needs further theoretical review beyond the intentions of this paper.

Consequently, the authors took the sum of Grant et al. (2007) dimensions because the workforce scores of interest have items related to such dimensions. And even if the workforce score provider does not measure each pillar independently, the sum of all the graded items leads to this general score that incorporates these three dimensions of interest.

The authors used the Refinitiv (2022) workforce score to measure the workforce's well-being. This score is a proxy of the quality and quantity of the HPWP (x in (1) and (2)). This score is a specific dimension of the social pillar of the Environmental, Social, and Governance (ESG) score measured by Refinitiv. As the authors will detail in the data gathering and processing section, this worldwide peer-normalized score of 0 to 100 points includes about 19 ítems (from the more than 400 ones used to grade the ESG score) related to working conditions, number of strikes, number of accidents, the presence of a physical and psychological health policy for workers and supply chain, the level of satisfaction (from 0 to 100%) the workers feel in their company, etc. This score is a result or grade of the company's efforts to promote well-being. Such practices are known as high-performing working policies or HPWP (Cappelli & Neumark, 2001; Goetzel et al., 2019; Ray, 2022; Shrestha & Rai, 2023). A term related to the practices grounded on the happy/productive workers hypothesis (Oswald et al., 2015; Wright et al., 2007; Wright & Cropanzano, 2007). This hypothesis suggests that the higher the workforce's well-being, the higher the productivity due to the effect of the dimensions proposed by Grant et al (2007).

From the two perspectives of the workforce's well-being promotion and profitability given in (1), the relationship between the quality and quantity of such effort (promotion of such well-being) and productivity is tested in several management papers. From the most representative point of view, mentioning the ones of Wright et al. (2007) is interesting. This work tested the moderating role of psychological well-being between job satisfaction and job performance in companies on the U.S. West Coast.

From a behavioral perspective, Oswald et al. (2015) found a negative relationship between students' productivity and those asked to remember negative events or personal tragedies. The study also tested the performance of a group exposed to comic movies against one without such exposure. The authors found that the former were more productive than the latter. Also, a group that received chocolates, fruit, and beverages was more productive than the control group without such amenities.

Ravina Ripoll et al. (2017) conducted a theoretical review of the works on the relationship between well-being and productivity. Their conclusions highlight the need for a proper work environment and motivation of a shared mindset, creativity, engagement, and adaptability.

From an Asian company perspective, Magnier-Watanabe (2017), Chia-Hao, and Ting-Ya (2018) found evidence of either the positive impact between groups' productivity and working conditions or the negative one of stress. A conclusion followed by the results of Chang et al. (2021) and Chanda and Goyal (2020).

These works, among others, allow this paper's authors to assume a direct relationship between the workforce's well-being and productivity (profitability), leading to the link between the quality and quantity of HPWP and the company's profitability given in (2).

Related to the literature testing the impact of the HPWP efforts on the company's stock market price performance, the number of works is higher. This topic started with works that related ESG scores to stock price performance. Among the first works, this paper's authors found several works by Edmans. Among the most relevant, Edmans (2009, 2012; 2024) tested the link between the workforce's satisfaction and the company's market value. The author tested the implications by comparing the performance of companies in the 100 best places to work vs. companies that aren't on such a list. The author found that companies with the best working conditions (high HPWP) outperformed their conventional or not-so-good-to-work peers. Also, the author found that such a result holds true in countries where the labor market is more flexible regarding wage negotiation, the possibility of changing work easily, and improving labor conditions in the same company or another. These results were later extended by De la Torre-Torres et al. (2023), who found no statistically significant outperformance of companies with HPWP standards against low or mid-HPWP ones. They found this result in the set of companies of the Refinitiv Europe price return index. Even if there is no outperformance in companies with good HPWP against the conventional ones, the authors found no proof against such practices, concluding that promoting the workforce's well-being without impact on investors is desirable.

The previous debate in these two works contributes to Krausert's (2016) discussion of the human resources management (HRM) effort or HPWP as a signal to market price among investors. Krausert argues that there are signals in a publicly traded company's fundamentals (financial or non-financial) that investors must price. Such RHM efforts should be among the main non-financial signals to reduce the likelihood of a "market of lemons" condition (Akerlof, 1978) in which investors do not distinguish high-quality companies from their peers.

The authors of the present paper follow the same rationale as Krausert, Edmans, and De la Torre et al. by testing the direct relationship between the quality and quantity of HPWP efforts in global tourism companies. A test either on profits (ROE) or the stock market price.

Following Krausert (2016), this paper's authors also rationalize that the workforce score is a good signal for investors and a good proxy for the quality and quantity of the workforce's well-being promotion, given the HPWP.

Besides the works of Edmans and Krausert, other papers test the relationship between worker satisfaction and stock price. Li and Zhang (2017) found significant market alphas in companies with high satisfaction levels in their workforce.

Flammer and Bansal (2017) found that a long-term orientation is appropriate for companies, especially when focusing on top-executive compensation. The authors found that companies with better compensations have a better stock price performance if such compensation happens.

Cao and Chen (2016) tested the relationship between workers' satisfaction and stock market price. An effect controlled by crisis periods. The authors found that, in high-volatility periods, companies' prices in the "best places to work" list tend to fall sharper than their peers. The authors also found that the positive relationship between job satisfaction and stock market price is only held if the company has financial flexibility. This suggests that employee satisfaction changes over time.

Ben-Nasr and Ghouma (2018) test two hypotheses: 1) the stakeholder theory and 2) the agency risk one. In the former, it is expected that the likelihood of a stock price market crash will decrease if the company motivates a commitment from its employees (promoting well-being). The latter suggests that if the company uses well-being programs to whistle any wrongdoing from the management, the crash likelihood will increase. The authors found that the agency theory holds because the high level of well-being programs impacts the likelihood of a stock price crash. This result holds mainly in more labor-intensive firms, more regulated labor markets, and less competitive products.

Callen and Fang (2015) performed a similar test by controlling for religiosity. The authors found a similar result, showing that companies in highly religious cities tend to disclose bad practices, reducing the likelihood of stock price crashes.

The number of works testing the relationship between HPWP and profits or stock market price is smaller than those relating ESG scores to such variables. From this perspective, the number of works is large compared to the scant literature relating workforce well-being to company performance. Consequently, this paper contributes to the discussion on this topic by extending the test to Global tourism companies. Given the sales and productivity (motivation) channels that affect such companies (Souza et al., 2022), this industry is highly sensitive to the workforce's well-being.

To provide a better context, this paper used the Refinitiv (2020) business classification to define the industry of interest. The authors set aside the transportation industry from the tourism industry due to its high volatility (due to energy prices) profile. The transportation industry includes airlines, trains, buses, and ferries. An industry that is prone to non-tourism-related shocks. Consequently, the authors picked the Hotels and entertainment services, including hotels, cruise lines, casinos, movie theaters, sports clubs, and tourism services companies. These industries are more tourism-focused than the transportation ones.

To test the two working hypotheses, this paper's authors performed a panel regression of the yearly data of ROE ($\widehat{ROE}_{i,t}$), stock price increase ($\Delta\%\hat{P}_{i,t}$), and workforce score ($\widehat{HPWP}_{i,t}$) as a proxy of the quality and quantity of the workforce's well-being promotion in the company. By controlling the impact of market pricing factors in Carhart's (1997) pricing model, along with some behavioral (market sentiment) ones, the authors tested the following model for the working hypothesis:

$$\widehat{ROE}_{i,t} = \alpha + \beta_1 HPWP_{i,t} + \beta_2 HPWP_{i,t-1} + \gamma_1 debt/assets_{i,t} + \gamma_2 PE_{i,t} + F + M + B \quad (3)$$

In the previous equation, M and B are Carhart's market and behavioral factors of interest, respectively. $debt/assets$ is the debt-to-assets ratio (a leverage metric in the fundamental data) and PE is the price-to-earnings ratio. The core idea of using these last two regressors is to control the firm's leverage and reduce potential endogeneity given the company size and stock price demand. The author's theoretical position is that $\gamma_1 < 0$ and $\gamma_2 > 0$.

The authors also regressed the reporting and previous year $HPWP_{i,t}$ to test whether profitability is due to perceptions in the workforce, which impact the current or following year's performance.

Similarly, the authors tested a second model to test if investors price the HPWP or if there is a sort of market of lemons situation:

$$\Delta\%\hat{P}_{i,t} = \alpha + \beta_1 HPWP_{i,t} + \beta_2 HPWP_{i,t-1} + \gamma_1 debt/assets_{i,t} + \gamma_2 ROE_{i,t} + M + B \quad (4)$$

The author's position is that $\beta_1 > 0$. This implies that promoting well-being in a given company enhances productivity, and investors price such a signal in their investment decisions (there is no market for lemons). Also, their position on the influence of the ROE is that $\gamma_1 < 0$ and $\gamma_2 > 0$. This regressor pretended to control potential endogeneity by differing the profits-price relationship in each company in the same industry.

Given this paper's theoretical motivation, the following section describes how the authors gathered and processed the input data for the panel regression models. The same section also describes the main findings and results.

3 Econometric tests for the working hypotheses

3.1 Data gathering and processing

To test the working hypotheses, the authors downloaded the yearly historical data of the companies in the Refinitiv Global Hotel and Entertainment Services price returns index as of October 31st, 2024.

For the purposes of this paper, they estimated two regression models in (3) and (4). One is for the return on equity ($ROE_{i,t}$), and another is for the percentage price return of the stock price ($\Delta\%P_{i,t}$). The first regression will test the effect of the happy/productive workers hypothesis, and the second will determine if investors price the HPWP or if there is a "market of lemons" effect in global tourism companies.

The authors fetched, from the Refinitiv (2024) databases, the yearly historical data of the $ROE_{i,t}$ and the $\Delta\%P_{i,t}$. Refinitiv estimates $ROE_{i,t}$ by dividing the 12-month net profit by the 12-month mean equity book value. Also, the authors fetched the debt-to-assets ($DA_{i,t}$) ratio, the price-to-earnings ($PE_{i,t}$), the total ESG ($ESG_{i,t}$), environmental ($ENV_{i,t}$), and the social ($SOC_{i,t}$) pillars score, along with the workforce one ($HPWP_{i,t}$).

The $DA_{i,t}$ and $PE_{i,t}$ ratios were used to control for potential endogeneity (a relationship between the residuals $\varepsilon_{i,t}$) and the dependent variable $\Delta\%P_{i,t}$ in the panel regression model (1). Specifically, the $DA_{i,t}$ controlled leverage difference between companies of the same industry and the whole sample of companies. The $PE_{i,t}$ ratio controlled the company size effect. It complemented the effect of the small-minus-big ($SMB_{i,t}$) market capitalization factor market capitalization factor included in the same regression. A factor included in the regression, by following the Carhart (1997) multifactor pricing model.

To include the Carhart four-factor model in the regression, the authors downloaded the historical data of the MSCI world index, along with this index's large and small cap, growth, and value world indexes. The authors found no momentum index for the MSCI world index set. Consequently, they didn't include the momentum factor of Carhart's model (a sort of Fama and French (2007) model). For this purpose, the authors used the yearly percentage return of each world index to estimate the high-minus-small (SMB_t) and the growth-minus-value (GMV_t) style factor. Similarly, the authors used the year-specific percentage return of the MSC World Price Return Index (MKT_t).

The authors included the S&P 500 implied volatility at-the-money options index VIX_t to control the distress, or high-volatility periods, like in Cao and Chen (2016). The authors estimated the year-specific (t) mean value of such an index for this factor. This index is a proxy of the volatility in the global markets because evidence

favors the presence of volatility spillovers between the U.S. stock markets and those of other countries (Balcilar et al., 2013; Camacho & Perez-Quiros, 2014; Canarella & Pollard, 2007; Chang et al., 2021; Choi & Hammoudeh, 2010; Do et al., 2015).

Following the same rationale, the authors controlled for behavioral factors. For this purpose, the authors estimated the yearly value of sentiment indexes based on the Baker et al. (2016a, 2016b) methodology. This type of index estimates the level of uncertainty by counting a set of words related to terms like "crisis," "distress," and "fear," or related to terms of the topic of interest like Economic policy, financial markets, and related. The higher the count of such words of such sets, the higher the normalized score of the uncertainty index, and the higher the level of such sentiment. To control behavioral skews, the authors used the mean value of the Baker et al. (2016a, 2016b) Global Economic uncertainty index ($econUncertaintyGlobal_t$), the Baker et al. daily infectious disease equity market volatility tracker (2019, 2020) or $pandemicVolatility_t$, and the geopolitical risk ($geoPoliticalUncertainty_t$) tracker. As another behavioral factor, the authors included the foreign exchange volatility tracker ($FXVolatility_t$), and the commodity market volatility one ($CommodityVolatility_t$) of the Baker and Wurgler (2007) equity volatility tracker.

The previous factors controled for the market, behavioral, fundamental and volatility in the company-specific price increase to test the relationship of interest ($HPWP_{i,t}$) and the company's profitability ($ROE_{i,t}$) and its yearly return (percentage price increase). The core idea of using such fundamental, behavioral, and market factors is to control potential endogeneity and company-specific effects in both regressions.

To test the relationship of interest, the authors estimated four sequential models. The first uses the pillar-specific score of the Governance ($GOV_{i,t}$) and environmental pillars ($ENV_{i,t}$) with the workforce score as a proxy of the $HPWP_{i,t}$. These three scores are pillar-specific ones for the ESG general score. The authors didn't include the social pillar score to avoid potential multicollinearity. The workforce score is a particular dimension of the social-pillar score in the Refinitiv (2022) ESG methodology.

The authors downloaded the yearly historical data for the companies of interest from 2011 to 2024 and performed an unbalanced fixed-effects panel regression analysis for (3) and (4). They used the fixed-effects model to control company-specific effects.

The data panel comprises 141 companies with a time series length of between 1 and 13 years. The supplementary material details the companies, countries, regions, and industries involved in the sample [The supplementary cite of such DOI will be here if the paper is accepted]. Given the time series length, this paper's authors didn't perform a unit root test but performed the Wooldridge (2012) and the Pesaran (2004) serial correlation and cross-sectional tests.

To control for potential serial correlation effects, the authors used the lag of either the dependent variable ($ROE_{i,t}$ or $\Delta\%P_{i,t}$) or the ESG or workforce score of interest in the model. They used the first difference of each variable, except for $\Delta\%P_{i,t}$ in (3). For this specific model, the authors didn't use the first difference of $\Delta\%P_{i,t}$ because such a variable is the first difference of the log value of $P_{i,t}$. This variable is stationary by definition. Using the first difference of such first difference could induce non-stationarity and a potential serial correlation.

A complementary rationale for using a lag for the ESG or workforce score is that Refinitiv publishes the ESG scores in the second half of each year, and investors, like ESG investment managers, use such past-year scores in their asset allocation.

Consequently, to prove the happy/productive workers' hypothesis or the absence of a "market of lemons" effect in the Global hotel and entertainment services companies of the index of interest, the authors expected a direct and significant relationship between $HPWP_{i,t}$ or $HPWP_{i,t-1}$ with $\Delta\%P_{i,t}$.

To control an additive effect in the significance levels of the panel regression analysis, the authors controlled the $\Delta HPWP_{i,t}$, $\Delta ROE_{i,t}$ or $\Delta\%P_{i,t}$ relationship by country of headquarters (following the records from Refinitiv) with the following leverage term added in (3) and (4):

$$\Delta\%\hat{P}_{i,t} = \alpha + M + B + \cdots + \beta_1 \Delta HPWP_{i,t} + \lambda_1 \Delta HPWP_{i,t} I(country) + \lambda_2 \Delta HPWP_{i,t-1} I(country) \quad (5)$$

$$\widehat{\Delta ROE_{i,t}} = \alpha + M + B + \cdots + \beta_1 \Delta HPWP_{i,t} + \lambda_1 \Delta HPWP_{i,t} I(country) + \lambda_2 \Delta HPWP_{i,t-1} I(country) \quad (6)$$

In the previous functional form, $I(country)$ is the identity function with a value of 1 if the country of the ith company is the country or business classification of interest, and zero otherwise. If λ_i is significant and positive, the conclusion is that the specific country has a higher relationship between $\Delta HPWP_{i,t-p}$ and the variable of interest ($\widehat{\Delta ROE_{i,t}}$, $\Delta\%\hat{P}_{i,t}$) than the base country (Argentina).

All the panel regression tests were estimated with the plm library of Croissant and Millo (2008) in R, using the panelAnalysis function (O. De la Torre-Torres, 2023).

The following section presents the main results and findings once the data gathering and processing method is depicted.

3.1 Tests results

To summarize the sample in the data panel, Table 1 shows the geographical distribution of the sample by market capitalization and number of companies, and Table A1 in Appendix 1 does it for a detailed view by country. As noted in such tables, the sample has 45.41% of companies from the American continent, mainly the U.S. (7.9% of the sample), and 35.19% from Asian countries like Japan (7.14%), China (3.17%), Hong Kong (397%) and South Korea (2.38%).

Table 1 Sample representativeness by region (continent)

Region	Market value (USD)	Number of companies	ESG score (mean)	HPWP score (mean)	Market value representativeness	Number of companies representtiveness
Africa	419,802,514,505.80	16	65.45	76.99	0.250783	1.685985
America	9,202,604,836,533.89	431	43.39	48.61	5.497483	45.416228
Asia	155,665,724,277,887.69	334	44.14	56.01	92.992116	35.194942

Region	Market value (USD)	Number of companies	ESG score (mean)	HPWP score (mean)	Market value representativeness	Number of companies representtiveness
Europe	2,108,559,034,684.99	168	56.99	69.77	1.259618	17.702845
Total or mean values	167,396,690,663,612.38	949	52.49	62.84	100.000000	100.000000

Source: Own elaboration with data of Refinitiv

Table 2 summarizes the sample distribution by industry. As noted, the sample is balanced by industries, with the casinos and gaming industry being the most representative (35.41%) and the leisure and recreation the smallest subset (16.54%).

Table 2 Sample representativeness by industry

Industry	Market value (USD)	Number of companies	ESG score (mean)	HPWP score (mean)	Market value representativeness	Number of companies representtiveness
Casinos & Gaming	83,193,603,124,928.45	336	43.73	52.80	49.70	35.41
Hotels, Motels & Cruise Lines	50,843,674,989,773.02	204	57.38	67.28	30.37	21.50
Leisure & Recreation	5,709,202,429,506.86	157	37.48	45.44	3.41	16.54
Restaurants & Bars	27,650,210,119,404.23	252	46.89	55.87	16.52	26.55
Total or mean values	167,396,690,663,612.56	949	46.37	55.35	100.00	100.00

Source: Own elaboration with data of Refinitiv

Table 3 summarizes the regressions of interest. It shows the regression terms and their significance. The relationship between the Carhart (1997) factors shows an inverse relationship between the world index (market portfolio) and the companies of interest. This could be explained partly by the slow recovery of the entertainment companies or casinos after the 2020 COVID-19 pandemic. Also, the cruise line companies significantly impacted their income during 2020 and the years that followed the recovery and financing process.

The relationship between the U.S. equity market volatility and the stock's price is as expected (inverse and significant). The challenging relationship is the one between VIX and ROE because it suggests that, the higher the uncertainty in the markets, the board of these companies tends to be more risky and profitable. This relationship will need further research.

Related to the relationship between the behavioral factors and the variables of interest, these types of companies have no impact from geopolitical issues. The impact of foreign exchange and pandemic (epidemic) news uncertainty on profits (ROE) is as expected: the higher the uncertainty, the less profitable the company is due to conservativeness and sales reduction.

Table 3 Fixed-effects panel regression tests with no country of headquarters effects

	Dependent variable:	
	$\Delta\%\hat{P}_{i,t}$	$\Delta\widehat{ROE}_{i,t}$
	(5)	(6)
$\Delta\%P_{i,t-1}$	-0.2443***	
	(0.0315)	
$\Delta ROE_{i,t}$	0.1421***	
	(0.0419)	
$\Delta ROE_{i,t-1}$		-0.4273***
		(0.0549)
$\Delta DA_{i,t}$	-0.2453**	-0.1779*
	(0.1108)	(0.0930)
$\Delta PE_{i,t}$		0.0519
		(0.0908)
$\Delta MKT_{i,t}$	-1.6999***	0.3499
	(0.3677)	(0.2847)
$\Delta SMB_{i,t}$	-4.6217***	1.0992
	(1.0242)	(0.8391)
$\Delta GMV_{i,t}$	0.5977***	-0.4177***
	(0.1328)	(0.1367)
$\Delta VIX_{i,t}$	-18.5822***	4.8605**
	(3.0269)	(2.2283)
$\Delta econUncertaintyGlobal_t$	1.1408***	-0.1971
	(0.1990)	(0.1499)
$\Delta pandemicVolatility_t$	9.5472***	-4.4675***
	(1.5265)	(1.1330)
$\Delta geoPoliticalUncertainty_t$	-0.1116	0.0087
	(0.0684)	(0.0757)
$\Delta FXVolatility_t$	110.0388***	-31.1093**
	(20.5080)	(15.1357)
ΔENV_t	-0.0816	0.2158
	(0.1206)	(0.1536)
$\Delta SOC_{i,t}$	-0.1338*	0.0704

	(0.0726)	(0.0768)
$\Delta HPWP_{i,t}$	0.0845	0.0051
	(0.1046)	(0.1585)
$\Delta HPWP_{i,t-1}$	-0.0043	0.0624
	(0.0951)	(0.1220)

Significance or p-values codes: $^{*}p<0.1$ $^{**}p<0.05$ $^{***}p<0.01$
Source: Own elaboration with data of Refinitiv

These first regressions related to ESG scores and the quality of HPWP show that the stock markets do not price the quality of ESG practices or their well-being promotion. Consequently, there could be a "market of lemons" effect regarding ESG and workforce well-being promotion.

Complementary to this result, workforce well-being promotion does not impact profits, suggesting that the happy worker hypothesis does not hold true for companies of interest. The results shown in Table 4 could result from Simpson's paradox. This means that Table 4 does not control for country-specific effects, and the relationship of interest could be significant and positive in some countries and negative in others. This could result in an "add-up" effect, leading to a "no significant" relationship in the whole sample. The same assumption holds for the HPWP lag.

Table A2 of Appendix A1 shows the country-specific relationship between the HPWP with ROE and percentage price change. As expected with this change, differencing by country shows heterogeneous conclusions in the tests. 22 of the 38 sample countries show a direct and significant relationship between the workforce's well-being promotion and stock market price. The base country (Argentina) shows an inverse or negative relationship between the $HPWP_{i,t}$ and the $\Delta\%P_{i,t}$. In the country-specific test, a single-point increase in the $HPWP_{i,t}$ leads to an increase in the stock price, ranging from 0.72% (Brazil) to 7.11% (Singapore) in 22 of the 38 countries. Such countries with a direct relationship are Brazil, Canada, Cambodia, China (including Macau), France, Greece, Hong Kong, Ireland, Israel, Italy, Malaysia, Malta, the Philippines, Singapore, South Africa, Switzerland, Taiwan, the U.K. (including Gibraltar, the isles of Man and the Virgin Islands), and the U.S.

This result aligns with Edmans (2012; 2024) because a direct and significant relationship exists between workforce's well-being and company stock price. It also complements the conclusion that investing in companies with happy workers is profitable in portfolio management. Finally, this result contributes to the Friedman v.s. Freeman debate, because this paper's authors found evidence that favors promoting the workforce's well-being (a social responsibility practice) as a profitable practice for investors.

The relationship between the workforce's well-being promotion and stock market price is inverse in four sample countries (Argentina, Cambodia, Mexico, and the Netherlands). This result suggests that these well-being promotion efforts are either mispriced or not considered in the stock markets of those tourism companies.

From these results, it is accepted that, in 22 countries, the promotion of workforce well-being is priced by investors in tourism companies. Consequently, these countries have no "market of lemons" effect in their tourism companies in the sample.

Relating to the happy worker's hypothesis, only tourism companies in Argentina (tha base country in the test), Singapore, and Switzerland show a significant and direct relationship. The other countries in the sample show either a negative or insignificant relationship. Consequently, the happy/productive workers hypothesis does not hold true for most of the tourism companies in the sample.

As a corollary, by controlling for market, volatility, and behavioral factors, the relationship between $HPWP_{i,t}$ and $\Delta\%P_{i,t}$ is a country-specific result. The direct and significant relationship holds in most countries of the sample of global tourism companies tested herein. This means that promoting the workforce's well-being is a relevant practice valued by investors in 22 countries like Brazil, Canada, Cambodia, China (including Macau), France, Greece, Hong Kong, Ireland, Israel, Italy, Malaysia, Malta, Philippines, Singapore, South Africa, Switzerland, Taiwan, the U.k. (including Gibraltar, the isles of Man and the Virgin Islands), and the U.S. As a result, there is no "market of lemons" effect in ESG practices, including well-being promotion (HPWP) as an important factor in pricing in global tourism companies.

Contrary to this result, there is no significant and direct relationship between $HPWP_{i,t}$ and $ROE_{i,t}$ in almost all the countries. Except for Argentina, Singapore, and Switzerland, most of the countries in the sample show no evidence in favor of the happy/productive workers hypothesis. This means that promoting workforce well-being has no significant impact on the profits of global tourism companies.

4. Concluding remarks and guidelines for further research

The relationship between the promotion of the workforce's well-being and company profits or its impact on the stock market price is a task of interest in labor and financial economics. In the former, the relationship between the workforce's happiness or well-being and profits is a two-step one. Following the literature in Labor Economics, workers tend to be more productive if they feel happy (experiment well-being) in any of the three main dimensions: physical, psychological, or social. If they are more productive, the company is more profitable. The relationship between well-being and productivity, as well as between productivity and profits, is widely studied. The present paper assumes a link between well-being and company profits and tests this relationship in global tourism companies (casinos and gambling companies, hotels, motels and cruise lines, leisure and recreation companies, and restaurant chains). More specifically, companies of the Refinitiv Global Hotel and Entertainment Services price returns index. This relationship is known as the "happy/productive workers hypothesis" and is one of the main theoretical motivations in this paper.

Complementary to the previous relationship, Classical Financial Economics suggests that investors price a company's fundamental (financial and no financial) data through signals of such data. These signals allow one to differentiate a company from another (especially in companies of the same industry). If the investors in such a market do not price these signals, the stock market is similar to a "market of lemons" in which there is no significant difference among companies' quality, and investing in any of these or even in a well-diversified market portfolio leads to better results.

This paper's authors' motivation tests if the workforce's well-being promotion efforts are a proper signal by testing the relationship between the quality of such efforts (high-performing working practices or HPWP) and the company's yearly percentage price change.

With yearly data of 141 companies of the Refinitiv index of interest, the authors performed an unbalanced panel regression test. In such a model, the authors tested the relationship of the Refintiv workforce score (HPWP) of the Refinitiv ESG score methodology (as a proxy of the quality of the well-being promotion efforts) with the observed return on equity (ROE) and the percentage price change (Return). Their theoretical position was that there is a significant relationship between HPWP and ROE or the Return. In their model, they controlled for market, volatility, behavioral factors, and geographic (country) effects.

The results suggest that in Brazil, Canada, Cambodia, China (including Macau), France, Greece, Hong Kong, Ireland, Israel, Italy, Malaysia, Malta, Philippines, Singapore, South Africa, Switzerland, Taiwan, the U.K. (including Gibraltar, the isles of Man and the Virgin Islands), and the U.S, there is a significant and direct relationship between HPWP and the stock price. Consequently, promoting the workforce's well-being is a proper signal for investors in these countries. This is a signal that investors could use to promote the workforce's well-being in their asset allocation by earning a higher return on their portfolio.

Related to the HPWP-ROE relationship, the authors found no evidence of the so-called "happy/productive worker's hypothesis." There is no significant and direct relationship between HPWP and company profits. Consequently, even if investors price the quality of the HPWP in most countries of global tourism companies, there is no financial (fundamental) support (or signal) for such a link besides investors' expectations.

As a guideline for further research, extending these tests to a wider scope of tourism-related industries is of potential interest, along with extending these to other companies not included in well-known global tourism companies' stock indexes.

The discussion and research of the observed direct relationship between ROE and the VIX volatility index is a result that needs review and a proper explanation. This task could also be a guideline for research by testing with a different sample or companies in other non-tourism industries.

Also, it could be interesting to include other control variables, such as identifying high-volatility or distress periods in stock markets, and compare these results with those of other industries, such as airlines, transportation, or closely related tourism services.

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Appendix A1

This appendix includes Tables A1 and A2. The first table summarizes the sample representativeness by country, and the second shows the country-specific effects panel regression results.

Table A1 Sample representativeness by region and country

Regions	Country	Market value (USD)	Number of companies	ESG score (mean)	HPWP score (mean)	Market value representativeness	Number of companies representtiveness
Eastern Asia	China (Mainland)	223,354,811,814.21	4	55.25	80.09	1.39	3.17
Eastern Asia	Hong Kong	359,262,698,422.86	5	53.97	58.91	2.24	3.97
Eastern Asia	Japan	1,214,538,043,042.49	9	38.87	50.31	7.56	7.14
Eastern Asia	Macau	14,200,529,605.22	1	47.85	62.33	0.09	0.79
Eastern Asia	Singapore	124,857,600,000.00	1	47.23	73.43	0.78	0.79
Eastern Asia	South Korea	6,857,728,855,694.70	3	38.30	43.91	42.70	2.38
Latin America	Argentina	109,060,796,151.75	1	14.29	18.45	0.68	0.79
Latin America	Brazil	9,755,768,580.35	2	42.37	50.55	0.06	1.59
Latin America	British Virgin Islands	10,912,239,931.74	1	49.93	66.57	0.07	0.79
Latin America	Mexico	30,225,186,951.56	1	48.33	89.59	0.19	0.79
Northern America	Canada	28,707,144,761.11	3	45.58	30.43	0.18	2.38
Northern America	United States	1,224,935,790,581.60	49	47.71	49.52	7.63	38.89
Northern Europe	Ireland	6,425,230,644.45	1	53.08	57.84	0.04	0.79

Regions	Country	Market value (USD)	Number of companies	ESG score (mean)	HPWP score (mean)	Market value representativeness	Number of companies representtiveness
Northern Europe	Isle of Man	1,559,355,567.37	1	65.16	69.12	0.01	0.79
Northern Europe	Italy	4,542,713,280.00	1	70.56	71.99	0.03	0.79
Northern Europe	Sweden	117,821,096,771.26	3	47.36	56.56	0.73	2.38
Northern Europe	United Kingdom	66,560,478,206.86	5	71.22	78.13	0.41	3.97
Southeastern Asia	Cambodia	30,149,088,257.33	1	65.71	91.02	0.19	0.79
Southeastern Asia	Malaysia	44,891,630,243.56	3	71.14	74.06	0.28	2.38
Southeastern Asia	Philippines	202,860,502,199.63	1	47.72	60.66	1.26	0.79
Southeastern Asia	Singapore	187,013,198,966.40	1	27.81	44.56	1.16	0.79
Southeastern Asia	Thailand	361,699,839,811.82	5	54.47	61.82	2.25	3.97
Southern Africa	South Africa	58,703,943,132.85	2	67.32	69.48	0.37	1.59
Southern Asia	India	3,652,888,427,914.75	3	39.27	45.82	22.74	2.38
Southern Europe	Gibraltar	388,085,374.89	1	60.90	44.70	0.00	0.79
Southern Europe	Greece	4,598,228,932.21	1	80.37	99.28	0.03	0.79
Southern Europe	Malta	8,944,754,028.46	2	31.85	51.53	0.06	1.59
Southern Europe	South Korea	67,773,879,638.85	1	36.62	47.22	0.42	0.79
Southern Europe	Spain	1,008,991,200.00	1	69.26	97.68	0.01	0.79
Western Asia	Israel	994,937,926.15	1	49.18	50.46	0.01	0.79
Western Asia	Saudi Arabia	4,400,202,324.00	1	15.97	36.80	0.03	0.79
Western Asia	Turkey	2,450,437,724.47	1	61.80	95.28	0.02	0.79

Regions	Country	Market value (USD)	Number of companies	ESG score (mean)	HPWP score (mean)	Market value representativeness	Number of companies representtiveness
Western Europe	Austria	0.00	0	67.54	81.65	0.00	0.00
Western Europe	Belgium	1,061,222,339.66	1	35.57	57.27	0.01	0.79
Western Europe	France	49,706,157,395.70	4	69.78	85.50	0.31	3.17
Western Europe	Netherlands	1,615,680,000.00	1	45.47	63.38	0.01	0.79
Western Europe	Switzerland	910,103,859.60	1	31.81	36.23	0.01	0.79
Total or mean values		16,060,351,109,076.74	126	50.52	62.53	100.00	100.00

Source: Own elaboration with data of Refinitiv

Table A2 Fixed-effects panel regression tests with country of headquarters effects

	Dependent variable:	
	$\Delta\%\hat{P}_{i,t}$	$\Delta\widehat{ROE}_{i,t}$
	(5)	(6)
$\Delta\%P_{i,t-1}$	-0.2155***	
	(0.0305)	
$\Delta ROE_{i,t}$	0.1415***	
	(0.0429)	
$\Delta ROE_{i,t-1}$		-0.4368***
		(0.0597)
$\Delta DA_{i,t}$	-0.2521**	-0.1817*
	(0.1122)	(0.0957)
$\Delta PE_{i,t}$		0.0493
		(0.0926)
$\Delta MKT_{i,t}$	-1.7028***	0.3615
	(0.3716)	(0.2891)
$\Delta SMB_{i,t}$	-4.5033***	1.0689
	(1.0123)	(0.8722)
$\Delta GMV_{i,t}$	0.5677***	-0.4090***
	(0.1314)	(0.1455)
$\Delta VIX_{i,t}$	-18.5804***	4.9092**
	(3.0679)	(2.2973)
$\Delta econUncertaintyGlobal_t$	1.1318***	-0.1851
	(0.2002)	(0.1528)

$\Delta pandemicVolatility_t$	9.5065***	-4.5015***
	(1.5427)	(1.1968)
$\Delta geoPoliticalUncertainty_t$	-0.1170*	0.0077
	(0.0667)	(0.0751)
$\Delta FXVolatility_t$	110.0599***	-31.2175**
	(20.8716)	(15.4727)
ΔENV_t	-0.0838	0.3096**
	(0.1322)	(0.1452)
$\Delta SOC_{i,t}$	-0.1292	0.0889
	(0.0790)	(0.0833)
$\Delta HPWP_{i,t}$ (base country: Argentina)	-1.5322***	1.4472***
	(0.1671)	(0.1924)
$\Delta HPWP_{i,t-1}$(base country: Argentina)	0.0134	0.0652
	(0.1010)	(0.1229)
$\Delta HPWP_{i,t}$ (Brazil)	0.7274***	-1.4358***
	(0.1474)	(0.2348)
$\Delta HPWP_{i,t}$ (British Virgin Islands)	2.5439***	-0.7235***
	(0.2239)	(0.2513)
$\Delta HPWP_{i,t}$ (Cambodia)	-4.5464***	-1.5074
	(0.6790)	(0.9399)
$\Delta HPWP_{i,t}$ (Canada)	1.9032***	-2.2730***
	(0.2395)	(0.3170)
$\Delta HPWP_{i,t}$ (China, Mainland)	2.0556***	-1.9580***
	(0.2365)	(0.4395)
$\Delta HPWP_{i,t}$ (France)	1.8148***	-1.6950***
	(0.2119)	(0.2424)
$\Delta HPWP_{i,t}$ (Gibraltar)	2.2905***	-1.3014***
	(0.2102)	(0.2604)
$\Delta HPWP_{i,t}$ (Greece)	0.4725*	-2.0829***
	(0.2491)	(0.2653)
$\Delta HPWP_{i,t}$ (Hong Kong)	1.3859***	-1.2229*
	(0.2231)	(0.6756)
$\Delta HPWP_{i,t}$ (India)	0.2527	-0.6878
	(0.3152)	(0.9540)
$\Delta HPWP_{i,t}$ (Ireland)	1.8041***	-1.2865***
	(0.2136)	(0.2379)
$\Delta HPWP_{i,t}$ (Isle of Man)	1.7048***	-1.6283***
	(0.1758)	(0.1763)
$\Delta HPWP_{i,t}$ (Israel)	0.8816***	0.0915
	(0.2467)	(0.3783)
$\Delta HPWP_{i,t}$ (Italy)	1.5087***	-1.7457***
	(0.2573)	(0.3001)
$\Delta HPWP_{i,t}$ (Japan)	1.3985***	-1.2696***

	(0.2418)	(0.3280)
$\Delta HPWP_{i,t}$ (Macau)	2.2957***	-1.9096***
	(0.2461)	(0.2017)
$\Delta HPWP_{i,t}$ (Malaysia)	1.6988***	-1.6073***
	(0.1488)	(0.1919)
$\Delta HPWP_{i,t}$ (Malta)	2.2350***	-0.4924
	(0.2954)	(0.3118)
$\Delta HPWP_{i,t}$ (Mexico)	-1.1384***	-3.3502***
	(0.2770)	(0.1822)
$\Delta HPWP_{i,t}$ (Netherlands)	-0.4207***	-0.6421**
	(0.1460)	(0.3071)
$\Delta HPWP_{i,t}$ (Philippines)	1.6049***	-1.5330***
	(0.1955)	(0.1963)
$\Delta HPWP_{i,t}$ (Singapore)	7.1198***	2.3459***
	(0.5751)	(0.7685)
$\Delta HPWP_{i,t}$ (South Africa)	1.4170***	-3.6329**
	(0.3426)	(1.4077)
$\Delta HPWP_{i,t}$ (South Korea)	0.3780	-1.2667***
	(0.8190)	(0.3120)
$\Delta HPWP_{i,t}$ (Sweden)	1.5396	-0.6287
	(1.0440)	(1.4936)
$\Delta HPWP_{i,t}$ (Switzerland)	1.1625*	10.5090***
	(0.6618)	(0.6645)
$\Delta HPWP_{i,t}$ (Taiwan)	2.6868***	-1.2475
	(0.7994)	(0.7904)
$\Delta HPWP_{i,t}$ (Thailand)	0.8863	-1.2724***
	(0.7071)	(0.3773)
$\Delta HPWP_{i,t}$ (Turkey)	2.6440***	-0.8007**
	(0.2450)	(0.3246)
$\Delta HPWP_{i,t}$ (United Kingdom)	2.1030***	-1.7297***
	(0.4549)	(0.6201)
$\Delta HPWP_{i,t}$ (United States)	1.5766***	-1.5669***
	(0.1788)	(0.2685)
LLF	-2932.4121	-3048.6023
AIC	6822.8243	7055.2046
BIC	7698.7435	7931.1238
HQIC	7150.9489	7383.3292
Observations	644	644
R^2	0.3535	0.2974
Adjusted R^2	0.1322	0.0568
F Statistic (df = 46; 479)	5.6945***	4.4074***
Significance or p-values codes:	*p<0.1**p<0.05***p<0.01	

Source: Own elaboration with data of Refinitiv