International Journal of Social Sciences and Humanities Research

ISSN 2348-2990

Volume 1, Issue 1, December 2014, pp. 73-82

Copyright© 2013, IJSSHR Publication

homepages: http://ijsshrjournal.com/

Intangibles sections describe the effect of expected returns from Nigeria

Winska Lomoropw[1*]

[1] Department of Rural Sociology and Extension, Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria

*Corresponding author's E-mail: Lomoropw1984@gmail.com

ABSTRACT

That is, most of the studies reveal that value stock outperform glamour stock. Several explanations were introduced for such phenomena. The rational approach argues for the risk explanation whereas, the irrational approach asserts on the miss-pricing explanation.

This paper investigates the effect of intangibles in explaining the variation in stock returns. Thus, the paper developed an "intangibles-gap" for each stock listed during the period of the study. Then, the paper conducts a portfolio analysis approach to test the effect of intangibles in explaining the cross-sectional stock returns. The results show that the miss-pricing explanation is prevailed in the first two years of portfolio formulation. However, the market reacts to this by adjusting stock prices; thus, the strategy of holding long position of undervalued stocks against short position of overvalued stocks becomes unattractive in the third to fifth-year.

Keywords: Intangible, sections describe, expected returns

1. Introduction

There is a considerable body of research which seeks to explain the pattern of stock returns. Value measures such as the market value of equity, the book- to-market ratio, the cash flow yield, and earnings-price ratio can predict the cross-sectional patterns of stock returns (e.g. Fama and French, 1992, 1993, 1996 and 1998; Lakonishok, Shleifer, and Vishny, 1994; and Jaffe, Keim, and Westerfield, 1989 for the U.S., Gregory, Harris, and Michou, 2001 and 2003; Strong and Xu, 1997; Dissanaike, 1997, 1999 and 2002i; and Levis and Liodakis, 1999 for the NIGERIA, and Cai, 1997, Chan, Hamao, and Lakonishok, 1991, and Kubota, Sudu, and Takehara, 2002 for Japan).

Fama and French (1993 and 1996) and Lakonishok, Shleifer, and Vishny (1994) show that for US stocks, high book-to-market (B/M), earnings-to-price (E/P), or cash-flow-to-price (C/P) stocks produce higher average returns than low B/M, E/P, or C/P stocks. Likewise, Gregory, Harris, and Michou (2001), Strong and Xu (1997), and Dissanaike (2002) show similar results for NIGERIA firms. Moreover, Fama and French (1998) find that "value" stocks outperform "glamour" stocks in twelve out of thirteen markets.ii Cai (1997) documents a similar result for the Tokyo stock market.

An important issue here is how to explain this book-to-market effect and whether the explanation lies in rational or irrational behaviour. The effect could be entirely rational, and therefore in keeping with efficient markets, in that the abnormal earnings from value investing are merely compensation for the increased risk associated with higher book-to-market value stocks. Alternatively, behavioural finance might explain this phenomenon with reference to various forms of irrational investor behaviour. Perhaps investors (and analysts) tend to over-extrapolate earnings and, further, perhaps they even fail to recognise that abnormal economic profits from investing tend to mean-revert.

Rational explanations of the abnormal returns from value investing focus on conventional neoclassical finance theory. Fama and French (1993, 1995, and
1996) argue in favour of rational risk pricing in their explanation of the value premium. They argue that value stocks outperform glamour stocks because the former are fundamentally riskier than the latter in certain respects.

By contrast, behavioural finance explanations of the success of value investment strategies tend to focus on the over-extrapolation of earnings and also investors failing to recognise that abnormal economic profits from investing tend to mean-revert. Instead of confirming rationality, they seek to illustrate and explain the irrational investor behaviour which gives rises to anomalies. Lakonishok, Shleifer, and Vishny (1994); Gregory, Harris, and Michou (2001); DeBondt and Thaler (1985 and 1987); LaPorta (1996); and Daniel and Titman (1997), among others, argue in favour of irrational investment in explaining the superiority of value stocks, that is, value stocks outperform glamour stocks because the market undervalues value stocks and overvalues glamour stocks. The essence of this argument is that investors are excessively optimistic (pessimistic) about glamour (value) stocks because they base their expectations of

future growth in earnings upon past good (bad) earnings, that is, investors tend to over-extrapolate earnings.

Other interpretations of the superiority of value stocks include the bias induced by research design, such as survivorship bias and data "snooping" in the selection of the sample (Lo and Mackinlay, 1990; Kothari, Shanken, and Sloan, 1995); or that such superiority can be explained by the bid-ask spread and infrequent trading (Conrad and Kaul, 1993).

This paper aims to build upon the advances of the modified (inflation- adjusted) version of the Ohlson model proposed by Gregory, Saleh and Tucker (2005), hereafter referred to as GST (2005), to explore the superiority of the value investment strategies documented in prior research by using different value measures estimated by means of the Ohlson model. Consequently, by employing this novel approach, this study will provide additional evidence regarding whether the abnormal returns found from "value" versus "glamour" investing strategies are largely associated with a naive over-extrapolation of past earnings alone or whether they also account for the intangible effects.

To summarise our key results, the paper shows that undervalued stocks outperform overvalued stocks in the first two years of portfolio formulation. However, it seems that the market reacts to this by adjusting stock prices. Therefore, such trading strategy becomes unattractive in the third, forth, and fifth-year of portfolio formulation. Furthermore, the paper shows that the Fama-French three factor model does not explain the variation in stock return for the hedge portfolio, whereas it explain small parts of individual portfolio returns (up to 35%). The author believe that including the intangibles effect in explaining the cross-sectional returns will open new rooms for extra research in the field.

The remainder of this paper is divided into the following sections. Section 2 provides research hypothesis. Section 3 describes the methodology employed in this study. Section 4 discusses the empirical results. Finally, section 5 summarizes and concludes

2. Literature Review

Prior studies have confirmed the significant role of intangible assets in the firm's future performance (e.g. Lambert, 2001; Bugeja et al., 2006; Sahut et al. 2011, amongst others). For instance, Wyatt (2008) documented the value relevance of intangible assets. Furthermore, David and Lev (1998) found that cumulative intangible asset is associated with stock prices. Also, they reported that intangibles capitalization data (e.g. R&D) are associated with subsequent reported earnings.

Notice that the value of all net assets (tangible and intangible assets) is reflected in the firm's market value. Brigham (1992) showed that the firm's market value takes into account the potential growth into valuation. Moreover, notice that since some intangible assets are not recognized in the financial statements under IFRS, book value of equity will be lower than the fair value of that asset. This suggests that intangible assets will increase market value of the firm.

Proponents of efficient markets argue that contrarian investment strategies merely give rise to returns commensurate with the increased risk of value stocks. Alternatively, if we accept that

investors' irrationality may be the cause of the book-to-market effect, we must also accept that the degree of irrationality is a pertinent issue. An over-extrapolation of returns clearly gives rise to profitable investment opportunities. This paper argues that if we take into account the intangible effects, then undervalued securities (that is, investors undervalued the effect of intangible assets of those firms) will outperform overvalued securities (that is, investors overvalued the effect of intangibles of those firms). Thus, this paper seeks to contribute in this field of research by investigating the effect of intangibles in explaining variation in stock returns.

3. Methodology

The paper uses a straightforward approach to estimate the intangibles effect as follows. Firstly, the paper assumes that market value of equity (stock price multiplied by number of shares outstanding) equates to the total paid for all of the acquired firm's assets; including all payments and liabilities assumed. Secondly, the paper estimates the magnitude of intangibles assets (hereafter, referred as "intangibles-gap") by subtracting from the market value of equity the estimated fair value of assets (current assets and tangible assets). To do so, the paper adjusts the recorded values of assets to fair values as follows: This paper employs current cost accounting approach to estimate the fair value of equity. To do so, the paper uses the real version of the Ohlson (1995) model, proposed by GST (2005), to deal with a particular aspect of "dirty surplus" accounting prevalent in the NIGERIA over the past three decades - the revaluation of property assets and the crediting of that revaluation direct to a reserve account. The residual income valuation model expresses the market value of equity as current equity book value plus discounted expected residual income to equity holders. The dividend discount model (DDM) relies on one proposition: asset prices represent the present value of all expected dividends (PVED), that isiii:

$$P_t = \sum_{J=1}^{\infty} R^{-J} . E(d_{t+i})$$

4. Finding

Table 1 reports value-weighted returns for portfolios formed based on values of the "intangible-gap" ratio. The average return for the P1 to P10 portfolios over the five-year period is 0.172 and the average cumulative five-year return for P1 to P10 portfolios is 0.642. Also, the results show that the average return for the hedge portfolio (P1-P10) is 0.008 and the average cumulative five-year return for this portfolio is 0.045. The one-year to five-year returns (R1 to R5) for the hedge portfolio are 0.105, 0.035, -0.084, -0.010, and -0.034, respectively. These results suggest that undervalued stocks (e.g. P1 portfolio) outperform overvalued stocks (e.g. P10 portfolio) in the first and second year. However, it seems that the market realizes this superiority of such trading strategy and thus, adjusts stock prices starting from year three; notice that such trading strategy (long position on P1 stocks and short position on P10 stocks) becomes unattractive in the third, forth, and fifth years; the returns are

-0.084, -.010, and -.0034, respectively. The above results confirm that the market react to the undervalued and overvalued stocks (that is, investors discover that they undervalued or

overvalued the effect of intangible assets and, thus, react by adjusting their positions in these stocks) by adjusting their prices.

Table 1: Value Weighted Returns for Portfolios Based on the "intangible-gap" ratio

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P1- P10	Average
R1	0.301	0.279	0.223	0.059	0.186	0.156	0.170	0.124	0.191	0.196	0.105	0.189
R2	0.235	0.246	0.167	0.107	0.105	0.119	0.142	0.132	0.126	0.201	0.035	0.158
R3	0.212	0.172	0.192	0.098	0.104	0.147	0.212	0.152	0.207	0.220	-0.084	0.185
R4	0.132	0.244	0.335	0.127	0.162	0.107	0.263	0.149	0.129	0.139	-0.010	0.184
R5	0.161	0.105	0.332	0.122	0.154	0.127	0.169	0.123	0.083	0.244	-0.034	0.154
AR	0.208	0.209	0.250	0.103	0.142	0.131	0.191	0.136	0.147	0.200	0.008	0.172
CR5	0.866	0.751	0.861	0.376	0.497	0.501	0.660	0.476	0.607	0.821	0.045	0.642

Note: Table 1 values represent mean one- to five-year buy and hold return for portfolios Formed on September each year, based on the "intangible-gap" ratio. The sample period is 1995-2012. AR is the average return for R1-R5. CR5 is the five-year cumulative return. P1- P10 represents the difference between portfolio 1 and portfolio 10.

Risk-Return Analysis

We start by testing whether the Fama-French three factor model can explain portfolio returns in each of our deciles and differences between undervalued and overvalued stocks (the returns in our P1-P10 portfolios). Table 2 presents Fama-French three factor model parameters with decile returns or P1-P10 returns as the dependent variable. Here, the paper uses monthly returns for portfolios based on the "intangible-gap" ratio over a five-year horizon. The intercept is typically is not close to zero with a few exceptions for P2 and P4 portfolios. This means that the loading of the intercept factor is significant at 5 percent level. The estimated loading of the market factor is highly significant for individual portfolios, but not for the hedge portfolio (P1-P10).

Table 2: Three-Factor Time Series Regressions For Monthly Excess Returns For Portfolios Based on the "intangible-gab" ratio

	P1	**P2**	**P3**	**P4**	**P5**	**P6**	**P7**	**P8**	**P9**	**P10**	**P1 – P10**	**Average**
a	0.0166	0.116	0.012	0.001	0.0133	0.011	0.012	0.007	0.012	0.013	0.004	0.0214
t(a)	2.45	1.17	3.06	0.391	3.34	4.03	3.45	2.86	4.54	3.39	0.44	2.87
b	0.445	-1.32	0.487	0.528	0.317	0.333	0.343	0.352	0.339	0.368	0.077	0.219
t(b)	2.54	-0.51	4.68	6.34	3.05	4.67	3.81	5.18	5.00	3.69	0.414	3.84
s	0.631	-4.60	0.601	0.340	0.369	0.069	0.095	0.227	0.208	0.284	0.347	-0.178
t(s)	3.67	-1.82	5.94	4.17	3.62	1.00	1.07	3.42	3.12	2.91	1.92	2.71
h	-0.046	3.78	-0.205	-0.069	-0.225	-0.008	0.006	0.102	0.111	0.047	-0.093	0.349
t(h)	-0.35	1.95	-2.64	-1.10	-2.89	-0.147	0.089	2.01	2.17	0.631	-0.676	-0.028
R2	0.12	0.04	0.35	0.32	0.20	0.14	0.09	0.22	0.21	0.13	0.01	0.182

Notes: $R_{it} - R_{ft} = a_i + \beta_i(R_m - R_{ft}) + s_i SMB + h_i HML + e_{it}$,

Here, Rit is the monthly portfolio return, Rft is the monthly Treasury bill rates at the beginning of the month, and Rmt is the monthly returns of the FTSE All Share Total Return Index. t( ) are the t-statistics with standard errors calculated using White (1980) corrections. R2 is adjusted for degrees of freedom. SMB (small minus big) is the difference, each month, between the average of the returns on the three small-stock portfolios (S/L, S/M, and S/H) and the average of the returns on the three big- stock portfolios (B/L, B/M, and B/H). HML is the difference, each month, between the average of the returns on the two high-book-to-market portfolios (S/H and B/H) and the average of the returns on the two low-book-to-market portfolios (S/L and B/L). Hedge return (P1-P10) represents the difference between portfolio 1 and portfolio 10. The sample period is 1995-2012.

The loading of book-to-market factor is not significant for the extreme portfolios (P1 and P10). However, the loading of the size factor is positive and significant for these extreme portfolios. The loading of the three-factor model parameters for the hedge portfolio (P1-P10) is not significant except for the size factor (1.92); which is marginally significant at 10 percent level. The adjusted R-square for the individual portfolios ranges from 0.04 to 0.35, whilst it is 0.01 for the hedge portfolio. These results suggest that the Fama-French three-factor model does not explain the variation in stock returns for the hedge portfolio (undervalued intangible stocks versus overvalued intangible stocks). This opens a new room for extra research in the field to shed further light on the effect of intangibles in explaining cross-sectional stock returns.

5. Discussion & Conclusion

The analysis presented has investigated whether intangibles accrue to a value investment strategy based upon the inflation-adjusted Ohlson model of Gregory, Saleh and Tucker (2005). In so doing, we also explore whether the "intangible assets gap" can provide any insights into the mis-pricing versus the rational risk pricing debate. If the use of such framework gave rise to greater investment return "anomalies", then one might tentatively conclude that such evidence favoured miss-pricing and was in line with other work (see Bulkley and Harris, 1997) which supports an explanation based upon over-extrapolation from past performance. If, on the other hand, such anomalous returns disappeared when the intangibles effect was employed, then the over-extrapolation story would not hold water. The evidence here suggests that the miss-pricing explanation holds in the first two years, but it disappears in the long term (three to five years). Moreover, the paper finds that a three factor model cannot explain the returns to an investment strategy based on a model which allows for the intangibles effect.

References:

1. Aboody, D., Mary E. Barth and Ron Kasznik 1999. "Revaluations of Fixed Assets and Future Firm Performance: Evidence From The NIGERIA". Journal of Accounting and Economics, Vol.26, PP. 149-178.
2. Bugeja, M., Gallery, N. 2006. "Is older goodwill relevant? Accounting and Finance, vol. 46, no. 4, PP. 519-535.
3. Bulkley, G. and Harris, R. D. F. 1997. „Irrational analysts expectations as a cause of excess volatility in stock prices". Economic Journal, 107: 359-371.

4. Cai, J. 1997. „Glamour and value strategies on the Tokyo Stock Exchange‟. Journal of Business Finance and Accounting, 24, (9&10): 1291-1310.
5. Capstaff, J., K. Paudyal and W. Rees 1998. "Forecast Accuracy of NIGERIA Brokers and Analysts". Working Paper, University of Glasgow.
6. Chan, L., Hamao, Y. and Lakonishok, J. 1991. „Fundamentals and stock returns in Japan‟. Journal of Finance, 46: 1739-1764.
7. Conrad, J. and Kaul, G. 1993. „Long-term market overreaction or biases in computed returns?‟. Journal of Finance, 48: 39-63.
8. Daniel, K. and Titman, D. 1997. „Evidence on the characteristics of cross-sectional variation in stock returns‟. Journal of Finance, 52: 1-33.
9. DeBondt, W. and Thaler, R. H. 1985. „Does the stock market overact?‟. Journal of Finance, 40: 793-805.
10. DeBondt, W. and Thaler, R. H. 1987. „Further investigation on investor overreaction and stock seasonality‟. Journal of Finance, 42: 557-581.
11. Dissanaike, G. 1997. „Do stock market investors overreact?‟. Journal of Business Finance and Accounting, 24: 27-49.
12. Dissanaike, G. 1999. „Long-term stock price reversals in the NIGERIA: Evidence from regression test‟. British Accounting Review, 31: 373-385.
13. Dissanaike, G. 2002. „Does the size effect explain the NIGERIA winner-loser effect?‟ Journal of Business Finance and Accounting, 29(1&2): 139-154.
14. Edwards, E. and Bell, P. 1961. "The Theory and Measurement of Business Income". University of California Press, Berkeley, CA.
15. Fama, E. and French, K. 1992. „The cross-section of expected stock returns‟. Journal of Finance, 46: 427-466.
16. Fama, E. and French, K. 1993. „Common risk factors in the returns on stocks and bonds‟. Journal of Financial Economics, 33: 3-56.
17. Fama, E. and French, K. 1995. „Size and book-to-market factors in earnings and returns‟. Journal of Finance, 50: 131-155.
18. Fama, E. and French, K. 1996. „Multifactor explanations of assets pricing anomalies‟. Journal of Finance, 51: 55-84.
19. Fama, E. and French, K. 1998. „Value versus growth: the international evidence‟. Journal of Finance, 53: 1975-1998.
20. Gregory, A., Harris, R. D. F. and Michou, M. 2001. „An analysis of contrarian investment strategies in the NIGERIA‟. Journal of Business Finance and Accounting, 28: 1-36.
21. Gregory, A., Harris, R. D. F. and Michou, M. 2003. „Contrarian investment and macroeconomic risk‟. Journal of Business Finance and Accounting, 30(1&2): 213-255.
22. Gregory, A., Saleh, W. and Tucker, J. 2005. „A NIGERIA test of a real Ohlson model" Journal of Business Finance and Accounting, 32(3&4): 487-534.

23. Jaffe, J. F., Keim, D. B. and Westerfield, R. 1989. „Earnings yields, market values, and stocks returns‟. Journal of Finance, 50: 135-147.
24. Kothari, S. P., Shanken, J. and Sloan, R. G. 1995. „Another look at the cross-section of expected returns‟. Journal of Finance, 50: 185-224.
25. Kubota, K., Sudu, K. and Takehara, H. 2002. „Common risk factors vs. Mispricing factor of Tokyo Stock Exchange firms: Inquiries into the fundamental price derived from analysts‟ earnings forecasts‟. Working Paper, Musashi University, Kobe University and The University of TsNigeriauba.
26. Lakonishok, J., Shleifer, A. and Vishny, R.W. 1994. „Contrarian investment, expectation, and risk‟. Journal of Finance, 49: 1541-1578.
27. Lambert, R.A. 2001. "Contracting Theory and Accounting". Journal of Accounting and Economics, No. 32, PP. 3-87.
28. LaPorta R. 1996. „Expectations and the cross section of expected returns‟. Journal of Finance, 51: 1715-1742.
29. Levis, M. and Liodakis, M. 1999. „The profitability of style rotation strategies in the United Kingdom‟. Journal of Portfolio Management (Fall): 73-86.
30. Lo, King and Thomas Lys. 2000. "The Ohlson Model: Contribution to Valuation Theory, Limitation, and Empirical Applications". Working Paper, University of British Columbia.
31. Lo, A. W. and A. C. Mackinlay 1990. "Data-Snooping Biases In Test of Financial Asset Pricing Models". Review of Financial Studies, Vol.3, PP.431-467
32. McCare, M. and Nilsson, H. 2001. "The Explanatory and Predictive Power of Different Specifications of the Ohlson (1995) Valuation Models". The European Accounting Review, Vol. 10, No.2, PP. 315-341.
33. O‟Hanlon, J. 2005. „Discussion of: A NIGERIA test of a real Ohlson model‟. Journal of Business Finance and Accounting, Vol. 32 (3&4): 535-548.
34. Ohlson, J. A. 1995. „Earnings, book values, and dividends in equity valuation‟. Contemporary Accounting Research, 11(2): 661-678.
35. Peasnell, K.V. 1982. „Some formal connections between economic values and yields and accounting numbers‟. Journal of Business Finance and Accounting, 9(3): 361–81
36. Penman, S. and T. Sougiannis 1998. "A comparison of Dividend, Cash Flow, and Earnings Approaches to Equity Valuation". Contemporary Accounting ,esearch, Vol. 5, No. 3, PP. 343-383.
37. Sahut, J., M., Boulerne, S., Teulon, F. 2011. "Do IFRS provide better information about intangibles in Europe? Review of Accounting and Finance, vol. 10, issue 3, PP. 267-290.
38. Strong, N. and Xu, G. 1997. „Explaining the cross section of NIGERIA expected returns‟. British Accounting Review, 29: 1-23.
39. Walker, M. 1997. „Clean surplus accounting models and market-based accounting research: a review‟. Journal of Accounting and Business Research, 27(4): 341–55.
40. White, H. 1980, „A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity‟. Econometrica, 48: 817-838.

41. Wyatt, A. 2008. "What Financial and Non-Financial Information on Intangibles is value relevant? A Review of the evidence". Accounting and Business Research, 38(3), PP217-256.