FINANCIAL INDICATORS SECURITIES ANALYSTS CARE ABOUT: EVIDENCE FROM MEXICO

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PURPOSE

- To investigate what the most frequently used financial indicators are and to examine the relationship, if any, between those indicators and leading stock returns
- This study, then presents two sets of results: (1) "preferred" financial indicators, and (2) predictive power of financial ratios
- Results on the analysis of financial ratios used by a group of sophisticated users (financial analysts) could be useful for firms managers; as we could reduce the set of ratios used when assessing financial information, introduce the use of new ratios used by analysts but not by firms, and overall, improve the decision making within firms or banks.

LITERATURE REVIEW

- The recurring research question has been which ones analysts should use since financial ratios tend to contain overlapping information
- Factor analysis to look for patterns (Gombola and Ketz, 1983; Chen and Shimerda, 1981)
  - Many ratios revealed the same information
- Surveys of financial analysts
  - Matsumoto et al (1995), surveyed financial analysts in the USA rated usefulness of 63 financial indicators
  - Gibson (1987) surveyed CFAs in the USA
- Our results in this study are, in general, consistent with Matsumoto et al. (1995) and Gibson (1987) as we find that valuation, profitability, and leverage (in addition to cash flow) ratios are the most used categories by research analysts following equities listed on the Mexican stock exchange
- However, our findings differ as far as the relative importance of the ratios. . Unlike previous research, we document that cash flow related indicators such as free cash flow yield and dividend yield, are of relatively high importance to financial analysts.

DATA

- Stock returns are used as dependent variables and a set of "preferred" financial indicators as explanatory variables
- Analysts reports on Mexican Equities: BBVA Bancomer, Credit Suisse, BB&T Capital Markets, Deutsche Bank, HSBC Global Research, J.P. Morgan, etc.
- Used 72 reports on 40 non-financial Mexican firms listed on Mexican Stock Exchange for which analysts made a buy, sell or hold recommendation
  - 29 of 40 companies on the MSE 35-stock index
- ISI Emerging Markets, 1Q 2011
- Estimation of financial indicators and stock returns
- *Economatica*, 1995-2011, using quarterly TTM data
- Sample for the regression analysis includes about 1,500 firm-TTM observations

METHODS

- Fist rank: simply counting the financial indicators as used by financial analysts in the simple
- Second rank: Marginal ranking according to financial ratios affecting changes in recommendations by analysts
- OLS stock returns, set of financial indicators, and control variables
- $RET_{t+n} = \alpha + \beta_1 FI_t + \beta_2 \log (MVE) + \beta_3 BETA_{t+n} + \varepsilon$

RESULTS

INDICATORS USED

- Categories
  - Financial ratios (IS and BS only)
  - Valuation ratios (IS, BS, stock prices)
  - Cash Flow ratios (CF statement)
  - Other (per share data and growth rates)
- Table 3 – frequency of financial indicators

Table 3 - Frequency of financial indicators used by the analysts covering Mexican equities

Financial Indicator / Analyst	BBVA	CS	BB&T	DB	HSBC	Itau	JPM	MT	ST	VE	Total
Number of recommendations	8	15	1	9	15	8	4	1	7	4	72
Profitability and Margins											
EBITDA margin	X	X	X	X	X	X			X		7
Return on Equity (ROE)	X	X	X	X	X	X	X				7
EBIT margin		X		X	X	X			X		5
Return on Investment (ROI)	X	X			X	X	X				5
Return on Assets (ROA)				X	X	X	X				4
Revenue to Invested Capital					X						1
Extended DuPont				X							1
Leverage or Debt Management											
Net Debt to EBITDA	X	X			X	X		X			5
Net Debt to Equity		X		X	X	X			X		5
Interest Coverage	X			X		X					3
EBITDA to Net Interest Exp		X			X						2
Net Debt to Total Capitalization						X					1
Debt to Total Capitalization			X								1
Assets to Equity							X				1
Cash Flows from Op. to Net Debt					X						1
Multiples or Valuation Ratios											

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Price to Earnings	X	X	X	X	X	X		X	X	X	9
FV to EBITDA	X	X	X	X	X	X	X	X	X		9
Price to Book Value	X	X		X	X	X	X			X	7
Price to Sales				X					X	X	3
FV to Sales	X				X				X		3
FV to EBIT				X		X					2
FV to Invested Capital		X			X						2
Price to Capital Employed									X		1
Cash Flows											
Dividend yield	X	X		X	X	X	X	X	X		8
Free Cash Flow (FCF) Yield	X	X		X	X		X	X	X		7
Dividends Payout	X			X							2
Working Capital to Sales							X				1
CAPEX to Operating Cash Flow		X									1
CAPEX to D&A							X				1
CAPEX to SALES							X				1
Other											
Earnings Per Share (EPS)	X	X	X	X	X	X	X	X	X	X	10
Sales growth	X	X		X	X	X	X	X	X		8
Dividends Per Share	X			X	X	X	X		X	X	7
EPS growth	X			X	X			X	X	X	6
FCF growth			X	X			X	X			4
FCF per share			X	X							2

MOST USED FINANCIAL INDICATORS BY ANALYSTS

- All ratios used (Table 3 article)
- Most preferred or predominant ratios (>= 50%) –excerpt Table 3:
  - Profitability and Margins: ROE (7 of 10 analysts), ROIC (5) EBITDA margin (7), and EBIT margin (7)
  - Leverage: Net debt/EBITDA, net debt to equity (5 of 10 analysts)
    - Uncommon on textbooks
  - Valuation: price to earnings (9), enterprise value to EBITDA (9), price to book (7)
  - Cash flow: dividend yield (8), free cash flow yield (7)
  - Other: EPS (10), sales growth (8), dividends per share (7), and EPS growth (6)
- Number of indicators are reduced to fifteen
- Some of these indicators are not commonly used in financial textbooks (Neither liquidity nor assets turnover)

CHANGE IN RECOMMENDATION

- What ratios were the drivers of a change in a recommendation (12 in sample)
- Main drivers (excerpt from Table 4 article):
  - EBITDA margin growth, EPS growth, sales growth
  - Next, market/book ratio, EV/EBITDA
  - Next, working capital (no listed in Table 3- templates)
- We use this information as a complement (only marginally) to results from templates (e.g., Preferred ratios)
- With these two sets of information we reduced the number of financial indicators with these assumptions in mid:
  - A set of few financial indicators is preferred to a set with a large number of indicators to avoid confusion (and redundancy) when assessing financial performance, and
  - Reducing the number of variables is beneficial for parsimony and to avoid milti-collinearity problems

Table 5 – Most preferred financial indicators

Profitability and Margins:	**Valuation or Multiples:**	**Cash Flow:**
EBITDA Margin	Price to Earnings	Dividend Yield
ROI	FV to EBITDA	Free Cash Flow Yield
Leverage or Debt Management:		**Other:**
Net Debt to EBITDA		EPS
Net Debt to Equity		Sales growth

List of indicators after following two filtering criteria as explained in section 3

- These 10 indicators represent our set of explanatory variables for our regression analyses
- The combination of these variables in models with only one variable by category gives 32 potential models (Appendix 3 article)

FINAL SET OF EXPLANATORY VARIABLES

- Some of the competing variables from the previous list were eliminated either because of high correlations with other variables or because one of the two variables is more robust theoretically (e.g., FV to EBITDA is preferred over PE because the former captures leverage)
  - Model 1 (FV/EBITDA, EBITDA %, D Y, ND to E, EPS %)
  - M 2 (FV/EBITDA, EBITDA %, DY., ND to E, Sales %)
  - M 3 (FV/EBITDA, EBITDA %, FCF Y, ND to E, EPS %)
  - M 4 (FV/EBITDA, EBITDA %, FCF Y, ND to E, Sales %)
  - M 5 (FV/EBITDA, ROI, DY, ND to E, EPS %)
  - M 6 (FV/EBITDA, ROI, DY, ND to E, Sales %)
  - M 7 (FV/EBITDA, ROI, FCFY, ND to E, EPS %)
  - M 8 (FV/EBITDA, ROI, FCFY, ND to E, Sales %)
- In addition, we control for market risk (beta) and for size (log of market cap). And run fixed effect regressions
- The dependent variable is leading stock returns (*T+4* and *T+8*)

REGRESSION RESULTS

- Table 6 article
- Overall, signs as expected
- FV to EBITDA negative and significant for all models
  - Managers have pressure to decrease multiples every period in order their stocks be perceived as more attractive by investors
- EBITDA Margin (Positive but no significant) and ROI (positive and weak significance, only in two models)
  - Important finding as managers appear to be fixated on earnings and EBITDA margin is very popular. However weak estimates
- Dividends Yield (negative and significant in all models)
  - Possible explanation: Firms with high div yields are generally large, stable, mature firms with low growth prospects, which is feasible for our sample (part of the MSE index). These are value stocks with div payouts rather than stock price growth

REGRESSION RESULTS, CONT.

- FCF Yield (negative and significant)
  - By the FCF hypothesis (Jensen, 1968), higher FCF for a given price signals higher agency costs
- Net Debt to Equity (positive and significant)
  - Higher leverage increase value (capital structure problem)
- EPS growth and Sales growth (Positive but sales growth no significant, and EPS only in one model)
  - While sales growth is among the preferred indicators, they may use this only as an initial filter

- Models 1 and 2 best fit the data, explaining 46% of variation of returns in *T+4*. The marginal predictive power of the indicators (without betas and size) is of 11% Adj. R2
- Results for growth (rather than level) variables are consistent
- For *T+8* returns these results do no hold

CONCLUSIONS

- Scarce literature on financial indicators, particularly for emerging markets
- Mexican financial analysts focus on profitability and margins, valuation, cash flow, leverage, and growth ratios
- The results of this study are of importance since some of the preferred indicators are not the financial indicators typically shown in financial text books
- In addition, some popular financial indicators not included in previous studies in this literature are show to be of importance (e.g., FV to EBITDA, ND to EBITDA, FCF Y)
- Our selection of predominant financial indicators, based on financial analysts reports and recommendations) have predictive power in terms of future *T+4* stock returns, with all the signs of estimators as expected by financial theory.