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WHO ARE THE BULLS AND BEARS IN GLOBAL LODGING MARKETS?

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ABSTRACT. This article looks at the values of market-based equities (common stocks) based on the relative investment valuation, analyzed with several earnings multiples in global lodging markets in 2014. To be specific, we compare the value of various common stock portfolios sorted for four geographical regions with those relative value investment metrics so that we can make a solid judgment about bullish and bearish markets demonstrating investors' confidence or stagnancy, anomalies in prices indicating under and overvalued stocks, and outperforming lodging portfolios in global markets. Common stock prices in portfolios are standardized, utilizing earnings parameters such as Current Price/Earnings Ratio (PE) and its variants (Trailing and Forward PE), Price/Earnings to Growth (PEG), and The Market Value of Debt and Equity free of Cash-to-EBITDA (Value/EBITDA). Linking the relative value with earnings proxies and the stock portfolios, which are extracted in a homogeneous industry but are sorted from heterogeneous regions, primary findings of this study reveal that western and eastern markets have outperformed the Latin markets in regard to future earnings estimate, earnings growth, and excessive returns from the invested capital.

INTRODUCTION

Because of unbalanced information, investors would like to make informed decisions based on whether a particular asset is inexpensive or expensive by comparing its market share price to that of an identical asset. They become wiser in investing and rely on analysts' recommendations and forecasts, which are issued mostly by probable future price swings of securities and earnings forecasts with multivariate analysis. Because the market value of an asset is what actually concerns investors, most valuations on Wall Street are relative valuations. Almost 85% of equity research reports are based on multiple and comparable assets. More than 50% of all acquisition valuations are based on multiples. Rules of thumb based on multiples are not only

common but are often the basis for final valuation judgments for investors. Even a discounted cash flow approach (DCF), used to estimate the terminal value in intrinsic valuation considers relative valuation multiples (Damadoran, *n.d.*). Therefore, relative valuation with multiples is persuasive and pervasive in investing strategies because it reflects market sentiments more accurately than intrinsic valuation with DCF and/or free cash flow (FCF) approaches.

Because an array of different values can be assessed and used from multifarious multiples, such as earnings, revenues, cash flows, etc., it is critical to define and deconstruct the multiples that serve and best fit the study's stance. In our work, we have deconstructed earnings-based multiples, whose indicators are based on

market values of comparable assets, because we believe that book value of the assets cannot fully capture intrinsic and true value of the assets traded in financial markets. As Nissim (2012) indicates,

In particular, book values do not reflect the value associated with unrecognized relationship assets and fee-generating activities. Fortunately, the value impact of these assets and activities is reflected in earnings. Hence, for investors, valuations based on analysts' earnings forecasts outperform those based on reported earnings or book value. (p.)

Additionally, current and forecasted earnings perform a great deal better than cash flow stream and, accordingly, earnings multiples generate more robust and precise valuation structure than multiples based on cash flows (Liu, Nissim, & Thomas 2002). Finally, the results provided in Asquith, Mikhail, and Au's (2005) study indicate that 99.1% of the analysts' reports have used some sort of earnings multiples, such as PE and its variants (i.e., forward PE) and Value/EBITDA. Hence, we define our multiples to be consistent with the preceding analysis so that we can obtain uniform estimations across the sampled firms.

Advocates strictly emphasize that restricting peers to the same subindustry in the cross section, opposed to including all firms in that particular industry improves the accuracy in estimations of valuation with the selected multiples due to the existence of comparable assets (i.e., Kim and Ritter, 1999; Liu et al., 2002; Gibson, Hotchkiss, & Ruback, 2000; Yee, 2004). Also, Alford (1992) states that errors in asset pricing decline if a set of comparable firms are chosen from the same industry, or at least, a subcategory of a certain industry. As a result of this, we have specifically sorted four regional lodging portfolios from global markets with earnings multiples for our analysis. Our interest was aroused for many reasons; (a) firms in this industry report varying degrees of earnings, (b) growing firms (small and mid-market cap) are outnumbered by value firms (large-cap), (c) there are discrepancies in

growth rates across lodging firms, (d) lodging firms naturally have high levels of capital expenditure, and (e) lodging firms are mostly highly-levered, which affects earnings per share and EBITDA values.

Consistent with these evidences and assessments, we attempt to rationalize and demonstrate the current patterns of mispriced (under and over-valued) and fairly priced assets with earnings multiples for each portfolio sort, to lay out and compare under- and over-performing portfolios by magnitudes of return on invested capital compared to the cost of capital and risk levels, and to put forth prospective insight and institutions with regard to future investment potentials in global lodging markets for institutional investors.

Given these considerations, our article extends the existing empirical studies into forward-looking investment framework captured by earnings forecasts and price/earnings to growth in global lodging markets. Also, we contemplate the current literature by focusing on a highly levered, single industry where there are discrepancies in prices among securities that share identical economic measures and financial characteristics, such as operated earnings and potential future earnings. Our work also adds value to substantial empirical analysis by demonstrating the regions' capital investment potential in regard to financial productivity compared to the cost of capital and market risk levels. Overall, we are able to bridge the gaps in evaluating regional bullish and bearish lodging markets for prospective investing strategies with momentum; guide institutional investors on whether to buy or sell shares of a particular portfolio for several purposes, such as hedging, foreign exchange (FX) transactions, and swaps, etc.; and compare peer group performance uniformly across assets in our sample. Therefore, the fundamental stance of our article sets the following tone: more receptive investment with ex-ante focus by pricing of comparable assets relative to earnings variables for investment decisions, rather than merely delivering the intrinsic values of assets generated by the present value of expected cash flow stream of assets.

The outline of this article is organized as follows: The following section reviews the evidences and findings for relevant valuation with earnings multiples in the existing literature. "Methodology" presents methodological procedures for our analysis. "Results and Discussions" includes the empirical results and discusses the findings. The final section concludes the article with practical implications and future research directions.

RELEVANT VALUATION WITH EARNINGS MULTIPLES

Existing documentation on valuation procedures and techniques, evolved through different sets of multiples, have been lightening the need for future examinations, understanding, and explanations in different areas of research (La Porta, 1996; Park and Lee, 2003; Nissim, 2012; Larkin, 2013; Sehgal and Pandey, 2010; Imam, Chan, and Shah, 2013; Damadoran, 2001; Dechow and Sloan, 1997). Today, financial analysts and fund managers mostly run three different methods to value securities: DCF (which is also an intrinsic valuation); relative valuation with multiples; and contingent claim valuation.

The DCF method assumes that the market will continue to perform as usual in the future. However, the DCF valuation approach is considered an inaccurate method, and the analysis and results provided by the DCF approach cannot be admitted as a flawless valid outcome (Larkin, 2013). Contingent claim valuation procedures use option pricing models, such as Black-Sholes Equity Pricing Models to value assets' share option characteristics (Heath, Jarrow, & Morton, 1990). Thus, this approach does not match our work's objectives. Relative valuation with multiples is pervasive and coherent because it entails calculating particular multiples for a set of benchmark companies and then finding the implied value of the company of interest based on the benchmark multiples (Lie & Lie, 2002).

Valuations with multiples have restricted implications for passive investors, although it has significant implications for active investors,

such as institutional investors (Sehgal & Pandey, 2010). Value estimations improve when forecasted earnings rather than historical earnings are analyzed, and when the comparable assets are chosen rather than a mechanical algorithm (Kim & Ritter, 1999). Therefore, forecasted earnings and market share price of securities become critical for evaluating comparable or identical firms in a standardized manner that utilizes a common variable, such as earnings. When examining valuation, the fact is that most of the valuations are relative, in essence. Specifically, the value of many lodging assets, from the property an investor acquires to the common stocks in which one invests, are centered on how comparable assets are priced in the market (Imam et al., 2013; Sehgal & Pandey, 2010).

As one of the significant multiples in relative valuations, earnings multiples consider and distinguish earnings and per share values yielding PE in the current 12-month period, trailing PE over the previous 12 months, and forward PE in the next 12-month window (Sehgal and Pandey, 2010). Additionally, as Easton (2004) and Ang and Zhang (2011) argue,

PEG metric takes account of differences in short-run earnings growth, providing a ranking that is superior to the ranking based on PE ratios. The PEG ratio implicitly allocates all variation in PE ratios to growth opportunities because this proxy does not permit for time-varying discount rates.

Currently, Value/EBITDA multiple has received substantial attention by the researchers as well. This multiple might offer a better assessment of "ideal value," particularly if the firms report inadequate net income and if the capital expenditures are risky or produce an insufficient yield (Acharya, Gottschalg, Hahn, & Kehoe, 2013).

Although most research in the hospitality industry does not present an extensive line of understanding equity valuation on relative basis, the current streamline of research suggests that this area is critical in order to understand the values of market-based equities

TABLE 1. Descriptive Statistics

| Portfolio Sorts | Subgroup (lodging markets by country) | Total #of Publicly Traded Firms |
|-----------------------------------|---|---------------------------------|
| North America | United States, Canada | 88 |
| Europe | Austria, Belgium, Cyprus, Finland, France, Germany, Gibraltar, Greece, Hungary, Ireland, Italy, Malta, Monaco, Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland, Turkey, United Kingdom | 133 |
| Latin America and Caribbean Basin | Bermuda, Brazil, Chile, Jamaica, Mexico, Panama | 9 |
| Asia, Small Asia, and Pacific | Australia, China, Hong Kong, India, Indonesia, Japan, Macau, Malaysia, New Zealand, Philippines, Singapore, South Korea, Sri Lanka, Taiwan, Thailand, Vietnam | 310 |

This table reports subgroup country lodging markets along with the associated total number of public firms for four portfolio sorts in each geographical region.

for investment potential (Anop, 2012). As a result, if investors have adopted investing on momentum-based strategies on relative basis and, hence, they are more curious about their potential per share earnings reflected by future market perceptions, it is worthwhile to investigate under- and overperforming portfolios to spot bullish and bearish regional lodging markets in order to put forth a clear intuition for forward-looking investment strategies for global lodging institutions.

METHODOLOGY

Data and Sampling Procedures

In order to identify comparable assets from the same industry, individual firm data for each portfolio sort is gathered from Damadoran Online Data Source, which is compiled from Morningstar, Bloomberg, and Capital IQ fillings.¹ Given the structure of the archived data for the lodging industry, we split our sample into four portfolios based on global regions. All the firm observations that did not have a complete record of the earnings multiples for 2014 were deleted. In order to construct the multiples, financial statements lagged by a fiscal year (December 2013 financials) are utilized for our valuation on relative basis in 2014. Also, in the reported data, exchange rate is set to the rate on the last day of the lag year (December 31,

2013) for the firms operated outside the United States. Hence, all of the data we used is based on U.S. dollars. Because absolute stock closing prices, which are adjusted to tax and dividends, have skewed distributions and, hence, cannot be compared, standardized values are used rather than market values so that multiples make sense for our assessment. Moreover, we have kept the outliers, which do not lie only on one side of the distribution, so that our results can be free of biased estimations. Finally, we take out all the firms that have negative earnings since price-to-earnings metrics cannot be calculated with negative operating earnings. Taken all together, this process helps us accurately differentiate over- and undervalued assets in our sample and evaluate portfolio performance. Table 1, in detail, provides the characteristics of portfolio sorts along with the total number of publicly traded firms and subgroup countries for each.

Relative Value Investment Metrics with Earnings Multiples

In the current disposition of efficient markets, analysts' recommendations are not heavily dependent on the restrictive multiples and/or investing metrics when valuing assets for investment purposes. Value multiples communicate efficiently the essence of asset valuations. Because value is an increasing function of future payoffs and a decreasing function of risk, they are used often as a substitute for

¹Dr. Aswath Damadoran's archived data is available at: <http://people.stern.nyu.edu/adamodar/>

comprehensive valuations and to obtain terminal values (Liu et al., 2002). Especially for investment purposes and strategies, relative valuation becomes critical because it carries a decent cross-sectional analysis of asset pricing (mostly equities) traded in the capital markets. It also puts forth a clear foundation of value creation and future investment opportunities with its earnings multiples that indicate the market price of a share vis-à-vis its earnings.

To address our analysis with an economic accuracy, an empirical relevancy, and a global market outlook, we document various relative valuation metrics based on earnings multiples, assessing the degrees of what the investors are paying for the assets and what they are getting in return. On that account, we additionally examine and argue the returns earned on the invested capital on investments to measure the financial productivity and sustainability of the portfolio sorts. The relative value investment metrics and other proxies we considered in our analysis are defined in detail, following.

Current Price/Earnings (PE). In general, higher PE signals greater upside potential when the higher forecast earnings growth is realized. Sentimentally, investors are leaning more toward high PE assets because they believe retained dividends lead to future higher fund growth rather than market median. High PE assets are also proxies for mispriced stocks in the current market composition (Rosenberg, Reid, & Lanstein 1985). By capturing the current share values relative to the net income generated, the computation of current PE ratios is based on the per share values reflecting the market value of equity as a multiple of equity earnings, and it is simply derived as

$$\text{Current PE} = \frac{\text{Current Market Price per Share}}{\text{Earnings per Share (EPS)}}, \quad (1)$$

where, “Current Market Price per Share” is the current adjusted closing stock price per share. EPS is defined as the current value of “([Net Income – Dividends on Preferred Stock] /

Average Outstanding Shares)” in the most recent fiscal year.

Trailing PE—PE (ttm). As one of the most common and robust variants of PE ratio, PE (ttm) is based on actual earnings in the trailing (past) twelve months when valuing the fair value of the assets. This proxy utilizes earnings from continued operations and it excludes earnings from extraordinary items (i.e., write-downs). We measure and report our results for growth/value formation of portfolios in a way similar to that taken into account by existing research (i.e., Skinner and Sloan, 2002). We define trailing PE ratio as follows:

$$\text{PE (ttm)} = \frac{\text{Current Market Price per Share}}{\text{Trailing Twelve Months' EPS}}, \quad (2)$$

where “Trailing Twelve Month’s EPS” covers the earnings per share for the past immediate twelve-month fiscal year window. “Current Market Price per Share” is set for all the portfolio sorts based on the current adjusted closing share price per share.

Forward PE—PE (fwd). Opposed to current or trailing fiscal year focus, this forward-looking metric is very handy not only for the comparisons of firms’ current earnings to future earnings but also for a clearer framework of how earnings will be shaped in the future. Although some investors prefer to look at the current and trailing figures to assess the value of their portfolios with the actual reported earnings rather than future estimates, there is evidence reverting this sentiment. For instance, the evidence found by Carlson, Pelz, and Wohar (2002), views the importance of forward valuation indicators. “Basing our assessment on the preponderance of evidence, we conclude that forward valuation ratios will tend to revert to industry norms substantively different from historical levels”(p.). Taking the analysis emerged from the preceding empirical work, we define PE (fwd) metric as follows:

$$\text{PE (fwd)} = \frac{\text{Current Market Price per Share}}{\text{Expected EPS}}, \quad (3)$$

where “Expected EPS” is the earnings per share over the next immediate twelve-month fiscal year window. “Current Market Price per Share” is set for all the portfolio sorts based on the current adjusted closing share price per share.

Price/Earnings to Growth (PEG). This valuation metric, which is widely thought to be a convenient approximation of assets’ possible true values, is employed by many analysts to determine the relative trade-off between the price of a stock, the earnings generated on per share basis, and the firms’ expected future growth. Bradshaw (2002) clearly supplies the nature of this proxy for investing. “The most prevalent bases for recommendations other than target prices are price-to-earnings metrics and forecasted long-term earnings growth rates. Moreover, analysts frequently base their target prices on a combination of these two constructs. Together, the PE ratio and expected growth form a proxy frequently cited in the investment community and referenced in many of the surveyed reports—the PEG ratio (Bradshaw, 2002, p. 29). Consistent with several prior studies (i.e., Block, 1999), PEG is computed as:

$$\text{PEG} = \frac{\text{Current PE}}{\text{Annual EPS Growth}}, \quad (4)$$

where “Annual EPS Growth” is based on the expected growth in earnings and, thus, in EPS in the future year.

The Market Value of Debt and Equity Free of Cash/EBITDA (Value/EBITDA). This is the enterprise multiple of pretax, preinvestment operating cash flow that the firm trades at. This multiple is examined in our study to sight the fair market value of the firms coupled with PE ratio and its variants. Value/EBITDA allows firms and acquirers that use significant debt to fund the investments. Unlike net income, EBITDA is independent of capital structure, so differences in capital structure among the firms should not introduce bias when EBITDA is utilized to estimate total enterprise value. EBITDA can be used to service debt payments and when valuing a firm, EBITDA does a better job in

demonstrating under- and overvalued assets than do the related multiples, such as EBIT (Lie and Lie, 2002). Hence, we introduce the Value/EBITDA multiple as:

$$\text{Value/EBITDA} = \left\{ \left[\left(\sum \text{Market Value of Equity and Debt} \right) - \text{Cash} + \text{Minority Interests} \right] / \text{EBITDA} \right\}, \quad (5)$$

where “Book Value of Debt” is used as a proxy for the market value. “EBITDA” represents earnings before interest expenses, taxes, depreciation, and amortization. It is estimated by adding depreciation and amortization back to operating income (EBIT). Cash is netted out from the firm value because the income from cash is not a part of EBITDA. Minority interests are a portion of a subsidiary corporations’ market value of equity that is not owned by the parent corporation. Thus, in order to obtain a true market value of a firm, minority interests are added back to the numerator.

Financial Productivity vs. the Cost of Capital. In order to scrutinize whether the value created for firms in the markets align with returns generated from the invested capital of those firms in our portfolio sorts, we investigate financial productivity compared to the cost of capital by estimating the return earned on the existing assets or investments undertaken by firms (return on invested capital—ROIC). We believe that if the firms’ financial productivity is above their cost of capital, it creates rising shareholder value and rewards them with higher share prices. Therefore, this allows us to observe the patterns of financial productivity of the portfolio sorts under risky markets so that we can deliver a sustainable analysis for attractive and nonattractive markets for investors. ROIC is estimated as:

$$WACC = \left\{ \frac{[(EBIT \cdot (1 - t))] / \left[\left(\sum \text{Book Value of Debt and Equity} \right) - \text{Cash} \right]} \right\}, \quad (6)$$

where "EBIT" is the earnings before interest expenses and taxes.

The cost of capital is based on market value weights because our analysis is based on market drivers. Hence, it is measured by the weighted average of the cost of equity and after-tax cost of debt, weighted by the market values of equity and debt (WACC) as

$$WACC = \text{Cost of Equity} + \text{After-Tax Cost of Debt}, \quad (7)$$

where "Cost of Equity" is estimated as (Equity / [Debt + Equity]). "After-Tax Cost of Debt" is calculated as (Pretax Cost of Debt * [1 - Marginal Tax Rate]).

RESULTS AND DISCUSSIONS

To draw more meaningful comparisons in our multistage analysis based on differently composed lodging portfolios in terms of underlying firms in each global region, we start our assessment with the comparison of earnings multiples estimated from the trailing 12-month fiscal year window to the present time, in [Table 2](#) (see also [Figure 1](#)).

We begin our investigation to see whether the current and historical PE structure sheds a

light for portfolio performance in forward-looking investment potential and gives any clues with regard to pricing of assets for investing potential. From [Table 2](#), we can infer that the shares in North American, European, and Asian portfolios have excessive current PEs (current PEs: 65.09, 64.00, 41.60 for North American, European, and Asian portfolios, respectively) indicating that those securities are exposed to high future growth in earnings, and stocks are possibly subject to speculations. One striking result in this pattern is that PE (ttm) for the North American portfolio is significantly low in the last 12-month period of operations (PE [ttm]: 25.63). We can explain this huge difference in that last year's earnings might be exponentially low for the firms in this portfolio. Therefore, in these well-performing portfolios, bullish investor sentiment clarifies that firms' earnings prospect is bright and they are worth more investiture. Conversely, stocks in the Latin American portfolio mostly likely are overvalued or have inconsistent per-share earnings because there is a decreasing trend in company's earnings from last year (current PE: 25.49, PE [ttm]: 29.83 yielding ΔPE : 4.34). The bearish, poorly-performing Latin American portfolio is an indicator of very fluid earnings, devastating investor's trust or willingness to invest. The current results for the Latin American portfolio might be due to lack of publicly traded firms in the region, unstable economic activity, high levels of fluctuation, very volatile tourism receipts, and hence, cash flow, and low levels of earnings potential of the lodging firms.

In terms of forward-looking investing guidance based on an estimated stream of earnings, portfolio sorts have yielded slightly variant estimations in PE growth when compared to current and historical estimations, although those estimations give us enough clues about similar performance analysis of the portfolio sorts ([Figures 2 and 3](#)).

For instance, estimated price to earnings in North American, European, and Asian portfolios is higher than the one in the Latin American portfolio ([Figure 2](#)), and stocks are overvalued somewhat, promising high-growth prospects and possible climbing share prices (PE (fwd):

TABLE 2. The Current and Trailing PE Analysis

| Portfolio Sorts | Current PE | Trailing PE PE (ttm) |
|-----------------------------------|------------|----------------------|
| North America | 65.09 | 25.63 |
| Europe | 64.00 | 50.78 |
| Latin America and Caribbean Basin | 25.49 | 29.83 |
| Asia, Small Asia, and Pacific | 41.60 | 33.32 |

This table represents cross-sectional comparisons of current PE and trailing PE – PE (ttm) for four different portfolio sorts in each geographical region.

Note: Ratios for each multiple are presented as an integer.

TABLE 3. Earnings Forecast and Growth Structure

| Portfolio Sorts | PE (fwd) | PEG | Value/EBITDA | Expected Growth in EPS (next 5 years) | σ in Share Price (current) |
|-----------------------------------|----------|------|--------------|---------------------------------------|-----------------------------------|
| North America | 28.67 | 3.68 | 19.67 | 28.82% | 98.79% |
| Europe | 27.30 | 9.16 | 23.55 | 15.83% | 79.06% |
| Latin America and Caribbean Basin | 16.04 | 3.02 | 12.97 | 12.75% | 73.38% |
| Asia, Small Asia, and Pacific | 22.59 | 2.83 | 20.36 | 19.11% | 70.86% |

This table analyzes and compares PE (fwd), price/earnings to growth—PEG ratio, and Value/EBITDA multiple—as well as estimated expected growth in EPS for the next 5 years and standard deviation (s) of exponential share (stock) price for four different portfolio sorts in each geographical region.

Note: Ratios for each multiple are presented as an integer.

Share (stock) price movements are exponential. $\ln(\text{stock price})$.

28.67, 27.30, 16.04, 22.59 for North American, European, Latin American, and Asian portfolios, respectively). However, shockingly, North American, Latin American, and Asian portfolios yield almost similar price/earnings-to-growth estimations (PEGs: 3.68, 3.02, 2.83, respectively) except for the European portfolio (PEG: 9.16). This tells us that long-term earnings growth is expected in this portfolio and short-term growth prospect is possible for the rest of the portfolios. Lower PEGs in these portfolios might likely signal that there is a fair trade-off between the values of cost and the values of growth, demonstrating that a stock is reasonably valued given the expected growth. Also, contingent with invested capital incorporating both debt and equity, North American and Latin American portfolios are less risky and use lower levels of leverage because they have lower Value/EBITDA estimations when compared to the rest (Value/EBITDAs: 19.67 and 12.97 for North American and Latin American portfolios, respectively). Apart from these results, from an investing stance, acquirers might be more interested in putting their capital in North American and Asian lodging markets because these portfolios are leading the global market in growth forecast in EPS following a 5-year window (28.82% and 19.11% expected EPS growth in the North American and Asian regions). The bottom line is that investors who wish to capitalize on higher growth in PE should invest in the European region and investors who seek aggressive investment and can tolerate higher risk levels should invest in the North American region (Figure 3).

The link between ROIC and WACC is also established in forward-looking asset valuation (Figure 4). Table 4 establishes this connection that momentum investing is much more appealing in North America when compared to the other lodging markets, such as the Latin American portfolio that has a return deficit of 0.88%. The ROIC of 19.09% and a WACC of 7.44% yields an excess return of 11.65%, which is equal to other portfolios' ROICs without the exclusion of the cost of capital, to the investors. Firms in this portfolio are sustainably high financial productivity firms. The ROIC and WACC estimations in this portfolio state that investors not only gain competitive positioning in "good" investments and returns but also earn higher solid income generated from the financial activities compared to other portfolios

TABLE 4. Financial Productivity Compared to the Cost of Capital and Market Risk Assessment

| Portfolio Sorts | ROIC | WACC | Bottom-Up Levered β_p |
|-----------------------------------|--------|--------|-----------------------------|
| North America | 19.09% | 7.44% | 2.63 |
| Europe | 11.73% | 9.84% | 1.99 |
| Latin America and Caribbean Basin | 9.88% | 10.76% | 1.43 |
| Asia, Small Asia, and Pacific | 11.58% | 7.64% | 1.06 |

This table documents financial productivity measured by return on invested capital (ROIC) compared to weighted average cost of capital (WACC), and bottom-up levered portfolio risk class (bottom-up levered beta – β_p) for four different portfolio sorts in each geographical region.

Note: Ratios for each multiple are presented as an integer.

Bottom-up levered beta is the weighted average beta adjusted for firms' debt-to-equity (DE) ratio.

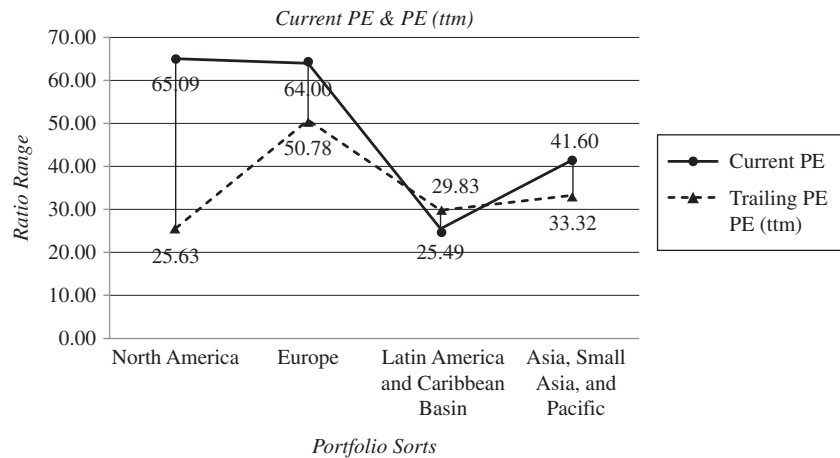


FIGURE 1. Current PE and Trailing PE – PE (ttm). This figure illustrates the current PE and PE (ttm) comparisons among four regional portfolio sorts.

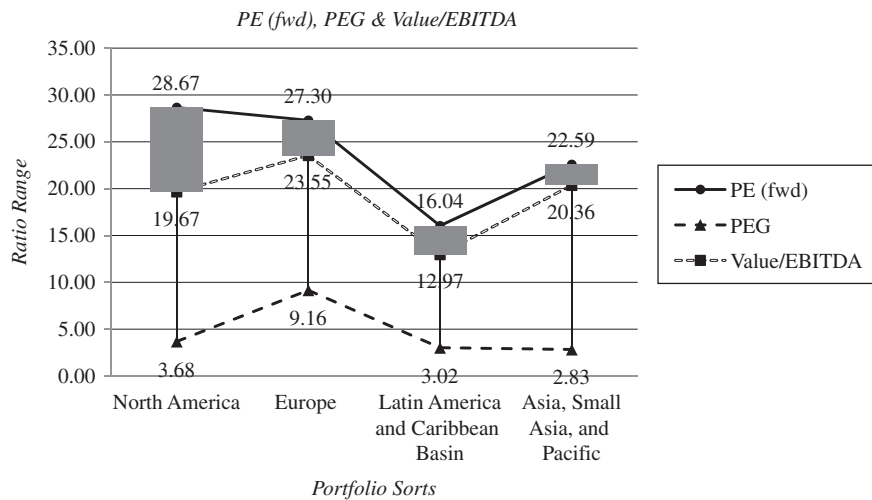


FIGURE 2. PE (fwd), PEG, and Value/EBITDA. This figure demonstrates the forward PE – PE (fwd), price/earnings to growth—(PEG), and Value/EBITDA comparisons among four regional portfolio sorts.

in the sample. Investors would like to capitalize on this situation because high excess returns a share price bump, and, thus, the overall firm value in bullish markets. Naturally, weighted average beta adjusted for debt-to-equity (β_p) is estimated as 2.63 for this portfolio in the markets due to high excess return level (Figure 5).²

²Bottom-Up Levered Beta (β_p) is calculated by regressing weekly returns on stock against NYSE composite for North American portfolios and major indices for other portfolios, such as BOVESPA for Latin portfolio using five-year data.

CONCLUDING REMARKS, IMPLICATIONS, FUTURE DIRECTIONS

To address the objectives of our study, we analyze whether the relative valuation with earnings multiples yields an effective and robust structure in identifying undervalued and overvalued stocks in regional portfolios and in assessing those portfolios’ return performances with market risk levels in global lodging markets. One of the most intriguing findings of our work is that stocks in Latin American portfolios are overvalued, which creates recessionary sentiment that yields stagnancy in trades

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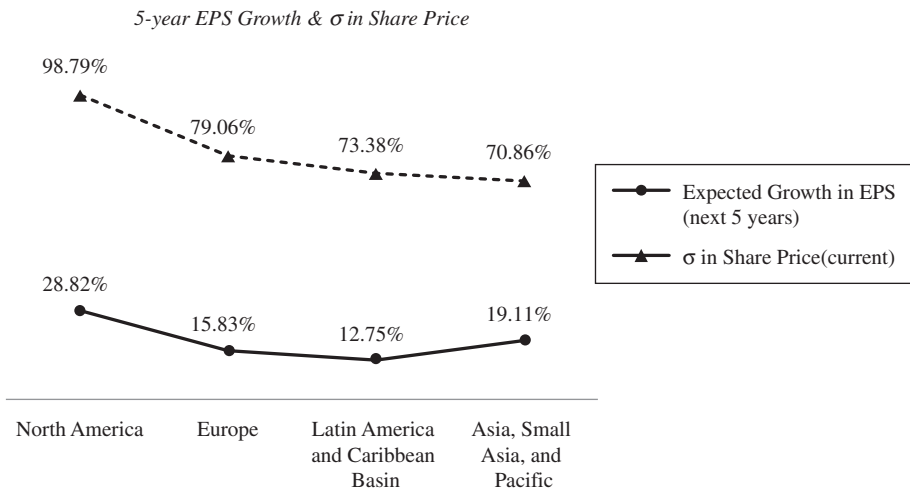


FIGURE 3. 5-year EPS forecast and σ in share price. This figure displays expected growth in EPS next 5 years and standard deviation (σ) in current share (stock) price.

and/or investments. Achieving greater and stronger forecasted earnings growth, investors are possibly much more willing to invest their capital in the other regions and markets in order to link their investment goals with the satisfied and promised high solid returns. Thus, those portfolios have performed better than the Latin American portfolio when earnings multiples in relative investing are considered.

We also investigated the financial productivity of the portfolios with the comparison of cost of funding the financial investments.

We suggest that the North American portfolio, which has the highest excess returns, is in the bullish market where investor confidence has been achieved. Also, financial productivity, when combined with estimations of earnings multiples, improves returns for the potential investors.

Our research is relevant to industry professionals and practitioners, such as the management of the lodging firms; fund or money managers supplying funds to these firms for investment purposes; and hospitality

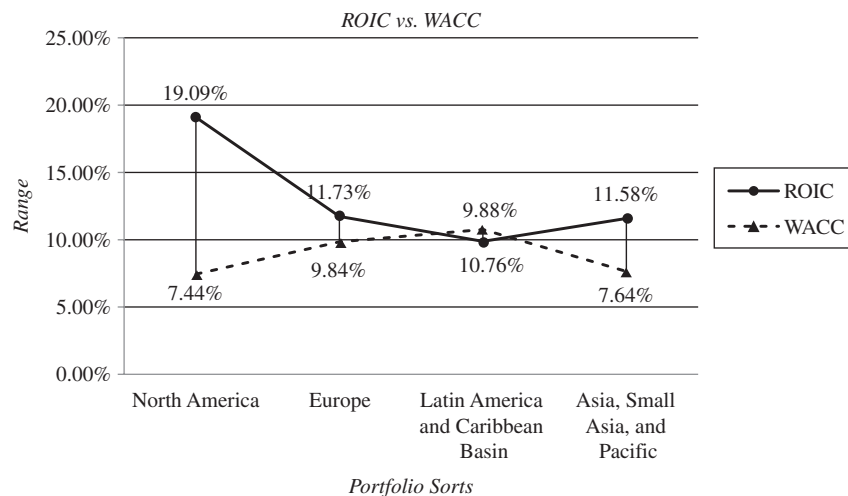


FIGURE 4. ROIC vs. WACC. This figure shows the financial productivity examined by the comparison of return on invested capital (ROIC) and the weighted average cost of capital (WACC).

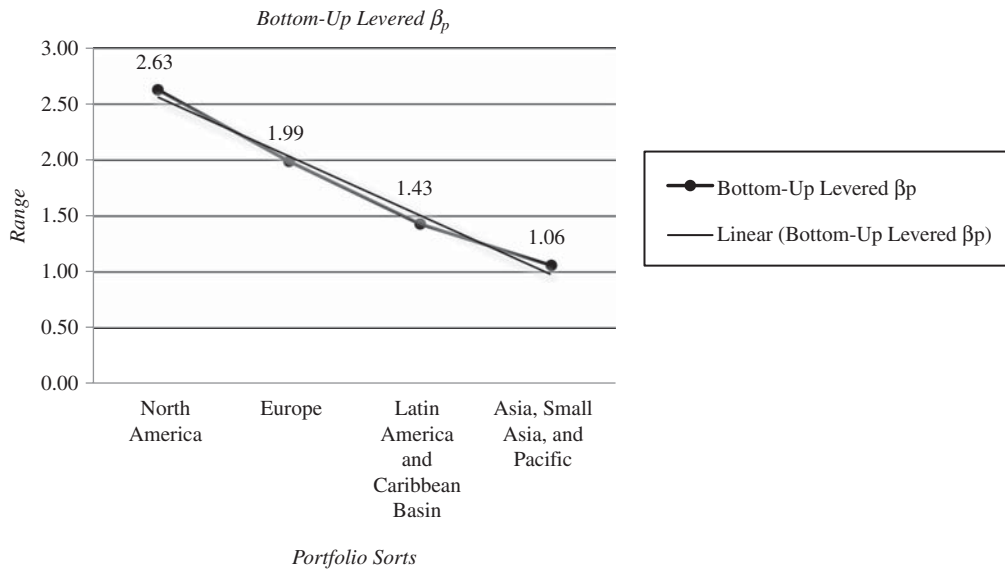


FIGURE 5. Bottom-Up Levered β_p . This figure reports the bottom-up levered beta which is the weighted average beta adjusted for the debt-to-equity (DE) ratio of the firms.

industry consultants, who utilize earnings multiples to value assets; as well as to academic researchers. For instance, they can utilize the findings of this study in their performance analysis reports as a base (a) to arrive at discussions and decision-making strategies in investing based on relative valuation and momentum, (b) to identify comparable assets to any selected target firms or portfolios or peer industry standards, (c) to supply informed knowledge to institutional investors about the future price/earnings structure, and (d) to assess the future direction of financial productivity and sustainability in different lodging markets.

The current layout and focus of this article can be extended by including the other subindustries of the hospitality industry, such as restaurants and airline firms. Also, earnings and book multiples can be compared to value assets based on book values and market values separately. Finally, other valuation approaches, such as intrinsic valuation (DCF approach) and/or contingent claim valuation can be done to estimate future investment potential with present value of cash flows and the equity options.

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