Improving stock valuations through the highest and best use principle

Mejorar las valoraciones de las acciones con el principio del uso más alto y mejor

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Abstract: This study investigates whether stock market valuations are consistent with the principle of highest and best use. Fixed-effects panel models are applied to a sample of 1,272 U.S. and European listed companies over the period 2014-2023. The findings indicate that using the highest and best use principle, that is, estimating intrinsic value per share using the higher of cost-based and income-based valuations, provides greater explanatory power for stock prices than applying these valuation approaches individually. The analysis further shows that this effect is particularly pronounced in the technology sector. Overall, the results offer novel insights into how investor decision-making processes are reflected in stock price formation.

Keywords: Stock valuation · Cost-based approach · Income-based approach · Principle of highest and best use · Technology sector.

Resumen: Este estudio analiza si las valoraciones del mercado bursátil son consistentes con el principio del uso óptimo y más rentable. Se aplican modelos de panel con efectos fijos a una muestra de 1272 empresas cotizadas en Estados Unidos y Europa durante el período 2014–2023. Los resultados indican que utilizar el mayor valor entre los enfoques basados en el costo y en los ingresos para estimar el valor intrínseco por acción –es decir, aplicar el principio del uso óptimo y más rentable– proporciona una mayor capacidad explicativa del precio de las acciones en comparación con la aplicación individual de estos métodos de valoración. El análisis muestra además que este efecto es particularmente relevante en el sector tecnológico. En conjunto, los resultados aportan nuevos conocimientos sobre la forma en que las decisiones de los inversionistas se reflejan en la formación de los precios bursátiles.

Palabras clave: Valoración de acciones · Método basado en los costos · Método basado en los ingresos · Principio del uso óptimo · Sector tecnológico.

1. Introduction

The International Valuation Standards (IVS) establish the fundamental principles of international business valuation practice (IVSC, 2025). The standards identify three core valuation approaches: cost-based, income-based, and market-based. The cost-based approach derives a company's intrinsic value from the net value of its assets. In contrast, the income-based approach estimates intrinsic value by discounting expected future earnings. Finally, the market-based approach relies on comparisons with peer firms, inferring value from observed market prices and performance indicators of comparable companies.

In addition to defining these approaches, the IVS emphasize the principle of highest and best use (HBU), which requires valuers to assess market value based on the most economically advantageous and legally feasible use of an asset. This principle is grounded in the assumption that rational investors will always choose the form of use – such as liquidation or continued operation – that maximizes economic returns. In practical terms, applying the HBU principle implies selecting the highest value obtained from alternative valuation approaches and identifying it as the relevant measure of market value.

All three valuation approaches are widely used in academic research. Among them, the income-based approach is generally regarded as the dominant framework for firm valuation, as it enables analysts to derive stock target prices from expected future performance (Erkilet et al., 2022). The cost-based approach is applied less frequently and is typically considered most relevant in settings characterized by substantial uncertainty about future earnings or in valuation contexts driven by regulatory or tax considerations (Jenkins & Kane, 2006). The market-based approach, while popular in practice due to its relative simplicity, has been criticized for its limited ability to capture firm-specific fundamentals. As argued by Koller et al. (2010), market-based valuation relies on comparative benchmarks rather than the actual financial performance of the firm being valued, making it more suitable for price estimation than for determining intrinsic value. Consistent with this view, the analysis in this paper focuses on the cost-based and income-based valuation approaches.

The existing literature predominantly examines these valuation methods in isolation, yielding mixed evidence regarding their relative ability to explain stock prices. Several studies document strong explanatory power for income-based models (El Shamy et al., 2014; Maditinos et al., 2009), while others report superior performance for cost-based valuations (Takacs, 2021). However, despite the central role of the highest and best use principle in valuation standards and professional practice, only a limited number of studies explicitly combine cost-based and income-based valuations within an HBU framework. This gap suggests that the empirical implications of applying the HBU principle in equity valuation remain insufficiently explored.

Against this background, the objective of this study is twofold. From an academic perspective, it empirically examines whether intrinsic values determined according to the highest and best use principle provide greater explanatory power for stock prices than cost-based and income-based valuations applied separately. From a practitioner perspective, it assesses whether incorporating the HBU principle can improve valuation accuracy in market-based investment decisions. Using fixed-effects regression models applied to a sample of 1,272 U.S. and European listed firms, the analysis evaluates the relative performance of alternative valuation approaches. To further enhance interpretability, the empirical investigation is extended to subsamples of manufacturing, service, and technology firms, allowing for the identification of potential sector-specific valuation patterns. In particular, the technology sector provides a relevant setting in which growth expectations and asset composition may amplify differences between valuation approaches. The findings offer novel empirical insights into investor behavior and the mechanisms through which valuation principles are reflected in stock prices.

2. Literature survey

Among the valuation approaches defined in the International Valuation Standards, this study focuses on cost-based and income-based methods and applies the highest and best use principle by combining these two approaches. The third valuation approach, market-based valuation, is excluded from the empirical analysis, as its primary purpose is to explore the relationship between value and price. Because market-based valuation is inherently derived from stock prices, it cannot be regarded as an intrinsic valuation method in this context. Rather, it represents a price estimation or benchmarking tool that may be used to corroborate values obtained from cost-based or income-based methods and to compare the firm under valuation with its peers (Koller et al., 2010).

It should be noted that market-based valuation remains a prevalent practice in the United States. Olbert (2023) documents that, based on the Global Industry Classification Standard (GICS), which distinguishes 11 sectors and 25 industry groups in the U.S. market, valuation multiples are widely applied across industries. Specifically, 20 of the 25 industry groups predominantly rely on the price-to-earnings ratio. In the telecommunications, energy, and materials sectors, enterprise value to EBITDA multiples are most frequently used. In the real estate investment trust sector, price-to-adjusted funds from operations is the dominant metric, while price-to-cash-flow ratios are commonly employed in capital goods industries. This observation does not contradict the exclusion of market-based valuation in the present analysis, as the U.S. market exhibits unique characteristics. The extensive availability of long-term, high-quality market data at both firm and sectoral levels enhances the reliability of multiple-based estimates and may partially shift them closer to intrinsic valuation. In contrast, the limited availability and comparability of such data in European markets restrict the applicability of market-based approaches for intrinsic valuation purposes.

Cost-based valuation is founded on the assumption that the firm does not continue its operations in the future. Under this premise, the market value of equity corresponds to the proceeds obtainable from liquidation, defined as the difference between the realizable value of assets and the costs associated with settling liabilities (Fernandez, 2007). Asset-based valuation is therefore most appropriate in situations where the going concern assumption does not hold, such as when a firm's future viability is uncertain due to financial distress. In addition, cost-based valuation may be suitable for non-profit organizations or in highly uncertain economic environments, where income-based valuation becomes difficult to apply (Conradie & Lamprecht, 2021).

An important methodological issue concerns whether cost-based valuation should rely on book values or require asset revaluation. While book-value-based approaches are often observed among smaller firms operating under traditional accounting regimes, international accounting standards applicable to large listed companies, including U.S. GAAP and IFRS, mandate the recognition of assets at fair value (IASB, 2011; FASB, 2011). As a result, balance sheet asset values reported by listed firms provide a reasonable approximation of market values, supporting the use of cost-based valuation in this context.

In contrast, income-based valuation treats the firm as a going concern and determines equity value as the present value of expected future income. This approach emphasizes the economic viability of the firm by explicitly modeling future earnings streams (Davison, 2004). According to Damodaran (2012), although income-based valuation represents only one of several valuation methodologies, it constitutes the conceptual foundation upon which alternative approaches are ultimately built.

Olbert (2025) identifies four major factors contributing to the gradual decline of market-based valuation models, such as price-to-earnings ratios, since the beginning of the twenty-first century, in favor of discounted cash flow methods. First, analysts increasingly prefer multi-stage valuation models over short-term multiple-based approaches due to concerns regarding research quality. Second, the widespread adoption of discounted cash flow techniques reflects the delayed impact of valuation textbooks from the 1980s that emphasized income-based frameworks. Third, growing investor demand for detailed and transparent information has reduced the appeal of valuation multiples, which offer limited insight into underlying value drivers. Finally, regulatory changes, including the 2002 Securities and Exchange Commission requirement for enhanced valuation disclosures, have further reinforced the shift toward income-based valuation.

To determine equity value under the income-based approach, the valuer estimates expected net income over a future horizon and discounts it at the cost of equity (Aggelopoulos, 2017). When the firm is assumed to operate indefinitely, valuation is conducted over an infinite horizon. Under zero-growth assumptions, this leads to a simple perpetuity model based on the most recently observed net income (Copeland et al., 2021), as formalized in Equation (1).

$$V = \frac{NI}{r} \quad (1)$$

where *V* denotes the value of equity, *NI* the Net Income for the last closed year and *r* the cost of equity serving as the discount rate.

When income is assumed to grow at a constant rate while the cost of capital remains unchanged, valuation relies on a growing perpetuity framework that adjusts the simple perpetuity formula by a growth parameter (Becker, 2024), as shown in Equation (2).

$$V = \frac{NI(1+g)}{r-g} \quad (2)$$

The condition that the discount rate exceeds the growth rate is critical to ensure meaningful valuation outcomes and to avoid mathematical inconsistencies. Because neither constant income nor constant growth accurately reflects real-world firm dynamics, the valuation literature has developed multi-stage models. One widely applied framework is the two-stage model, which distinguishes between an explicit forecast period with growth and a subsequent terminal phase without growth (Takacs, 2023), as expressed in Equation (3).

$$V = NI\left(\frac{1+g}{r-g}\left(1 - \frac{(1+g)^n}{(1+r)^n}\right) + \frac{(1+g)^n}{r(1+r)^n}\right) \quad (3)$$

Despite the central role of the highest and best use principle in valuation standards, empirical research explicitly incorporating this principle into equity valuation remains limited. Kalynichenko and Chukhrai (2011) define highest and best use as the selection of the most valuable option among all legally permissible and physically feasible uses of an asset. Similarly, Schueler (2018) and Stancu et al. (2017) argue that valuation outcomes derived from alternative methods should be compared, and the method yielding the highest value should be selected as the relevant measure of market value. However, existing studies do not provide a systematic analysis of how applying the highest and best use principle affects the explanatory power of valuation models with respect to stock prices.

Quirin et al. (2000) further note a gap in the literature regarding industry-specific valuation practices employed by financial analysts. This observation suggests that grouping valuation analyses by industry may reveal systematic differences in how valuation principles are reflected in stock prices. Building on this insight, the present study addresses the identified research gap by testing whether intrinsic values determined according to the highest and best use principle – defined as the maximum value obtained from alternative valuation methods – exhibit greater explanatory power for stock prices than cost-based or income-based valuations applied independently, with particular emphasis on the technology sector.

3. Research design

3.1. Dependent and independent variables

The present study is conducted using a panel database. Within the applied models, the closing stock price ($P_{i,t}$) is used as the dependent variable, where *i* denotes the company and *t* the period. This variable is expressed in logarithmic form to attenuate the impact of large absolute value deviations, as shown in Equation (4).

$$\log\_\mathrm{P_{i,t}} = \ln(\mathrm{P_{i,t}}) \quad (4)$$

The explanatory variables employed in the models – illustrated in Equations (5), (6) and (7) – represent the two primary valuation approaches discussed earlier. The first $\left(\log\_\mathrm{V_{i,t}^{cost}}\right)$ captures the net asset value according to the cost approach. It is expressed as the natural logarithm of the ratio between shareholders' equity reported in the balance sheet ($SHE_{i,t}$) and the number of shares ($NS_{i,t}$).

$$\log\_\mathrm{V_{i,t}^{cost}} = \ln\left(\mathrm{SHE_{i,t}/NS_{i,t}}\right) \quad (5)$$

The second explanatory variable $\left(\log\_\mathrm{V_{i,t}^{income}}\right)$ expresses the intrinsic value of the share based on the income approach, also in logarithmic form. To determine the present value of expected future profits, the simple perpetuity model is applied, whereby the current year's net income ($NI_{i,t}$) is capitalised using an industry-specific cost of equity ($r_{i,t}$) as the discount rate.

$$\log\_\mathrm{V_{i,t}^{income}} = \ln\left(\mathrm{NI_{i,t}/r_{i,t}/NS_{i,t}}\right) \quad (6)$$

The third explanatory variable is derived from the principle of highest and best use. As discussed earlier, this principle stipulates that, among the values using different valuation approaches, the highest value – in this case, the higher between cost-based and income-based values – should be selected and identified as the intrinsic value.

$$\log\_\mathrm{V_{i,t}^{HBU}} = \max\left(\log\_\mathrm{V_{i,t}^{cost}}; \log\_\mathrm{V_{i,t}^{income}}\right) \quad (7)$$

To enhance the stability of the models, several control variables are included, as exhibited in Equations (8), (9) and (10). These control variables capture company efficiency (asset turnover), profitability (net margin), and financing leverage, indicating the degree of indebtedness. For their computation, total revenue ($TR_{i,t}$) and total assets ($TA_{i,t}$) are introduced as additional variables.

$$\mathrm{TURNOVER}_{i,t} = \mathrm{TR}_{i,t}/\mathrm{TA}_{i,t} \quad (8)$$

$$\mathrm{NETMARGIN}_{i,t} = \mathrm{NI}_{i,t}/\mathrm{TR}_{i,t} \quad (9)$$

$$\mathrm{LEVERAGE}_{i,t} = \mathrm{TA}_{i,t}/\mathrm{SHE}_{i,t} \quad (10)$$

Table 1 provides a concise summary of the variables used in the models.

Table 1: Variables used in the models

Variable type	Denotation	Definition	Formula
dependent variable	$\log\_P_{i,t}$	natural logarithm of year-end closing price	(4)
	$\log\_V_{i,t}^{cost}$	natural logarithm of the firm's net assets (shareholders' equity) per share	(5)
explanatory variables	$\log\_V_{i,t}^{income}$	natural logarithm of the value of the income-based equity value per share (based on the simple perpetuity model)	(6)
	$\log\_V_{i,t}^{HBU}$	natural logarithm of the equity value per share determined according to the highest and best use principle (the higher of the cost-based and income-based values)	(7)
	$TURNOVER_{i,t}$	asset turnover (Total Revenue / Total Assets)	(8)
control variables	$NETMARGIN_{i,t}$	net margin (Net Income / Total Revenue)	(9)
	$LEVERAGE_{i,t}$	financial leverage (Total Assets / Shareholders' Equity)	(10)

This table summarizes the variables used in the models. The dependent variable is the natural logarithm of the stock price, while three explanatory variables are included: the cost-based value per share, the income-based value per share and the value per share calculated with the highest and best use principle. In addition, the models incorporate three control variables: asset turnover, net margin, and financial leverage.

3. 2. Data and model specification

The empirical study utilises data obtained from the LSEG Data & Analytics database (formerly Refinitiv), access to which was provided by the authors' employing institution. During the initial data collection process, a geographic restriction was applied to Europe and the United States. The search targeted all companies meeting this criterion over the period 2014-2023. This procedure resulted in a large initial dataset comprising 10,950 firms. Subsequently, a multi-stage filtering process was applied. First, all firms were excluded for which any of the data required to compute the variables (sales, equity, net income, total assets, share price, number of shares) were missing for any year within the ten-year period. Second, firms with negative shareholders' equity in any year between 2014 and 2023 were excluded. Third, companies for which the number of shares was recorded as zero in the database were identified and removed. Fourth, firms reporting negative net income in at least one year of the observation period were excluded from the sample. In the final step, given the presence of outliers in stock prices at both the lower and upper ends of the distribution, firms with share prices below the 5^{th} percentile and above the 95^{th} percentile of the overall distribution were excluded.

The final sample consists of 1,272 companies. In addition to regional classification (Europe, USA), firms were further categorized by company profile (industry). The initial intention was to classify firms as either manufacturing or service companies, with the latter category including retail firms. However, for technology companies, such a binary classification proved inadequate, as these firms often operate simultaneously in hardware, mobile devices, software, and application development. Consequently, technology was defined as a separate company profile category. The composition of the final sample is presented in Table 2.

Table 2: Sample composition

Region \ Profile	Manufacturing	Service	Technology	Total
Europe	459 firms	233 firms	151 firms	843 firms
USA	227 firms	136 firms	66 firms	429 firms
Total	686 firms	369 firms	217 firms	1,272 firms

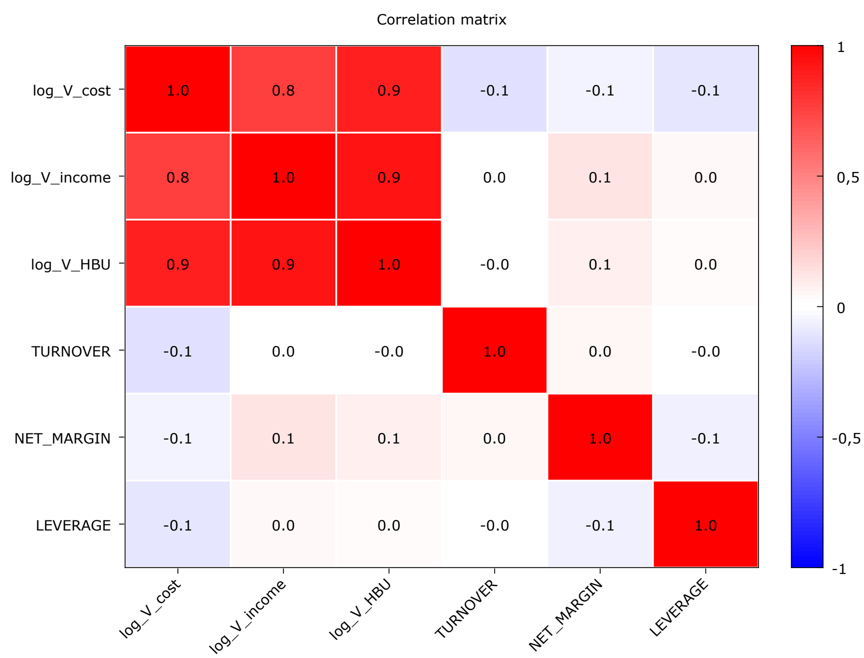
This table illustrates the internal structure of the sample, categorized by region (Europe and the United States) and by company profile (manufacturing, service, and technology). The final sample includes approximately twice as many European firms as U.S. firms. Manufacturing companies represent more than half of the sample, followed by service and technology firms.

The firms included in the final sample are well suited to the purpose of the analysis. They are characterized by complete data availability, the absence of extreme observations, positive shareholders' equity, and continuous profitability, indicating stable and normal operating conditions.

One required parameter, the cost of equity ($r_{i,t}$) was not available in the LSEG Data & Analytics database. These data were therefore obtained from A. Damodaran's publicly available database (https://pages.stern.nyu.edu/~adamodar/). After carefully aligning the industry classifications used by LSEG with those employed by Damodaran, an industry-specific cost of equity was assigned to each firm-year observation. This procedure enabled the computation of the explanatory variable.

The empirical analysis began with an examination of multicollinearity. To this end, a correlation matrix of the independent variables – including both explanatory and control variables – was constructed, as shown in Figure 1.

Figure 1: Correlation matrix of independent variables



This figure presents the pairwise correlation coefficients among the independent variables. The results indicate strong correlations among the three explanatory variables, while no substantial correlation is observed between the explanatory variables and the control variables.

Given the strong correlation among the three explanatory variables, their joint inclusion in a single model was not appropriate. Accordingly, three separate models were estimated, which are presented in Equations (11), (12) and (13).

Cost model: $\log\_P_{i,t} = \alpha_i + \beta_1 \log\_V_{i,t}^{cost} + \beta_2 TURNOVER_{i,t} + \beta_3 NI_{i,t} + \beta_4 LEVERAGE_{i,t} + u_{i,t}$ (11)

Income model: $\log\_P_{i,t} = \alpha_i + \beta_1 \log\_V_{i,t}^{income} + \beta_2 TURNOVER_{i,t} + \beta_3 NI_{i,t} + \beta_4 LEVERAGE_{i,t} + u_{i,t}$ (12)

HBU model: $\log\_P_{i,t} = \alpha_i + \beta_1 \log\_V_{i,t}^{HBU} + \beta_2 TURNOVER_{i,t} + \beta_3 NI_{i,t} + \beta_4 LEVERAGE_{i,t} + u_{i,t}$ (13)

As indicated by the subscript of the intercept term in each specification, fixed-effects panel models were employed. This modeling choice was validated using three standard panel specification tests. For each model, an F-test, a Breusch–Pagan test, and a Hausman test were conducted, and the results were consistent across all specifications. The F-test rejected the null hypothesis that a pooled ordinary least squares model is appropriate (p<0.001), supporting the fixed-effects alternative. Similarly, the Breusch–Pagan test rejected the pooled model in favor of a random-effects specification (p<0.001). The final model selection was based on the Hausman test, which rejected the null hypothesis that the random-effects estimator is consistent (p<0.001), thereby confirming the fixed-effects model as the preferred specification. Consequently, fixed-effects estimation was applied in all three models.

4. Results and discussion

The regression analysis was conducted for all three specifications – the cost-based, income-based, and highest and best use (HBU) models. Table 3 summarizes the estimation results.

Table 3: Regression results of models M1-M3

Model:	Cost	Income	HBU
	Coefficients of independent variables		
αi (constant)	1.2737***	2.2160***	1.4859***
$log\_V_{i,t}^{cost}$	0.7580***	-	-
$log\_V_{i,t}^{income}$	-	0.3320***	-
$log\_V_{i,t}^{HBU}$	-	-	0.5729***
$TURNOVER_{i,t}$	0.0187***	0.0053***	0.0041***
$NETMARGIN_{i,t}$	0.2028***	-0.1761***	-0.2582***
$LEVERAGE_{i,t}$	0.0420***	0.0032	0.0070***
	Model characteristics		
Dependent variable	$Log\_P_{i,t}$	$Log\_P_{i,t}$	$Log\_P_{i,t}$
No. of firms	1,272	1,272	1,272
Period	2014-2023	2014-2023	2014-2023
„Within" R^2	36.80%	27.92%	41.08%

*This table summarizes the regression results of the Cost, Income, and HBU models. Asterisks denote statistical significance (*p<0.1, **p<0.05, ***p<0.01). The results indicate that all explanatory variables are statistically significant and exhibit positive coefficients. In terms of explanatory power, the Cost model outperforms the Income model, while both are dominated by the HBU model.*

The results suggest that, among the two conventional valuation approaches, the cost-based method exhibits a stronger relationship with stock prices than the income-based approach. The Cost model achieves a higher explanatory power, with a within R^2 of 36.80%, compared to 27.92% for the Income model. This difference may be attributed to the relatively higher volatility of annual net income compared to net asset values. By contrast, the HBU model, which applies the principle of highest and best use, demonstrates superior explanatory power relative to both conventional approaches, reaching a within R^2 of 41.08%. These findings imply that, in periods characterized by lower-than-usual profitability, substituting income-based valuation with cost-based valuation improves the ability to explain observed stock prices. More generally, the results indicate that the highest and best use principle plays a role in investor decision-making processes that shape stock price formation.

To assess the robustness of these findings, an additional analysis was conducted focusing on the income-based valuation approach. As defined in Equation, the income-based explanatory variable was originally constructed using a simple perpetuity model that excludes growth, implicitly assuming that net income realized in the most recent year will be sustained indefinitely. The robustness test aimed to evaluate whether this assumption provides the most appropriate representation of income-based valuation or whether allowing for earnings growth improves explanatory power. Therefore, utilizing the formula described in Equation (3), two alternative versions of this variable were computed for each company year: $\log\_V_{i,t}^{income\_g\_5}$ and $\log\_V_{i,t}^{income\_g\_10}$ were determined with an assumption of growth for 5 and 10 years, respectively, before net income remains constant in the second (infinite) phase. For this, an industry-specific growth rate ($g_{i,t}$) was necessary for each company-year, which, similarly to the cost of equity, was taken from Damodaran's public database after an accurate alignment of the industry categories with LSEG and Damodaran's classifications. The formulae of the two modified variables are shown in Equations (14) and (15).

$$\log\_V_{i,t}^{income\_g\_5} = NI_{i,t}\left(\frac{1+g_{i,t}}{r_{i,t}-g_{i,t}}\left(1-\frac{(1+g_{i,t})^5}{(1+r_{i,t})^5}\right)+\frac{(1+g_{i,t})^5}{r_{i,t}(1+r_{i,t})^5}\right)/NS_{i,t} \quad (14)$$

$$\log\_V_{i,t}^{income\_g\_10} = NI_{i,t}\left(\frac{1+g_{i,t}}{r_{i,t}-g_{i,t}}\left(1-\frac{(1+g_{i,t})^{10}}{(1+r_{i,t})^{10}}\right)+\frac{(1+g_{i,t})^{10}}{r_{i,t}(1+r_{i,t})^{10}}\right)/NS_{i,t} \quad (15)$$

Consequently, the income model delineated in Equation (12) was subjected to retesting using these two alternative income-based explanatory variables, and a comparison was made with the outcomes of the original model. The results are summarised in Table 4.

The results indicate that the explanatory power is highest for the simple perpetuity model, with a within R^2 of 27.92%. Introducing a growth phase reduces explanatory power to 24.63% for the 5-year growth model and further to 19.93% for the 10-year growth model. These findings suggest that stock market valuations reflect a relatively conservative assessment of future earnings. Investors appear to place limited weight on projected earnings growth, even in industries with historically positive growth trends. At the same time, investors do not extrapolate negative growth indefinitely in declining industries, instead anchoring expectations to the sustainability of current earnings levels. Overall, the robustness analysis confirms that the simple perpetuity-based specification provides the most appropriate income-based valuation measure for explaining stock prices in the present setting. Consequently, the original income-based variable is retained in all subsequent analyses.

As a supplementary analysis, the regression models were re-estimated separately for manufacturing (686 firms), service (369 firms), and technology (217 firms) subsamples. The results are reported in Table 5.

Table 4: Results the income model with different income-based explanatory variables

Income model:	Original (simple perpetuity)	Two-stage (with a 5-year growth period)	Two-stage (with a 10-year growth period)
	Coefficients of independent variables		
αi (constant)	2.2160***	2.2730***	2.4108***
$log\_V_{i,t}^{income}$	0.3320***	-	-
$log\_V_{i,t}^{income\_g\_5}$	-	0.2645***	-
$log\_V_{i,t}^{income\_g\_10}$	-	-	0.1949***
$TURNOVER_{i,t}$	0.0053***	0.0062***	0.0070***
$NETMARGIN_{i,t}$	-0.1761***	-0.0966***	0.0023
$LEVERAGE_{i,t}$	0.0032	0.0028	0.0018
	Model characteristics		
Dependent variable	$Log\_P_{i,t}$	$Log\_P_{i,t}$	$Log\_P_{i,t}$
No. of firms	1,272	1,272	1,272
Period	2014-2023	2014-2023	2014-2023
„Within" R^2	27.92%	24.63%	19.93%

*This table compares the regression results of three income-based models: the original simple perpetuity specification and two two-stage models incorporating 5-year and 10-year growth periods. Asterisks denote the level of statistical significance (*p<0.1, **p<0.05, ***p<0.01). Results indicate that R squared is the highest for the simple perpetuity model, and it declines as a growth period is incorporated into the model.*

Table 5: Regression results of models M1-M3

Model:	Cost			Income			HBU		
	manfacturing	service	technology	manufacturing	service	technology	manfacturing	service	technology
	Coefficients of independent variables								
αi (constant)	1.0741***	1.3351***	0.6304***	2.6040***	2.3128***	2.4814***	1.7642***	1.5792***	1.5052***
$log\_V_{i,t}^{cost}$	0.7544***	0.7258***	0.9804***	-	-	-	-	-	-
$log\_V_{i,t}^{income}$	-	-	-	0.3073***	0.3322***	0.3837***	-	-	-
$log\_V_{i,t}^{HBU}$	-	-	-	-	-	-	0.5221***	0.5652***	0.6767***
$TURNOVER_{i,t}$	0.1658***	0.0173***	0.2461***	-0.3363***	0.0080***	-0.4298***	-0.1714***	0.0056***	-0.2149***
$NETMARGIN_{i,t}$	0.1954***	0.4706***	0.1033**	-0.1597***	-0.2926***	-0.1664***	-0.2342***	-0.4323***	-0.2098***
$LEVERAGE_{i,t}$	0.0339***	0.0443***	0.1304***	-0.0019	0.0037	0.0249***	0.0038*	0.0062*	0.0189***
	Model characteristics								
Dependent variable	$log\_P_{i,t}$	$log\_P_{i,t}$	$log\_P_{i,t}$	$log\_P_{i,t}$	$log\_P_{i,t}$	$log\_P_{i,t}$	$log\_P_{i,t}$	$log\_P_{i,t}$	$log\_P_{i,t}$
No. of firms	686	369	217	686	369	217	686	369	217
Period	2014-2023	2014-2023	2014-2023	2014-2023	2014-2023	2014-2023	2014-2023	2014-2023	2014-2023
„Within" R^2	35.15%	35.72%	47.61%	28.56%	28.61%	35.54%	38.82%	38.88%	52.55%

*This table presents the regression results of the Cost, Income, and HBU models across three company profiles: manufacturing, service, and technology. Asterisks denote statistical significance (*p<0.1, **p<0.05, ***p<0.01). The results show that the HBU model consistently achieves the highest explanatory power across all company types. Moreover, the within R^2 values for technology firms are markedly higher than those observed for manufacturing and service firms.*

The findings confirm that the relevance of the highest and best use principle in stock pricing is not confined to a specific company profile. The superior performance of the HBU model is evident across all subsamples as well as in the full sample. Among the two conventional valuation approaches, the cost-based method consistently outperforms the income-based approach for manufacturing, service, and technology firms. At the same time, the HBU model achieves the highest explanatory power in all cases.

An additional observation is that the explanatory power of all three models is lowest for manufacturing firms and highest for technology firms. This pattern can be attributed to differences in the volatility of income-based valuations across sectors. As shown in Table 6, manufacturing firms exhibit greater relative fluctuations in income-based values during the analyzed period, which reduces the explanatory power of income-based valuation compared to service and technology firms, where net income is less volatile.

Table 6: Relative standard deviations in income-based values in different subsamples

Company type:	Manufacturing	Service	Technology
No. of firms	686	369	217
Std. deviation	49.61	49.79	29.40
Average	31.61	33.70	20.85
Relative std. deviation	157.0%	147.7%	141.0%

This table reports relative standard deviations of income-based values for manufacturing, service, and technology firms. The results indicate that income-based valuations are least volatile for technology firms, followed by service firms, and most volatile for manufacturing firms.

5. Summary and conclusion

The principle of highest and best use is formally articulated in the International Valuation Standards and is widely recognized in global valuation practice. Despite its central role in professional valuation, relatively little academic research has examined the application of this principle in the context of stock valuation. The empirical analysis conducted in this study demonstrates that intrinsic values determined in accordance with the highest and best use principle exhibit greater explanatory power for stock prices than values derived from a single traditional valuation approach, whether cost-based or income-based. This finding underscores that the highest and best use principle is not merely a formal standard but also a substantive factor influencing investor decision-making and stock price formation.

The results further indicate that this effect is most pronounced for technology firms. This pattern can be attributed to the relatively lower volatility of net income in technology companies compared to service and manufacturing firms. From a practical perspective, these findings are particularly relevant for stock market investors, as they suggest that incorporating the highest and best use principle into valuation analysis can improve the accuracy of investment decisions. In addition, the results provide useful guidance for corporate managers seeking to assess the intrinsic value of their firms in a manner that is consistent with market pricing.

This study is subject to several limitations. First, the findings are based on a specific sample of firms and a defined observation period. Employing data from different time periods or extending the analysis to alternative firm samples may yield different results. Second, the empirical analysis relies on input data obtained from an external source. Although the LSEG Data & Analytics database is generally regarded as reliable, the authors were unable to independently verify the accuracy of the underlying raw data, which may represent a potential source of measurement error. Finally, future research could extend the analysis to other geographic regions or industry settings, as well as explore alternative valuation models to further assess the role of the highest and best use principle in equity valuation.

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