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Category	Subcategory	Mnemonic	Factor Name	Sector	Description
					Computed by dividing the dividends paid over last
Value	Dividend	DIVYLD_TRL	Trailing dividend yield	All	12 months by price. Computed by dividing the
Makes	Printer d	DIAMO TVO	Compared divides 4 3 3 4		expected dividends paid over next 12 months by
Value	Dividend	DIVYLD_EXP	Expected dividend yield	All	price. Computed by dividing the expected median dividends
Value	Dividend	DIVYLD_FY1	Dividend yield, FY1	All	paid over next fiscal year by price.
			Total yield (dividend + share		Computed by subtracting price-to-market-cap ratio from the trailing dividend
Value	Dividend	DIVYLD_BB	change)	All	yield. Computed by subtracting
			Total yield (dividend + buyback -		the difference between buyback and issuance over
Value	Dividend	DIVYLD_SH	issuance)	All	market cap from trailing dividend yield. Price divided by earnings
Value	Dividend	PE_LTM_B	Price-to-EPS, LTM, basic	All	per share for last 12 months.
Value	Earnings	PE_LTM_D	Price-to-EPS, LTM, diluted	All	Price divided by diluted earnings per share for last 12 months.
			, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Computed by dividing price by expected median
Value	Earnings	PE_FY12M	Price-to-EPS, NTM Median	All	earnings per share for next 12 months.
					Computed by dividing price by normalized expected
Value	Earnings	PE_FY1	Price-to-EPS, FY1 Median	All	earnings per share for next fiscal year.
					Computed by dividing price by normalized expected
Value	Earnings	PE_FY2	Price-to-EPS, FY2 Median	All	earnings per share for second fiscal year.
Value	Earnings	EPSYLD_LTM_B	Earnings yield, LTM, basic	All	Ratio of earnings per share for last 12 months to price.
Value	Earnings	EPSYLD_LTM_D	Earnings yield, LTM, diluted	All	Ratio of diluted earnings per share for last 12 months to price.
	<u> </u>		2,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Computed by dividing normalized median earnings
Value	Earnings	EPSYLD_NTM	Earnings yield, NTM Median	All	per share for next 12 months by price.
					Computed by dividing estimated normalized
Value	Earnings	EPSYLD_FY1	Earnings yield, FY1 Median	All	median earnings per share for next fiscal year by price. Computed by dividing
					estimated normalized median earnings per share for next second fiscal
Value	Earnings	EPSYLD_FY2	Earnings yield, FY2 Median	All	yearby price.
					Ratio of sum of net income and R&D expenses to price multiplied by common
Value	Earnings	GRO_FL_YLD	Growth flow yield	All	shares outstanding.
			Earnings yield (LTM, basic) x 5Y		Computed by multiplying earnings yield with earnings per share growth consensus
Value	GARP	EPSYLD_GRO	Exp Growth	All	median. Computed by multiplying
			Earnings yield (LTM, basic) x (5Y		earnings yield by the sum of the earnings per share
Value	GARP	EPSYLD_GRO_DIVY	Exp Growth + Expected Dividend Yield)	All	growth consensus median and the expected dividend yield.
					Computed by dividing the operating net cash flow by price and the number of
Value	Cash flow	CFOYLD	Operating cash flow yield	All	common shares outstanding.
					Calculated by dividing the estimated operating cash
Value	Cash flow	CFOYLD_FY1	Operating cash flow yield, FY1	All	flow per share for the next fiscal year by price.
					Calculated by dividing the sum of difference between the operating net cash flow
					and capital expenditure spending by price and
Value	Cash flow	FCFYLD	Free cash flow (unlevered) yield	All	common shares outstanding. Calculated by multiplying
					price by common shares outstanding and then
Value	Revenue	PSALE	Price-to-sales	All	dividing by sales for the last 12 months. Calculated by multiplying
					price by common shares outstanding and then
Value	Revenue	PSALE_FY1	Price-to-sales, FY1	All	dividing by estimated median revenue for the next fiscal year.
	nevenue	- 3-cc, 11		j. vii	riscar year.

Value	Book	воокр	Book-to-market	All	Calculated by dividing total equity by price and common shares outstanding.
	Book			7.11	Calculated by subtracting net goodwill and other intangibles from total equity
					and then dividing by price
Value	Book	TBP	Tangible book-to-market	All	and common shares outstanding.
					Calculated by dividing estimated median book
					value per share for next
Value	Book	BOOKP_FY1	Book-to-market, FY1	All	fiscal year by price.
					Calculated by dividing operating income before
					depreciation for the last 12
					months by the sum of net debt, total preferred shares,
Value	TEV	EBITDA_EV	EBITDA/TEV	All	noncontrolling interest, and market cap.
value	IEV	EBITOA_EV	EBITORYTEV	All	
					Calculated by dividing total net sales by the sum of net
					debt, total preferred shares, market cap, and
Value	TEV	SALE_EV	Revenue/TEV	All	noncontrolling interest.
					Calculated by dividing operating income after
Value	TEV	EBIT EV	EBIT/TEV	All	depreciation by total enterprise value.
value	IEV	EBIT_EV	EBIT/TEV	All	
					Calculated by adding the after-tax operating net cash
					flow and total interest and related expenses,
					subtracting capital
					expenditure spending, and then dividing by total
Value	TEV	FCF_EV	FCF (levered)/TEV	All	enterprise value.
					Calculated by subtracting
					current price from the target price and then
Value	Target price	TP_RTN	Target price implied return	All	dividing by current price.
					Calculated by subtracting
					average earnings yield from last 5 years from earnings
Value	Historical relative value	HR_EPSYLD	Historical relative earnings yield	All	yield for last 12 months
					Calculated by dividing the
			Historical 5Y revenue growth		slope of net sales from last 5 years by net sales from
Growth	Historical growth	GR_5Y_SALE	trend	All	last 12 months.
					Calculated by dividing the
Growth	Historical growth	GR_5Y_EPS	Historical 5Y EPS growth trend	All	slope of earnings per share for the last 5 years by price.
					Calculated by dividing the
					slope of earnings per share
Growth	Historical growth	GR_5Y_OEPS	Historical 5Y operating EPS growth trend	All	from operations for the last five years by price.
					Calculated by dividing the slope of operating net cash
					flow from last five years by
					the product of price and common shares
Growth	Historical growth	GR_5Y_CFPS	Historical 5Y CFPS growth trend	All	outstanding. Calculated by dividing the
					slope of cash dividends
					from last five years by the product of price and
Growth	Historical growth	GR_5Y_DPS	Historical 5Y DPS growth trend	All	common shares outstanding.
olowa.	Tilstorical growth	GK_51_DF5	Instancer 51 Brogrower dend	All	Calculated by dividing
			Historical 5Y revenue growth		acceleration of net sales from last five years by net
Growth	Historical growth	AC_5Y_SALE	acceleration	All	sales. Calculated by dividing
			Historical EV EDS are: 15		acceleration of earnings per
Growth	Historical growth	AC_5Y_EPS	Historical 5Y EPS growth acceleration	All	share for last five years by price.
					Calculated by dividing
			Historical EV approxima EBC a		acceleration of earnings per
Growth	Historical growth	AC_5Y_OEPS	Historical 5Y operating EPS growth acceleration	All	share from operations for last five years by price.
					Calculated by dividing
					acceleration of operating
					net cash flow from last five years by the product of
Growth	Historical growth	AC_5Y_CFPS	Historical 5Y CFPS growth acceleration	All	price and common shares outstanding.
	scoricar growth				Calculated by dividing
					acceleration of cash dividends from last five
			Historical 5Y DPS growth		years by the product of price and common shares
Growth	Historical growth	AC_5Y_DPS	acceleration	All	outstanding.
					Calculated by subtracting the EPS lagged by 12
					months from current EPS
Growth	Historical growth	GR_INTR_EPS	Historical YoY interim EPS growth	All	and divided by the lagged EPS.
					Calculated by subtracting
					the cash dividends lagged by
					12 months from current cash dividends and divided
Growth	Historical growth	GR_INTR_DPS	Historical YoY interim DPS growth	All	by the lagged cash dividends.
Growtii	mistorical growth	UN_INITA_DES	instolical for interim DPS growth	Ail	uividelius.

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					Calculated by subtracting the operating net cash flow lagged by 12 months from current operating net cash flow and divided by the lagged operating net cash
Growth	Historical growth	GR_INTR_CFPS	Historical YoY interim CFPS growth	All	flow.
Growth	Historical growth	GR_INTR_SALE	Historical YoY interim revenue growth	All	Calculated by subtracting the revenue lagged by 12 months from current revenue and divided by the lagged revenue.
Growth	Historical growth	GR_INTR_SPS	Historical YoY interim revenue per	All	Calculated by subtracting the revenue per share lagged by 12 months from current revenue per share and divided by the lagged revenue per share.
Growth	Expected growth	GR_FY1_EPS		All	Calculated by subtracting the normalized actual carnings per share for the fiscal year from the estimated normalized earnings per share for the next fiscal year and dividing by the absolute value of the normalized earnings per share for this year.
Growth	Expected growth	GR. FY2. EPS		All	Calculated by subtradcting the estimated normalized earnings per share for the next fiscal year from the estimated normalized earnings per share for the year after and dividing by the absolute value of the normalized earnings per share for next year.
Growth	Expected growth	GR_EINTR_EPS		All	Computed by dividing the estimated earnings per share quarterly growth by the absolute value of the earnings per share actuals lagged by 1 year.
Growth	Expected growth	GR_FY1_DPS	FY1 DPS growth	All	Calculated by subtradting the actual dividend per share for the fiscal year from the estimated dividends per share for next fiscal year then dividing by the absolute value of the actual dividend per share.
Growth	Expected growth	GR_FY2_DPS	FY2 DPS growth	All	Calculated by subtracting the dividend per share for the next fiscal year from the estimated dividends per share for the year after then dividing by the absolute value of the dividend per share for next year. Calculated by subtracting the actual cash flow for the fiscal year from the
Growth	Expected growth	GR_FY1_CFPS	FY1 CFPS growth	All	estimated cash flow for next fiscal year then dividing by the absolute value of the actual cash flow.
Growth	Expected growth	GR_FY2_CFPS	FY2 CFPS growth	All	Calculated by subtradting the cash flow for the next fiscal year from the estimated cash flow for the year after then dividing by the absolute value of the cash flow for next year.
					Calculated by dividing the estimated cash flow per share growth percentage by the absolute value of the cash flow per share actuals
Growth	Expected growth	GR_EINTR_CFPS GR_FY1_SALE	YoY expected interim CFPS growth FY1 Revenue growth	All	Lagged by 1 year. Calculated by subtracting actual revenue growth from estimated revenue growth for next fiscal year and then dividing by the absolute value of actual revenue growth.
Growth	Expected growth	GR_FY2_SALE		All	Calculated by subtracting estimated revenue growth for next fiscal year from estimated revenue growth for the year after year and then dividing by the absolute value of estimated revenue growth for next year.

				1	Colonia and his distribution at a
			YoY expected interim Revenue		Calculated by dividing the estimated revenue quarterly growth percentage by the actual
Growth	Expected growth	GR_EINTR_SALE	growth	All	sales lagged by 1 year.
					Calculated by taking the
			Consensus expected 5Y EPS		average of the consensus expected earnings per share
Growth	Expected growth	GR_EXP_5Y_EPS	growth	All	growth.
					Calculated by dividing the
					earnings per share growth
					consensus median by the earnings per share standard
					deviation divided by the absolute value of average
Growth	Expected growth	GR_EPS_STAB	Expected 5Y EPS growth/stability	All	earnings per share.
					Calculated by subtracting
					the dividends paid over last 12 months from the 12
					months moving earnings per share divided by the
					total stockholders equity
					divided by number of common shares
Growth	Historical growth	GR_REINV	Reinvestment rate, LTM	All	outstanding.
					Calculated by subtracting the estimated median
					dividends per share for next fiscal year from the
					estimated median earnings per share for next fiscal year
					then divided by the absolute
					value of the book value per share median for next fiscal
Growth	Reinvestment	GR_REINV_FY1	Reinvestment rate, FY1	All	year.
					Calculated by subtracting
					the price and cumulative
					dividends from last month from price and cumulative
					dividends from this month and then dividing by the
Price momentum and reversal	Short term	RTN21D	Total return, past 1M	All	price from the last period. Calculated by taking the
Price momentum and reversal	Short torm	LOTTERY	Maximum daily return in the last 1M (lottery factor)	All	rolling high of daily returns for past month.
Frice momentum and reversal	Short term	LOTTERY	IN (lottery factor)	All	Calculated by subtracting
					the total return from last 30 days from the total return
Price momentum and reversal	Mid term	RTN_12M1M	Price momentum, 12M-1M	All	of last 365 days.
					Calculated by subtracting
					the price and cumulative dividends from 6 months
					ago from price and cumulative dividends from
					this month and then dividing by the price from
Price momentum and reversal	Mid term	RTN_126D	Price momentum, 6M	All	the 6 months ago.
					Calculated by subtracting
					the price and cumulative dividends from 9 months
					ago from price and cumulative dividends from
					this month and then
Price momentum and reversal	Mid term	RTN_189D	Price momentum, 9M	All	dividing by the price from the 9 months ago.
					Calculated by subtracting the price and cumulative
					dividends from 12 months
					ago from price and cumulative dividends from
					this month and then dividing by the price from
Price momentum and reversal	Mid term	RTN_252D	Price momentum, 12M	All	the 12 months ago.
					Calculated by dividing the
Price momentum and reversal	Mid term	P_52WLO	Price-to-52W low	All	price by the low of prices from the last 52 weeks
					Calculated by dividing the
Price momentum and reversal	Mid term	P_52WHI	Price-to-52W high	All	price by the high of prices from the last 52 weeks
					Calculated by taking the slope of the log of prices
Price momentum and reversal	Mid term	P_TREND	Price trend, 12M	All	from the last year.
					Calculated by taking the
					total return from the last 1260 days using price and
MacroAgg.xlsx	Long term	RTN1260D	Total return, past 60M	All	cumulative dividends. Calculated by taking the
					total return from the last 63
Price momentum and reversal	Mid term	RTN63D	Price momentum, 3M	All	days using price and cumulative dividends.
					Calculated by taking the total return from the last
Price momentum and reversal	Long term	RTN2520D	Total return, past 120M	All	2520 days using price and cumulative dividends.
momentalir and reversal	cong termi	23200	rotal retain, past 120M	, 411	
					Calculated by taking the growth over the last month
					of the normalized average earnings per share estimate
Analyst sentiment	EPS	ES_EPS_NTM_R1M	NTM EPS revision, 1M	All	for the next twelve months.

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					Calculated by taking the growth over the last three months of the normalized
					average earnings per share estimate for the next twelve
Analyst sentiment	EPS	ES_EPS_NTM_R3M	NTM EPS revision, 3M	All	months.
					Calculated by taking the growth over last month of
					the consensus average earnings per share for next
Analyst sentiment	EPS	ES_EPS_FY1_R1M	FY1 EPS revision, 1M	All	fiscal year.
					Calculated by taking the growth over last three
Analyst contiment	rnc.	EC EDC EVA DAM	EV1 EDS rovision 2M		months of the consensus average earnings per share for next fiscal year.
Analyst sentiment	EPS	ES_EPS_FY1_R3M	FY1 EPS revision, 3M	All	Calculated as a ratio of net analysts upgrade of Current
			FY1 EPS diffusion (up/down ratio),		Fiscal Year Earnings Per Share and # of Analyst over
Analyst sentiment	EPS	ES_EPS_FY1_D1M	1M	All	1 month Calculated as a ratio of net
					analysts upgrade of Current Fiscal Year Earnings Per
Analyst sentiment	EPS	ES_EPS_FY1_D3M	FY1 EPS diffusion (up/down ratio), 3M	All	Share and # of Analyst over 3 months
					Calculated by taking the growth over last three
					months of the normalized consensus average earnings
Analyst sentiment	OEPS	ES_NEPS_NTM_R3M	NTM Normalized EPS revision, 3M	All	per share for next 12 months.
					Calculated by taking the growth over last month of
					the consensus average dividends per share for next
Analyst sentiment	DPS	ES_DPS_NTM_R1M	NTM DPS revision, 1M	All	twelve months. Calculated by taking the
					growth over last three months of the consensus
Analyst sentiment	DPS	ES_DPS_NTM_R3M	NTM DPS revision, 3M	All	average dividends per share for next 12 months.
					Calculated by taking the growth over last month of
Analyst sentiment	DPS	EC DDC EV1 D1M	FY1 DPS revision, 1M	All	the consensus average dividends per share for next fiscal year.
Analyst sentiment	DF3	ES_DPS_FY1_R1M	TTI DI STEVISION, IW	All	Calculated by taking the growth over last three
					months of the consensus average dividends per share
Analyst sentiment	DPS	ES_DPS_FY1_R3M	FY1 DPS revision, 3M	All	for next fiscal year. Calculated as a ratio of net
					analysts upgrade of Current Fiscal Dividend Per Share
Analyst sentiment	DPS	ES_DPS_FY1_D1M	FY1 DPS diffusion (up/down ratio), 1M	All	and # of Analyst over 1 month
					Calculated as a ratio of net analysts upgrade of Current
Analyst sentiment	DPS	EC DDC EVA DOM	FY1 DPS diffusion (up/down ratio),		Fiscal Dividend Per Share and # of Analyst over 3 months
Analyst sentiment	DPS	ES_DPS_FY1_D3M	Sivi	All	Calculated by taking the
					growth over last month of the consensus average cash flow per share for next
Analyst sentiment	CFPS	ES_CFPS_NTM_R1M	NTM CFPS revision, 1M	All	twelve months.
					Calculated by taking the growth over last three
					months of the consensus average cash flow per share
Analyst sentiment	CFPS	ES_CFPS_NTM_R3M	NTM CFPS revision, 3M	All	for next twelve months.
					Calculated by taking the growth over last month of
0 1	CERC	EC CEDE EVA DANA	EVA CERS revision AM		the consensus average cash flow per share for next fiscal
Analyst sentiment	CFPS	ES_CFPS_FY1_R1M	FY1 CFPS revision, 1M	All	year. Calculated by taking the
					growth over last three months of the consensus
Analyst sentiment	CFPS	ES_CFPS_FY1_R3M	FY1 CFPS revision, 3M	All	average cash flow per share for next fiscal year.
					Calculated as a ratio of net analysts upgrade of Current
			FY1 CFPS diffusion (up/down		Fiscal Year Cash Flow per Share and # of Analyst over
Analyst sentiment	CFPS	ES_CFPS_FY1_D1M	ratio), 1M	All	1 month Calculated as a ratio of net
			EVA CEDE JIEE.		analysts upgrade of Current Fiscal Year Cash Flow per
Analyst sentiment	CFPS	ES_CFPS_FY1_D3M	FY1 CFPS diffusion (up/down ratio), 3M	All	Share and # of Analyst over 3 months
					Calculated by taking the growth over last month of
					the consensus average book value per share for next
Analyst sentiment	BPS	ES_BPS_NTM_R1M	NTM BPS revision, 1M	All	twelve months.
					Calculated by taking the growth over last 3 months
	l				of the consensus average book value per share for
Analyst sentiment	BPS	ES_BPS_NTM_R3M	NTM BPS revision, 3M	All	next twelve months.

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					Calculated by taking the growth over last month of the consensus average book value per share for next
Analyst sentiment	BPS	ES_BPS_FY1_R1M	FY1 BPS revision, 1M	All	fiscal year. Calculated by taking the growth over last 3 months of the consensus average
Analyst sentiment	BPS	ES_BPS_FY1_R3M	FY1 BPS revision, 3M	All	book value per share for next fiscal year.
.,					Calculated as a ratio of net analysts upgrade of Current
			Did DDC J: (f . t f f J		Fiscal Year Book value per
Analyst sentiment	BPS	ES_BPS_FY1_D1M	FY1 BPS diffusion (up/down ratio), 1M	All	Share and # of Analyst over 1 month
					Calculated as a ratio of net analysts upgrade of Current
			FY1 BPS diffusion (up/down ratio),		Fiscal Year Book value per Share and # of Analyst over
Analyst sentiment	BPS	ES_BPS_FY1_D3M	3M	All	1 month
					Calculated by taking the growth over last month of
					the consensus average net asset value for next twelve
Analyst sentiment	NAV	ES_NAV_NTM_R1M	NTM NAV revision, 1M	All	months.
					Calculated by taking the
					growth over last 3 months of the consensus average
Analyst sentiment	NAV	ES_NAV_NTM_R3M	NTM NAV revision, 3M	All	net asset value for next twelve months.
, mary seriament	IVAV	ES_NAV_NTW_ISSN	irriir (evision, sin	All	Calculated by taking the
					growth over last month of the consensus average net
Analyst sentiment	NAV	ES NAV FY1 R1M	FY1 NAV revision, 1M	All	asset value for next fiscal year.
					Calculated by taking the growth over last 3 months
					of the consensus average net asset value for next
Analyst sentiment	NAV	ES_NAV_FY1_R3M	FY1 NAV revision, 3M	All	fiscal year. Calculated as a ratio of net
					analysts upgrade of Current Fiscal Year Net Asset Value
			FY1 NAV diffusion (up/down ratio)		and # of Analyst over 1
Analyst sentiment	NAV	ES_NAV_FY1_D1M	1M	All	month Calculated as a ratio of net
					analysts upgrade of Current Fiscal Year Net Asset Value
Analyst sentiment	NAV	EC NAV EVA DOM	FY1 NAV diffusion (up/down ratio), 3M		and # of Analyst over 3 months
Analyst sentiment	NAV	ES_NAV_FY1_D3M	SIVI	All	mondis
					Calculated by subtracting
					the estimated consensus mean revenue for next 12
					months lagged by 1 month from the current estimated
					mean revenue then dividing
Analyst sentiment	Revenue	ES_SALE_NTM_R1M	NTM revenue revision, 1M	All	by the lagged estimate.
					Calculated by subtracting
					the estimated consensus mean revenue for next 12
					months lagged by 3 months
					from the current estimated mean revenue then dividing
Analyst sentiment	Revenue	ES_SALE_NTM_R3M	NTM revenue revision, 3M	All	by the lagged estimate.
					Calculated by subtracting the estimated consensus
					mean revenue for next fiscal year lagged by 1
					month from the current
					estimated mean revenue then dividing by the lagged
Analyst sentiment	Revenue	ES_SALE_FY1_R1M	FY1 revenue revision, 1M	All	estimate.
					Calculated by subtracting the estimated consensus
					mean revenue for next
					fiscal year lagged by 3 months from the current
					estimated mean revenue then dividing by the lagged
Analyst sentiment	Revenue	ES_SALE_FY1_R3M	FY1 revenue revision, 3M	All	estimate.
					Calculated as a ratio of net
			FY1 revenue diffusion (up/down		analysts upgrade of Current Fiscal Year Revenue and #
Analyst sentiment	Revenue	ES_SALE_FY1_D1M	ratio), 1M	All	of Analyst over 1 month
					Calculated as a ratio of net analysts upgrade of Current
Analyst sentiment	Revenue	ES SALE EVI DRM	FY1 revenue diffusion (up/down	All	Fiscal Year Revenue and # of Analyst over 3 months
Analyst sentiment	Revenue	ES_SALE_FY1_D3M	ratio), 3M	All	o. Analyst over 5 months
					Calculated by subtracting
					the estimated consensus mean EBITDA for next 12
					months lagged by 1 month from the current estimated
Analyst continuent	DDITO	EC EDITO A NITA DANS	NITA EDITO A		mean revenue then dividing
Analyst sentiment	DBITDA	ES_EBITDA_NTM_R1M	NTM EBITDA revision, 1M	All	by the lagged estimate.

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					Calculated by subtracting the estimated consensus mean EBITDA for next 12 months lagged by 3 months from the current estimated mean revenue then dividing
Analyst sentiment	DBITDA	ES_EBITDA_NTM_R3M	NTM EBITDA revision, 3M	All	by the lagged estimate.
Analyst sentiment	DBITDA	ES_EBITDA_FY1_R1M	FY1 EBITDA revision, 1M	All	Calculated by subtracting the estimated consensus mean EBITDA for next fiscal year lagged by 1 month from the current estimated mean revenue then dividing by the lagged estimate.
Analyst sentiment	DBITDA	ES_EBITDA_FY1_R3M	FY1 EBITDA revision, 3M	All	Calculated by subtracting the estimated consensus mean EBITDA for next fiscal year lagged by 3 months from the current estimated mean revenue then dividing by the lagged estimate.
Analyst sentiment	DBITDA	ES_EBITDA_FY1_D1M	FY1 EBITDA diffusion (up/down ratio), 1M	All	Calculated as a ratio of net analysts upgrade of Current Fiscal Year EBITDA and # of Analyst over 1 month
Analyst sentiment	DBITDA	ES_EBITDA_FY1_D3M	FY1 EBITDA diffusion (up/down ratio), 3M	All	Calculated as a ratio of net analysts upgrade of Current Fiscal Year EBITDA and # of Analyst over 3 months
Analyst sentiment	EBIT	ES_EBIT_NTM_R1M	NTM EBIT revision, 1M	All	Calculated by subtracting the estimated consensus mean EBIT for next 12 months lagged by 1 month from the current estimated mean revenue then dividing by the lagged estimate.
Analyst sentiment	EBIT	ES_EBIT_NTM_R3M	NTM EBIT revision, 3M	All	Calculated by subtracting the estimated consensus mean EBIT for next 12 months lagged by 3 months from the current estimated mean revenue then dividing by the lagged estimate.
Analyst sentiment	ЕВІТ	ES_EBIT_FY1_R1M	FY1 EBIT revision, 1M	All	Calculated by subtracting the estimated consensus mean EBIT for next fiscal year lagged by 1 month from the current estimated mean revenue then dividing by the lagged estimate.
Analyst sentiment	ЕВІТ	ES_EBIT_FY1_R3M	FY1 EBIT revision, 3M	All	Calculated by subtracting the estimated consensus mean EBIT for next fiscal year lagged by 3 months from the current estimated mean revenue then dividing by the lagged estimate.
Analysesentiment	EBII	E3_EBII_F11_K3IVI	TTE EST TEVISION, SIVI	All	
Analyst sentiment	ЕВІТ	ES_EBIT_FY1_D1M	FY1 EBIT diffusion (up/down ratio), 1M	All	Calculated as a ratio of net analysts upgrade of Current Fiscal Year EBIT and # of Analyst over 1 month
Analyst sentiment	ЕВІТ	ES_EBIT_FY1_D3M	FY1 EBIT diffusion (up/down ratio), 3M	All	Calculated as a ratio of net analysts upgrade of Current Fiscal Year EBIT and # of Analyst over 3 months
			NTM NOT matrix		Calculated by subtracting the estimated consensus mean ROE for next 12 months lagged by 1 month from the current estimated mean revenue then dividing
Analyst sentiment	ROE	ES_ROE_NTM_R1M	NTM ROE revision, 1M	All	by the lagged estimate.
					Calculated by subtracting the estimated consensus mean ROE for next 12 months lagged by 3 months from the current estimated mean revenue then dividing
Analyst sentiment	ROE	ES_ROE_NTM_R3M	NTM ROE revision, 3M	All	by the lagged estimate.
					Calculated by subtracting the estimated consensus mean ROE for next fiscal year lagged by 1 month from the current estimated mean revenue then dividing
Analyst sentiment	ROE	ES_ROE_FY1_R1M	FY1 ROE revision, 1M	All	by the lagged estimate.

Analyst sentiment	POF	ES DOE EVI DAM	FY1 ROE revision, 3M	All .	Calculated by subtracting the estimated consensus mean ROE for next fiscal year lagged by 3 months from the current estimated mean revenue then dividing by the lagged estimates
Analyst sentiment	ROE	ES_ROE_FY1_R3M	FY1 ROE diffusion (up/down ratio),	All	by the lagged estimate. Calculated as a ratio of net analysts upgrade of Current Fiscal Year ROE and # of
Analyst sentiment	ROE	ES_ROE_FY1_D1M	1M	All	Analyst over 1 month
Analyst sentiment	ROE	ES_ROE_FY1_D3M	FY1 ROE diffusion (up/down ratio), 3M	All	Calculated as a ratio of net analysts upgrade of Current Fiscal Year ROE and # of Analyst over 3 months
Analyst sentiment	Long-term growth	ES_LTG_R1M	Long-term growth revision, 1M	All	Calculated by evaluating the growth over the last month of the long term average estimate of EPS.
Analyst contiment		55 175 93M	Long term growth rouision 2M	All	Calculated by evaluating the growth over the last 3 months of the long term
Analyst sentiment Analyst sentiment	Long-term growth	ES_LTG_R3M ES_LTG_D1M	Long-term growth revision, 3M Long-term growth diffusion (up/down ratio), 1M	All	average estimate of EPS. Calculated as a ratio of net analysts upgrade of Long Term Growth and # of Analyst over 1 month
Analyst sentiment	Long-term growth	ES_LTG_D3M	Long-term growth diffusion (up/down ratio), 3M	All	Calculated as a ratio of net analysts upgrade of Long Term Growth and # of Analyst over 1 month
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	com growth		,		Calculated by evaluating the
Analyst sentiment	Recommendation	ES_REC_R1M	Recommendation revision, 1M	All	growth over the last month of the average consensus recommendation.
					Calculated by evaluating the growth over the last 3 months of the average consensus
Analyst sentiment	Recommendation	ES_REC_R3M	Recommendation revision, 3M	All	recommendation.
Analyst sentiment	Recommendation	ES_REC_D1M	Recommendation diffusion (up/down ratio), 1M	All	Calculated as a ratio of net analysts upgrade of Stock Recommendation and # of Analyst over 1 month
Analyst sentiment	Recommendation	ES_REC_D3M	Recommendation diffusion (up/down ratio), 3M	All	Calculated as a ratio of net analysts upgrade of Stock Recommendation and # of Analyst over 3 months
					Calculated by evaluating the growth over last month of the average consensus
Analyst sentiment	Target price	ES_TP_R1M	Target price revision, 1M	All	target price. Calculated by evaluating the growth over last 3 months
Analyst sentiment	Target price	ES_TP_R3M	Target price revision, 3M	All	of the average consensus target price. Calculated as a ratio of net
Analyst sentiment	Target price	ES_TP_D1M	Target price diffusion (up/down ratio), 1M	All	analysts upgrade of Target Price and # of Analyst over 1 month Calculated as a ratio of net
Analyst sentiment	Target price	ES_TP_D3M	Target price diffusion (up/down ratio), 3M	All	analysts upgrade of Target Price and # of Analyst over 3 months
Analyst sentiment	Volatility	ES_VOL_R1M	Analyst estimated vol revision, 1M	All	Calculated by evaluating the change over last month of the average consensus volatility.
Analyst sentiment	Volatility	ES_VOL_R3M	Analyst estimated vol revision, 3M		Calculated by evaluating the change over last 3 months of the average consensus volatility.
Analyst sentiment	Volatility	ES_VOL_D1M	Analyst estimated vol diffusion (up/down ratio), 1M	All	Calculated as a ratio of net analysts upgrade of Stock Volality and # of Analyst over 1 month
			Analyst estimated vol diffusion		Calculated as a ratio of net analysts upgrade of Stock Volality and # of Analyst
Analyst sentiment	Volatility	ES_VOL_D3M	(up/down ratio), 3M	All	over 3 months
Analyst sentiment	Expectation Gap	ES_GAP	Expectation gap (5Y exp growth - FY2 growth)	All	Calculated by subtracting the estimated EPS growth percentage for fiscal year 2 from the long term average EPS growth percentage.
Analyst sentiment	Recommendation	ES_RECOMM_AVG	Mean recommendation	All	Calculated by taking the average of the analyst recommendation.
Analyst sentiment	Volatility	ES_VOL_AVG	Mean volatility forecast	All	Calculated by taking the average of the price volatility forecast.
	,		,		
					Calculated as a percentage surprise based on Operation EPS. The ratio uses consensus median in the denominator and surprise is computed as the difference
Analyst sentiment	Surprise	OEPS_SUR	Normalized EPS surprise (vs consensus)	All	between actual and consensus median prior to earnings release

Analyst sentiment	Surprise	DPS_SUR	DPS surprise (vs consensus)	All	Calculated as a percentage surprise based on DPS. The ratio uses consensus median in the denominator and surprise is computed as the difference between actual and consensus median prior to earnings release
					Calculated as a percentage surprise based on Cash Flow per share. The ratio uses consensus median in the denominator and surprise is computed as the difference between actual and consensus median prior to
Analyst sentiment	Surprise	CFPS_SUR	CFPS surprise (vs consensus)	All	earnings release
Analyst sentiment	Surprise	NAV_SUR	NAV surprise (vs consensus)	All	Calculated as a percentage surprise based on NAV per share. The ratio uses consensus median in the denominator and surprise is computed as the difference between actual and consensus median prior to earnings release
Analyst sentiment	Surprise	SALE SLIP	Revenue surprise (vs consensus)	All	Calculated as a percentage surprise based on Revenue. The ratio uses consensus median in the denominator and surprise is computed as the difference between actual and consensus median prior to earnings release
Analyst sentiment	Surprise	SALE_SUR	Revenue surprise (vs consensus)	All	Telease
<u>Analyst sentiment</u>	Surprise	EBITDA_SUR	EBITDA surprise (vs consensus)	All	Calculated as a percentage surprise based on EBITDA. The ratio uses consensus median in the denominator and surprise is computed as the difference between actual and consensus median prior to earnings release
Analyst sentiment	Supplies	EDS SUB DECAY	Earnings surprise (vs consensus), 1 month half life decay	All	Calculated as a percentage surprise based on EBITDA. The ratio uses consensus median in the denominator and surprise is computed as the difference between actual and consensus median prior to earnings release. The signal is tailored to decay exponentially from the earnings date with 1 month half life.
Analyst sentiment	Surprise	EPS_SUR_DECAY	month haif life decay	All	
					Calculated as a percentage surprise based on EBIT. The ratio uses consensus median in the denominator and surprise is computed as the difference between actual and consensus median prior to earnings
Analyst sentiment	Surprise	EBIT_SUR	EBIT surprise (vs consensus)	All	Ratio of rolling sum of
Q att			207.171		income before extraordinary items and noncontrolling interests of last twelve months to the average of current total equity and total equity
Quality	Profitability	ROE	ROE, LTM	All	lagged by 1 year. Ratio of sum of income
Quality	Profitability	ROA	ROA, LTM	All	Ratio of sum of income before extraordinary items and noncontrolling interests to the average of total assets and total assets lagged by 1 year.
Quality	Profitability	RNOA	Return on net operating assets (RNOA), LTM	All	Ratio of sum of income before extraordinary items and noncontrolling interests to the sum of cash and short-term investments, total preferred stock, total common equity, total debt in current liabilities, and total long term debt.
					Ratio of sum of income before extraordinary items and noncontrolling interests for the last 12 months to the total quarterly invested
Quality	Profitability	ROIC	ROIC, LTM	All	capital.

Quality Profitability BERRY Berry ratio (gross profits/operating expenses) Guality Profitability OP MARGIN Operating profit margin (BBT expenses) Guality Profitability OP MARGIN Net Income margin All sequences are reported to the control of the Company of the						r
Baulity Profitability OTAGA CENT (PROPER) AI Profitability OTAGA CENT (Province) asset (CPRO) AI CENT (Province) AI CEN						operating net cash flow of last twelve months to the
Coulty Orally Orally	Overlite.	Bu Cultur	crnor.			equity and total equity
Guality Profitability C1004 Guality Profitability C1004 Guality Profitability C10004 Guality Profitability C10004 Guality Profitability C10004 Guality Profitability C100004 Guality Profitability C100004 Guality Profitability G055, AAASGII General Control of C100004 Guality Profitability G056, G055, AAASGII General Control of C100004 Guality Profitability G056,	Quality	Profitability	CFROE	(CFROE)	All	
Guality Professity CHRVOA SISE (TRRACA) Guality Professity CHRVOA SISE (TRRACA) Guality Professity SLE_ASSET Guality SLE_						after-tax interest and related expenses to the average of total assets and total assets lagged by 1
Quality Profesoitry CHROA SET STATE OF PROPERTY AND ADDRESS OF PROFESOITRY OF PRO	Quality	Profitability	CFROA	Cash flow return on asset (CFROA)	All	year.
Casility Profitability SNE_ASSET turnover) Gaility Profitability SNE_ASSET turnover) Gaility Profitability GROSS_MARGIN GROSS_PORT margin Gaility Profitability GROSS_MARGIN GROSS_PORT margin Gaility Profitability British SNE_ASSET turnover) Gaility Profitability British SNE_ASSET turnover) Gaility Profitability British SNE_ASSET turnover All SNE_ASSET turnover SNE_ASSET turnover) Gaility Profitability British SNE_ASSET turnover SNE_ASSET t						operating cash flow return and after-tax interest and related expenses to the sum of cash and short-term investments, total preferred stock, total common equity, total debt in current liabilities, and total long
Gastley Profitability SALE_ASSET Surrovery All except correct tool for common the profitability of the profitabili	Quality	Profitability	CFRNOA	assets (CFRNOA)	All	
Guality Profitability GODS_MARGIN Griss profit manger Al Chicates by disdeling total contents of production of the profitability of profitability attempts of the profitability of profitability	Quality	Profitability	SALE ASSET		All	total net sales by the average of current total equity and total equity
Quality Profitability GROSS_MARGIN Gross profit margin All gross profit values asket. Quality Profitability GROSS_MARGIN GROSS_MARGIN_CHG Vary change in gross profits/operating experiments of profitability. Quality Profitability OP MARGIN Revenue per employee All Gross profit margin (RBIT All All Control and asket and the deposition of margin). Quality Profitability NET_MARGIN Revenue per employee All Gross_MARGIN_CHG Vary change in ROA All Gross profitability of margin in GROSS_MARGIN_CHG Vary change in ROA All Gross profitability. Quality Change in profitability ROA_CHG Vary change in ROA All Gross profitability of the margin in GROSS_MARGIN_CHG Vary change in ROA All Gross profitability. Quality Change in profitability ROA_CHG Vary change in ROA All Gross profitability of the deposition of the attention of the profitability of the deposition of the attention of the profitability of the deposition of the profitability of the deposition of the profitability of the deposition of the profitability of the profitability of the deposition of the profitability of the profitabili		,		,		
Quality Profitability BERY Berry ratio (gross profits/peprating experses.) All International sales and the industry and international sales and inte	Quality	Profitability	GROSS_MARGIN	Gross profit margin	All	gross profit by total sales.
Quality Profitability OP_MARGIN margin (ERT margin) Quality Profitability NET_MARGIN Net income margin All Income margin All Income margin (ERT margin) Quality Profitability NET_MARGIN Net income margin All Income Margin (ERT margin) Quality Change in profitability NOE_ORG NoT change in ROE All Income quarters ago from a quarter ago from the margin All Income previous quarter from profitability of the margin All Income previous quarter from the twenty ago from the margin All Income previous quarter from profitability of the margin All Income previous quarter from the twenty ago ward to average total audit to the margin All Income previous quarter from the twenty from the margin All Income previous quarter from the twenty and the profitability of the profitability	Quality	Profitability	BERRY		All	total cost of goods sold from total sales and then dividing by total operating
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Quality Profitability SALE_EMPL Revenue per employee All sales. Quality Profitability SALE_EMPL Revenue per employee All Calculated by subtracting the profitability of the per per profitability of the per per profitability of the per per per per per per per per per pe	,	,	-			
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Quality Change in profitability Change in profitabilit	Quality	Profitability	SALE_EMPL	Revenue per employee	All	
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Calculated by dividing the median revenue consensus	Quality	Expected profitability	CFROE FY1	CFROE, FY1	All	estimated median cash flow per share for next fiscal year by the ratio of total stockholders equity to common shares
			_			Calculated by dividing the median revenue consensus estimate for next fiscal year
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	Quality	Dividend payout	DIV_PAYOUT	Dividend payout ratio, trailing	All	
		,.,	_			
						Calculated by dividing estimated dividends per
						share for next fiscal year by
estimated earnings pe	Ovelity	no otro	EVA DIV DAVOUT	Divided as a second		estimated earnings per
Quality Dividend payout EXP_DIV_PAYOUT Dividend payout ratio, expected All share for next fiscal yill share fiscal yill share for next fiscal yill share for	Quality	Dividend payout	EXP_DIV_PAYOUT	Dividend payout ratio, expected	All	share for next fiscal year.

Quality	Earnings quality	ACCRUALS	Accruals (Sloan 1996)	All	Sum of accounts receivable, inventory minus decrease, accounts payable and accrued liabilities minus increase, income taxes minus accrued minus increase, and assets and liabilities minus other of last twelve months multiplied by negative one and then divided by average total assets of last year.
Quality	Earnings quality	PERC_ACCRU	Percent accruals	All	Sum of accounts receivable, inventory minus decrease, accounts payable and accrued labilities minus increase, income taxes minus accrued minus increase, and assets and liabilities minus other of last twelve months multiplied by negative one and then divided by absolute value of operating net cash flow of last 12 months.
Quality	Stability	EPS_STAB	Historical EPS stability, coef of determination	All	Calculated by dividing standard devation of EPS of last 5 years by absolute value of average EPS of last 5 years.
Quality	Stability	OEPS_STAB	Historical operating EPS stability, coef of determination	All	Calculated by dividing standard deviation of EPS from operations of last 5 years by absolute value of the average EPS from operations of last 5 years.
Quality	Stability	SALE_STAB	Historical revenue stability, coef of determination	All	Calculated by dividing standard deviation of net sales of last 5 years by absolute value of the average net sales of last 5 years.
Quality	Stability	EPS_DISP	FY1 EPS dispersion	All	Calculated by dividing standard deviation of normalized estimated EPS for next fiscal year by price.
0.45					Calculated by dividing standard deviation of normalized estimated EPS for next fiscal year by estimated median EPS for
Quality	Stability Stability	EPS_VARIA SALE_VARIA	FY1 EPS coefficient of variation FY1 revenue coefficient of variation	All	next fiscal year. Calculated by dividing the standard deviation of estimated revenue for next fiscal year by estimated median revenue for next fiscal year.
Quality	Capital utilization	ASSET_GR	Asset growth anomaly (Cooper, Gulen, Schill [2008])	All	Calculated by subtracting total assets lagged by 1 year from total assets and then dividing by the absolute value of the lagged total assets.
					Calculated by subtracting total current assets lagged by 1 year from total current assets and then dividing by the absolute value of the
Quality	Capital utilization	CA_GR	Growth in current assets Growth in property, plan, and	All	lagged total current assets. Calculated by subtracting net property, plant, and equipmet from net property, plant, and equipment lagged by 1 year and then divided by the
Quality	Capital utilization	PPE_GR	equipment	All	lagged value. Calculated by subtracting other assets lagged by 1 year from current other assets and then dividing by the absolute value of the
Quality	Capital utilization	OA_GR	Growth in other assets	All	Calculated by subtracting current liabilities lagged by 1 year from current liabilities and then dividing by the absolute value of the
Quality	Capital utilization	CL_GR	Growth in current liabilities	All	lagged current liabilities. Calculated by subtracting total liabilities lagged by 1 year from total liabilities and then dividing by the absolute value of the lagged
Quality	Capital utilization	TL_GR	Growth in total liabilities	All	total liabilities.

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Quality	Capital utilization	TE_GR	Growth in total shareholders' equity	All	Calculated by subtracting total stockholders' equity lagged by 1 year from total stockholders' equity and then dividing by the absolute value of the lagged total stockholders' equity.
	·		Asset growth anomaly, per share		Calculated by subtracting total assets per share lagged by 1 year from current total assets per share and then dividing by the absolute value of the lagged total
Quality	Capital utilization	ASSET_PS_GR	total assets	All	assets per share.
Quality	Capital utilization	CA_PS_GR	Growth in per share current assets	All	Calculated by subtracting total current assets per share lagged by 1 year from total current assets per share and then dividing by the absolute value of the lagged total current assets per share.
			Growth in per share property,		Calculated by subtracting property, plan, and equipment per share lagged by 1 year from current property, plan, and equipment per share and then dividing by the absolute value of the lagged property, plan, and
Quality	Capital utilization	PPE_PS_GR	plan, and equipment	All	equipment per share.
					Calculated by subtracting other assets per share lagged by 1 year from current other assets per share and then dividing by the absolute value of the lagged other assets per
Quality	Capital utilization	OA_PS_GR	Growth in per share other assets	All	share.
Quality	Capital utilization	CL_PS_GR	Growth in per share current liabilities	All	Calculated by subtracting current liabilities per share lagged by 1 year from current liabilities per share and then dividing by the absolute value of the lagged current liabilities per share.
Quality	Capital utilization	TL_PS_GR	Growth in per share total liabilities	All	Calculated by subtracting total liabilities per share lagged by 1 year from current total liabilities per share and then dividing by the absolute value of the lagged total liabilities per share.
			Growth in per share total		Calculated by subtracting total stockholders' equity per share lagged by 1 year from total stockholders' equity per share and then dividing by the absolute value of the lagged total stockholders' equity per
Quality	Capital utilization	TE_PS_GR	shareholders' equity	All	share.
Quality	Capital utilization	SHARE_CHG	YoY change in share count	All	Ratio of common shares outstanding minus common shares outstanding lagged by 1 year then divided by the lagged value.
Quality	Could all all	2557 6116	VaV shares in debt substanding		Ratio of total long-term debt minus long-term debt lagged by 1 year then
Quality	Capital utilization	DEBT_CHG	YoY change in debt outstanding Net external financing/net	All	divided by the lagged value. Cash dividends plus purchase of common and preferred stock plus long-term debt reduction minus sale of common and preferred stock and long-term debt issuance over total common equity plus total debt in current liabilities plus total long-term debt plus total orgeterm debt plus total preferred stock minus cash and short-term
Quality	Capital utilization	EXT_FIN_NOA	operating assets	All	investments.
Alternative	Technical	VOL_VO_P_1M	Volatility of volume/price, 1M	All	Calculated by taking the standard deviation of the log of daily trading volume per share for last month. Calculated by taking the standard deviation of the log of daily trading volume per share for last 12
Alternative	Technical	VOL_VO_P_12M	Volatility of volume/price, 12M	All	months.
Alternative	Technical	MA_15_36	Moving average crossover, 15W- 36W	All	Calculated by dividing the average price from last 15 weeks by the average price from last 36 weeks.

						1
					Calculated by dividing the	
			Moving average crossover, 30W-		average price from last 30 weeks by the average price	
Alternative	Technical	MA_30_75	75W	All	from last 75 weeks.	
Alternative	Technical	OBV	On Balance Volume	All	Based on https://www.invest	topedia.com/terms/o/onbalancevolume.a
					Ratio of the difference	
					between 3-week high price and current price to the	
Alternative	Technical	WR	Williams %R	All	difference of the 3-week high and 3-week low price.	
7 II CONTROLLED	recimical	WIX	Villians /six	All		
					Calculated by subtracting the difference of daily	
					high and price close from	
					the difference of price close and daily low and	
					then dividing by the difference of daily high	
Alternative	Technical	CLV	Close Location Value	All	and daily low.	
					Calculated by subtracting	
					average price from last 3	
					weeks from current price and then dividing by the	
Alternative	Tankaisal	nn.	Pollinger Rands	A.II	standard deviation of price from last 3 weeks.	
Aiternative	Technical	BB	Bollinger Bands	All		
					Ratio of sum of close location value multiplied by	
					trading volume of past	
Alternative	Technical	ADL	Accumulation Distribution Line	All	month to average trading volume of last 2 weeks.	
					Ratio of sum of close	
					location value multiplied by	
					trading volume of past month to average trading	
Alternative	Technical	CMF	Chaikin Money Flow	All	volume of last month.	
					Difference of exponential	
					average of price of last 12 days and exponential	
					average of price of last 26	
					days minus exponential average over last 9 days of	
					the difference of exponential average of	
					price of last 12 days and	
			Moving Average Convergence/Divergence		exponential average of last 26 days then divided by	
Alternative	Technical	MACD	Oscillator (MACD)	All	price.	
					Ratio of exponential avg. of	
					price of last 26 days minus exponential average of last	
					twelve days to the	
					difference of exponential avg. of last 26 days and	
					exponential average over last 9 days of the difference	
					of exponential avg. of last	
Alternative	Technical	PPO	percentage price oscillator	All	26 days and exponential avg. of last 12 days.	
					Ratio of difference of exponential average of	
					trading volume from past	
					12 days and exponential average of trading volume	
					from past 26 days to difference of exponential	
					avg. of trading volume from	
					last 26 days and the exponential avg. of last 9	
					days of exponential avg. of trading volume from last 12	
					days minus exponential avg.	
					of last 26 days divided by exponential avg. of last 26	
Alternative	Technical	PVO	Percentage Volume Oscillator	All	days.	
					Calculated by taking the	
					exponential average over 39 days of the exponential	
					average over 29 days of	
					price minus 2-month low over 2-month high minus 2-	
Alternative	Technical	SO	Stochastic Oscillator	All	month low.	
					Average of daily price high,	
					low, and close minus the rolling average over one	
					month of avg. of high, low,	
					and close then divided by the standard deviation over	
Alternative	Technical	CCI	Commodity Channel Index	All	past month of avg. high, low, and clsoe.	
ci ilative	recrinical	CCI	Commonity Channel Index	All		
					Sum over 3 weeks of absolute value of price high	
					minues the price high	
					lagged 1 day minus sum over 3 weeks of absolute	
					value of price low minus price low lagged 1 day then	
					divided by sum of price high	
Alternative	Technical	VI	Vortex Indicator	All	minus price low over last 3 weeks.	
	. cccai	1.0			·	i

					Ratio of exponential avg. of
					past 13 days of exponential
					avg. of past 25 days of price minus price lagged by 1 day
					to the exponential avg. over
					past 13 days of exponential
					avg. of past 25 days of absolute value of price
Alternative	Technical	TSI	True Strength Index	All	minus price lagged 1 day.
THE THE THE	recinical	151	True Strength mack	All	initial price tabled 1 day.
					Growth of exponential avg.
					over past 15 days of
					exponential avg. over past 15 days of exponential avg.
Alternative	Technical	TRIX	TRIX	All	over past 15 days of price.
	recimedi	THUK		7	, stat past 20 20 ja 21 ja 22
					Calculated by taking the
					average of price high minus
					price low over last 3 weeks divided by the exponential
					average of price over the
Alternative	Technical	ATR	Average True Range	All	past 3 weeks.
					Average over last 3 days of sum of close location value
					multiplied by trading
					volume of last month minus
					the average over last 2
					weeks of sum of close
					location value multiplied by
					trading volume of last month then divided by the
					average trading volume of
Alternative	Technical	со	Chaikin Oscillator	All	last 2 weeks
					Exponential avg. of last 9
					days of exponential avg. of
					last 12 days of exponential avg. over last 26 days of
					avg. over last 26 days of quotient of price and price
			DecisionPoint Price Momentum		lagged 1 day subtracted by
Alternative	Technical	DPMO	Oscillator	All	1.
					Calculated by subtracting
					average price from last 4 weeks from price lagged by
					2 weeks and then divided by
Alternative	Technical	DPO	Detrended Price Oscillator	All	price
Alternative	Technical	EMV	Ease of Movement	All	
					Exponential average of last
					13 days of difference of price and price lagged 1 day
					and trading volume divided
					by product of average
					trading volume and price of
Alternative	Technical	FI	Force Index	All	last 3 weeks.
					Sum of last 5 weeks of the
					exponential avg. over last 9
					days of high minus low
					divided by exponential avg.
					over last 9 days of exponential avg. over last 9
Alternative	Technical	мі	Mass Index	All	days of high minus low.
					Sum over last 3 weeks of
					price divided by price lagged
Alternative	Technical	NVI	Negative Volume Index	All	1 day minus 1.
Alternative	Technical	MFI	Money Flow Index	All	Based on this formulation https://www.investopedia.com/terms/r
					Ratio of exponential
					average over last 14 days of
					sum over past 3 weeks of
					price divided by price lagged
					1 day minus 1 and then
					multiplied by trading volume to average trading
Alternative	Technical	VPT	Volume Price Trend	All	volume to average trading volume of last 3 weeks.
			1		
					Calculated by taking the
Albarration	n: I	2541 1/21	Dealised and AV 4-1		rolling standard deviation of
Alternative	Risk	REAL_VOL	Realized vol, 1Y daily	All	the daily total return. Calculated by taking the
					standard deviation of daily
					total return of last 3
Alternative	Risk	REAL_VOL3M	Realized vol, 3M daily	All	months.
					Calculated by taking the
Alternative		SKEW	Skowness 1V daily	All	rolling skew of daily total return over the past year.
AITEITIBLIVE	Dick		Skewness, 1Y daily	All	return over the past year.
	Risk	SICT			Calculated by taking the
	Risk	J.C.V			
					rolling kurtosis of daily total
Alternative	Risk Risk	KURT	Kurtosis, 1Y daily	All	
Alternative			Kurtosis, 1Y daily	All	rolling kurtosis of daily total
Alternative			Kurtosis, 1Y daily	All	rolling kurtosis of daily total return over the past year.
Alternative			Kurtosis, 1Y daily	All	rolling kurtosis of daily total return over the past year. Calculated by subtracting
Alternative			Kurtosis, 1Y daily	All	rolling kurtosis of daily total return over the past year. Calculated by subtracting average trading volume
Alternative			Kurtosis, 1Y daily	All	rolling kurtosis of daily total return over the past year. Calculated by subtracting average trading volume from last 3 months from the
Alternative			Kurtosis, 1Y daily	All	rolling kurtosis of daily total return over the past year. Calculated by subtracting average trading volume from last 3 months from the average trading volume of last month and then divided
Alternative			Kurtosis, 1Y daily	All	rolling kurtosis of daily total return over the past year. Calculated by subtracting average trading volume from last 3 months from the average trading volume of last month and then divided by the standard deviation of
	Risk	KURT			rolling kurtosis of daily total return over the past year. Calculated by subtracting average trading volume from last 3 months from the average trading volume of last month and then divided by the standard deviation of trading volume from past 3
Alternative			Kurtosis, 1Y daily Abnormal volume	All	rolling kurtosis of daily total return over the past year. Calculated by subtracting average trading volume from last 3 months from the average trading volume of last month and then divided by the standard deviation of trading volume from past 3 months.
	Risk	KURT			rolling kurtosis of daily total return over the past year. Calculated by subtracting average trading volume from last 3 months from the average traing volume of last month and then divided by the standard deviation of trading volume from past 3 months. Calculated by dividing the
	Risk	KURT			rolling kurtosis of daily total return over the past year. Calculated by subtracting average trading volume from last 3 months from the average trading volume of last month and then divided by the standard deviation of trading volume from past 3 months. Calculated by dividing the sum of daily trading volume
	Risk	KURT			rolling kurtosis of daily total return over the past year. Calculated by subtracting average trading volume from last 3 months from the average traing volume of last month and then divided by the standard deviation of trading volume from past 3 months. Calculated by dividing the
	Risk	KURT			rolling kurtosis of daily total return over the past year. Calculated by subtracting average trading volume from last 3 months from the average trading volume of last month and then divided by the standard deviation of trading volume from past 3 months. Calculated by dividing the sum of daily trading volume or past year of past year by index

Alternative	Liquidity	AMIHUD	Amihud illiquidity	All	Average over past month of absolute value of daily returns multiplied by 1e9 then divided by price multiplied by trading volume.
					Calculated by taking the log
					of shares outstanding
Alternative	Size	LOG_MKTCAP	Log total market capitalization	All	multiplied by price.
			Log float-adjusted market		Calculated by taking the log
Alternative	Size	LOG_FLOAT	capitalization	All	of index market cap close.
					Calculated by taking the log
Alternative	Size	LOG_ASSET	Log of total assets	All	of total quarterly assets.
					Calculated by taking the log of revenue over the last
Alternative	Size	LOG SALE	Log of revenue	All	twelve months.
					Calculated by taking the log
Alternative Alternative	Size	LOG_PRICE EMP	Log of share price	All	of daily price. Number of employees.
Alternative	Size	EMP	# of employees	All	Number of employees.
Alternative	Size	ES_REC_NO	# of analysts providing recommendations	All	Sum of number of hold, sell, and buy recommendations fron analysts.
					Number of analysts
			# of analysts providing FY1 EPS		providing estimates for normalized EPS for next
Alternative	Size	ES_EPS_FY1_NO	estimates	All	fiscal year.
Big data	News based	NEWS_SENTVOL_91D	# of novel/relevant/non-neutral news, 91D	All	Sum of non-neutral news stories for an entity on a given day over past 3 months.
Big data	News based	NEWS_ABNO_SENT_1D	Abnormal sentiment of novel/relevant/non-neutral news 1D/365D	All	Event sentiment score divided by average event sentiment score over past year.
0			,		,
Big data	News based	NEWS_SENT_1M	Average Sentiment Over 1Month	All	Average event sentiment score over past month.
Big data	News based	NEWS_SENT_3M	Average Sentiment Over 3 Month	All	Average event sentiment score over past 3 months.
					Number of relevant news
Big data	News based	NEWS SENTVOL 1D	# of novel/relevant/non-neutral news, 1D	All	stories for an entity on a given day.
Big data	News based	NEWS ABNO VOL 1D	Abnormal volume (z-score) of novel/relevant/non-neutral news, 10/3650	All	Number of non-neutral news stories for an netity on a given day divded by average number of non- neutral news stories for an entity on a given day over the past year.
o.g data	INCM2 Dased	INCAN 2 WOLAND AND TO	10/3030	Ail	one puse year.