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Description Methods of Fundamental Analysis for Valuation of Equity included here serve as a quick reference for undergraduate courses on Stock Valuation and Chartered Financial Analyst Levels 1 and 2 Readings on Equity Valuation. Jerald E. Pinto ("Equity Asset Valuation (4th Edition)", 2020, ISBN: 9781119628194). Chartered Financial Analyst Institute (``Chartered Financial Analyst Program Curriculum 2020 Level I Volumes 1-6. (Vol. 4, pp. 445-491)", 2019, ISBN: 9781119593577). Chartered Financial Analyst Institute (``Chartered Financial Analyst Program Curriculum 2020 Level II Volumes 1-6. (Vol. 4, pp. 197-447)", 2019, ISBN: 9781119593614).

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Contents

`annulizedHPR` *Calculates Annualized Holding Period Return of a Stock.*

Description

The holding period rate of return (for short, the holding period return) is the return earned from investing in an asset over a specified time period. The specified time period is the holding period under examination, whether it is one day, two weeks, four years, or any other length of time (Jerald E. Pinto, 2020).

Usage

```
annulizedHPR(totalPershareDividendHP, spH, spNot, n)
```

Arguments

`totalPershareDividendHP`	A number.
`spH`	A number.
`spNot`	A number.
`n`	A number.

Details

In the example given by Jerald E. Pinto (2020), it is assumed that a share is purchased at the price of 10 dollars each, and held for three years. The company paid a per share dividend of 0.10 dollars each of the three years. So, the total per share dividend for the Holding period of 3 years comes out to be 0.30 dollars. At the end of the three years unit share price was 12 dollars. So, the total dollar value of return per share over the holding period is 2.30 dollars (0.30 as total dividend yield plus 2.00 dollars as price appreciation return). In percentage terms, HPR for 3 years is 23 percent (2.30 dollars of total return divided by 10 dollars which was unit share price in the beginning of the investment). This return of 23 percent when annualized works out to be 7.14 percent. Based on this understanding, the method `annulizedHPR` is developed for computing annualized Holding Period Return of the Stock for the values passed to its four arguments. Here, `totalPershareDividendHP` is the total dollar value of per share dividend for the Holding period, `spH` is unit share price at the end of holding period, and `spNot` represents unit share price in the beginning of the investment and `n` is number of years of the holding period.

Value

Input values to four arguments `totalPershareDividendHP` , `spH`,`spNot` and `n`.

Author(s)

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References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
annulizedHPR(totalPershareDividendHP=0.30,spH=12,spNot=10,n=3)
```

---

computingAbsRI — *Calculates Residual Income using given values of Earnings Per Share (EPS) and beginning Book Values Per Share(bgnBVPS) for a specified number of years.*

Description

Calculates Residual Income using given values of Earnings Per Share (EPS) and beginning Book Values Per Share(bgnBVPS) for a specified number of years.

Usage

```
computingAbsRI(EBIT, debt, equity, r, rd, t)
```

Arguments

`EBIT`	A number vector.
`debt`	A number vector.
`equity`	A number vector.
`r`	A number.
`rd`	A number.
`t`	A number.

Details

Residual Income is computed in three steps. Here, Step 1 is to compute `preTaxIncome` as (EBIT minus `rd` multiplied with debt). Step 2 is to get `netIncome` as (`preTaxIncome` minus (`t` multiplied with `preTaxIncome`)), and finally step 3 is to obtain the Residual Income (RI) as `netIncome` minus (`r` times `equity`). According to information provided by Jerald E. Pinto (2020), the method `computingAbsoluteRI` is developed to compute absolute value of Residual Income. Here, `EBIT` is a number vector that hold values of EBIT in millions of dollars, `debt` is a number vector that has dollar value of debt (expressed in millions of dollars), `equity` is a number vector that holds dollar value of equity (expressed in millions of dollars), `r` required rate of return on equity (expressed in decimal terms), `rd` is cost of debt (expressed in decimal terms), and `t` is rate of taxes. Output gives dollar value of Residual Income (expressed in millions of dollars).

Value

Input values to six arguments `bgnBVPS` `RI`, `r`, , `times`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
computingAbsRI(EBIT=c(0.5,1.5,2.25),debt=c(1,2.2,2.5),equity=c(1,2.2,2.5), r=0.12,rd=0.07,t=0.30)
```

---

computingBVperShare *Calculates the Book Value (BV) per share.*

Description

To compute book value per share, we need to refer to the balance sheet, which has a shareholders (or stockholders) equity section. The computation of book value is done through the following formula: Shareholders equity minus Total value of equity claims that are senior to common stock is equal to Common shareholders equity. After this, Common shareholders equity is divided by the number of common shares outstanding to get the Book value per share. Possible claims senior to the claims of common stock, which would be subtracted from shareholders' equity, include the value of preferred stock and the dividends in arrears on preferred stock (Jerald E. Pinto, 2020).

Usage

```
computingBVperShare(totalEquity, prefStockMV, outstdCommShares)
```

Arguments

totalEquity number.

prefStockMV number.

outstdCommShares number.

Details

According to information provided in Jerald E. Pinto (2020), the method computingBVperShare is developed for computing the Book Value (BV) per share for the values passed to its three arguments. Here, totalEquity is total market value of Common Equity, prefStockMV is market value of Preference Stock, and outstdCommShares is number of common stock shares that are outstanding.

Value

Input values to three arguments totalEquity, prefStockMV, and outstdCommShares.

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Examples

```
computingBVperShare(totalEquity=49000,prefStockMV=3396,outstdCommShares=918.2)
```

---

computingEVdollarVal *Calculates absolute amount of Enterprise Value.*

Description

Analysts commonly define that enterprise value is equal to Market value of common equity (Number of shares outstanding multiplied with Price per share) plus, the Market value of preferred stock (if any) plus, the Market value of debt less, the cash and investments (specifically: cash, cash equivalents, and short- term investments. Cash and investments (sometimes termed non-earning assets) are subtracted because EV is designed to measure the net price an acquirer would pay for the company as a whole. The acquirer must buy out current equity and debt providers but then receives access to the cash and investments, which lower the net cost of the acquisition. (For example, cash and investments can be used to pay off debt or loans used to finance the purchase.) The same logic explains the use of market values: In repurchasing debt, an acquirer has to pay market prices. Some debt, however, may be private and it does not trade; some debt may be publicly traded but trade infrequently. When analysts do not have market values, they often use book values obtained from the balance sheet (Jerald E. Pinto, 2020).

Usage

```
computingEVdollarVal(commonEquityMV, prefStockMV, debtMV, cashNequi)
```

Arguments

`commonEquityMV`	number.
`prefStockMV`	number.
`debtMV`	number.
`cashNequi`	number.

Details

According to information provided by Jerald E. Pinto (2020), the method `computingEVdollarVal` is developed for computing absolute amount of Enterprise Value for the values passed to its four arguments. Here, `commonEquityMV` is market value of Common Equity, `prefStockMV` is market value of Preference Stock,`debtMV` is market value of the Debt , and `cashNequi` is amount of Cash and cash equivalents.

Value

Input values to four arguments `commonEquityMV`, `prefStockMV`, `debtMV`, , `cashNequi`.

Author(s)

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References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
computingEVdollarVal(commonEquityMV=15008,prefStockMV=0,debtMV=2013,cashNequi=4060)
```

`computingEVmultiple` *Calculates Enterprise Value Multiple as EV to EBITDA or EV to sales.*

Description

Enterprise value to EBITDA is by far the most widely used enterprise value multiple.Analysts use EV/EBITDA is usually more appropriate than PE alone for comparing companies with different financial leverage (debt), because EBITDA is a pre- interest earnings figure, in contrast to EPS, which is post-interest.Enterprise value to sales is a major alternative to the price- to- sales ratio. The PS multiple has the conceptual weakness that it fails to recognize that for a debt- financed company, not all sales belong to a company's equity investors. Some of the proceeds from the company's sales will be used to pay interest and principal to the providers of the company's debt capital. For example, a PS for a company with little or no debt would not be comparable to a PS for a company that is largely financed with debt. `EV/S` would be the basis for a valid comparison in such a case. So, EV/S is an alternative sales- based ratio that is particularly useful when comparing companies with diverse capital structures (Jerald E. Pinto, 2020).

Usage

```
computingEVmultiple(basis = c("sales", "EBITDA"), EV, EBITDA, sales)
```

Arguments

`basis`	character vector.
`EV`	number.
`EBITDA`	number.
`sales`	number.

Details

According to information provided by Jerald E. Pinto (2020), the method `computingEVmultiple` is developed for computing Enterprise Value Multiple as EV to EBITDA or EV to sales for the values passed to its four arguments. Here, `basis` is character string, either "sales" or "EBITDA" , `EV` is absolute amount of Enterprise Value (in millions of dollars),`EBITDA` is absolute amount of Earnings Before Interest,Taxes, Depreciation, and Amortization (in millions of dollars), and `sales` is absolute amount of sales (in millions of dollars).

Value

Input values to four arguments `basis`, `EV`, `EBITDA`,and `sales`.

Author(s)

MaheshP Kumar, `<maheshparamjitkumar@gmail.com>`

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
computingEVmultiple("sales",EV=14411,EBITDA=3320,sales=18962)
computingEVmultiple("EBITDA",EV=14411,EBITDA=3320,sales=18962)
```

`computingGusingGGM` *Computing the Growth Rate Implied by the Current Stock Price.*

Description

Because the dividend growth rate affects the estimated value of a stock using the Gordon growth model, differences between estimated values of a stock and its actual market value might be explained by different growth rate assumptions. Given price, the expected next-period dividend, and an estimate of the required rate of return, the dividend growth rate reflected in price can be inferred assuming the Gordon growth model. An analyst can then judge whether the implied dividend growth rate is reasonable, high, or low, based on what he or she knows about the company. In effect, the calculation of the implied dividend growth rate provides an alternative perspective on the valuation of the stock to see whether it is fairly valued, overvalued, or undervalued (Jerald E. Pinto, 2020).

Usage

```
computingGusingGGM(divNot, r, sharePrice)
```

Arguments

`divNot`	A number.
`r`	A number.
`sharePrice`	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method `computingGusingGGM` is developed for computing the Growth Rate Implied by the Current Stock Price for the values passed to its three arguments. Here, `divNot` is dollar value of the current dividend, `r` is required rate of return, and `sharePrice` is price of the share.

Value

Input values to three arguments `divNot` , `r` and `sharePrice`.

Author(s)

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References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
computingGusingGGM(divNot=2,r=0.122,sharePrice=40)
```

computingPB — *Calculates Price to Book Value (PB) Multiple as trailing PB or GGM based PB.*

Description

The ratio of market price per share to book value per share (PB), like PE, has along history of use in valuation practice as discussed by Graham and Dodd in 1934 (as cited in Jerald E. Pinto, 2020).In the measure of value in the PB denominator (book value per share) is a stock or level variable coming from the balance sheet. (Book refers to the fact that the measurement of value comes from accounting records or books, in contrast to market value.) Analysts use PB because book value is a cumulative balance sheet amount, book value is generally positive even when EPS is zero or negative. An analyst can generally use PB when EPS is zero or negative, whereas P/E based on a zero or negative EPS is not meaningful.

Usage

```
computingPB(PB = c("trailing", "GGM"), BV0, currentShPrice, ROE, g, r)
```

Arguments

PB	character vector.
BV0	number.
currentShPrice	number.
ROE	number.
g	number.
r	number.

Details

According to information provided by Jerald E. Pinto (2020), the method `computingPB` is developed for computing Price to Book Value (PB) Multiple as trailing PB or GGM based PB for the values passed to its six arguments. Here, `PB` is character string, either trailing or GGM , `currentShPrice` is current Share Price , `BV0` is initial Book Value,`ROE` is return on equity, `g` is sustainable growth rate under the Gordon growth model, and `r` is required rate of return on equity.

Value

Input values to six arguments `PB`, `currentShPrice`, `ROE`,`BV0`, `g`, and `r`.

Author(s)

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Examples

```
computingPB("trailing", currentShPrice=81.23,BV0=49.67,ROE=0.12,g=0.07,r=0.10)
computingPB("GGM",  currentShPrice=81.23,BV0=49.67,ROE=0.12,g=0.07,r=0.10)
```

`computingPS` *Calculates Price to Sales (PS) Multiple as trailing PS or GGM based PS.*

Description

Certain types of privately held companies, including investment management companies and many types of companies in partnership form, have long been valued by a multiple of annual revenues. In recent decades, the ratio of price to sales has become well known as a valuation indicator for the equity of publicly traded companies as well. Analyst use PS Multiple as Sales are generally less subject to distortion or manipulation than are other fundamentals, such as EPS or book value. For example, through discretionary accounting decisions about expenses, company managers can distort EPS as a reflection of economic performance. In contrast, total sales, as the top line in the income statement, is prior to any expenses.Although the determination of sales is more straightforward than the determination of earnings, the analyst should evaluate a company's revenue recognition practices, in particular, those tending to speed up the recognition of revenues—before relying on the P/S multiple. Trailing PS is calculated as price per share divided by annual net sales per share (net sales is total sales minus returns and customer discounts).Like other multiples, PS can be based on forecasted fundamentals like growth based on Gordon growth model (Jerald E. Pinto, 2020).

Usage

```
computingPS(PS = c("trialing", "GGM"), currentShPrice, payout, EPS0, S0, g, r)
```

Arguments

`PS`	character vector.
`currentShPrice`	number.
`payout`	number.
`EPS0`	number.
`S0`	number.
`g`	number.
`r`	number.

Details

According to information provided in Jerald E. Pinto (2020), the method `computingPS` is developed for computing Price to Sales (PS) Multiple as trailing PS or GGM based PS for the values passed to its seven arguments. Here, `PS` is character string, either trialing or GGM , `currentShPrice` is current Share Price , `payout` is payout ratio,`EPS0` is current earnings per share, `S0` is sales per share, `g` is earnings growth rate, and `r` is required rate of return on equity.

Value

Input values to seven arguments `PS`, `currentShPrice`, `payout`, `EPS0`,`S0`, `g`, and `r`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
computingPS("trailing", currentShPrice=20,payout=0.35,EPS0=0.9,S0=10,g=0.07,r=0.09)
computingPS("GGM",  currentShPrice=20,payout=0.35,EPS0=0.9,S0=10,g=0.07,r=0.09)
```

---

computingRI — *Calculates per share Residual Income using given values of Earnings Per Share (EPS) and beginning Book Values Per Share (bgnBVPS) for a specified number of years.*

Description

Calculates per share Residual Income using given values of Earnings Per Share (EPS) and beginning Book Values Per Share (bgnBVPS) for a specified number of years.

Usage

```
computingRI(bgnBVPS, EPS, r)
```

Arguments

bgnBVPS	A number vector.
EPS	A number vector.
r	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method `computingRI` is developed to compute value of share using Residual Income Model with given values of Earnings Per Share (EPS) and beginning Book Values Per Share (bgnBVPS) for a specified number of years for the values passed to its four arguments. Here, `bgnBVPS` is a vector of the beginning or current book value per share for a specified number of years, `EPS` is a vector of the given values of Earnings Per Share for a specified number of years, and `r` is the required rate of return on the stock. The `computingRI` computes Residual Incomes as EPS minus per share equity charge for specified number of years and then computes sum of discounted values of Residual Income that is added to current Book value per share to arrive at the share value.

Value

Input values to three arguments `bgnBVPS` `EPS`,and `r`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
computingRI(bgnBVPS=c(6,7,8.25),EPS=c(2,2.5,4),r=0.10 )
```

---

computingRwithCAPM *Calculates CAPM based required rate of return.*

Description

The CAPM is an equation for required return that should hold in equilibrium (the condition in which supply equals demand) if the assumptions of the model are met; among the key assumptions are that investors are risk averse and that they make investment decisions based on the mean return and variance of returns of their total portfolio. The chief insight of the model is that investors evaluate the risk of an asset in terms of contribution of the asset to the systematic risk of their total portfolio (systematic risk is risk that cannot be shed by portfolio diversification). Because the CAPM provides an economically grounded and relatively objective procedure for required return estimation, it has been widely used in valuation (Jerald E. Pinto, 2020).

Usage

```
computingRwithCAPM(RFR, marketBeta, ERP)
```

Arguments

`RFR`	A number.
`marketBeta`	A number.
`ERP`	A number.

Details

The CAPM based Required return on share is equal to currently expected Risk Free Return (RFR) plus market beta that is multiplied with Equity Risk Premium (ERP).For example, if the current expected risk-free return is 3 percent, the market beta of the asset is 1.20, and the equity risk premium is 4.5 percent, then the required return is 0.030 + 1.20*(0.045) = 0.084 or 8.4 percent.Based on this information provided by Jerald E. Pinto (2020), the method `computingRwithCAPM` is developed for computing CAPM based required rate of return for the values passed to its three arguments.Here, `RFR` is currently expected Risk Free Return, `marketBeta` the market beta of the asset and, `ERP` represents Equity Risk Premium.

Value

Input values to three arguments `RFR` , `marketBeta` and `ERP`.

Author(s)

MaheshP Kumar, `<maheshparamjitkumar@gmail.com>`

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
computingRwithCAPM(RFR=.049,marketBeta=0.74,ERP=0.045)
computingRwithCAPM(RFR=.05,marketBeta=1.00,ERP=0.041)
```

---

computingRwithFFM — *Calculates required rate of return on equity based on Fama French Model.*

Description

By the end of the 1980s, empirical evidence had accumulated that, at least over certain long time periods, in the US and several other equity markets, investment strategies biased toward small-market capitalization securities and/or value might generate higher returns over the long run than the CAPM predicts. In 1993, researchers Eugene Fama and Kenneth French addressed these perceived weaknesses of the CAPM in a model with three factors, known as the Fama–French model (FFM). The FFM is among the most widely known non-proprietary multi-factor models. The factors are RMRF, standing for RM minus RF, the return on a market value(RM)-weighted equity index in excess of the one-month T-bill rate based on face value (RF); this is one way the equity risk premium(ERP) can be represented and ERP is the factor that FFM shares with the CAPM. The second factor is SMB (small minus big), which is a size (market capitalization) factor. SMB is the average return on three small-cap portfolios minus the average return on three large-cap portfolios. Thus SMB represents a small-cap return premium.Third factor is HML (high minus low), the average return on two high book-to-market portfolios minus the average return on two low book-to-market portfolios. With high book-to-market (equivalently, low price-to-book) shares representing a value bias and low book-to-market representing a growth bias, in general, HML represents a value return premium (Jerald E. Pinto, 2020).

Usage

```
computingRwithFFM(RFR, marketBeta, sizeBeta, valBeta, RMRF, SMB, HML)
```

Arguments

`RFR`	A number.
`marketBeta`	A number.
`sizeBeta`	A number.
`valBeta`	A number.
`RMRF`	A number.
`SMB`	A number.
`HML`	A number.

Details

Based on the information provided by Jerald E. Pinto (2020), the method `computingRwithFFM` is developed for computing required rate of return on equity based on Fama–French Model for the values passed to its seven arguments. Here, `RFR` is risk free return, `marketBeta` is market beta, `sizeBeta` is size beta,`valBeta` is value beta, `RMRF` represents equity risk premium, `SMB` represents small cap risk premium and `HML` represents value premium.

Value

Input values to seven arguments `RFR` , `marketBeta` , `sizeBeta` , `valBeta` , `RMRF` , `SMB` and `HML`.

Author(s)

MaheshP Kumar, `<maheshparamjitkumar@gmail.com>`

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
computingRwithFFM(RFR=0.041,marketBeta=1.2,sizeBeta=0.5,valBeta=0.8,RMRF=0.055,SMB=0.02,HML=0.043)
```

`computingRwithGGM` *Calculates Required Rate of Return using the Gordon Growth Model.*

Description

Under the assumption of efficient prices, the Gordon growth model has been used to estimate a stock's required rate of return, or equivalently, the market-price-implied expected return (Jerald E. Pinto, 2020).

Usage

```
computingRwithGGM(divN1, g, spNot)
```

Arguments

`divN1`	A number.
`g`	A number.
`spNot`	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method `computingRwithGGM` is developed for computing Required Rate of Return using the Gordon Growth Model for the values passed to its three arguments. Here, `divN1` is dollar value of the dividend in one year, `g` is dividend growth rate, and `spNot` is current share price.

Value

Input values to three arguments `divN1` , `g` and `spNot`.

Author(s)

MaheshP Kumar, `<maheshparamjitkumar@gmail.com>`

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
computingRwithGGM(divN1=2.363,g=0.055,spNot=56.60)
```

`computingRwithHmodel` *Calculates the required rate of return on equity using two stage H-Model.*

Description

Calculates the required rate of return on equity using two stage H-Model.

Usage

```
computingRwithHmodel(divNot, spNot, n, H, gS, gL)
```

Arguments

divNot	A number.
spNot	A number.
n	A number.
H	A number.
gS	A number.
gL	A number.

Details

According to information provided Jerald E. Pinto (2020), the method `computingRwithHmodel` is developed to compute the required rate of return on equity using two stage H-Model for the values passed to its six arguments.Here, `divNot` is dollar value of the current dividend , `spNot` is current share price, `n` is number of years of super-normal growth period, `H` is which is one-half of `n` (that is the length of the super-normal growth period), `gS` is initial short-term dividend growth rate, and `gL` is normal long-term dividend growth rate after Year 2H (that is `n`).

Value

Input values to six arguments `divNot` , `spNot` , `n`, `H`, `gS` and `gL`.

Author(s)

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References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
computingRwithHmodel(divNot=1,spNot=20,n=10,H=10/2,gS=0.10,gL=0.06)
```

---

computingSustainableG *Calculates Sustainable Growth Rate.*

Description

Sustainable growth rate as the rate of dividend (and earnings) growth that can be sustained for a given level of return on equity, assuming that the capital structure is constant through time and that additional common stock is not issued. The reason for studying this concept is that it can help in estimating the stable growth rate in a Gordon growth model valuation.Sustainable growth rate(g) is equal to earnings retention rate , represented by `b` (that is equal to 1 minus dividend payout ratio) multiplied with return on equity (Jerald E. Pinto, 2020).

Usage

```
computingSustainableG(retentionRate, ROE)
```

Arguments

`retentionRate`	A number.
`ROE`	A number.

Details

According to information provided in Jerald E. Pinto (2020), the method `computingSustainableG` is developed for computing Sustainable Growth Rate for the values passed to its two arguments.Here, `retentionRate` is retention rate (that is equal to 1 minus dividend payout ratio), and `ROE` is return on equity.

Value

Input values to two arguments `retentionRate` and `ROE`.

Author(s)

MaheshP Kumar, `<maheshparamjitkumar@gmail.com>`

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
computingSustainableG(retentionRate=0.60,ROE=0.25)
```

`computingWACC` *Calculates Weighted Average Cost of Capital(WACC).*

Description

The overall required rate of return of a suppliers of capital is usually referred to as cost of capital. The cost of capital is most commonly estimated using the after-tax weighted average cost of capital, or weighted average cost of capital (WACC) for short; a weighted average of required rates of return for the component sources of capital.It is interesting fact to note that in many jurisdictions, corporations may deduct net interest expense from income in calculating taxes owed, but they cannot deduct payments to shareholders, such as dividends. Because capital structure (the proportions of debt and equity financing) can change over time, WACC may also change over time. In addition, the company's current capital structure may also differ substantially from what it will be in future years. For these reasons, analysts often use target weights instead of the current market-value weights when calculating WACC (Jerald E. Pinto, 2020)

Usage

```
computingWACC(dollarValDebt, dollarValCEquity, rDebt, rCEquity, taxRate)
```

Arguments

`dollarValDebt`	A number.
`dollarValCEquity`	A number.
`rDebt`	A number.
`rCEquity`	A number.
`taxRate`	A number.

Details

Based on the information provided by Jerald E. Pinto (2020), the method `computingWACC` is developed for computing Weighted Average Cost of Capital(WACC) for the values passed to its five arguments. Here, `dollarValDebt` is dollar value of the debt, `dollarValCEquity` is dollar value of the common equity, `rDebt` before-tax required return on debt,`rCEquity` is required return on equity, and `taxRate` is corporate tax rate.

Value

Input values to five arguments `dollarValDebt` , `dollarValCEquity`, `rDebt`, `rCEquity`, and `taxRate`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
computingWACC(dollarValDebt=35,dollarValCEquity=65,rDebt=0.056,rCEquity=0.127,taxRate=0.29)
```

`earningYieldEP` *Calculates Earning to Price Ratio, also known as Earning Yield.*

Description

If an analyst is interested in a ranking, however, one solution (applicable to any ratio involving a quantity that can be negative or zero) is the use of an inverse price ratio which is the reciprocal of the original ratio (which places price in the denominator). The use of inverse price multiples addresses the issue of consistent ranking because price is never negative. In the case of the PE, the inverse price ratio is earnings to price (EP), known as the earnings yield. Ranked by earnings yield from highest to lowest, the securities are correctly ranked from cheapest to most costly in terms of the amount of earnings one unit of currency buys (Jerald E. Pinto, 2020).

Usage

```
earningYieldEP(currentShPr, TTMdilutedEPS)
```

Arguments

currentShPr	number.
TTMdilutedEPS	vector.

Details

According to information provided by Jerald E. Pinto (2020), the method `earningYieldEP` is developed for computing Earning to Price Ratio, also known as Earning Yield, for the values passed to its two arguments. Here, `currentShPr` is current Share Price and `TTMdilutedEPS` is trailing 12 month (TTM) diluted EPS. Output of 0.0638 represents an Earning Yield of 6.38 percent.

Value

Input values to two arguments `currentShPr` and `TTMdilutedEPS`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
earningYieldEP(currentShPr=49.19,TTMdilutedEPS=3.14)
```

---

equityValueConstantG   *Calculates the amount of estimated total equity value by deducting the given Market Value of Debt from Value of firm based on single stage constant growth of FCFF.*

Description

Amount of estimated total equity value is obtained by deducting the given Market Value of Debt from Value of firm based on single stage constant growth of FCFF. Consider that FCFF grows at a constant rate, g, such that FCFF in any period is equal to FCFF in the previous period multiplied by (1 + g). This means that this method is based on single stage constant growth model. So, FCFFt = FCFF(t–1) times (1 + g). If FCFF grows at a constant rate, firm value(FCFF1) is FCFF0 times (1+g) divided by (WACC-g).

Usage

```
equityValueConstantG(FCFF0, g, WACC, debtVal)
```

Arguments

`FCFF0`	A number.
`g`	A number.
`WACC`	A number.
`debtVal`	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method `equityValueConstantG` is developed to compute estimated value of the firm if FCFF is growing at a constant rate for the values passed to its three arguments. Here, `FCFF0` is given amount of future Free Cash Flow to the Firm in millions of dollars, `g` is constant rate of growth under single stage constant growth model, and `WACC` is Weighted Average Cost of Capital.

Value

Input values to tfour arguments `FCFF0` `g`, and `WACC` .

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
equityValueConstantG(FCFF0=1.8,g=0.08,WACC=0.12,debtVal= 18 )
equityValueConstantG(FCFF0=700,g=0.05,WACC=0.102,debtVal=2200)
```

`equityValueGivenDebtMV` *Calculates the amount of estimated total equity value by deducting the given Market Value of Debt from Value of firm based on Discounted FCFF.*

Description

The FCFF valuation approach estimates the value of the firm as the present value of future FCFF discounted at the weighted average cost of capital. Because FCFF is the cash flow available to all suppliers of capital, using WACC to discount FCFF gives the total value of all of the firm's capital. The value of equity is the value of the firm minus the market value of its debt (Jerald E. Pinto, 2020).

Usage

```
equityValueGivenDebtMV(FCFF, t, WACC, debtMV)
```

Arguments

FCFF	A vector.
t	A vector.
WACC	A number.
debtMV	A number

Details

According to information provided by Jerald E. Pinto (2020), the method equityValueGivenDebtMV is developed to compute estimated total equity value by deducting the given Market Value of Debt from Discounted Value of FCFF for the values passed to its four arguments. Here, FCFF is given amount of future Free Cash Flow to the Firm (FCFF) in millions of dollars. For example, a value of 0.04 means 0.4 millions or 400,000 dollars , t is a vector of number of years ranging from 1 to any specified number of years for which FCFF is to be discounted, WACC is Weighted Average Cost of Capital and debtMV is Market Value of the debt. Values used for FCFF, Market Value of Debt and the output obtained are in millions of dollars. An output of 1.00494 means 1,004,940 dollars.

Value

Input values to three arguments FCFF, t,debtMV, and WACC.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
equityValueGivenDebtMV(FCFF=c(0.4,0.4,0.4,0.4),t=c(1,2,3,4),WACC=0.12,debtMV= 0.21)
```

firmValueConstantG *Calculates the estimated value of the firm when FCFF is growing at a constant rate.*

Description

Assume that free cash flow to the firm (FCFF) grows at a constant rate, g, in such a way that FCFF in any period is equal to FCFF of the previous period multiplied by (1 + g). This means this method is based on single stage constant growth model. So, FCFFt is equal to FCFF of period (t–1) multiplied with (1 + g). If FCFF grows at a constant rate, firm value (FCFF1) is equal to FCFF0*(1+g)/(WACC-g).

Usage

```
firmValueConstantG(FCFF0, g, WACC)
```

Arguments

`FCFF0`	A number.
`g`	A number.
`WACC`	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method `firmValueConstantG` is developed to compute estimated value of the firm when FCFF is growing at a constant rate for the values passed to its three arguments. Here, `FCFF0` is given amount of future Free Cash Flow to the Firm in millions of dollars, `g` is constant rate of growth under single stage constant growth model, and `WACC` is Weighted Average Cost of Capital.

Value

Input values to three arguments `FCFF0` `g`, and `WACC` .

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
firmValueConstantG(FCFF0=1.8,g=0.08,WACC=0.12)
firmValueConstantG(FCFF0=700,g=0.05,WACC=0.102)
```

`firmValueUsingDiscFCFF` *Calculates the estimated value of the firm as the present value of given amount of future Free Cash Flow to the Firm (FCFF) that is discounted at WACC.*

Description

Discounted cash flow (DCF) valuation views the intrinsic value of a security as the present value of its expected future cash flows. When applied to dividends, the DCF model is the discounted dividend approach or dividend discount model (DDM). Free Cash Flow Approach extends DCF analysis to value a firm (company) and its equity securities by valuing free cash flow to the firm (FCFF) and free cash flow to equity (FCFE). Whereas, dividends are the cash flows actually paid to stockholders; however, free cash flows are the cash flows available for distribution to shareholders. Common equity can be valued directly by using FCFE or indirectly by first using a FCFF model to estimate the value of the firm and then subtracting the value of non-common-stock capital (usually the debt) from FCFF to arrive at an estimate of the value of equity. Free cash flow to the firm is the cash flow available to the company's suppliers of capital after all operating expenses (including taxes) have been paid and necessary investments in working capital (e.g., inventory) and fixed capital (e.g., equipment) have been made. FCFF is the cash flow from operations minus capital expenditures. A suppliers of capital include common stockholders, bondholders, and sometimes, preferred stockholders. Unlike dividends, FCFF and FCFE are not readily available data. The equations analysts use to calculate FCFF depend on the accounting information available. Analysts need to compute these quantities from available financial information which requires a clear understanding of free cash flows and the ability to interpret and use the information correctly. Forecasting future free cash flows is also a rich and demanding exercise and requires understanding of a corporate financial statements, its operations, investments, and financing (Jerald E. Pinto, 2020).

Usage

```
firmValueUsingDiscFCFF(FCFF, times, WACC)
```

Arguments

`FCFF`	A vector.
`times`	A vector.
`WACC`	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method `firmValueUsingDiscFCFF` is developed to compute the estimated value of the firm as the present value of given amount of FCFF that is discounted at WACC for the values passed to its three arguments. Here, `FCFF` is given amount of future Free Cash Flow to the Firm (FCFF) in millions of dollars at time `t`. For example a value of 0.04 means 0.4 millions or 400,000 dollars, `times` is a vector of number of years ranging from 1 to any specified number of years for which FCFF is to be discounted, and `WACC` is Weighted Average Cost of Capital. Values used for FCFF and the output obtained are in millions of dollars. An output of 1.21494 means 1,214,940 dollars.

Value

Input values to three arguments `FCFF`, `times`, and `WACC`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
firmValueUsingDiscFCFF(FCFF=c(0.4,0.4,0.4,0.4),times=c(1,2,3,4),WACC=0.12)
```

`forwardPEG` *Calculates PE-to-growth (PEG) ratio.*

Description

A metric that appears to address the impact of earnings growth on PE is the PE-to-growth (PEG) ratio. PEG is calculated as the PE of the stock divided by the expected earnings growth rate (in percentage terms). The ratio, in effect, is a calculation of PE per percentage point of expected growth. Stocks with lower PEGs are more attractive than stocks with higher PEGs, all else being equal. Some consider that a PEG ratio less than 1 is an indicator of an attractive value level. PEG is useful but must be used with care ad PEG assumes a linear relationship between PE and growth. The model for PE in terms of the DDM shows that, in theory, the relationship is not linear (Jerald E. Pinto, 2020).

Usage

```
forwardPEG(leadingPE, percentEPSgrowth)
```

Arguments

`leadingPE`	number.
`percentEPSgrowth`	number.

Details

According to information provided by Jerald E. Pinto (2020), the method `forwardPEG` is developed for computing PE-to-growth (PEG) ratio for the values passed to its two arguments. Here, `leadingPE` is leading PE Multiple and `percentEPSgrowth` is five-year EPS growth forecast (in percentage terms).

Value

Input values to two arguments `leadingPE` and `percentEPSgrowth`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
forwardPEG(leadingPE=43.97,percentEPSgrowth=25.30)
```

---

impliedPEbyYardeniModel

Calculates Price-to-Earnings Multiple by Yardeni Model that incorporates the impact of long-term expected growth rate of earnings on PE.

Description

The Long-term Earning Growth Model given by Yardeni in 2000 (as cited in Jerald E. Pinto, 2020) incorporates the expected growth rate in earnings, a variable that is missing in the Fed Model. This model is known as Yardeni Model and it incorporates the impact of long-term expected growth rate of earnings on PE and thereby overcomes the issue that was limitation of the US FED Model (Jerald E. Pinto, 2020).

Usage

```
impliedPEbyYardeniModel(CBY, b, LTEG, residualVal)
```

Arguments

`CBY`	number.
`b`	number.
`LTEG`	number.
`residualVal`	number.

Details

According to information provided by Jerald E. Pinto (2020), the method `impliedPEbyYardeniModel` is developed for computing Price to Earnings Multiple by Yardeni Model that that incorporates the expected growth rate of earnings for values passed to its four arguments. Here, `CBY` is corporate bond yield, `b` is given coefficient of LTEG.The coefficient `b` measures the weight the market gives to five- year earnings projections, `LTEG` is Long Term Earning Growth.LTEG is taken as the consensus five- year earnings growth rate forecast for the market index and `residualVal` is residual value of the estimator that tends to zero.

Value

Input values to four arguments `CBY` `b`, `LTEG`,and `residualVal`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

Examples

```
impliedPEbyYardeniModel(CBY=0.06,b=0.2,LTEG=0.025,residualVal=0)
```

`justifiedLeadingPE` *Calculates Justified Leading P/E based on the Gordon Growth Model.*

Description

The price-to-earnings ratio (P/E) is perhaps the most widely recognized valuation indicator, familiar to readers of newspaper financial tables and institutional research reports. Using the Gordon growth model, an expression for P/E in terms of the fundamentals can be developed. When used with forecasts of the inputs to the model, the analyst obtains a justified (fundamental) P/E ; the P/E that is fair, warranted, or justified on the basis of fundamentals (given that the valuation model is appropriate). The analyst can then state his or her view of value in terms not of the Gordon growth model value but of the justified P/E. Because P/E is so widely recognized, this method may be an effective way to communicate the analysis. Leading and trailing justified P/E expressions can be developed from the Gordon growth model. Assuming that the model can be applied to valuation of a particular stock, the dividend payout ratio is considered fixed. In leading P/E, current price is divided by earnings of next year (Jerald E. Pinto, 2020).

Usage

```
justifiedLeadingPE(rCAPM, payoutRatio, g)
```

Arguments

`rCAPM`	A number.
`payoutRatio`	A number.
`g`	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method `justifiedLeadingPE` is developed for computing Justified Leading P/E Based on the Gordon Growth Model for the values passed to its three arguments. Here, `rCAPM` is required rate of return based on CAPM (Capital Asset Pricing Model), `payoutRatio` is payout ration, and `g` is dividend growth rate.

Value

Input values to three arguments `rCAPM` , `payoutRatio` and `g`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
justifiedLeadingPE(rCAPM=0.09,payoutRatio=0.32,g=0.07)
justifiedLeadingPE(rCAPM=0.125,payoutRatio=0.90,g=0.03)
```

`justifiedTrailingPE` *Calculates Justified Trailing P/E Based on the Gordon Growth Model.*

Description

The price-to-earnings ratio (P/E) is one of the most widely recognized valuation indicator and is familiar to readers of newspaper financial tables and institutional research reports. Using the Gordon growth model, an expression for P/E in terms of the fundamentals can be developed. Because P/E is so widely recognized, this method may be an effective way to communicate the analysis. Leading and trailing justified P/E expressions can be developed from the Gordon growth model. Assuming that the model can be applied to valuation of a particular stock, the dividend payout ratio is considered fixed. In trailing P/E, current price is divided by trailing (current year) earnings (Jerald E. Pinto, 2020).

Usage

```
justifiedTrailingPE(rCAPM, payoutRatio, g)
```

Arguments

`rCAPM`	A number.
`payoutRatio`	A number.
`g`	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method `justifiedTrailingPE` is developed for computing Justified Trailing P/E Based on the Gordon Growth Model for the values passed to its three arguments. Here, `rCAPM` is required rate of return based on CAPM (Capital Asset Pricing Model), `payoutRatio` is payout ration and `g` is dividend growth rate.

Value

Input values to three arguments `rCAPM` , `payoutRatio` and `g`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
justifiedTrailingPE(rCAPM=0.09,payoutRatio=0.32,g=0.07)
```

---

leadingFY1PE — *Calculates Leading Price to Earning Multiple based on the mean of the current fiscal year (FY1 = Fiscal Year 1) forecasts.*

Description

Applying the fiscal-year concept, Leading PE can be computed in two ways: first, based on the mean of the current fiscal year (FY1 = Fiscal Year 1) forecasts, for which analysts may have actual EPS in hand for some quarters; second, based on the following fiscal year (FY2 = Fiscal Year 2) forecasts, which must be based entirely on forecasts by analysts (Jerald E. Pinto, 2020).

Usage

```
leadingFY1PE(currentShPr, FY1EPS)
```

Arguments

`currentShPr`	number.
`FY1EPS`	number.

Details

According to information provided by Jerald E. Pinto (2020), the method `leadingFY1PE` is developed for computing Leading PE Multiple based on the mean of the current fiscal year (FY1) for the values passed to its two arguments. Here, `currentShPr` is the current Share Price and `FY1EPS` is the mean of the current fiscal year (FY1 = Fiscal Year 1) forecasts, for which analysts may have actual EPS in hand for some quarters.

Value

Input values to two arguments `currentShPr` and `FY1EPS`.

Author(s)

MaheshP Kumar, `<maheshparamjitkumar@gmail.com>`

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
leadingFY1PE(currentShPr=184.15,FY1EPS=16.19)
```

`leadingFY2PE` *Calculates Leading Price to Earning Multiple based on the mean of the following fiscal year (FY2 = Fiscal Year 2) forecasts.*

Description

Applying the fiscal-year concept, Leading PE can be computed in two ways: first, based on the mean of the current fiscal year (FY1 = Fiscal Year 1) forecasts, for which analysts may have actual EPS in hand for some quarters; second, based on the following fiscal year (FY2 = Fiscal Year 2) forecasts, which must be based entirely on forecasts by analysts (Jerald E. Pinto, 2020).

Usage

```
leadingFY2PE(currentShPr, FY2EPS)
```

Arguments

`currentShPr`	number.
`FY2EPS`	number.

Details

According to information provided by Jerald E. Pinto (2020), the method `leadingFY2PE` is developed for computing Leading PE Multiple based on the mean of the following fiscal year (FY2 = Fiscal Year 2) forecasts for the values passed to its two arguments. Here, `currentShPr` is the current Share Price and `FY2EPS` is the mean of following fiscal year (FY2 = Fiscal Year 2) forecasts by the analysts.

Value

Input values to two arguments `currentShPr` and `FY2EPS`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
leadingFY2PE(currentShPr=184.15,FY2EPS=18.35)
```

`leadingPEnext4Qs` *Calculates Leading PE Multiple based on average of expected EPS for the next four quarters.*

Description

The Leading PE, also know as forward PE is a major and logical alternative to the trailing PE because valuation is naturally forward looking. In the definition of forward PE, analysts have interpreted, “expected earnings of next year” as expected EPS for the next four quarters or the next 12 months or the next fiscal year (Jerald E. Pinto, 2020). In this method, first definition of Leading PE (i.e., the next four quarters) is used.

Usage

```
leadingPEnext4Qs(currentShPr, Q1EPS, Q2EPS, Q3EPS, Q4EPS)
```

Arguments

`currentShPr`	number.
`Q1EPS`	number.
`Q2EPS`	number.
`Q3EPS`	number.
`Q4EPS`	number.

Details

In the given example, forecasts of EPS are $0.15 for the quarter ending 31 March 2019, $0.18 for the quarter ending 30 June 2019, $0.18 for the quarter ending 30 September 2019, and $0.24 for the quarter ending 31 December 2019. The sum of the forecasts for the next four quarters is $0.15 + $0.18 + $0.18 + $0.24 = $0.75, and the leading PE for this stock is $15/$0.75 = 20.0.

Value

Input values to five arguments `currentShPr`, `Q1EPS`, `Q2EPS`,`Q3EPS`, and `Q4EPS` .

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
leadingPEnext4Qs(currentShPr=15,Q1EPS=0.15,Q2EPS=0.18,Q3EPS=0.18,Q4EPS=0.24)
```

`PEforPassThroughInflation` *Calculates PE Multiple of the companies with different abilities to pass through the inflation to its customers through higher prices.*

Description

While studying PE through cross-country comparisons the main differences in inflation rates and in the ability of companies to pass through inflation in their costs in the form of higher prices to their customers plays a vital role. For two companies with the same inflation pass-through ability, the company operating in the environment with higher inflation will have a lower justified PE; if the inflation rates are equal but pass-through rates differ, the justified PE should be lower for the company with the lower pass-through rate (Jerald E. Pinto, 2020).

Usage

```
PEforPassThroughInflation(realROR, I, passThruRate)
```

Arguments

`realROR`	number.
`I`	number.
`passThruRate`	number.

Details

According to information obtained from Jerald E. Pinto (2020), the method `PEforPassThroughInflation` is developed for computing PE Multiple of the companies with different abilities to pass through the inflation to customers for values passed to its three arguments. Here, `realROR` is real Rate of Return, `I` is rate of Inflation, and `passThruRate` is percentage of inflation in costs that the company can pass through to its customers through higher prices.

Value

Input values to three arguments `realROR`, `I`, and `passThruRate`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

Examples

```
PEforPassThroughInflation(realROR=0.03,I=0.06,passThruRate=0.70)
PEforPassThroughInflation(realROR=0.03,I=0.06,passThruRate=0.90)
```

---

predictedPEbyFEDmodel *Calculates predicted value of Price to Earning Multiple based on yields on bonds.*

Description

The US FED model based on a paper written by three analysts, Lander, Orphanides, and Douvogiannis in 1997, at the US Federal Reserve, predicts the return on the S&P 500 on the basis of the relationship between forecasted earnings yields and yields on bonds (as cited in Jerald E. Pinto, 2020).

Usage

```
predictedPEbyFEDmodel(tenYrBondYield)
```

Arguments

`tenYrBondYield` number.

Details

According to information provided by Jerald E. Pinto (2020), the method `predictedPEbyFEDmodel` is developed for computing predicted value of Price to Earning Multiple based on yields on bonds.

Value

Input values to `tenYrBondYield`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
predictedPEbyFEDmodel(tenYrBondYield=0.0293)
```

`predictedPEonCSR` *Calculates Predicted Price to Earning Multiple based on Cross-Sectional Regression.*

Description

A predicted PE, which is conceptually similar to a justified PE, can be estimated from cross-sectional regressions of PE on the fundamentals believed to drive security valuation. This approach is pioneered by experts Kisor and Whitbeck 1963 and Malkiel and Cragg in 1970 (as cited in Jerald E. Pinto, 2020). The studies measured PEs for a group of stocks and the characteristics which determine PE such as: growth rate in earnings, payout ratio, and a measure of volatility, such as standard deviation of earnings changes or beta. An analyst can conduct such cross-sectional regressions by using any set of explanatory variables considered to determine investment value. The analyst must bear in mind; however, the potential distortions that can be introduced by multi-collinearity among independent variables (Jerald E. Pinto, 2020).

Usage

```
predictedPEonCSR(b0, b1, b2, b3, x1DRP, x2Beta, x3EGR)
```

Arguments

`b0`	number.
`b1`	number.
`b2`	number.
`b3`	number.
`x1DRP`	number.
`x2Beta`	number.
`x3EGR`	number.

Details

According to information provided by Jerald E. Pinto (2020), the method `predictedPEonCSR` is developed for computing Cross-Sectional Regression for values passed to its seven arguments. Here, `b0` is intercept, `b1` is given coefficient of x1DRP, `b2` is given coefficient of x2Beta, `b3` is given coefficient of x3EGR, `x1DRP` is Dividend Payout Ratio that is taken as first variable X1, `x2Beta` is company beta that is taken as variable X2, and `x3EGR` is five-year earnings growth rate that is taken as variable X3 of the regression equation.

Value

Input values to seven arguments `b0`, `b1`, `b2`, `b3`,`x1DRP`,`x2Beta`, and `x3EGR`.

Author(s)

MaheshP Kumar, `<maheshparamjitkumar@gmail.com>`

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
predictedPEonCSR(b0=12.12, b1=2.25, b2= -0.20, b3=14.43, x1DRP=0.45, x2Beta=0.9, x3EGR=0.08)
```

---

sharePriceUsingPastPE *Calculates justified share price based on median or mean of values of own historical PE Multiples.*

Description

The traditional approach is to use past values of own PE as a basis for computing justified share price. Underlying this approach is the idea that PE may regress to historical average levels. An analyst can obtain a benchmark value in a variety of ways with this approach. Some companies report a PE median as rounded average of four middle values of a average annual PE for the previous 10 years. The five-year arithmetic mean of trailing PE is another reasonable metric. In general, trailing PEs are more commonly used than forward PEs in such computations. Justified price based on this approach may be calculated as follows: Justified price is equal to Average of wn historical PEs multiplied by Most recent EPS (Jerald E. Pinto, 2020).

Usage

```
sharePriceUsingPastPE(avg = c("mean", "median"), historicalPEs, recentEPS)
```

Arguments

`avg`	character vector.
`historicalPEs`	a number vector.
`recentEPS`	number.

Details

According to information obtained from Jerald E. Pinto (2020), the method `sharePriceUsingPastPE` is developed for computing justified share price based on median or mean of values of own historical PE Multiples for the values passed to its three arguments. Here, `avg` is character string, either mean or median , `historicalPEs` is a number vector that has values of own historical PE Multiples, and `recentEPS` is most recent EPS of the firm.

Value

Input values to three arguments `avg`, `historicalPEs`, and `recentEPS`.

Author(s)

MaheshP Kumar, `<maheshparamjitkumar@gmail.com>`

Examples

```
sharePriceUsingPastPE("mean", historicalPEs=c(15.8,23.1,10.0,19.8,35.8),recentEPS=203.71)
sharePriceUsingPastPE("median", historicalPEs=c(15.8,23.1,10.0,19.8,35.8),recentEPS=203.71)
```

---

shareValConstantG — *Calculates the share value from total Equity Value (based on single stage constant growth) that is divided by number of outstanding shares.*

Description

Calculates the share value from total Equity Value (based on single stage constant growth) that is divided by number of outstanding shares.

Usage

```
shareValConstantG(FCFE0, g, WACC, shares)
```

Arguments

`FCFE0`	A number.
`g`	A number.
`WACC`	A number.
`shares`	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method `shareValConstantG` is developed to compute estimated value of the equity when FCFE is growing at a constant rate for the values passed to its three arguments. Here, `FCFE0` is given amount of future Free Cash Flow to the Equity in millions of dollars, `g` is constant rate of growth under single stage constant growth model, `WACC` is Weighted Average Cost of Capital, and `shares` is number of shares in millions.

Value

Input values to four arguments `FCFE0` `g`, `WACC`, and `shares`.

Author(s)

MaheshP Kumar, `<maheshparamjitkumar@gmail.com>`

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValConstantG(FCFE0=1.8,g=0.08,WACC=0.12,shares=1.5 )
shareValConstantG(FCFE0=700,g=0.05,WACC=0.102,shares=200)
```

`shareValThreeStg` *Calculates share value using three-stage Free Cash Flow Model.*

Description

Three-stage models are a straightforward extension of the two-stage models (Jerald E. Pinto, 2020). The example used in this method uses cash flow values for four years only. In the given example, stage one lasts for first two years and has cash flows of 2.8 million dollars each year with growth rate of 8.8 percent. The second stage, in the given example, lasts just for one year and has cash flows of 2.8 million dollars with growth rate of 7.4 percent, and the third stage, in the given example, has cash flows of 2.8 million dollars with low growth rate of 6.6 percent. However, it is more practical to you have values for, let us say 8 years, where first stage of high constant growth continues let us say for four years, followed by second stage of declining growth for three years, and then third stage of low constant growth thereafter.

Usage

```
shareValThreeStg(FCFE, t, G, r, s)
```

Arguments

FCFE	A vector.
t	A vector.
G	A vector.
r	A number.
s	A number.

Details

The version of a three-stage model used here assumes constant high growth in first stage, declining growth in second transitory stage and low constant growth in third stage.The method `shareValThreeStg` is developed to compute share value using three stage Free Cash Flow Model for the values passed to its five arguments. Here, `FCFE` is a vector of given amounts of future Free Cash Flow to the Equity (FCFE) in millions of dollars , `t` is vector of number of years ranging from 1 to any specified number of years used for computing the cumulative value of given Free Cash Flows , `G` is a vector of Growth rates in all the three stages, `r` is required rate of return on equity (WACC can be used as r here), and `s` is number of shares in millions, so a value of 0.5 means 500,000 outstanding shares.

Value

Input values to five arguments `FCFE`, `t`, `G` `r` and `s`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValThreeStg(FCFE=c(2.8,2.8,2.8,2.8),t=c(1,2,3,4),G=c(0.088,0.088,0.074,0.066),r=0.1,s=0.5)
```

`shareValTwoStage` *Calculates share value using two-stage Free Cash Flow Model.*

Description

Calculates share value using two-stage Free Cash Flow Model.

Usage

```
shareValTwoStage(FCFE, t, G, r, s)
```

Arguments

FCFE	A vector.
t	A vector.
G	A vector.
r	A number.
s	A number.

Details

The version of a two-stage model used here assumes constant high growth in first stage and low rate of constant growth in the second stage. According to information provided by Jerald E. Pinto (2020), the method, `shareValTwoStage` is developed to compute the share value using two stage Free Cash Flow Model for the values passed to its five arguments. Here, `FCFE` is a vector of given amounts of future Free Cash Flow to the Equity (FCFE) in millions of dollars. The example given here uses values for four years only. However, it is more practical to you have values for say 7 years where first stage of high constant growth continues for let us say four years, followed by second stage of low constant growth of three years. In this case, `t` is vector of number of years ranging from 1 to any specified number of years used for computing the cumulative value of given Free Cash Flows and `G` is a vector of Growth rates in two stages. Here, high growth of 20 percent is in stage one that continues for three years and the second stage of low growth at 6 percent and after that `r` is required rate of return on equity (WACC can be used as `r` here), and `s` is number of shares in millions so a value of 0.5 means 500,000 outstanding shares.

Value

Input values to five arguments `FCFE`, `t`, `G` `r` and `s`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValTwoStage(FCFE=c(1.8,1.8,1.8,1.8),t=c(1,2,3,4),G=c(0.20,0.20,0.20,0.06),r=0.124,s=0.5)
```

`shareValueComputedRI` *Calculates value of a share using given values of Earnings Per Share (EPS) and beginning Book Values Per Share (bgnBVPS) for a specified number of years.*

Description

This valuation is sum of two components; first, the current or the beginning book value of equity, and second, the present value of expected future residual income that is computed as Earnings Per Share (EPS) minus the required rate of return on equity that is multiplied with beginning book value of per share. So, in this method RI is computed as discussed above and then this dollar value of Residual Income is discounted at the required rate of return on the equity and then beginning Book Value per Share (bgnBVPS) is added to arrive at the share value.

Usage

```
shareValueComputedRI(bgnBVPS, EPS, r, times)
```

Arguments

`bgnBVPS`	A number.
`EPS`	A vector.
`r`	A number.
`times`	A vector.

Details

According to information provided by Jerald E. Pinto (2020), the method `shareValueComputedRI` is developed to compute value of share using Residual Income Model with given values of Earnings Per Share (EPS) and beginning Book Values Per Share (bgnBVPS) for a specified number of years for the values passed to its four arguments. Here, `bgnBVPS` is a vector the beginning or current book value per share for a specified number of years, `EPS` is a vector of given values of Earnings Per Share for a specified number of years, `times` is a vector of number of years ranging from 1 to any specified number of years Residual Income Values are to be computed, and `r` is the required rate of return on the stock. As an internal step `shareValueComputedRI` computes Residual Incomes as EPS minus per share equity charge for specified number of years and then computes sum of discounted values of Residual Income that is added to current Book value per share to arrive at the share value.

Value

Input values to four arguments `bgnBVPS` `EPS`, `r`, and `times`.

Author(s)

MaheshP Kumar, `<maheshparamjitkumar@gmail.com>`

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValueComputedRI(bgnBVPS=c(6,7,8.25),EPS=c(2,2.5,4),r=0.10, times=c(1,2,3) )
```

---

shareValueGGMconstantGrowth

Calculates DDM value of share under the assumption that Dividends are to grow at constant rate.

Description

The simplest pattern that can be assumed in forecasting future dividends is that dividends will grow at a constant rate. So, `DividendN1` is equal to `dividendNt` multiplied with (1 + g). Here, `DividendN1` expected dividend to be paid after one year and `dividendNt` is current dividend (Jerald E. Pinto, 2020).

Usage

```
shareValueGGMconstantGrowth(dividend, r, g, divN)
```

Arguments

`dividend`	A number.
`r`	A number.
`g`	A number.
`divN`	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method `shareValueDDMconstantGrowth` is developed to compute DDM value of share under the assumption that Dividends are to grow at constant rate for the values passed to its four arguments.Here, `dividend` is current dividend, `g` is rate of constant growth, `r` is the required rate of return on the stock ,and `divN` lets you make choice between D0 or D1 (that is either using current dividend (D0) or Dividend in one year (D1) as `dividend` in the first argument of `shareValueDDMconstantGrowth`).

Value

Input values to four arguments `dividend`, `r` and `g` and `divN`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValueGGMconstantGrowth(dividend=1.1024,r=0.101,g=0.06,divN=1)
shareValueGGMconstantGrowth(dividend=1.04,r=0.101,g=0.06,divN=0)
```

---

shareValueGGMNegativeGrowth

Valuing a share of stock using Gordon Growth Model with Negative Growth.

Description

The company named Afton Mines is a profitable venture that is expected to pay a $4.25 dividend next year. Because it is depleting its mining properties, the best estimate is that dividends will decline forever at a rate of 4 percent. The required rate of return on Afton stock is 9 percent. Compute the value of Afton share (Jerald E. Pinto, 2020).

Usage

```
shareValueGGMNegativeGrowth(dividend, r, negG)
```

Arguments

`dividend`	A number.
`r`	A number.
`negG`	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method `shareValueGGMNegativeGrowth` is developed for Valuing a share of stock using Gordon Growth Model with Negative Growth for the values passed to its three arguments. Here, `dividend` is dollar value of the dividend, `r` is required rate of return and, `negG` represents the rate of decline in dividend.

Value

Input values to three arguments `dividend` , `r` and `negG`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValueGGMNegativeGrowth(dividend=4.25,r=0.12,negG=-0.10)
shareValueGGMNegativeGrowth(dividend=4.25,r=0.12,negG=0.10)
```

---

shareValueGivenDebtMV *Calculates the share value from Equity Value obtained by deducting the given Market Value of Debt from Discounted Value of FCFF and then dividing the output by number of outstanding shares.*

Description

FCFF is the cash flow available to all suppliers of capital, using WACC to discount FCFF gives the total value of all of the firm's capital. The value of equity is the value of the firm minus the market value of its debt. Dividing the total value of equity by the number of outstanding shares gives the value per share (Jerald E. Pinto, 2020).

Usage

```
shareValueGivenDebtMV(FCFF, t, WACC, debtMV, shares)
```

Arguments

`FCFF`	A vector.
`t`	A vector.
`WACC`	A number.
`debtMV`	A number
`shares`	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method `shareValueGivenDebtMV` is developed to compute the share value from equity value obtained by deducting the given Market Value of Debt from Discounted Value of FCFF and then dividing the output by number of outstanding shares, for the values passed to its five arguments. Here, `FCFF` is given amount of future Free Cash Flow to the Firm (FCFF) in millions of dollars. For example, a value of 0.04 means 0.4 millions or 400,000 dollars, `t` is a vector of number of years ranging from 1 to any specified number of years for which FCFF is to be discounted, `WACC` is Weighted Average Cost of Capital, `debtMV` is Market Value of the debt, and `shares` is number of shares. Value of shares at 0.5 represent half a million shares (that means 500,000 shares). Values used for FCFF, and Market Value of Debt are in millions of dollars. An output of 2.01 means one share is valued at 2.01 dollars.

Value

Input values to five arguments FCFF, t, WACC, debtMV and shares.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValueGivenDebtMV(FCFF=c(0.4,0.4,0.4,0.4),t=c(1,2,3,4),WACC=0.12,debtMV= 0.21,shares=0.5)
```

---

shareValueNoCurrentDivdend

Calculates value of a share of a Non-Dividend-Paying Company.

Description

The fact that a stock is currently paying no dividends does not mean that the principles of the dividend discount model do not apply. Even though D0 (current dividend) and/or D1(dividend in one year) may be zero, and the company may not begin paying dividends for some time (say five years), the present value of future dividends may still capture the value of the company. Assume that a company is currently paying no dividend and will not pay one for several years. If the company begins paying a dividend of $1.00 five years from now, and the dividend is expected to grow at 5 percent thereafter, this future dividend stream can be discounted back to find the value of the company share at given discount rate. Of course, if a company never ever pays any dividends and as the result will never be able to distribute cash to shareholders, in that case the stock is worthless (Jerald E. Pinto, 2020).

Usage

```
shareValueNoCurrentDivdend(divN, t, g, r)
```

Arguments

divN	A number.
t	A number.
g	A number.
r	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method `shareValueNoCurrentDivdend` is developed for computing value of a share of a Non-Dividend-Paying Company for the values passed to its four arguments. Here, `divN` is the dollar value of the dividend beginning in `n` years (say 5 years), `t` is number of years at which company is expected to start paying dividends, for example, 5 years, `g` is the rate at which the dividend is expected to grow, and `r` is the discount rate (or required rate of return on equity).

Value

Input values to four arguments `divN` , `t`, `g` and `r`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValueNoCurrentDivdend(divN=1.00,t=5, g=0.05,r=0.11)
shareValueNoCurrentDivdend(divN=1.20,t=3, g=0.07,r=0.15)
```

`shareValuePreferredStock`
Calculates value of non-callable fixed-rate Perpetual Preferred Stock.

Description

The Gordon growth model can also be used to value the non-callable form of a traditional type of preferred stock, fixed-rate perpetual preferred stock (stock with a specified dividend rate that has a claim on earnings senior to the claim of common stock, and no maturity date). Perpetual preferred stock has been used particularly by financial institutions such as banks to obtain permanent equity capital while diluting the interests of common equity (Jerald E. Pinto, 2020).

Usage

```
shareValuePreferredStock(dividend, r)
```

Arguments

`dividend`	A number.
`r`	A number.

Details

If the dividend on such preferred stock is D, it is because payments extend into the indefinite future a perpetuity (a stream of level payments extending to infinity) exists in the constant amount of D. With g = 0, which is true because dividends are fixed for such preferred stock, the Gordon growth model becomes Share value is equal to amount of dividend, divided by required rate of return. In light of this information provided by Jerald E. Pinto (2020), the method `shareValuePreferredStock` is developed to compute the value of non-callable fixed-rate Perpetual Preferred Stock for the values passed to its two arguments. Here,`dividend` is fixed amount of dividend and `r` is required rate of return.

Value

Input values to two arguments `dividend` and `r`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValuePreferredStock(dividend=1.00,r=0.09)
```

`shareValueRI` *Calculates value of a share using the given Residual Income.*

Description

In the long term, companies that earn more than the cost of capital should sell for more than book value, and companies that earn less than the cost of capital should sell for less than book value. The residual income model of valuation analyzes the intrinsic value of equity as the sum of two components; first the current or the beginning book value of equity, and second, the present value of expected future residual income.

Usage

```
shareValueRI(bgnBVPS, RI, r, times)
```

Arguments

`bgnBVPS`	A number.
`RI`	A vector.
`r`	A number.
`times`	A vector.

Details

According to information provided by Jerald E. Pinto (2020), the method `shareValueRI` is developed to compute value of share using Residual Income Model with given values of Residual Income for the values passed to its four arguments. Here, `bgnBVPS` is the beginning or current book value per share, `RI` is a vector of given values of Residual Income for a specified number of years, `times` is a vector of number of years ranging from 1 to any specified number of years Residual Income Values are given, and `r` is the required rate of return on the stock.

Value

Input values to four arguments `bgnBVPS` `RI`, `r`, , `times`.

Author(s)

MaheshP Kumar, `<maheshparamjitkumar@gmail.com>`

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValueRI(bgnBVPS=6,RI=c(1.40,1.80,3.175),r=0.10, times=c(1,2,3) )
```

`shareValueRImultiStageEPS`

Calculates value of a share based on EPS growth under the Multistage Residual Income Valuation.

Description

Calculates value of a share based on EPS growth under the Multistage Residual Income Valuation.

Usage

```
shareValueRImultiStageEPS(bgnBVPS, EPS, r, times, prem, n)
```

Arguments

`bgnBVPS`	A number vector.
`EPS`	A number vector.
`r`	A number.
`times`	A number vector.
`prem`	A number.
`n`	A number.

Details

The method shareValueRImultiStageEPS is developed to compute share value based on EPS growth under the Multistage Residual Income Valuation for the values passed to its six arguments. Here, bgnBVPS is beginning Book Value Per Share, EPS is Earnings Per Share, r is required rate of return on equity , times is a vector of number of years ranging from 1 to any specified number of years Residual Income Values are to be computed, premium certain premium over book value, n in one finite-horizon model of residual income valuation which assumes that at the end of time horizon n, a certain premium over book value exists for the company.

Value

Input values to six arguments bgnBVPS EPS, r, times , prem and n.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValueRImultiStageEPS(bgnBVPS=c(6,7,8.25),EPS=c(2,2.5,4),r=0.10, times=c(1,2,3),prem=1.1,n=3)
```

---

shareValueRImultiStg *Calculates value of a share based on return on equity (ROE) growth under the Multistage Residual Income Valuation.*

Description

In many applications, a drawback to the single-stage model is that it assumes the excess ROE above the cost of equity will persist indefinitely. More likely, a ROE of the company will revert to a mean value of ROE over time, and at some point, the residual income will be zero. If a company or industry has an abnormally high ROE, other companies will enter the marketplace thus increasing competition and lowering returns for all companies. Similarly, if an industry has a low ROE, companies will exit the industry (through bankruptcy or otherwise) and ROE will tend to rise over time. As with the single-stage DDM, the single-stage residual income model also assumes a constant growth rate through time. In light of these considerations, the residual income model has been adapted in practice to handle declining residual income. For example, Lee, Myers, and Swaminathan (as cited in Jerald E. Pinto, 2020) used a residual income model to value the Dow by assuming that ROE fades (reverts) to the industry mean over time. Lee and Swaminathan found that the residual income model had more ability than traditional price multiples to predict future returns. Fortunately, other models are available that enable analysts to relax the assumption of indefinite persistence of excess returns.

Usage

```
shareValueRImultiStg(ROE, bgnBV, r, tm, pr, n)
```

Arguments

`ROE`	A vector.
`bgnBV`	A number.
`r`	A number.
`tm`	A vector.
`pr`	A number.
`n`	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method `shareValueRImultiStg` is developed to compute share value based on ROE growth under the Multistage Residual Income Valuation for the values passed to its six arguments. Here, `bgnBV` is beginning Book Value Per Share, `ROE` is Return on Equity, `r` is required rate of return on equity, `tm` is a vector of number of years ranging from 1 to any specified number of years Residual Income Values are to be computed, `premium` certain premium over book value, `n` in one finite-horizon model of residual income valuation assumes that at the end of time horizon `n`, a certain premium over book value exists for the company.

Value

Input values to six arguments `bgnBV` `ROE`, `r`, `tm` , `pr` and `n`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValueRImultiStg(ROE=c(0.3333,0.3571,0.4848),bgnBV=c(6,7,8.25),r=0.10,tm=c(1,2,3),pr=1.1,n=3)
```

`shareValueRIplusPVTV` *Calculates share value using Residual Income plus present value of terminal value (PVTV).*

Description

As with other valuation approaches, such as dividend discount model (DDM) and free cash flow, a multistage residual income approach can be used to forecast residual income for a certain time horizon and then estimate a terminal value based on continuing residual income at the end of that time horizon. Continuing residual income is residual income after the forecast horizon. As with other valuation models, the forecast horizon for the initial stage should be based on the ability to explicitly forecast inputs in the model. Because ROE has been found to revert to mean levels over time and it may decline to the cost of equity in a competitive environment, residual income approaches often model ROE fading toward the cost of equity. As ROE approaches the cost of equity, residual income approaches zero. An ROE equal to the cost of equity would result in residual income of zero. The PVTV incorporates the impact of `pf`, the persistence factor (Jerald E. Pinto, 2020).

Usage

```
shareValueRIplusPVTV(bgnBVPS, EPS, r, times, pf, n)
```

Arguments

`bgnBVPS`	A number vector.
`EPS`	A number vector.
`r`	A number.
`times`	A vector.
`pf`	A number.
`n`	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method `shareValueRIplusPVTV` is developed to compute share value based on ROE growth under the Multistage Residual Income Valuation for the values passed to its six arguments. Here, `bgnBVPS` is the beginning Book Value Per Share, `EPS` is Earnings Per Share, `r` is the required rate of return on equity, `times` is a vector of number of years ranging from 1 to any specified number of years Residual Income Values are to be computed, `pf` is the persistence factor, `n` in one finite-horizon model of residual income valuation assumes that at the end of time horizon `n`, a certain premium over book value exists for the company.

Value

Input values to six arguments `bgnBVPS` `EPS`, `r`, `times`,`pf`,`n`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValueRIplusPVTV(bgnBVPS=c(6,7,8.25),EPS=c(2,2.5,4),r=0.10,times=c(1,2,3),pf=0.6,n=3)
```

`shareValueROE` *Calculates value of a share using Feltham and Ohlson Model.*

Description

The residual income model used here has its origins largely in the academic work of Feltham and Ohlson (as given by Feltham and Ohlson 1995, as cited in Jerald E. Pinto, 2020).

Usage

```
shareValueROE(ROE, bgnBVPS, r, times)
```

Arguments

`ROE`	A number vector.
`bgnBVPS`	A number.
`r`	A number.
`times`	A number vector.

Details

According to information provided by Jerald E. Pinto (2020), the method `shareValueROE` is developed to compute value of share using Residual Income Model with given values of ROE and beginning Book Values Per Share(bgnBVPS) for a specified number of years for the values passed to its four arguments. Here, `bgnBVPS` is a vector of the beginning or current book value per share for a specified number of years, `ROE` is a vector of given values of Return on Equity for a specified number of years, `r` is the required rate of return on the stock, and `times` is a vector of number of years ranging from 1 to any specified number of years Residual Income Values are to be computed. The `shareValueROE` computes Residual Incomes as EPS minus per share equity charge for specified number of years and then computes sum of discounted values of Residual Income that is added to current Book value per share to arrive at the share value.

Value

Input values to four arguments `bgnBVPS` `ROE`, `r`,and `times`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValueROE(ROE=c(0.3333,0.3571,0.4848), bgnBVPS=c(6,7,8.25),r=0.10,times=c(1,2,3))
```

`shareValueUsingDDM1yr` *Calculates value of a share that is held for a single period (that is one year) using the Dividend Discount Model(DDM).*

Description

From the perspective of a shareholder who buys and holds a share of stock, the cash flows he or she will obtain are the dividends paid on it and the market price of the share when he or she sells it. The future selling price should in turn reflect expectations about dividends subsequent to the sale. Assuming an investor wishes to buy a share of stock and hold it for one year, the value of that share of stock today is the present value of the expected dividend to be received on the stock plus the present value of the expected selling price at the end of one year (Jerald E. Pinto, 2020).

Usage

```
shareValueUsingDDM1yr(dividend1yr, expSharePriceIn1yr, n, r)
```

Arguments

`dividend1yr`	A number.
`expSharePriceIn1yr`	A number.
`n`	A number.
`r`	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method `shareValueUsingDDM1yr` is developed to compute DDM value of share with a single holding period (that is one year) for the values passed to its four arguments. Here, `dividend1yr` is the expected dividend per share for Year 1, assumed to be paid at the end of the one year, `expSharePriceIn1yr` is the expected price per share at the end of one year, `n` is 1 representing that share is held for one year, and `r` is the discount rate.

Value

Input values to four arguments `dividend1yr`, `expSharePriceIn1yr`, `n` and `r`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValueUsingDDM1yr(dividend1yr=0.20,expSharePriceIn1yr=50,n=1, r=0.08)
shareValueUsingDDM1yr(dividend1yr=1.10,expSharePriceIn1yr=53.55,n=1, r=0.09)
```

---

shareValueUsingDDMnYrs

Calculates value of a share that is held for multiple holding periods (for n years) using the Dividend Discount Model (DDM).

Description

If an investor plans to hold a share of stock for two years, the value of the share is the present value of the expected dividend in Year 1, plus the present value of the expected dividend in Year 2, plus the present value of the expected selling price at the end of Year 2. For an n-period model, the value of a stock is the present value of the expected dividends for the n periods plus the present value of the expected price at the end of nth period (Jerald E. Pinto, 2020).

Usage

```
shareValueUsingDDMnYrs(dividend, expSharePriceNyr, times, n, r)
```

Arguments

`dividend`	A vector.
`expSharePriceNyr`	A number.
`times`	A vector.
`n`	A number.
`r`	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method shareValueUsingDDMnYrs is developed to compute DDM value of share with multiple holding periods (that is for n years) for the values passed to its five arguments. Here, dividend is the expected dividend per share for n years, assumed to be paid at the end each year, expSharePriceNyr is the expected price per share at the end of nth year, times is a vector of number of years ranging from 1 to any specified number of years for which share is being held ,n, for example, n with value of 2 represents that share is held for two years, and r is the required rate of return on the stock.

Value

Input values to five arguments dividend , expSharePriceNyr, times, n and r.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValueUsingDDMnYrs(dividend=c(3,3.15),expSharePriceNyr=40,times=c(1,2),n=2,r=0.08)
shareValueUsingDDMnYrs(dividend=c(2,3),expSharePriceNyr=48,times=c(1,2),n=2,r=0.10)
shareValueUsingDDMnYrs(dividend=c(2,2.10,2.20),expSharePriceNyr=20,times=c(1,2,3),n=3,r=0.10)
```

---

shareValueUsingDiscFCFE

Calculates the share value from total Equity Value (that is present value of given amount of future FCFE) divided by number of outstanding shares.

Description

The value of equity can also be found by discounting FCFE at the required rate of return on equity (r). Free cash flow to equity is the cash flow available to holders of common equity after all operating expenses, interest, and principal payments have been paid and necessary investments in working and fixed capital have been made. FCFE is the cash flow from operations minus capital expenditures minus payments to (and plus receipts from) debt holders. An estimate of the value of equity is then found by subtracting the value of debt from the estimated value of the firm. Because FCFE is the cash flow remaining for equity holders after all other claims have been satisfied, discounting FCFE by r (the required rate of return on equity) gives the value of equity of the firm. Dividing the total value of equity by the number of outstanding shares gives the value per share (Jerald E. Pinto, 2020).

Usage

```
shareValueUsingDiscFCFE(FCFE, t, r, shares)
```

Arguments

FCFE	A vector.
t	A vector.
r	A number.
shares	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method `shareValueUsingDiscFCFE` is developed to compute the share value from total equity value (that is present value of given amount of future FCFE) that is divided by number of outstanding shares. Here, `FCFE` is the given amount of future Free Cash Flow to the Firm (FCFF) in millions of dollars. For example, a value of 0.32 means 0.32 millions or 320,000 dollars, `t` is a vector of number of years ranging from 1 to any specified number of years for which FCFF is to be discounted, `r` is the required rate of return on equity, and `shares` is number of shares. Value of shares at 0.5 represent half a million shares (that means 500,000 shares). Values used for FCFF, and Market Value of Debt are in millions of dollars. Value of shares at 0.5 represent half a million shares (that means 500,000 shares). An output of 1.68 means one share is valued at 1.68 dollars.

Value

Input values to four arguments `FCFE`, `expSharePriceIn1yr`, `r` and `shares`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValueUsingDiscFCFE(FCFE=c(0.32,0.34,0.36),t=c(1,2,3),r=0.10,shares=0.5)
```

shareValUsingThreeStageDDM

Calculate value of a share using three stage Dividend Discount Model (DDM).

Description

In general three-stage version of DDM model, the company is assumed to have three distinct stages of growth and the growth rate of the second stage is typically constant. For example, Stage 1 could assume 20 percent growth for three years, Stage 2 could have 10 percent growth for four years, and Stage 3 could have 5 percent growth thereafter.

Usage

```
shareValUsingThreeStageDDM(divNot, r, n1, n2, g1, g2, g3)
```

Arguments

`divNot`	A number.
`r`	A number.
`n1`	A number.
`n2`	A number.
`g1`	A number.
`g2`	A number.
`g3`	A number.

Details

According to information provided Jerald E. Pinto (2020), the method `shareValUsingThreeStageDDMl` is developed to compute value of a share using three stage Dividend Discount Model for the values passed to its six arguments. Here, `divNot` is dollar value of the current dividend, `r` is required rate of return on equity, `n1` is number of years in Stage 1, `n2` is number of years in Stage 2, `g1` is expected growth rates for the first stage, `g2` is expected growth rates for the stage two, and `g3` is expected growth rates for the continuing third stage.

Value

Input values to seven arguments `divNot` , `r`, `n1`, `n2`, `g1`, `g2`and `g3`.

Author(s)

MaheshP Kumar, `<maheshparamjitkumar@gmail.com>`

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValUsingThreeStageDDM(divNot=1.60,r=0.12,n1=2,n2=5,g1=0.14,g2=0.12,g3=0.102)
shareValUsingThreeStageDDM(divNot=3.30,r=0.09,n1=2,n2=5,g1=0.14,g2=0.12,g3=0.0675)
```

---

shareValUsingTwoStageDDM

Calculate value of a share using the two-stage Dividend Discount Model (DDM).

Description

Two-stage DDM provides for a high growth rate for the initial period, followed by a sustainable and usually lower growth rate thereafter. The two-stage DDM is based on the multiple-period model. The two-stage model assumes that the first n dividends grow at an extraordinary short-term rate(gS) and after time n, the annual dividend growth rate changes to a normal long-term rate (gL). The two-stage DDM is useful because many scenarios exist in which a company can achieve a super-normal growth rate for a few years, after which time the growth rate falls to a more sustainable level. For example, a company may achieve super-normal growth through possession of a patent, first-mover advantage, or another factor that provides a temporary lead in a specific marketplace. Subsequently, earnings will most likely descend to a level that is more consistent with competition and growth in the overall economy. Accordingly, that is why in the two-stage model, extraordinary growth is often forecast for a few years and normal growth is forecast thereafter. A possible limitation of the two-stage model is that the transition between the initial abnormal growth period and the final steady-state growth period is abrupt (Jerald E. Pinto, 2020).

Usage

```
shareValUsingTwoStageDDM(divNot, r, n, gS, gL)
```

Arguments

`divNot`	A number.
`r`	A number.
`n`	A number.
`gS`	A number.
`gL`	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method `shareValUsingtwoStageHmodel` is developed to compute value of share using two stage H-Model for the values passed to its five arguments. Here, `divNot` is dollar value of the current dividend, `r` is required rate of return on equity, `n` is number of years of super-normal growth period, `gS` is initial short-term dividend growth rate, and `gL` is normal long-term dividend growth rate.

Value

Input values to five arguments `divNot` , `r`, `n`, `gS` and `gL`.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValUsingTwoStageDDM(divNot=0.14, r=0.097,n=10,gS=0.15,gL=0.08)
shareValUsingTwoStageDDM(divNot=0.40, r=0.071,n=10,gS=0.09,gL=0.05)
```

---

shareValUsingTwoStageHmodel

Calculates value of share using two stage H-Model that considers half of the length of the super-normal growth period.

Description

The basic two-stage model assumes a constant, extraordinary rate for the super-normal growth period that is followed by a constant, normal growth rate thereafter. The difference in growth rates may be substantial. For instance, the growth rate for the company Carl Zeiss Meditec was 9 percent annually for 10 years, followed by a drop to 5 percent growth in Year 11 and thereafter. In some cases, a smoother transition to the mature phase growth rate would be more realistic (Jerald E. Pinto, 2020).

Usage

```
shareValUsingTwoStageHmodel(divNot, r, n, H, gS, gL)
```

Arguments

`divNot`	A number.
`r`	A number.
`n`	A number.
`H`	A number.
`gS`	A number.
`gL`	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method `shareValUsingTwoStageHmodel` is developed to compute value of share using two stage H-Model for the values passed to its six arguments. Here, `divNot` is dollar value of the current dividend, `r` is required rate of return on equity, `n` is number of years of super-normal growth period, `H` is which is one-half of n (that is half of the length of the super-normal growth period), `gS` is initial short-term dividend growth rate, and `gL` is normal long-term dividend growth rate after Year 2H (that is n).

Value

Input values to six arguments `divNot` , `r`, `n`, `H`, `gS` and `gL`.

Author(s)

MaheshP Kumar, `<maheshparamjitkumar@gmail.com>`

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
shareValUsingTwoStageHmodel(divNot=0.14, r=0.097,n=10,H=10/2,gS=0.15,gL=0.08)
shareValUsingTwoStageHmodel(divNot=1.37, r=0.10,n=12,H=12/2,gS=0.24,gL=0.06)
shareValUsingTwoStageHmodel(divNot=0.40, r=0.071,n=10,H=10/2,gS=0.09,gL=0.05)
```

`singleStageR` *Calculates value of a share based on single-stage (constant-growth) Residual Income model.*

Description

The single-stage (constant-growth) residual income model assumes that a company has a constant return on equity and constant earnings growth rate through time.

Usage

```
singleStageR(ROErate, bgnBVPS, r, g)
```

Arguments

`ROErate`	A number.
`bgnBVPS`	A number.
`r`	A number.
`g`	A number.

Details

According to information provided by Jerald E. Pinto (2020), the method singleStageR is developed to compute value of a share based on single-stage (constant-growth) residual income model for the values passed to its four arguments. Here, ROErate is rate of Return on Equity, g is constant rate of growth under single stage constant growth model, bgnBVPS is beginning Book Value per Share, r is required rate of return on equity.

Value

Input values to four arguments bgnBVPS RI, r,and g.

Author(s)

MaheshP Kumar, <maheshparamjitkumar@gmail.com>

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
singleStageR(ROErate=0.16, bgnBVPS=18.81,r=0.11,g=0.08)
```

---

terminalValueUsingPE *Calculates Terminal Value (TV) of the stock using PEs.*

Description

Terminal Value at time n is calculated by taking benchmark value of trailing PE that is multiplied by EPS of the stock at time n where the final growth stage begins . This also means that Terminal Value of the stock is obtained by using comparable benchmark PE without considering growth or using multistage GGM and thereby incorporating the impact of growth (Jerald E. Pinto, 2020).

Usage

```
terminalValueUsingPE(
  avg = c("comparable", "GGM"),
  benchmarkPE,
  En,
  payout,
  g,
  r
)
```

Arguments

`avg`	character vector.
`benchmarkPE`	number.
`En`	number.
`payout`	number.
`g`	number.
`r`	number.

Details

According to information obtained from Jerald E. Pinto (2020), the method `terminalValueUsingPE` is developed for computing Terminal Value (TV) of the stock using PEs for the values passed to its six arguments. Here, `avg` is character string, either comparable or GGM , `benchmarkPE` is benchmark PE Multiple,`En` is EPS of the stock at time `n` where the final growth stage begins, `payout` is payout ratio, `g` is sustainable growth rate from GGM, and `r` is required rate of return on the equity.

Value

Input values to six arguments `avg`, `benchmarkPE`,`En`,`payout`,`g`, and `r`.

Author(s)

MaheshP Kumar, `<maheshparamjitkumar@gmail.com>`

Examples

```
terminalValueUsingPE("comparable",benchmarkPE=14.3,En=3,payout=0.45,g=0.0715,r=0.10)
terminalValueUsingPE("GGM", benchmarkPE=14.3,En=3,payout=0.45,g=0.0715,r=0.10)
```

`trailingPEbasicEPS` *Calculates trailing Price to Earnings Multiple based on basic Earnings Per Share (EPS).*

Description

In the first edition of Security Analysis (by Graham and Dodd, 1934, as cited in Jerald E. Pinto, 2020), Benjamin Graham and David L. Dodd described common stock valuation based on PEs as the standard method of that era, and the PE is still the most familiar valuation measure today. Two chief variations of the PE: the trailing PE and the forward PE (also called the leading PE) are available. A trailing PE (sometimes referred to as a current PE) is its current market price divided by the most recent four quarters EPS. In such calculations, EPS is sometimes referred to as trailing 12 month (TTM) EPS. Companies are themselves required to present both basic EPS and diluted EPS. Basic earnings per share data reflect total earnings divided by the weighted average number of shares actually outstanding during the period. (Jerald E. Pinto, 2020). In this method, trailing PE on basic Earnings Per Share (EPS) is being computed (Jerald E. Pinto, 2020).

Usage

```
trailingPEbasicEPS(currentShPr, basicEPS)
```

Arguments

`currentShPr`	number.
`basicEPS`	vector.

Details

According to information provided by Jerald E. Pinto (2020), the method `trailingPEbasicEPS` is developed for computing trailing Price to Earnings Multiple based on basic EPS for the values passed to its two arguments. Here, `currentShPr` is current Share Price and `basicEPS` is basic EPS as defined in the description above.

Value

Input values to two arguments `currentShPr` and `basicEPS`.

Author(s)

MaheshP Kumar, `<maheshparamjitkumar@gmail.com>`

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
trailingPEbasicEPS(currentShPr=596.5,basicEPS=15.1)
```

`trailingPEdilutedEPS` *Calculates trailing Price to Earnings Multiple based on diluted Earnings Per Share (EPS).*

Description

Companies are themselves required to present both basic EPS and diluted EPS. Diluted earnings per share reflects division by the number of shares that would be outstanding if holders of securities such as executive stock options, equity warrants, and convertible bonds exercised their options to obtain common stock. The diluted EPS measure also reflects the effect of such conversion on the numerator, earnings. Because companies present both EPS numbers, the analyst does not need to make the computation. Companies also typically report details of the EPS computation in a footnote to the financial statements (Jerald E. Pinto, 2020).

Usage

```
trailingPEdilutedEPS(currentShPr, dilutedEPS)
```

Arguments

`currentShPr`	number.
`dilutedEPS`	vector.

Details

According to information provided by Jerald E. Pinto (2020), the method `trailingPEdilutedEPS` is developed for computing trailing Price to Earnings Multiple based on diluted EPS for the values passed to its two arguments. Here, `currentShPr` is current Share Price and `dilutedEPS` is diluted EPS as defined in the description above.

Value

Input values to two arguments `currentShPr` and `dilutedEPS`.

Author(s)

MaheshP Kumar, `<maheshparamjitkumar@gmail.com>`

References

Pinto, J. E. (2020). Equity Asset Valuation (4th ed.). Wiley Professional Development (P&T). https://bookshelf.vitalsource.com/books/9781119628194

Examples

```
trailingPEdilutedEPS(currentShPr=596.5,dilutedEPS=15.7)
```

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