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Accounting Conservatism and Transitory Earnings in Value and Growth Strategies

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Abstract: The value premium earned on value and growth investment strategies increases after adjusting for transitory earnings and for the accounting conservatism bias in the book value of equity. Simple investment strategies based on earnings-to-price (E/P) and book-to-market (B/M) performed on the Swedish stock market between 1980 and 2004 generate an annual value premium of 11 to 14%. Adjustments for transitory earnings and for the conservatism bias increase the value premium by 2 to 4 percentage points, and at the same time they improve the consistency of earning it. These results suggest that transitory earnings and accounting conservatism introduce noise into E/P and B/M measures. Adjusting for these accounting characteristics makes the identification based on E/P and B/M more effective.

Keywords: market efficiency, value strategy, growth strategy, earnings-to-price, book-to-market, transitory earnings, accounting conservatism

1. INTRODUCTION

Predictability of stock returns is one of the most debated issues in modern finance. Many studies show that stocks with low relative market valuation in relation to summary accounting measures, such as the book value of equity, earnings or cash flows, outperform stocks with high relative market valuation (Chan et al., 1991; Lakonishok et al., 1994; Cai, 1997; Brouwer et al., 1997; Levis and Liodakis, 2001; Gregory et al., 2001; and Conrad et al., 2003). While summary accounting measures are reliable, they disregard important well-documented accounting properties, such as transitory components of earnings and a bias in book value of equity due to accounting conservatism. We extend the existing literature by documenting that these characteristics compromise the effectiveness of the earnings-to-price (E/P) and book-to-market (B/M) ratio's ability to predict stock returns.

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We test value and growth investment strategies (VGS) that adjust for a transitory component in earnings and for the effect of an accounting conservatism bias in book value of equity. Our results show that simple (i.e. un-adjusted) VGS in Sweden generate a value premium of 11 to 14%. These results also hold after adjusting for risk measured by beta and size. Furthermore, we find that both transitory earnings and conservative accounting impair the effectiveness of the VGS. After we adjust reported earnings for transitory items, the value premium earned on an E/P based VGS increases by 2.7 percentage points and the success rate, i.e. the consistency with which the value premium is earned, increases by 11.0 percentage points. Similarly, after we adjust for the conservatism bias in the book value of equity, the value premium earned on B/M based VGS increases by 1.7 percentage points and the success rate increases by 2.8 percentage points. While the incremental effects are quite modest, the consistency of the E/P based strategy benefits greatly.

Apparently both transitory earnings and accounting conservatism tend to reduce the ability of summary accounting figures to measure a firm's fundamental value. In addition, adjusting for these accounting characteristics improves the reliability of the E/P and B/M indicators and thereby enhances the effectiveness of VGS. It is often discussed whether the value premium earned on VGS is due to market inefficiency (Lakonishok et al., 1994; Brouwer et al., 1997; and Gregory et al., 2001) or some latent risk factor (Fama and French, 1998). We do not take a firm stance in this respect, but our results show that neither beta nor size is able to explain the value premium. As we see it, the E/P and B/M ratios are more effective indicators when accounting characteristics have been considered, regardless of whether they predict future returns because they capture mispricing caused by behavioral biases or because they are correlated with some latent risk factor.

The remainder of the paper is organized as follows. Section 2 provides a theoretical framework and our research hypotheses. Section 3 outlines the methodology used to perform the empirical analysis. The following three sections present the results. In Section 4 we confirm that in line with the international evidence a substantial value premium can be earned on the Swedish market. In Section 5 we analyze the effect of transitory earnings, and in Section 6 the effect of conservative accounting policies. Section 7 concludes the paper.

2. VALUE AND GROWTH INVESTMENT STRATEGIES

The possibility of earning an abnormal return with the use of value and growth investment strategies (VGS), i.e. 'buying when others sell and selling when others buy', attracted investor attention long before modern financial theory came about (e.g., Lefevre, 1923; and Graham and Dodd, 1934). Much later empirical research confirms that superior returns can indeed be earned on stock with a low relative market valuation. Basu (1977) analyzes the E/P anomaly, whereas Chan et al. (1991) and Lakonishok et al. (1994) find several measures that correlate with superior future stock returns such as E/P, B/M, CF/P and growth in sales. These findings are confirmed in a number of international studies; Levis and Liodakis (2001) and Gregory et al. (2001) for the UK, Doeswijk (1997) for the Netherlands, Chou and Johnson (1990) for Taiwan, and Chan et al. (1991), Cai (1997) and Park and Lee (2003) for Japan. Fama and French (1998) provide broad international evidence, whereas Brouwer et al. (1997) and Bird and Whitaker (2003) analyze some larger European markets.

Even though the empirical evidence on the capacity of these identification measures (i.e., the E/P, B/M and CF/P ratios) to predict future stock returns is mounting, the reasons why VGS generate substantial value premiums remain contentious. Lakonishok et al. (1994), Brouwer et al. (1997) and Gregory et al. (2001) argue that the relative valuation measures identify mispriced stocks and as the market gradually corrects the mispricing a value premium is returned. A temporary mispricing occurs because investors overreact to good or bad news (see e.g., Hirshleifer, 2001) or because they naively accept analysts' overly optimistic forecasts of future earnings growth (Dechow and Sloan, 1997). In contrast, Fama and French (1993, 1996 and 1998) argue that the relative valuation measures are correlated with a latent risk factor; thus the value premium is a compensation for the higher risk of value stocks and not an abnormal return earned due to temporary mispricing. They argue that stocks with a relatively low market valuation are likely to be financially distressed, which constitutes an additional source of risk. Yet another perspective based on fundamental valuation is proposed by Berk (1995 and 1997), Pontiff and Schall (1998) and Clubb and Naffi (2007), who argue that there should be a mechanical relationship between B/M and expected return because firms with higher expected returns should *ceteris paribus* have a lower relative market valuation, which implies a higher B/M.

In empirical studies under- and overvalued stocks are often identified by comparing the market value of equity with a proxy for the firm's fundamentals, such as the book value of equity, earnings or cash flows. The benefit of using measures based on reported accounting numbers is that the investment strategy is easy to implement and replicate. However, this simple approach disregards well-documented properties of accounting. In addition, noisy measures might undermine the effectiveness of the identification process. We test if the identification process improves with the use of more sophisticated measures that explicitly adjust for two well-known accounting phenomena, the transitory component in earnings and the bias in book value of equity caused by accounting conservatism.

When the E/P ratio is used to identify mispriced or financially distressed firms, current earnings is a proxy for future earnings. Most cross-sectional variations in the E/P ratio are due to different market expectations about the future earnings growth; firms with an expected low earnings growth rate are traded at a higher E/P ratio. If, however, expectations are biased, a firm with overly pessimistic earnings growth expectations is more likely to have a high, rather than a low, E/P ratio. Similarly, if a low market valuation is indicative of financial difficulties, a distressed firm is more likely to have a high, rather than a low, E/P ratio. Not all firms with high E/P ratios are undervalued or financially distressed, as the low relative valuation most often reflects poor earnings growth prospects. But undervalued, or financially distressed firms, are more likely to be found among those with high E/P ratios, which substantiates the use of E/P to identify them.

The capacity of the E/P ratio to identify mispriced or financially distressed firms is not only 'compromised' by different earnings growth prospects, but also by the non-representativeness of the earnings base. Transitory components of earnings are less able to explain stock price as compared to sustainable earnings (Ramakrishnan and Thomas, 1998; and Ohlson, 1999). In poor years earnings are temporarily depressed, and while this creates a low E/P ratio, it is no indication of an overvaluation or a low risk of financial distress (if anything, firms with unusually poor earnings are more likely to be financially distressed). It is just a bias in the indicator caused by a temporarily depressed benchmark of fundamental value (i.e., unusually low earnings). Transitory earnings components arise for many reasons, such as a corporate restructuring, divestiture of a business, unusually favorable economic conditions, and known changes in exchange rates and commodity prices. Temporary diversions from a sustainable level of earnings contaminate the E/P ratio's ability to identify mispriced or financially distressed firms. We expect that adjusting for transitory components in earnings improves the identification process, which increases the VGS's value premium and success rate.

None of the above-mentioned studies of the VGS make explicit adjustments for transitory earnings.[1] However, Anderson and Brooks (2006) base an investment strategy on various combinations of past reported earnings. They do not explicitly discuss transitory components of earnings, but they implicitly eliminate their negative effect on the identification process when aggregating firms' earnings over many years. The approach is purely empirical and while the investment strategy yields excess returns for some combinations of historical earnings (but not for other), the approach is not based on any conceptual argument supporting why it should work. Consequently, the generalizability of these findings to other settings and time periods is questionable. In contrast, we develop a conceptual rather than empirical approach for enhancing the accuracy of the E/P indicator.

We first investigate whether the existence of transitory earnings compromises the effectiveness of the E/P indicator. The sustainable component captures long-term earnings expectations; thus it tends to remain relatively stable over time whereas the transitory component captures temporary shocks to current earnings (e.g., restructuring charges) that are unlikely to persist. We expect the transitory earnings component to be more prominent among firms with volatile earnings. If the sustainable earnings measure is a better indicator of future earnings (i.e., fewer transitory elements), then we can expect that the VGS works better within a sample of firms with stable earnings.

H_{1a}: The value and growth investment strategy is more effective in an environment in which earnings are stable over time.

If the transitory element of earnings hampers the effectiveness of the VGS, then adjustments for known transitory components of earnings increase the VGS's ability to identify stocks that are truly mispriced in relation to the expected earnings growth or stocks that involve additional risk of financial distress. In consequence, we expect that using sustainable earnings rather than reported earnings improves the effectiveness of the VGS both in terms of the value premium and the success rate.

H_{1b}: Adjusting for a transitory earnings component in the E/P indicator increases the effectiveness of a value and growth investment strategy.

Conservatism is a most profound principle of accounting. Basu (1997), Ball and Shivakumar (2005 and 2006), and Beaver and Ryan (2005) distinguish between unconditional *ex ante* conservatism and conditional *ex post* conservatism. Unconditional conservatism pertains to the accounting system's tendency to require such recognition

1 Campbell and Shiller (1988) and Shiller (2000) analyze the stock market index as a whole with the help of multiple earnings observations.

of assets and liabilities that leads to a lower book than market value of equity (Beaver and Ryan, 2005). Conditional conservatism mandates stronger verification requirements for the recognition of gains than losses, which implies a more timely recognition of losses than gains (Basu, 1997). Beaver and Ryan (2005) argue that unconditional conservatism is related to taxation, as it helps managers to minimize tax payments, and regulation, as regulators can avoid blame from constituents. Conditional conservatism may be induced by contracting and litigation needs because it decreases information asymmetry, which reduces managerial incentives to adopt unprofitable projects. Unconditional conservatism is likely to be contractually either neutral or inefficient because the counterparty is aware of it, and high levels of the unconditional conservatism preempts opportunities for conditional conservatism (Ball and Shivakumar, 2005; and García Lara et al., 2009).

The extent to which firms are affected by unconditional conservatism depends on the nature of their resources. The more a firm relies on resources that, for the sake of conservatism, remain unrecognized, the more understated its book value of equity is. The B/M ratio sometimes proxies for unconditional conservatism (Pope and Walker, 2003; Givoly et al., 2007; Pae et al., 2005; and Roychowdhury and Watts, 2007), but in our study the measure cannot be used to adjust for the level of unconditional conservatism as the B/M ratio is used to test the VGS. Instead, we apply an existing industry classification of unconditional conservatism (Runsten, 1998) to determine if conservatism hampers the B/M ratio's ability to identify stocks that are mispriced or have a high risk of financial distress. Firms within an industry tend to depend on the same kind of critical resources; therefore we expect Runsten's (1998) measure to capture a large part of the cross-sectional variation in B/M caused by unconditional conservatism. We expect that adjusting the book value of equity for the conservatism bias improves the effectiveness of the VGS both in terms of value premium earned and the success rate achieved.

H_2: Adjusting for a conservative accounting bias in the B/M indicator increases the effectiveness of a value and growth investment strategy.

3. RESEARCH DESIGN

We evaluate the value and growth investment strategies using data from 602 non-financial firms traded at the Stockholm Stock Exchange (SSE) between 1980 and 2004 (in total 6,006 firm-year observations). The data are obtained from the SixTrust database. The firms are classified into nineteen industries based on their operations during the year. Table 1 reports descriptive statistics for the sample.

In the beginning of April each year, firms are ranked based on the market value of equity relative to some accounting measure taken from its most recently released financial statement. Most firms use the calendar year as their fiscal year; hence constructing portfolios in April ensures that reasonably timely information is used, while we avoid the hindsight bias at the time of portfolio formation (Banz and Breen, 1986). We use two measures of operating performance: net earnings and the book value of equity (including minority interest). We exclude firms with negative earnings from the E/P ranking and firms with negative equity from the B/M ranking. Based on the ranking, equally-weighted portfolios are formed. We report the performance of the top/bottom 10%, 20% and 30% of the ranked firms.

Table 1
Descriptive Statistics

Year	*N*	*E*	*B*	*M*	*ROE*	*E/P*	*B/M*
Median Values for Individual Years							
1979	122	11.7	130.5	161.6	10.6%	0.084	0.917
1980	163	7.3	92.3	202.1	9.0%	0.066	0.737
1981	204	6.3	73.0	316.0	12.9%	0.069	0.622
1982	233	6.2	62.7	525.6	12.0%	0.037	0.374
1983	257	6.7	85.0	560.9	10.3%	0.027	0.289
1984	282	5.7	90.1	261.9	9.1%	0.036	0.436
1985	286	6.5	87.4	306.0	9.9%	0.039	0.384
1986	277	9.9	112.2	429.0	11.5%	0.036	0.287
1987	262	14.8	129.7	405.0	13.1%	0.049	0.345
1988	245	20.0	173.1	574.3	14.0%	0.043	0.296
1989	242	26.2	214.6	687.2	15.0%	0.057	0.370
1990	224	18.3	234.7	409.5	10.8%	0.064	0.555
1991	203	6.4	301.7	298.8	4.7%	0.064	0.881
1992	196	−0.3	341.8	256.7	0.2%	0.056	1.080
1993	211	15.9	372.8	583.6	7.2%	0.062	0.626
1994	206	38.0	415.1	549.2	14.4%	0.083	0.688
1995	213	44.2	492.2	676.8	14.6%	0.097	0.766
1996	201	49.1	612.2	1244.5	11.3%	0.056	0.472
1997	234	45.1	475.2	1166.8	11.3%	0.054	0.437
1998	252	40.8	426.7	789.8	11.1%	0.069	0.568
1999	260	35.8	395.1	1145.3	10.1%	0.058	0.382
2000	264	35.8	492.1	763.4	9.2%	0.085	0.626
2001	256	6.7	422.9	693.6	2.1%	0.057	0.579
2002	244	2.3	387.6	376.6	1.8%	0.076	0.884
2003	233	10.1	341.9	741.4	5.1%	0.054	0.471
2004	227	30.1	402.0	999.1	10.1%	0.053	0.393
Total	6,006						
Entire Sample Period							
Quartile 1		1.0	65.0	192.2	2.5%	0.028	0.285
Median		15.2	239.0	576.4	10.2%	0.055	0.487
Quartile 3		92.2	929.7	2243.9	18.2%	0.090	0.801

Notes:
Descriptive statistics showing annual medians of key variables for all stocks in the sample as well as quartile values for the entire sample period. *N* is the number of observations in each year (note: the values for 2005 arise because of irregular accounting periods ending in the beginning of 2005; these observations are not used for the analysis). *E* denotes net earnings and *B* the book value of equity of the corresponding accounting year, *M* is the market value of equity at the end of March following the accounting year (i.e., the market value that is matched with the book value of equity in B/M) (all in million SEK). ROA denotes the return on shareholders' equity computed as a ratio of the end of the year's net earnings and book value of equity (i.e., ROE = E/B). E/P and B/M are the earnings-to-price and book-to-market ratio multiples, respectively, used for sorting firms into decile portfolios. They are constructed by matching accounting value of a corresponding accounting period with the market value of equity in the beginning of April following the accounting year.

The VGS is primarily evaluated using dividend-adjusted annual stock returns for the three years following portfolio formation. The analysis relies on both annual and cumulative returns. When estimating annual returns we rebalance portfolios at the end of March each year. The proceeds from delisted firms (if any) are reinvested in the corresponding size-decile portfolio until the annual rebalancing when remaining stocks are weighted equally. The cumulative returns are based on a buy-and-hold strategy where we do not rebalance portfolios each year; thus stocks retain the weight that they have gained through increases or decreases in value during past years. If a stock is delisted, its return is replaced with the return of the corresponding size-decile for the rest of the cumulative period. The use of both annual and cumulative returns increases the understanding of the strategy's ability to earn a value premium. The advantage with using cumulative returns is that the method employed give rise to low transaction costs. On the other hand, cumulative returns can contain a substantial portion of the size-decile based 'replacement' returns for delisted stocks. *T*-statistics are provided for the difference of the value premium based on the average annual returns and on the cumulative returns from zero.

We focus the analysis on the value premium, defined as the difference in return between value and growth portfolios. This implicitly assumes a zero-investment trading strategy in which a purchase of value stocks is financed by a short-selling of growth stocks. Short-selling restrictions, however, should make it easier to capitalize on underpriced value stocks than overpriced growth stocks. If abnormal returns from a VGS mainly come from the growth portfolio's underperformance, then costly short-selling might explain the value premium's persistence over time. Consequently, we examine how the value and growth portfolios perform relative to the market by splitting the value premium into the value portfolio's overperformance and the growth portfolio's underperformance.

We perform a number of risk adjustments to determine if the value premium is merely a compensation for higher risks associated with value stocks.[2] After comparing the volatility of growth and value portfolio returns, we explicitly control for the effect of two known risk factors; size and beta. Size is measured as the market value of equity at the time of portfolio formation. Beta is measured using a rolling window of 60 monthly observations of stock and market returns. A standard Swedish stock market index (AFGX) is used as a proxy for market return and return on Swedish governmental bonds proxy for the risk-free rate.

To examine the effect of transitory earnings and conservatism bias on the effectiveness of VGS we need measures of sustainable earnings (*sE*) and an 'unbiased' book value of equity (*uB*). We use a firm-specific and an industry-specific measure of historical profitability to determine *sE*. The firm-specific measure is the individual firm's average annual return on assets for the last five years (*c*ROA) multiplied by the ingoing value of total assets. The use of firm-specific historical earnings, however, causes a survivorship bias problem (c.f. Anderson and Brooks, 2006), and measures become sensitive to firm-specific structural changes. Thus we also assess an industry-specific measure in which the industry's average annual median return on assets for the last five years (*i*ROA) is multiplied by the firm's ingoing value of total assets. The resulting ratios of sustainable earnings (based on *c*ROA or *i*ROA) to market value of equity; *s*E/P, is then used to sort stocks into portfolios and test the incremental effect that the elimination of transitory earnings has on the VGS.

To estimate the 'unbiased' book value of equity (*uB*) we use an estimate of each industry's 'permanent measurement bias' (*i*PMB), following Runsten (1998). His

2 We recognize that it is not possible to ever conclusively refute the risk argument, as it is impossible to exhaust the universe of all potential risk factors (Fama, 1998). We do not adjust for the B/M ratio, which is the third commonly used risk factor (Fama and French, 1992 and 1993) because it is one of the sorting variables in our main analysis. B/M may capture risk or mispricing and we allow for any of the two competing explanations.

estimates are based on the amount of unrecognized assets, hidden reserves that understate the value of assets, and deferred tax liabilities that overstate the value of liabilities. We multiply each firm's book value of equity (B) by ($1 + i$PMB) and construct an 'unbiased' book-to-market value of equity (uB/M) ratio. This measure is then used to sort firms into portfolios. The provided t-statistics test the difference of the incremental value premium from zero.

4. SIMPLE INVESTMENT STRATEGIES

Table 2 shows returns on simple value and growth investment strategies based on either the E/P or the B/M ranking. The value premium based on buying a value portfolio and selling a growth portfolio is primarily assessed at the 10% level (deciles). The success rate shows the percentage of years when the value portfolio yields higher returns than the growth portfolio. Overall, the results support previous studies that value stocks outperform growth stocks. For the hedge portfolio based on deciles the annual value premium over the analyzed 25 years is 10.7% and 13.8% respectively, when using the E/P and B/M ratios. But the value premium is not concentrated to the extreme deciles as portfolios based on quintiles (i.e., T20 and B20) yields smaller but consistent value premiums for both the E/P and the B/M based strategies (+7.9% and +10.5%, respectively). An even higher value premium is documented for the three-year cumulative buy-and-hold returns: 63.0% and 49.9% based on E/P and B/M, which corresponds to 17.7% p.a. and 14.5% p.a. The cumulative returns require rebalancing only once in three years, which indicates that the value premium cannot be explained by transaction costs caused by portfolio rebalancing. All results are statistically significant at the conventional levels.

To determine how much of the value premium can be obtained without (costly) short-selling we compare the returns from value and growth portfolios with returns on an equal-weighted market portfolio and judge their relative contribution. The value portfolio's (excess) return is roughly half of the value premium. This is somewhat less when measured in terms of average annual returns (5.0% compared with −5.7% for the E/P strategy and 5.2% compared with −8.6% for the B/M strategy) and it is slightly more than half when measured in terms of cumulative three-year returns (33.1% compared with −29.9% for the E/P strategy and 26.0% compared with −23.9% for the B/M strategy). Hence the value premium is not likely to be caused by short-selling restrictions.[3]

We also determine if the value premium is a mere compensation for risk, using size and beta as risk proxies. Panels B and C display size-adjusted and beta-adjusted abnormal returns, respectively. The size-adjusted value premiums are slightly lower than the unadjusted, but they remain substantial and statistically significant. For the E/P based strategy the size adjustment reduces the average annual value premium from 10.7% to 10.3%. For the B/M based strategy the value premium declines from 13.8% to 9.5%. Also the cumulative three-year returns decrease only marginally from 63.0% to 61.6% for E/P and from 49.9% to 41.4% for B/M. Similarly, making beta adjustments to the E/P based strategy has essentially no effect on the value premium (the annual return decreases from 10.7% to 10.5% and the cumulative return from

3 Which is consistent with Skogsvik (2008) who uses Swedish data to implement a trading strategy that sorts stocks based on the historical book return of equity (ROE).

Table 2

Returns on Contrarian Investment Strategies

		E/P					B/M				
		R1	*R2*	*R3*	*AR3*	*CR3*	*R1*	*R2*	*R3*	*AR3*	*CR3*
Panel A: Raw Returns on Simple Contrarian Strategies											
Growth stocks	T10%	21.6%	13.5%	22.4%	19.2%	52.7%	20.8%	13.3%	14.9%	16.3%	58.7%
	T20%	23.9%	20.6%	19.1%	21.2%	67.0%	23.0%	18.3%	15.9%	19.0%	62.0%
	T30%	16.2%	15.7%	12.7%	14.9%	53.8%	16.5%	14.3%	15.2%	15.3%	49.9%
	...										
	B30%	30.7%	27.6%	27.3%	28.5%	104.5%	29.4%	28.0%	27.6%	28.4%	100.3%
	B20%	32.3%	28.7%	26.5%	29.1%	108.4%	30.8%	28.5%	29.3%	29.5%	106.1%
Value stocks	B10%	32.8%	29.1%	27.9%	29.9%	115.7%	32.6%	27.0%	30.7%	30.1%	108.6%
10% comparison		11.2%	15.6%	5.5%	**10.7**%	**63.0**%	11.8%	13.7%	15.8%	**13.8**%	**49.9**%
					(2.610)**	(3.364)***				(3.012)***	(2.820)***
20% comparison		8.4%	8.2%	7.4%	7.9%	41.4%	7.8%	10.2%	13.5%	10.5%	44.2%
					(2.115)**	(3.116)***				(2.809)***	(2.914)***
Success rate		68.0%	75.0%	56.5%	**66.5**%	**87.0**%	56.0%	58.3%	69.6%	**61.3**%	**73.9**%
Market return		25.8%	24.7%	24.2%	24.9%	82.6%	25.8%	24.7%	24.2%	24.9%	82.6%
GP underperformance		−4.2%	−11.2%	−1.8%	−5.7%	−29.9%	−5.0%	−11.4%	−9.3%	−8.6%	−23.9%
VP outperformance		7.1%	4.4%	3.6%	5.0%	33.1%	6.9%	2.3%	6.5%	5.2%	26.0%

Panel B: Size-Adjusted Returns											
Growth stocks	T10%	−3.9%	−9.6%	−0.4%	−4.6%	−24.7%	−2.4%	−8.0%	−7.3%	−5.9%	−15.6%
	T20%	−0.5%	−3.1%	−4.4%	−2.7%	−10.6%	−0.7%	−4.3%	−6.1%	−3.7%	−12.9%
	T30%	0.4%	0.9%	−3.2%	−0.6%	3.1%	0.3%	−1.1%	−0.3%	−0.4%	−1.6%
	...										
	B30%	6.4%	3.4%	3.4%	4.4%	25.9%	3.0%	2.2%	2.6%	2.6%	19.3%
	B20%	6.8%	4.3%	2.9%	4.7%	28.9%	3.6%	2.7%	3.7%	3.3%	24.2%
Value stocks	B10%	8.1%	5.1%	3.8%	5.7%	36.9%	4.9%	0.8%	5.1%	3.6%	25.8%
10% comparison		12.0%	14.7%	4.2%	**10.3**%	**61.6**%	7.3%	8.8%	12.4%	**9.5**%	**41.4**%
					(2.760)**	(3.324)***				(2.120)**	(3.324)***
20% comparison		7.3%	7.4%	7.3%	7.3%	39.4%	4.3%	6.9%	9.8%	7.0%	37.0%
					(2.112)**	(2.816)***				(1.867)*	(2.816)***
Success rate		76.0%	75.0%	56.5%	**69.2**%	**87.0**%	52.0%	54.2%	69.6%	**58.6**%	**73.9**%
Market return		25.8%	24.7%	24.2%	24.9%	82.6%	25.8%	24.7%	24.2%	24.9%	82.6%
GP underperformance		−29.6%	−34.3%	−24.7%	−29.5%	−107.2%	−28.1%	−32.7%	−31.6%	−30.8%	−98.1%
VP outperformance		−17.6%	−19.6%	−20.4%	−19.2%	−45.7%	−20.9%	−23.9%	−19.1%	−21.3%	−56.8%

Table 2 (Continued)

		E/P					B/M				
		R1	*R2*	*R3*	*AR3*	*CR3*	*R1*	*R2*	*R3*	*AR3*	*CR3*
Panel C: Beta-Adjusted Returns											
Growth stocks	T10%	2.1%	−4.8%	5.3%	0.9%	−21.4%	0.6%	−5.7%	−2.5%	−2.5%	−18.7%
	T20%	4.2%	2.0%	1.8%	2.7%	−8.1%	3.0%	−0.4%	−1.5%	0.4%	−14.3%
	T30%	3.8%	1.9%	3.0%	2.9%	−3.1%	3.7%	0.2%	2.7%	2.2%	−6.4%
	...										
	B30%	12.2%	9.5%	9.9%	10.5%	31.3%	10.8%	10.2%	10.6%	10.5%	26.9%
	B20%	13.5%	10.3%	8.7%	10.9%	34.0%	12.1%	10.7%	12.3%	11.7%	32.6%
Value stocks	B10%	14.0%	10.4%	9.8%	11.4%	39.7%	13.8%	9.2%	13.8%	12.3%	34.4%
10% premium		11.9%	15.1%	4.5%	**10.5**%	**61.2**%	13.2%	14.9%	16.4%	**14.8**%	**53.1**%
					(2.347)**	(3.342)***				(3.131)***	(3.193)***
20% premium		9.4%	8.3%	6.9%	8.2%	42.1%	9.1%	11.0%	13.8%	11.3%	46.9%
					(2.073)**	(3.268)***				(2.900)***	(3.142)***
Success rate		72.0%	66.7%	52.2%	**63.6**%	**91.3**%	48.0%	58.3%	69.6%	**58.6**%	**69.6**%
Market return		25.8%	24.7%	24.2%	24.9%	82.6%	25.8%	24.7%	24.2%	24.9%	82.6%
GP underperformance		−23.7%	−29.5%	−18.9%	−24.0%	−104.0%	−25.2%	−30.4%	−26.8%	−27.4%	−101.2%
VP outperformance		−11.8%	−14.4%	−14.4%	−13.5%	−42.8%	−12.0%	−15.5%	−10.4%	−12.6%	−48.1%

Notes:
Returns on contrarian investment strategies based on unadjusted E/P and B/M indicators. Panel A shows raw returns, Panel B shows size-adjusted abnormal returns and Panel C shows beta-adjusted abnormal returns. R1, R2 and R3 are annual returns in the first, second and third year after portfolio formation. AR3 is the average annual return for three years after the portfolio formation. CR3 shows the cumulative buy-and-hold return for three years after the portfolio formation. T10% and B10% represent the average returns on individual top (growth) and bottom (value) decile portfolios. T20% and B20% represent the average returns on individual top (growth) and bottom (value) decile portfolios. 10% premium and 20% premium show the zero-investment return consisting of short selling growth portfolio T10% or T20% respectively and buying value portfolio B10% or B20%, respectively. Success rate gives the annual frequency with which value B10% outperforms growth portfolio T10%, i.e., the proportion of years when the 10% premium is positive. *Rm* is the market return. Growth underperformance (value outperformance) show the components of the value premium computed as the difference between the return on value portfolio B10% (growth portfolio B10%) and the market return. *T*-statistics (in brackets) are provided for the difference of the value premium from zero.

63.0% to 61.2%). For the B/M, the beta adjustment increases the value premium from 13.8% to 14.8%, whereas the cumulative return increases from 49.9% to 53.1%.[4] We conclude that these two proxies for risk are unable to explain the value premium.

5. TRANSITORY EARNINGS

In this section we analyze if the ability to identify mispriced or riskier stocks using the E/P measure is more effective with an adjustment for the transitory component. The improvement in effectiveness is reported in terms of the VGS's incremental value premium and success rate, both measured in comparison with the simple VGS.

First, we test if earnings volatility is likely to impair the effectiveness of the E/P based investment strategy, implicitly assuming that large variations in reported earnings are associated with transitory earnings components. We partition the sample based on earnings volatility measured by the median industry earnings coefficient of variation (*i*ECV). Table 3 displays how *i*ECV varies across the 19 industries, ranging from 0.660 for chemicals to 2.061 for services (excluding IT and consulting). The sub-sample of stable industries has an average *i*ECV of 0.988 whereas volatile industries have an average *i*ECV of 1.462.

Table 4 presents separate analyses of the value and growth investment strategies in stable and volatile industries. The results presented in Panel A confirm that the VGS works better in stable than volatile industries. When using only firms from stable industries the annual value premium is higher by 4.2 percentage points and the success rate by 5.7 percentage points. At the same time the strategy is less successful among firms operating in industries with volatile earnings. There is nearly no value premium to earn in volatile industries as the incremental effect of −7.5% drives it close to zero. In the same spirit, the success rate decreases by 12.5 percentage points. These results indicate that in volatile industries where earnings are likely to be severely affected by the transitory component the noise in the E/P indicator impairs its ability to identify mispriced or riskier stocks.[5] These results are marginally statistically significant for the average annual returns; therefore we conclude that there is some evidence in support of hypothesis 1a.

While partitioning the sample on the volatility of individual industries provides insights into what effect transitory earnings have on the merits of VGS, we purposely introduced bias by using earnings volatility data from the entire sample period. At the industry level earnings volatility is likely to be caused by factors that are reasonably well-known to investors,[6] but to be on the safe side we also test a strategy based on information available at the time of portfolio formation. In this test we compute each firm's earnings coefficient of variation on reported earnings from the last five years and split the sample on the historical earnings volatility of individual firms rather than

4 We have also adjusted raw returns for beta estimated *ex ante*, i.e., based on 60 monthly returns observations following the portfolio formation. This has little effect on the documented value premiums; the average annual value premium for E/P increases slightly to 11.1% and the annual B/M premium decreases to 12.9%.

5 Furthermore, unpublished results show that when cyclical volatile industries, for which the transitory earnings are pegged to GDP growth and thus have only limited adverse effect for the effectiveness of E/P, are sorted separately, the incremental value premium improves from −7.5% to −4.1% and the incremental success rate improves from −12.5% to −6.8%.

6 Such as large fixed costs and sales volume and price that varies greatly with business cycles.

Table 3
Partitioning the Sample on Earnings Volatility and Accounting Conservatism

	Industry	*Firms*	*Firm-years*	*iECV*	*Half*	*i(B/M)*	*Half*
17	High-tech development	17	130	0.719	1	0.293	1
25	Pharmaceuticals	3	36	1.254	2	0.296	1
20	Services (excluding consulting and IT)	23	169	2.061	2	0.304	1
13	Industrial development and prospecting	19	152	1.049	1	0.317	1
22	IT services (including consulting)	64	471	1.548	2	0.327	1
21	Consulting (excluding IT)	20	176	1.926	2	0.341	1
26	Medical technology	12	102	0.976	1	0.345	1
15	Trading	43	435	1.244	2	0.396	1
11	Industrial manufacturing	102	1,142	0.968	1	0.450	1
33	Other financial services	14	113	1.890	2	0.460	2
12	Consumer manufacturing	40	381	0.883	1	0.477	2
19	Other production	18	274	1.371	2	0.485	2
18	Building and construction	28	386	1.426	2	0.491	2
24	Miscellaneous	24	183	1.074	1	0.517	2
31	Investment firms	50	562	1.239	2	0.589	2
14	Raw materials and forestry	31	359	1.487	2	0.654	2
16	Chemical	10	107	0.660	1	0.668	2
34	Real estate	63	585	1.174	1	0.680	2
23	Transportation	21	243	1.398	2	0.928	2
	Stable industries (half 1)	287	2,782	0.988			
	Volatile industries (half 2)	315	3,224	1.462			
	Low B/M industries (half 1)	303	2,813			0.385	
	High B/M industries (half 2)	299	3,193			0.599	
	Total	602	6,006	1.242		0.499	

Notes:
Median industry volatility of earnings computed over the entire sample period. *Firms* shows the number of stocks in each industry and *Firm-years* is the number of firm-year observations for each industry during the entire sample period. *i*ECV is the industry median coefficient of variation of earnings. For each firm we calculate the coefficient of variation of its earnings over its entire existence in the sample and then we compute the median of coefficient of variation within each industry. *Half* classifies industries into stable (1) and volatile (2) based on the industry median coefficient of variation of earnings. *i*(B/M) shows the median industry B/M multiple computed over the entire sample period. We first compute the median B/M for each firm over its entire existence in the sample; then industry B/M is calculated as the median of all firm-specific median B/M ratios belonging to that particular industry. *Half* classifies industries into low B/M (1) and high B/M (2) based on the median industry book-to-market multiple.

on the overall industry volatility. This measure requires more firm-specific data and reduces the sample accordingly. In addition, the five-year average is more likely to be affected by extreme firm-specific and industry-specific events. Panel B of Table 3 shows that although the results are weaker, the pattern is similar to that shown in Panel A. Among firms with stable earnings the incremental value premium and success rate are 2.3 and 9.4 percentage points, respectively. In contrast, the sample with volatile earnings experiences a negative incremental value premium and success rate of −3.1 and −4.4 percentage points, respectively.

The analysis above suggests that transitory earnings may be detrimental to the effectiveness of the E/P indicator. We proceed by removing the effect of transitory earnings from the E/P ratio by substituting sustainable earnings (*sE*) for reported earnings. We estimate sustainable earnings using both firm-specific and industry-specific measures of historical profitability. The results presented in Table 5 suggest

Table 4
Contrarian Strategies in Stable and Volatile Industries

	E/P				
	R1	*R2*	*R3*	*AR3*	*CR3*
Panel A: Earnings Volatility from 1979–2004					
Difference in value premium between stable and volatile industries					
Incremental 10% premium	12.2%	−3.4%	26.2%	**11.5%**	**17.35%**
				(1.871)*	(0.552)
Incremental 20% premium	13.6%	−0.6%	7.3%	**6.9%**	**1.0%**
				(1.836)*	(0.055)
Success rate	20.0%	4.1%	30.4%	**18.2%**	**4.4%**
Stable industries					
Incremental 10% premium	5.5%	−4.3%	11.5%	**4.1%**	**−4.4%**
				(1.190)	(0.299)
Incremental 20% premium	7.3%	1.7%	3.6%	**4.2%**	**1.1%**
				(1.781)*	(0.108)
Incremental success rate	4.0%	−4.2%	17.4%	**5.7%**	**−13.0%**
Volatile industries					
Incremental 10% premium	−6.7%	−1.0%	−14.7%	**−7.4%**	**−21.7%**
				(2.239)**	(1.036)
Incremental 20% premium	−6.2%	2.2%	−3.7%	**−2.6%**	**2.2%**
				(1.592)	(0.245)
Incremental success rate	−16.0%	−8.3%	−13.0%	**−12.5%**	**−17.4%**
Panel B: Earnings Volatility from the Previous 3–5 Years					
Difference in value premium between firms with historically stable and volatile earnings					
Incremental 10% premium	4.0%	−5.6%	18.0%	**5.2%**	**23.0%**
				(0.829)	(1.231)
Incremental 20% premium	5.0%	−4.0%	8.2%	**3.0%**	**14.36%**
				(0.750)	(0.759)
Success rate	8.6%	13.6%	19.0%	**13.8%**	**4.8%**
Firms with stable historical earnings					
Incremental 10% premium	−0.3%	−1.1%	8.1%	**2.1%**	**1.2%**
				(0.641)	(0.106)
Incremental 20% premium	3.9%	0.1%	5.1%	**3.0%**	**13.1%**
				(1.439)	(1.251)
Incremental success rate	4.3%	0.0%	23.8%	**9.4%**	**−19.0%**
Firms with volatile historical earnings					
Incremental 10% premium	−4.3%	4.7%	−9.9%	**−3.1%**	**−21.8%**
				(0.777)	(1.707)*
Incremental 20% premium	−1.1%	3.5%	−3.6%	**−0.4%**	**−1.3%**
				(0.182)	(0.142)
Incremental success rate	−4.3%	−13.6%	4.8%	**−4.4%**	**−23.8%**

Notes:
The incremental value premium and incremental success rate of E/P based contrarian strategies performed within stable and volatile industries. Panel A shows results for stable industries, Panel B shows results for volatile industries, and Panel C shows results for volatile industries when the industries 14 and 23 are sorted separately. R1, R2 and R3 are annual returns in the first, second and third year after portfolio formation. AR3 is the average annual return (assuming annual portfolio rebalancing) for three years after the portfolio formation. CR3 shows the cumulative buy-and-hold return for three years after the portfolio formation. Incremental 10% premium and incremental 20% premium show the incremental value premiums on decile and quintile portfolios (respectively) computed as the difference between value premiums earned on stable or volatile industries and the value premium of the benchmark strategy (i.e. the simple E/P strategy). A positive incremental value premium indicates an increase in value premium in comparison with the benchmark strategy. The incremental success rate is measured as the proportion of years with positive value premium in comparison with the benchmark strategy. In Panel A stocks are divided based on the sample-wide industry coefficient of variation of earnings; in Panel B companies are divided based on the volatility of individual company's earnings in the past five years. *T*-statistics (in brackets) are provided for the differences in the value premium between the specified sub-samples.

Table 5
Contrarian Strategies Based on Sustainable Earnings

	E/P				
	R1	*R2*	*R3*	*AR3*	*CR3*
Panel A: Portfolios Formed Based on *c*ROA					
Incremental 10% premium	−4.1%	−1.3%	12.1%	**2.0%**	**−17.3%**
				(0.738)	(0.976)
Incremental 20% premium	−0.8%	4.0%	6.5%	**3.1%**	**26.4%**
				(1.860)*	(0.480)
Incremental success rate	−13.4%	−4.5%	28.6%	**3.7%**	**−4.8%**
Panel B: Portfolios Formed Based on *i*ROA					
Incremental 10% premium	−3.1%	6.7%	6.8%	**3.3%**	**6.4%**
				(1.244)	(0.782)
Incremental 20% premium	1.0%	6.9%	3.8%	**3.8%**	**14.3%**
				(2.199)**	(2.012)**
Incremental success rate	8.7%	4.6%	19.1%	**10.8%**	**4.8%**

Notes:
The incremental value premium and incremental success rate of contrarian investment strategies based on sustainable earnings-to-price ratio (*s*E/P). In Panel A sustainable earnings are estimated by multiplying historical median firm return on assets over the past 5 years, i.e. *c*ROA with each firm's total assets at the time of portfolio formation. In Panel B sustainable earnings are estimated by multiplying historical median industry return on assets over the past 5 years, i.e. *i*ROA with each firm's total assets at the time of portfolio formation. R1, R2 and R3 are annual returns in the first, second and third year after portfolio formation. AR3 is the average annual return (assuming annual portfolio rebalancing) for three years after the portfolio formation. CR3 shows the cumulative buy-and-hold return for three years after the portfolio formation. Incremental 10% premium and incremental 20% premium show the incremental value premiums on decile and quintile portfolios (respectively) computed as the difference between value premiums earned on this investment strategy and that of the benchmark strategy (i.e. the simple E/P strategy). A positive incremental value premium indicates an increase in value premium in comparison with the benchmark strategy. The incremental success rate is measured as the proportion of years with positive value premium in comparison with the benchmark strategy. *T*-statistics (in brackets) are provided for the difference of the *incremental* value premium from zero.

that transitory earnings components hamper the identification ability of the E/P ratio. As we use a firm-specific measure of sustainable earnings, the incremental annual value premium and success rate is 2.1 and 3.7 percentage points, respectively. These incremental effects are similar in magnitude as those reported in Panel B of Table 4. Using the industry-based measures yields an incremental annual value premium, of 2.7 percentage points, and a considerable incremental success rate of 11.0 percentage points. Due to the subtle nature of this 'incremental' test only a few of the results are statistically significant. Overall, the analysis provides some evidence that the E/P ratio becomes a more effective sorting indicator after adjusting for the effect of transitory earnings; hence, we conclude that there is some (albeit weak) support for hypothesis 1b. In particular, the effect is stronger when we move beyond firm-specific profitability data.

6. ACCOUNTING CONSERVATISM

We expect the ability of the B/M based VGS to identify stocks that are incorrectly priced or riskier to be hindered by cross-sectional variations in asset recognition caused by

Table 6
Contrarian Strategies Pre-Sorted for High B/M and Low B/M Industries

	B/M				
	R1	*R2*	*R3*	*AR3*	*CR3*
Panel A: Pre-Sorted for Sample-Wide Median Industry B/M					
Incremental 10% premium	3.8%	2.8%	3.3%	**3.3%**	**16.3%**
				(1.806)*	(1.404)
Incremental 20% premium	3.1%	3.5%	−2.0%	**1.6%**	**5.6%**
				(1.200)	(0.931)
Incremental success rate	8.0%	12.5%	8.7%	**9.7%**	**13.0%**
Panel B: Pre-Sorted for Historical Median Industry B/M					
Incremental 10% premium	0.1%	0.1%	1.2%	**0.5%**	**5.7%**
				(0.305)	(0.661)
Incremental 20% premium	1.7%	0.8%	0.0%	**0.9%**	**−0.7%**
				(0.671)	(0.143)
Incremental success rate	4.3%	0.0%	0.0%	**1.4%**	**0.0%**

Notes:
The table shows the incremental value premium and incremental success rate of B/M contrarian strategies pre-sorted for industries with high vs. low B/M measured for a sample of non-financial firms listed at the Swedish stock exchange in the years 1979 to 2004. In Panel A industries are partitioned into approximate halves based on their average level of B/M throughout the whole sample period (see Table 3) and then firms are sorted into portfolios within each half. In Panel B industries are partitioned into approximate halves based on their average level of B/M in the five years prior to portfolio formation and then sorted into portfolios within each half. R1, R2 and R3 are annual returns in the first, second and third year after portfolio formation. AR3 is the average annual return (assuming annual portfolio rebalancing) for three years after the portfolio formation. CR3 shows the cumulative buy-and-hold return for three years after the portfolio formation. *Incremental 10% premium* and *incremental 20% premium* show the incremental value premiums on decile and quintile portfolios (respectively) computed as the difference between value premiums earned on the investment strategy and the value premium of the benchmark strategy (i.e. the simple E/P strategy). A positive incremental value premium indicates an increase in value premium in comparison with the benchmark strategy. The *incremental success rate* is measured as the proportion of years with positive value premium in comparison with the benchmark strategy. *T*-statistics (in brackets) are provided for the differences in the value premia between the specified sub-samples.

accounting conservatism. To account for this, we employ the same approach as in the previous section on transitory earnings. To identify a firm's normal B/M ratio, reflecting the typical conservatism bias in *B*, we make use of both a cross-sectional and a time-series analysis. First, we explore the B/M based investment strategy by constructing portfolios that potentially involve foresight, and then we evaluate strategies that can be implemented by investors.

Table 3 shows the median industry B/M (i(B/M)) for individual industries, which varies from 0.293 for high-tech development to 0.928 for transportation. We compute the median industry B/M ratio (i(B/M)) across the whole period and use it to split the industries (with roughly the same amount of firm-years in each half). We expect the intra-industry variation in accounting bias to be reasonably small; hence, sorting separately within the two subsamples partially controls for accounting conservatism's effect on the firm-specific B/M ratio. The results presented in Panel A of Table 6 are consistent with that expectation. A pre-sorting on i(B/M) provides incremental annual value premium and success rate of 3.3 and 9.7 percentage points, respectively. Thus, the cross-sectional variation in *B*, due to the differential impact of accounting

Table 7
Permanent Measurement Bias

No.	*Industry*	*Firms*	*Matching Industry*	*iPMB*
11	Industrial manufacturing	102	Engineering (114)	0.33
12	Consumer manufacturing	40	Consumer goods (103)	0.72
13	Industrial development and prospecting	19	Engineering (114)	0.33
14	Raw materials and forestry	31	Pulp & paper (105)	0.67
15	Trading	43	Trading & retail (111)	0.47
16	Chemical	10	Chemical industry (112)	0.44
17	High-tech development	17	Consultants & computer (108)	0.59
18	Building and construction	28	Building & construction (113)	0.48
19	Other production	18	Other production (115)	0.31
20	Services (excluding consulting and IT)	23	Other service (107)	0.62
21	Consulting (excluding IT)	20	Consultants & computer (108)	0.59
22	IT services (including consulting)	64	Consultants & computer (108)	0.59
23	Transportation	21	Shipping (106)	0.65
24	Miscellaneous	24	Other service (107)	0.62
25	Pharmaceuticals	3	Pharmaceuticals (101)	1.74
26	Medical technology	12	Engineering (114)	0.33
31	Investment firm	50	Investment firm (104)	0.68
33	Other financial services	14	Capital-intensive service (102)	0.76
34	Real estate	63	Real Estate (109)	0.56
	Total	602	Median	0.58
	Low B/M industries (half 1)	2813		0.459
	High B/M industries (half 2)	3193		0.595

Notes:
The permanent measurement bias (*i*PMB) for non-financial firms listed at the Swedish stock exchange based on Runsten (1998). *Industry* pertains to industry classification used by the authors, *Firms* is the total number of firms in each industry, *Matching Industry* is the matched industry reported by Runsten (1998) and the *i*PMB is the permanent measurement bias for the *Matching Industry* according to Runsten.

conservatism, compromises the identification capacity of the B/M ratio. Despite the limited number of observations the incremental value premium computed at 10% level approach statistical significance.

While there are good reasons to believe that investors know how conservatism affects the capitalization of value relevant resources across industries, we again implement an investment strategy based on historical information. Therefore we split firms into groups according to the median industry book-to-market ratio *i*(B/M) from the five years preceding portfolio formation. The results in Panel B of Table 6 shows only marginal increases in the value premium (+0.5%) and the success rate (1.4%), supporting the previous findings. It seems that five historical years is an insufficiently long time to capture the effect of conservatism.

To directly adjust for the level of accounting bias in *B* we use Runsten's (1998) estimates of differences in industries' permanent measurement bias (*i*PMB). Table 7 shows the industry classification and each industry's *i*PMB. The pharmaceutical industry shows the highest *i*PMB (1.74) and engineering and other production the lowest (0.33 and 0.31, respectively), with a sample median value of 0.59. We compute the 'unbiased' book value of equity (*uB*) by multiplying *B* at the time of portfolio formation by (1 + *i*PMB). Then we use the *u*B/M to sort firms into portfolios. Table 8 shows that a strategy based on *u*B/M generates an incremental value premium (+1.7%) and an

Table 8
Contrarian Strategies Based on 'Unbiased' Value of Equity

	uB/M				
	R1	*R2*	*R3*	*AR3*	*CR3*
Incremental 10% premium	1.2%	2.6%	1.5%	**1.7%** (1.612)	**6.8%** (1.258)
Incremental 20% premium	1.1%	−1.1%	−1.9%	**−0.6%** (0.839)	**−6.4%** (1.401)
Incremental success rate	0.0%	8.3%	0.0%	**2.8%**	**8.7%**

Notes:
Returns on contrarian investment strategy based on *u*B/M. The 'unbiased' book value of equity (*uB*) is estimated by multiplying the book value of equity by (1 + *i*PMB). R1, R2 and R3 are annual returns in the first, second and third year after portfolio formation. AR3 is the average annual return (assuming annual portfolio rebalancing) for three years after the portfolio formation. CR3 shows the cumulative buy-and-hold return for three years after the portfolio formation. Incremental 10% premium and incremental 20% premium show the incremental value premiums on decile and quintile portfolios (respectively) computed as the difference between value premiums earned on the *u*B/M investment strategy and the value premium of the benchmark strategy (i.e., the simple E/P strategy). A positive incremental value premium indicates an increase in value premium in comparison with the benchmark strategy. The incremental success rate is measured as the increase in the proportion of years with positive value premium in comparison with the benchmark strategy. *T*-statistics (in brackets) are provided for the difference of the *incremental* value premium from zero.

incremental success rate (+2.8%). These results are consistent with our expectation that *uB* is superior to simple *B* in capturing the level of fundamentals and therefore *u*B/M is more effective than B/M in identifying mispriced or riskier stocks. The results are, however, statistically insignificant; therefore our sample does not provide sufficiently strong evidence for the second hypothesis. In total, the incremental returns arising from adjustments in E/P are larger than those stemming from adjustments in B/M. We find this reasonable considering that the book value captures the cumulative effects of economic events occurring over the entire existence of a firm, whereas earnings are affected only by factors relating to a given accounting period, which facilitates the adjustment.

7. CONCLUSION

Many studies show that stocks with low relative market valuation in relation to summary accounting measures, such as the book value of equity or earnings, outperform stocks with high relative market valuation (Chan et al., 1991; Lakonishok et al., 1994; Fama and French, 1998; Cai, 1997; Brouwer et al., 1997; Levis and Liodakis, 2001; Gregory et al., 2001; and Conrad et al., 2003). The standard procedure in these studies is to use reported figures from the financial statements. We argue that transitory earnings components and a bias caused by accounting conservatism introduce noise into the E/P and B/M measures and compromise their capacity to identify stocks that are either temporarily mispriced or involve higher risk of financial distress. The results provide evidence that the investment strategies' effectiveness is improved by identifying and adjusting for a transitory component of earnings and for an accounting conservatism bias in book value of equity. Adjusting for transitory earnings increases the value premium of 11% earned on the simple E/P based investment strategy by 2-3 percentage points and adjusting for the conservatism bias adds an additional 2 percentage points to the 13% value premium documented for the simple B/M based investment strategy. Importantly, both adjustments increase the consistency of earning the value premium in individual sample years. This increase is larger for the E/P based strategy (+11.0%). Our results suggest that the value premium earned on simple value and growth strategies is not driven by the two risk proxies beta and size; nevertheless the relevance of our findings is not restricted to this interpretation. Future research should search for even more effective methods of adjusting for transitory earnings components and the conservative bias in equity.

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