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Accounting Valuation and Cross-Sectional Stock Returns in China*

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Abstract
Using accounting-based valuations, Frankel and Lee (1998) document a positive association between fundamental value-to-price ratio (V/P) and abnormal stock returns in subsequent periods. They attribute the V/P effect to the market's gradual adjustment of stock prices towards a fundamental value, and this is regarded as counter-evidence for market efficiency (i.e. mispricing). This synopsis aims to examine whether the V/P effect also holds for Chinese companies.

I. Motivation

In the last few years, Chinese stocks should have benefited from the country's economic growth and the appreciation of the *yuan*. However, it has long been argued that Chinese stocks cross-listed in foreign stock exchanges have been undervalued; for example, in a Bloomberg interview on 26 June 2013, Michael Kurtz, the chief global equity strategist at Nomura Holdings, argued that Chinese stocks are substantially undervalued.[2] Unfamiliarity to investors outside of China (i.e. home bias), low transparency, low liquidity, and high uncertainty in the business environment including possible government intervention, are among the reasons often put forward to explain the undervaluation of Chinese stocks. Thus, a natural question is whether such market mispricing exists within Chinese markets where the so-called home bias is no longer a barrier for pricing Chinese stocks and the mispricing, if any, is adjusted over time.

In answering this question, researchers should rely on a construct specifically designed to detect market mispricing. In so doing, we refer considerably to Frankel and Lee (1998, FL hereinafter) for empirical approaches. Specifically, admitting the

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[2] Source: http://www.bloomberg.com/video/china-stocks-substantially-undervalued-~hSUNKzsS1~mp2KZsAs8_A.html.

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possibility that a firm's stock price may diverge from its fundamental value, FL do not require stock prices to be equal to the fundamental value at all times and hence construct the value-to-price ratio (V/P) to capture the degree of mispricing. Higher V/P values indicate that stocks are valued at a discount compared to a benchmark value (i.e., fundamental value, V), whereas lower V/P values indicate stocks being overvalued. Once a price diverges from its fundamental value, it should be adjusted quickly to the fundamental value when information and arbitrage costs are trivial. However, such price adjustment takes time when significant trading costs exist, and hence prices diverge from their corresponding values, at least for some time. Therefore, in correcting the mispricing, the stock market experiences a positive (negative) abnormal return for the initially undervalued (initially overvalued) stocks for subsequent periods when stock prices gradually approach their fundamental value. Consistent with this, FL document positive abnormal returns from a trading strategy based on a fundamental V/P for US companies. They argue that positive abnormal returns from the V/P strategy cannot be explained by traditional risk factors such as market beta, size, and book-to-market ratio and suggest that the effect is most likely due to market mispricing.[3]

Applying FL's methodology to the Chinese stock market, we compute the V/P on the basis of the residual income model and examine whether and to what extent the V/P explains the cross-sectional variation of subsequent stock returns in the Chinese stock market. If the Chinese market is able to identify mispriced stocks and move the stock price towards a fundamental value, we should observe, as we do in the US market, a positive association between V/P and future stock returns in the Chinese market.

In addition, we explore possible factors which may lead to mispricing in China. In particular, we posit that state-owned enterprises (SOEs) experience a significant divergence between price and value compared with non-SOE firms because of the irregular nature of SOEs' operations. SOEs are often characterised by underperformance and poor governance stemming from their political connections to the central government.[4] Consequently, one might predict that their fundamental value will generally be lower than that of non-SOE firms, which could lead to over-valuation of these stocks if the stock market is slow to reflect the lower valuation of SOE firms. In contrast, others may argue that SOE firms are likely to be undervalued given their high intrinsic value stemming from their long-term stability based on significant support from the government. Therefore, one empirical question is whether SOE firms are over- or under-valued compared with non-SOE firms. We should observe higher V/Ps (lower V/Ps)

[3] In fact, whether the V/P effect entirely indicates market mispricing is still questionable. Ali *et al.* (2003) further test two competing explanations of the V/P effect – risk explanation and mispricing explanation – and find mixed results. Although they conclude that the V/P effect is due at least in part to market mispricing, they also find that it is significantly related to firm-specific risk. Recently, Hwang and Lee (2013) have argued that the mispricing explanation in prior studies is premature to the extent that the V/P-based factor returns dominate the V/P characteristics in explaining stock returns. Therefore, we are still cautious about concluding that the V/P effect stems from market mispricing. However, to proceed with our discussion about the Chinese market, we rely on the market mispricing explanation of the V/P effect.

[4] One view argues that state ownership is negatively correlated with firm performance because the state may care more about social security, such as maintaining low levels of unemployment (Xu and Wang, 1999). Using the market-to-book value, Sun and Tong (2003) also report that state ownership has a negative impact on firm performance. On the other hand, the other view emphasises the positive role of state shareholders. According to Sun *et al.* (2002), the government has a positive impact on firm performance by sending a positive signal to markets, by being effectively involved in monitoring the management, and by subsidising SOEs in trouble. More recently, Wang and Xiao (2009) show that firms perform better when there is a greater degree of separation from government.

for SOE firms if undervaluation (overvaluation) of SOE firms predominates. Moreover, we expect that stock market participants would exhibit a differential speed in correcting any mispricing of a SOE. We are therefore interested in how quickly the Chinese market reverses the mispricing of SOE stocks.

II. Methodology

The valuation model we rely on to construct the V/P measure is based on a discounted residual income approach. Many prior studies have attempted to measure unbiased estimates of a firm's fundamental value (e.g. Dechow *et al.*, 1999; Bradshaw, 2004). Most importantly, Ohlson (1995) demonstrates that as long as a firm's earnings and book value are predictable under clean surplus accounting, the discounted cash flow model, which has been widely accepted in accounting and finance, can be rewritten as the sum of the reported book value and an infinite sum of the discounted residual income. For practical purposes, FL explicitly specify forecast periods for the latter term and suggest a construct for the "terminal value", an estimate of the value generated after the explicit forecasting period. We set the forecast horizon to three years as longer horizons than this may introduce more biased estimates, particularly for fast-growing firms in China. By doing so, we assume that the residual income in the period t+3 continues as a perpetuity. Specifically, in the same fashion as FL, we compute the following three-year horizon estimate for each firm:

$$V_{t+1} = BV_t + \frac{(FROE_t - r)}{(1+r)} BV_t + \frac{(FROE_{t+1} - r)}{(1+r)^2} BV_{t+1} + \frac{(FROE_{t+2} - r)}{(1+r)^2 r} BV_{t+2}, \quad (1)$$

where BV_t is the book value of equity at the end of year t, ($FROE - r$) is abnormal earnings exceeding the cost of capital, and r denotes the discount rate. $FROE$ is the forecasted return on equity measured as follows: $FROE_t = \frac{FY1}{(BV_t + BV_{t-1})/2}$, where $FY1$ is the one-year-ahead analyst forecasts averaged from January to May of year t+1.

2.1 Cost of equity capital (r)

Equation (1) requires a discount rate that corresponds to the riskiness of future cash flows. Prior research suggests that alternative parameters have a limited effect in settings where one is interested in cross-sectional variation in relative valuations (Frankel and Lee, 1998; Sougiannies and Yaekura, 2001); for example, Penman (2005) sets the cost of equity and growth rate parameters to be equal to 10% and 4% for US firms, and Dechow *et al.* (1999) use 12% for all firms. In their original paper, FL use an industry-specific rate using the three-factor industry risk premiums described in Fama and French (1997) plus an estimated annualised risk-free rate based on the average 30-day Treasury bill rates over the sample period. We specifically follow this method in replicating FL. However, we are not able to find a reasonable benchmark for the industry-level cost of equity estimates for Chinese companies. We thus decide to follow Dechow *et al.* (1999), who use a 12% discount rate for all Chinese firms. Consequently, we abandon the variation of the discount rate and note that our findings are only driven by variations from book values or by a series of residual income.

2.2 Dividend payout ratios (k)

Equation (1) also calls for an estimate of the expected proportion of earnings to be

paid out in the form of dividends (i.e. k). This is a crucial task in constructing estimates for future book value and future residual income. Specifically, clean surplus accounting implies that the change in book value from period to period is equal to earnings minus net dividends (i.e. $BV_t = BV_{t-1} + E_t - Div_t$). Noting that dividend payout ratio tends to be constant over time, we replace Div_t with the product of k and E_t. We set the payout ratio by dividing actual dividends by earnings in the previous fiscal year. Following FL, for firms with negative earnings, we use actual dividends divided by 6% of total assets for the payout ratio.[5]

III. Data and Sample Description

For the US sample, we identify 50,201 firm-years for the period 1976-2011 in the intersection of COMPUSTAT, CRSP, and I/B/E/S. We require all of the non-missing values available for the calculation of fundamental value (V). To ensure that accounting information is available to investors before the return period, we use CRSP stock return data from July of year t up to June of year t+3 with the V/P as of June of year t.

For comparison with the US sample described above, we also construct a Chinese sample using the CSMAR China Stock Market Financial Statement Database, Trading Database, and Financial Analyst Forecast Database. We focus on Chinese stocks traded on the Shanghai or Shenzhen exchanges. For US firms, we extract analysts' forecasts in May from I/B/E/S in constructing the fundamental value (V). However, analysts' forecasts for Chinese firms are measured as the average value of all available individual forecasts from January to May in year t.[6]

Table 1 reports the summary statistics of the main variables. Panel A for US firms shows that there is not much difference between the V/P based on industry-specific costs of equity introduced by Fama and French (1997) and that based on the constant discount rate (i.e. 12%). We thus conclude that discount rates do not play a significant role in explaining the variation of V/P. At a glance, the V/Ps of Chinese firms are smaller than those of US firms; specifically, the median values of V/P based on the 12% discount rate are respectively 0.63 and 0.52 for US firms and Chinese firms.

3.1 V/P and subsequent abnormal returns

FL form portfolios based on the V/P as of the end of June of each year during the period 1977 to 1992. They find that the V/P predicts abnormal returns over one-, two-, and three-year holding periods. A portfolio constructed by taking a long position in firms in the highest quintile of V/P and a short position in firms in the lowest quintile of V/P produces returns of 3.1%, 15.2%, and 30.6% over one-, two-, and three-year holding periods, respectively.

US results

We begin our analyses by replicating FL's Panel D in Table 2. In our Panel A of Table 2, we report that the portfolio hedge returns between Q1 and Q5 of the V/P quintiles are 5%, 16%, and 30% over one-, two-, and three-year holding periods, respectively; these results are quantitatively similar to those of FL. As in FL, the V/P-based portfolio hedging results in significantly positive abnormal returns and the hedge returns increase over longer holding periods. Note that in the analyses reported

[5] FL use 6% because the long-run return on assets is about 6% for US companies. We commonly use 6% for Chinese firms as well.

[6] Alternatively, we use the last forecast during the Jan-May period, but this does not change the tenor of our results (untabulated).

Table 1 Descriptive Statistics

Table 1 presents the descriptive statistics. The sample period for US (Chinese) firms is 1976-2011 (2004-2011). Panel A reports the average values of each variable by year. *ME* is the market value of equity as of June 30 of year *t* in millions of dollars (RMB) for US (Chinese) firms. *k* is the dividend payout ratio, computed as common stock dividends divided by earnings to common shareholders. ROE is the return on equity for year *t*-1, computed as net income for year *t*-1 divided by the year *t*-1 average book equity. *B* is the year *t*-1 reported book value per share. *P* is the stock price as of June 30 in year *t*. *ROA* is the return on total assets for year *t*-1. *V* is a fundamental stock value measured by the consensus analyst forecasts on future earnings in May of year *t*. For US firms, the consensus forecasts in June are derived from I/B/E/S; for Chinese firms, the consensus forecasts are measured as the mean of all individual forecasts from January to May in year *t*. For US firms, we use either industry-specific cost of equity (Fama and French, 1997) or the constant 12% rate for the discount rates. However, for Chinese firms, we only use the constant 12% rate for the discount rates.

Panel A. US sample (1976-2011)

Year	N	ME	k	ROE	B	P/B	B/P	ROA	V/P (ind.spec.)	V/P (12%)
1976	291	1158	0.34	0.15	22.44	2.08	0.72	0.08	1.09	1.08
1977	255	1210	0.31	0.16	23.97	1.73	0.78	0.08	1.25	1.21
1978	420	821	0.32	0.16	22.58	1.60	0.85	0.08	1.19	1.17
1979	547	759	0.30	0.17	22.88	1.58	0.87	0.08	1.30	1.31
1980	589	834	0.30	0.18	22.48	1.75	0.93	0.08	1.44	1.46
1981	685	874	0.30	0.17	21.75	2.08	0.78	0.08	1.08	1.08
1982	793	656	0.29	0.15	20.06	1.45	1.07	0.07	1.47	1.47
1983	839	988	0.30	0.12	18.82	2.93	0.62	0.06	0.87	0.83
1984	1046	714	0.24	0.11	15.67	2.07	0.75	0.05	1.18	1.16
1985	998	854	0.22	0.13	15.20	2.16	0.72	0.06	0.91	0.93
1986	998	1067	0.23	0.09	14.82	2.64	0.61	0.04	0.71	0.73
1987	1066	1195	0.21	0.09	13.59	2.86	0.63	0.04	0.85	0.82
1988	1093	1086	0.19	0.11	11.87	2.44	0.70	0.05	0.90	0.92
1989	1108	1201	0.20	0.14	12.61	2.36	0.69	0.06	0.91	0.93
1990	1114	1306	0.20	0.13	12.41	2.57	0.71	0.06	1.00	1.01
1991	1150	1337	0.21	0.12	12.12	2.52	0.77	0.05	0.85	0.86
1992	1207	1406	0.21	0.09	13.57	2.66	0.79	0.04	0.94	0.93
1993	1373	1419	0.18	0.09	13.07	2.95	0.69	0.04	0.85	0.84
1994	1588	1203	0.17	0.09	9.53	2.81	0.62	0.04	0.83	0.83
1995	1731	1606	0.15	0.11	9.56	3.26	0.61	0.04	0.84	0.85
1996	1874	1864	0.14	0.11	9.54	3.91	0.62	0.05	0.84	0.85
1997	2104	2253	0.12	0.09	12.14	3.55	0.59	0.04	0.78	0.77
1998	2295	2590	0.11	0.08	9.00	3.90	0.60	0.03	0.75	0.77
1999	2127	3435	0.11	0.07	8.93	3.99	0.73	0.03	0.81	0.81
2000	1931	4748	0.11	0.07	20.17	5.56	0.81	0.03	0.89	0.90
2001	1760	4224	0.10	0.07	9.75	3.35	0.81	0.02	0.70	0.68
2002	1718	3452	0.10	0.01	9.65	2.64	0.80	-0.02	0.53	0.54
2003	1747	3514	0.10	0.02	9.53	2.76	0.75	-0.01	0.65	0.62
2004	1855	4109	0.10	0.05	10.05	3.47	0.66	0.01	0.75	0.77
2005	1939	4494	0.12	0.09	96.80	3.17	0.70	0.04	0.84	0.84
2006	1988	4678	0.11	0.09	183.17	3.38	0.68	0.04	0.86	0.87
2007	2076	5407	0.12	0.09	495.72	3.39	0.68	0.04	0.83	0.83
2008	2000	5254	0.12	0.09	11.88	2.72	0.88	0.03	1.00	0.96
2009	1887	3805	0.14	0.05	11.80	2.10	1.06	0.01	0.84	0.77
2010	2024	4057	0.13	0.04	34.92	2.34	0.91	0.01	1.03	0.96
2011	1985	5592	0.13	0.09	12.73	3.01	0.82	0.04	1.03	0.98
All years	50,201	2901	0.16	0.09	43.63	3.02	0.74	0.04	0.88	0.87
Q3		1380	0.27	0.19	15.27	3.45	0.78	0.09	0.91	0.90
Med		403	0.00	0.12	8.73	2.07	0.48	0.05	0.62	0.63
Q1		130	0.00	0.04	4.87	1.28	0.29	0.02	0.41	0.43

Panel B. China sample (2004-2011)

Year	N	ME	k	ROE	B	P/B	B/P	ROA	V/P (ind.spec.)	V/P (12%)
2004	152	9540	0.44	0.15	4.56	2.43	0.49	0.08	-	0.63
2005	304	5734	0.40	0.17	4.12	1.89	0.69	0.08	-	0.83
2006	287	7424	0.45	0.15	4.07	3.00	0.48	0.08	-	0.60
2007	224	21100	0.43	0.18	4.16	6.65	0.22	0.08	-	0.40
2008	610	10700	0.39	0.18	4.56	3.63	0.40	0.08	-	0.76
2009	642	15700	0.44	0.13	4.22	4.11	0.32	0.07	-	0.43
2010	855	12300	0.41	0.13	4.32	4.06	0.36	0.06	-	0.59
2011	928	15500	0.37	0.16	4.68	4.60	0.32	0.07	-	0.58
All years	4002	12900	0.41	0.15	4.39	3.97	0.38	0.07	-	0.60
Q1		9626	0.56	0.21	5.32	4.87	0.49	0.1	-	0.75
Med		4821	0.37	0.14	3.88	3.11	0.32	0.06	-	0.52
Q3		2706	0.22	0.09	2.82	2.04	0.21	0.04	-	0.37

above, we set all empirical conditions (e.g. our measurement, data sources, and portfolio formation approaches) to be consistent with those in FL.

In order for a US sample to be compared with a Chinese sample, we also construct V/Ps based on a constant discount rate, namely 12%. We find qualitatively similar results based on the 12% discount rate. Specifically, the hedge returns between Q1 and Q5 of the V/P quintiles are 4%, 12%, and 24% over one-, two-, and three-year holding periods, respectively. We thus confirm that the V/P based on the constant discount rate also explains a cross-section of subsequent returns, implying that the V/P effect could be mainly driven by the variation in numerators (e.g. book values and a series of residual income).

In Panel B of Table 2, in an attempt to expand the sample period, we replicate FL using US data from 1976 to 2011. Our findings still depict a similar pattern in hedge returns, although the magnitudes are relatively smaller than those in earlier periods. One may argue that the smaller hedge returns are attributable to possible arbitragers given the heightened awareness raised by FL's findings. The tenor of the results based on the constant discount rate does not change.

China results

In analysing the Chinese sample from 2004 to 2011, we find that the V/P effect exists with one-year-ahead returns, as reported in Panel A of Table 3. However, strikingly, the effect does not continue in longer-horizon returns. We then exclude firm-years before 2008 for two reasons: first, analysts' forecast data on Chinese firms are known to be scarce in earlier periods; second, we intend to eliminate the possibility that the 2008 financial crisis might contaminate our results. However, in Panel B of Table 3, we confirm that the use of the recent sample period does not change the tenor of our results reported in Panel A.

We interpret the results in two ways. First, the findings suggest that the Chinese stock market corrects mispricing at least in the short term, but the correction is not perfectly maintained in the long term. When the mispricing is resolved to some degree after the initial correction, the Chinese market no longer shows a significant adjustment afterwards.[7] Second, it reflects that the Chinese market is efficient enough to reverse

[7] This might reflect the relatively short investment horizons of Chinese investors. We thank the discussant for pointing out this.

Table 2 US firms across V/P quintiles

This table reports the characteristics of quintile portfolios formed at the end of June each year by analyst based stock value-to-price ratio (*V/P*) for US firms. Panels A and B report the mean values of individual quintile characteristics for the time periods 1976-1993 and 1976-2011, respectively. *ME* is the market value of equity as of June 30 of year *t* in millions of dollars. *B* is the year *t*-1 reported book value per share. *P* is the stock price as of June 30 in year *t*. *V* is a fundamental stock value measured by the I/B/E/S consensus analyst forecasts on future earnings in May of year *t*. In addition, *V* is measured using two assumptions on cost of equity: industry-specific (Ind. Spec.) and a constant 12% rate, respectively. *Ret*12, *Ret*24, and *Ret*36 are the average 12-month, 24-month, and 36-month buy-and-hold return for the portfolio beginning July of year *t*. *Obs* (*firms*) is the number of observations (firms) in each quintile. Results in the All Firms column represent unconditional means. *Q5-Q1 Diff.* represents differences in means between the top (*Q5*) and bottom (*Q1*) quintiles. ***, **, and * indicate the 1%, 5%, and 10% level of significance, respectively (two-tailed).

Panel A. Year 1976-1993

	Rank for Variable V/P (Ind. Spec.)					All firms	Q5 - Q1
	Q1	Q2	Q3	Q4	Q5		Diff.
V/P	0.33	0.65	0.83	1.04	2.12	0.99	1.79***
B/P	0.55	0.55	0.66	0.75	1.21	0.74	0.66***
ME	748	1093	1372	1100	1140	1091	391***
Ret12	0.12	0.13	0.15	0.15	0.17	0.14	0.05***
Ret24	0.21	0.28	0.30	0.31	0.37	0.30	0.16***
Ret36	0.31	0.42	0.46	0.49	0.61	0.46	0.30***
N	3096	3108	3104	3108	3099	15515	
	Rank for Variable V/P (12%)					All firms	Q5 - Q1
	Q1	Q2	Q3	Q4	Q5		Diff.
V/P	0.37	0.70	0.85	1.03	2.01	0.99	1.64***
B/P	0.52	0.50	0.64	0.77	1.31	0.74	0.79***
ME	872	1444	1440	1080	601	1088	-271***
Ret12	0.11	0.14	0.15	0.17	0.15	0.14	0.04***
Ret24	0.21	0.28	0.33	0.34	0.33	0.30	0.12***
Ret36	0.31	0.43	0.50	0.51	0.55	0.46	0.24***
N	3107	3118	3119	3118	3110	15572	

Panel B. Year 1976-2011

	Rank for Variable V/P (Ind. Spec.)					All firms	Q5 - Q1
	Q1	Q2	Q3	Q4	Q5		Diff.
V/P	0.02	0.48	0.64	0.84	2.42	0.88	2.40***
B/P	0.59	0.47	0.54	0.64	1.43	0.74	0.84***
ME	1975	2854	3182	3190	2959	2832	984***
Ret12	0.11	0.12	0.14	0.13	0.14	0.13	0.03***
Ret24	0.24	0.25	0.28	0.29	0.31	0.28	0.07***
Ret36	0.33	0.37	0.42	0.42	0.49	0.40	0.16***
N	9983	10006	10004	10006	9990	49989	
	Rank for Variable V/P (12%)					All firms	Q5 - Q1
	Q1	Q2	Q3	Q4	Q5		Diff.
V/P	0.08	0.50	0.66	0.82	2.28	0.87	2.20***
B/P	0.57	0.44	0.53	0.64	1.53	0.74	0.96***
ME	2102	3527	3558	3347	1971	2901	-131
Ret12	0.11	0.12	0.14	0.15	0.13	0.13	0.02
Ret24	0.24	0.25	0.31	0.30	0.28	0.28	0.04**
Ret36	0.34	0.37	0.45	0.43	0.45	0.41	0.11***
N	10026	10047	10048	10047	10033	50201	

Table 3 Chinese firms across V/P quintiles

This table reports the characteristics of quintile portfolios formed at the end of June each year by analyst based stock value-to-price ratio (*V/P*) for Chinese firms. Panels A and B report the mean values of individual quintile characteristics for the time periods 2004-2011 and 2008-2011, respectively. *ME* is the market value of equity as of June 30 of year *t* in millions of RMB. *B* is the year *t*-1 reported book value per share. *P* is the stock price as of June 30 in year *t*. *V* is a fundamental stock value measured by the consensus analyst forecasts on future earnings in May of year *t*. The consensus forecasts are measured in two ways: the mean of all the individual forecasts from January to May in year *t* (Jan-May Aver.), and the value of the latest individual forecast from January to May in year *t* (Jan-May Indi.). This table reports the results based on the average forecasts during Jan-May. In addition, *V* is measured using the assumption of 12% cost of equity. *Ret*12, *Ret*24, and *Ret*36 are the average 12-month, 24-month, and 36-month buy-and-hold return for the portfolio beginning July of year *t*. *Obs* (*firms*) is the number of observations (firms) in each quintile, summarised for non-SOE and SOE separately. Non-SOE (SOE) indicates a non-state-owned enterprise (state-owned enterprise). Results in the All Firms column represent unconditional means. *Q5-Q1 Diff.* represents differences in means between the top (*Q5*) and bottom (*Q1*) quintiles. ***, **, and * indicate the 1%, 5%, and 10% level of significance, respectively (two-tailed).

Panel A. Year 2004-2011

	Rank for Variable V/P (discount rate = 12%)					All firms	Q5 - Q1 Diff.
	Q1	Q2	Q3	Q4	Q5		
V/P	0.23	0.41	0.54	0.70	1.10	0.60	0.87***
B/P	0.31	0.32	0.36	0.42	0.49	0.38	0.18***
ME	7602	10300	15300	13700	17400	12900	9798***
Ret12	0.20	0.23	0.23	0.27	0.28	0.24	0.08**
Ret24	0.62	0.68	0.66	0.70	0.68	0.67	0.06
Ret36	0.90	1.05	1.04	1.11	0.97	1.01	0.07
Non-SOE	241	277	315	293	262	1388	
SOE	556	526	485	510	537	2614	

Panel B. Year 2008-2011

	Rank for Variable V/P (discount rate = 12%)					All firms	Q5 - Q1 Diff.
	Q1	Q2	Q3	Q4	Q5		
V/P	0.22	0.40	0.53	0.69	1.09	0.59	0.87***
B/P	0.28	0.29	0.33	0.39	0.45	0.35	0.17***
ME	7423	10100	17000	15300	18500	13700	11077***
Ret12	0.09	0.08	0.12	0.12	0.15	0.11	0.06**
Ret24	0.32	0.27	0.29	0.27	0.26	0.28	-0.06
Ret36	0.50	0.49	0.54	0.58	0.39	0.50	-0.11
Non-SOE	199	234	254	249	222	1158	
SOE	407	374	353	359	384	1877	

mispricing within a year. However, taking into consideration the fact that stock market efficiency usually improves with market development, it is hard to believe that the Chinese stock market, usually viewed as underdeveloped, is able to arbitrage mispricing away within a year. At any rate, we are cautious about putting too much emphasis on these univariate analyses because omitted variables may hamper correct inferences. We therefore employ multi-variate regression analyses in the next section.

3.2 Determinants of V/P

To further explore the return predictability of the V/P, we employ two regression models (2) and (3). First, equation (2) identifies several determinants of V/P. Ali *et al.* (2003) find that several risk proxies, such as beta, firm size, and book-to-market ratio, are significantly associated with V/P, suggesting that V/P reflects risk to some extent. In their

study, Ali *et al.* (2003) introduce the following regression model (2):

$$V/P = a_0 + a_1*Beta + a_2*Ivolatility + a_3*D/M + a_4*Ln(ME) + a_5*Analysts + a_6*Altman's\ Z + a_7*Disp + a_8*StdROA + a_9*B/M + a_{10}*Ltg + e \quad (2)$$

As described in Ali *et al.* (2003), the explanatory variables in model (2) are primarily inspired by Gebhardt *et al.* (2001) and Gode and Mohanram (2003): *Beta* and *Ivolatility* (idiosyncratic volatility) represent systematic and non-systematic risk, respectively; *Ln(ME)* is the natural log of market capitalisation; *Analysts* is the number of analysts following the firm; *Altman's Z* captures the financial distress risk (Altman, 1968); *StdROA* is the standard deviation of ROA; and *D/M* is the market leverage.[8]

US results

The regression results are reported in Table 4. For US companies, V/P is significantly associated with almost all of the determinant variables except *Beta*, implying that firms with a high V/P are riskier and therefore are likely to have a higher required return: for example, *Altman's Z* is positively associated with the V/P. Collectively, we conclude that, to the extent that V/P is strongly associated with risk proxies and, by extension, future returns, researchers should control for these characteristics to sort out the mispricing element of V/P.

China results

Panel B of Table 4 also presents the regression results based on Chinese firms. We find that all of the risk proxies except *Ln(ME)* are significantly associated with V/P in Chinese firms. We therefore confirm that model (2) reasonably identifies the known determinants of V/P even in the China market.

In analysing the data on China, we also replace the raw V/P with a quintile rank variable for two reasons. First, transforming a raw value to a rank variable is beneficial when the measurement error is not trivial. As we abandon the variation from the discount rate by using the constant rate (i.e., 12%) for all Chinese firms, the raw value of V/P inevitably suffers from significant measurement errors. Second, replacing a raw V/P with a quintile rank variable also mitigates the effect of extreme values. Using a similar reasoning, Bradshaw (2004) also employs the quintile rank of V/P instead of the raw value. The results are qualitatively similar regardless of the replacement of V/P with V/P ranks.

Another question as yet unaddressed is whether SOE firms gain biased valuation in the Chinese market. In an attempt to answer to this question, we add an indicator variable for SOE firms to model (2). If stock investors in the Chinese market put more (less) weight on SOE firms than on fundamental value and hence overvalue (undervalue) them, the coefficient on SOE will be negative (positive). In Columns (4) and (8), our regression results present strongly negative coefficients on the SOE indicator, implying that SOE firms are, on average, overvalued.[9]

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[8] We exclude *ImpliedCC* and r_e from the original model of Ali *et al.* (2003) because they are generally unavailable for Chinese companies.

[9] One may argue that the fundamental value estimates we employ in this study (i.e. V) underestimate the true value of SOE. We admit that many other value drivers for SOE firms, such as governmental support, are hard to quantify, and thus these drivers are omitted in our implementation of the residual income model. In Ohlson's (1995) framework, it should be reflected in firm value as the "other information" rather than book value or abnormal earnings.

Table 4 Determinants of V/P

V/P is the analyst-forecast-based fundamental value divided by stock price as of the end of June in year *t*. The US consensus forecasts are derived from I/B/E/S. The Chinese consensus forecasts are measured in two ways: the mean of all the individual forecasts from January to May in year *t* (Jan-May Aver.), and the value of the latest individual forecast from January to May in year *t* (Jan-May Indi.). This table reports the results based on the Jan-May Aver. For US firms, *V/P* indicates the real value-to-price ratio (vp); for Chinese firms, *V/P* indicates both the real value-to-price ratio (vp) and the quintile rank of real value-to-price ratio (vp_rank). In addition, for US firms, *V* is measured using two assumptions on cost of equity: an industry-specific (Ind. Spec.) rate and a constant 12% rate, respectively; for Chinese firms, *V* is measured using the 12% cost of equity rate only. *Beta* is a systematic risk estimated using monthly returns over a maximum of 36 months ending in July of year *t*. *Ivolatility* is the standard deviation of residuals from a market model regression estimated using daily returns over a 12-month period ending in June of year *t*. *D/M* is the book value of long-term debt in year *t*-1 divided by the market value of equity at the end of June of year *t*. *ME* is the market value of equity in millions of USD for US firms (RMB for Chinese firms) at the end of June of year *t*. *Analysts* is the number of analysts' estimates in May of year *t*. *Altman's Z* is a score from Altman's (1968) discriminant model: Z = 0.012 x (working capital/total assets) + 0.014 x (retained earnings/total assets) + 0.033 x (earnings before interest and taxes/total assets) + 0.006 x (market value of equity/book value total liabilities) + 0.999 x (sales/total assets), with all of the variables measured at the end of year *t*-1. *Disp* is dispersion in 12-month-ahead analyst consensus earnings forecasts divided by the absolute value of 12-month-ahead analyst consensus earnings forecasts in May of year *t*. *StdROA* is the standard deviation of return on assets in the preceding five years, *t*-5 to *t*-1. *B/P* is book value in year *t*-1 divided by the market value of equity at the end of June of year *t*. *Ltg* is long-term growth in earnings estimate as a percentage forecasted in May of year *t*. r_e is the industry-specific cost of equity based on the Fama and French (1997) model. *SOE* is a dummy variable that equals 1 for state-owned firms and 0 otherwise. All of the variables except for r_e and SOE are winsorised at the 0.5% and 99.5% levels. ***, **, and * indicate the 1%, 5%, and 10% level of significance, respectively (two-tailed).

Panel A. US Results (2004-2011)

Discount rate =	Ind. Spec.			12%		
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.89***	2.79***	3.50***	-0.31***	2.71***	2.23***
	(15.83)	(24.46)	(36.70)	(-15.65)	(24.60)	(29.41)
Beta		-0.15***	-0.01		-0.04**	0.00
		(-6.62)	(-0.44)		(-1.97)	(-0.08)
Ivolatility		-12.23***	-10.16***		-12.47***	-9.07***
		(-7.50)	(-8.76)		(-7.90)	(-8.38)
D/M		0.88***	-0.17***		0.94***	-0.15***
		(48.95)	(-10.30)		(54.97)	(-10.01)
Ln(ME)		0.21***	0.32***		0.21***	0.31***
		(13.67)	(29.54)		(14.66)	(30.85)
Analysts		-0.02***	-0.02***		-0.02***	-0.02***
		(-16.12)	(-20.42)		(-17.80)	(-21.16)
Altman's Z		0.04*	0.14***		0.05**	0.11***
		(1.65)	(8.71)		(2.26)	(7.71)
Disp		-0.13***	-0.12***		-0.13***	-0.11***
		(-5.64)	(-7.21)		(-5.89)	(-7.59)
StdROA		0.31***	0.26***		0.28**	0.37***
		(2.79)	(3.30)		(2.56)	(5.00)
B/P	1.29***		1.42***	1.30***		1.42***
	(121.13)		(112.42)	(135.10)		(122.74)
Ltg	1.48***		1.92***	1.53***		1.93***
	(13.19)		(17.81)	(14.59)		(19.18)
r_e	-9.64***		-9.56***			
	(-22.29)		(-22.71)			
Adj. R^2	0.5258	0.1852	0.5884	0.5731	0.2152	0.6307
Obs.	13524	13524	13524	13603	13603	13603

Panel B. China Results (2004-2011, discount rate = 12%)

Dep. Var. =	V/P Quintile Rank				V/P			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	0.96***	1.70***	-0.17	-0.31	0.27***	0.75***	0.17***	0.15**
	(18.33)	(6.57)	(-0.66)	(-1.18)	(22.47)	(12.07)	(2.81)	(2.40)
Beta		0.56***	0.41***	0.39***		0.10***	0.06***	0.05***
		(6.21)	(4.95)	(4.63)		(4.63)	(3.05)	(2.80)
Ivolatility		-28.36***	-7.95*	-6.59		-5.71***	1.29	1.53
		(-6.44)	(-1.78)	(-1.48)		(-5.39)	(1.25)	(1.49)
D/M		2.78***	1.60***	1.63***		0.82***	0.43***	0.44***
		(15.15)	(8.49)	(8.71)		(18.48)	(9.91)	(10.07)
Ln(ME)		0.01	0.07***	0.10***		-0.03***	-0.01	0.00
		(0.28)	(2.69)	(3.77)		(-4.10)	(-1.49)	(-0.58)
Analysts		0.01***	0.01***	0.01***		0.00***	0.00***	0.00***
		(5.46)	(6.80)	(6.44)		(5.16)	(7.27)	(6.98)
Altman's Z		0.16***	0.18***	0.19***		0.04***	0.04***	0.04***
		(3.46)	(4.25)	(4.46)		(3.42)	(4.31)	(4.47)
Disp		-0.29**	-0.95***	-0.94***		-0.01	-0.19***	-0.19***
		(-2.06)	(-7.07)	(-6.98)		(-0.17)	(-6.08)	(-6.00)
StdROA		2.85***	3.70***	3.63***		0.68***	0.97***	0.95***
		(3.65)	(5.06)	(4.98)		(3.60)	(5.71)	(5.65)
SOE				-0.25***				-0.04***
				(-5.12)				(-3.94)
B/P	1.97***		1.76***	1.87***	0.61***		0.57***	0.59***
	(20.78)		(15.84)	(16.60)	(28.01)		(22.09)	(22.49)
Ltg	1.41***		1.56***	1.53***	0.40***		0.42***	0.41***
	(15.53)		(17.05)	(16.68)	(19.17)		(19.73)	(19.42)
Adj. R^2	0.1575	0.1129	0.2292	0.2354	0.2436	0.1275	0.2991	0.3023
Obs.	3142	3142	3142	3142	3142	3142	3142	3142

3.3 Return predictability of V/P

US results

Following Ali *et al.* (2003), we construct the following model and regress the three-year buy-and-hold returns on the V/P:[10]

$$\begin{aligned} ARET12, ARET24, \text{ or } ARET36 = {} & a_0 + a_1*V/P + a_2*Beta + a_3*Ivolatility \\ & + a_4*D/M + a_5*Ln(ME) + a_6*Analysts \\ & + a_7*Altman's\ Z + a_8*Disp + a_9*StdROA \\ & + a_{10}*B/M + a_{11}*Ltg + e \end{aligned} \quad (3)$$

If the V/P explains future stock returns on top of the controlled risk factors, then the coefficients on the V/P will be positive. With an exception in Column (3), Panel A of Table 5, which is based on our analyses of US firms, reveals that the coefficients on V/P are significantly positive in general, reconfirming the V/P effect in regression specifications.

China results

[10] We use market-adjusted returns (ARET) as a dependent variable, where market returns are equally-weighted returns.

Table 5 Return predictability of V/P

ARET12 (ARET36) is the market-adjusted 12-month (36-month) buy-and-hold return beginning in July of year *t*, defined as raw buy-and-hold return less the corresponding equally-weighted market return. *V/P* is the analyst-forecast-based fundamental value divided by stock price as of the end of June in year *t*. The US consensus forecasts are derived from I/B/E/S. The Chinese consensus forecasts are measured in two ways: mean of all the individual forecasts from January to May in year *t* (Jan-May Aver.), and value of the latest individual forecast from January to May in year *t* (Jan-May Indi.). This table reports the results based on the average forecasts during Jan-May. For US firms, *V/P* indicates the real value-to-price ratio (vp); for Chinese firms, *V/P* indicates both the real value-to-price ratio (vp) and the quintile rank of real value-to-price ratio (vp_rank). In addition, for US firms, *V* is measured using two assumptions on the cost of equity: an industry-specific (Ind. Spec.) rate and a constant 12% rate, respectively; for Chinese firms, *V* is measured using only the 12% cost of equity rate. *Beta* is a systematic risk estimated using monthly returns over a maximum of 36 months ending in July of year *t*. *Ivolatility* is the standard deviation of residuals from a market model regression estimated using daily returns over a 12-month period ending in June of year *t*. *D/M* is the book value of long-term debt in year *t*-1 divided by the market value of equity at the end of June of year *t*. *ME* is the market value of equity in millions of USD for US firms (RMB for Chinese firms) at the end of June of year *t*. *Analysts* is the number of analysts' estimates in May of year *t*. *Altman's Z* is a score from Altman's (1968) discriminant model and calculated in year *t*-1. *Disp* is dispersion in 12-month-ahead analyst consensus earnings forecasts divided by absolute value of 12-month-ahead analyst consensus earnings forecasts in May of year *t*. *StdROA* is the standard deviation of return on assets in the preceding five years, *t*-5 to *t*-1. *B/P* is the book value in year *t*-1 divided by the market value of equity at the end of June of year *t*. *Ltg* is the long-term growth in earnings estimate in percentage forecasted in May of year *t*. r_e is the industry-specific cost of equity based on the Fama and French (1997) model. *SOE* is a dummy variable that equals 1 for state-owned firms and 0 otherwise. All of the variables except for r_e and *SOE* are winsorised at the 0.5% and 99.5% levels. ***, **, and * indicate the 1%, 5%, and 10% level of significance, respectively (two-tailed).

Panel A. US Results (2004-2011)

Dependent variable = three-year-ahead returns (*ARET36*)

Discount rate =	Ind. Spec.			12%		
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.02***	0.24***	0.16**	0.02***	0.05***	0.00
	(2.74)	(6.05)	(2.15)	(2.72)	(3.17)	(-0.04)
V/P	0.02***	0.01**	0.01	0.02***	0.02***	0.02**
	(4.54)	(2.09)	(1.46)	(4.79)	(2.95)	(2.34)
Beta			-0.06***			-0.07***
			(-5.20)			(-6.45)
Ivolatility			0.10			0.31
			(0.12)			(0.38)
D/M			0.06***			0.05***
			(4.59)			(4.56)
Ln(ME)			-0.01			-0.01
			(-1.03)			(-1.34)
Analysts			0.09			0.11*
			(1.32)			(1.69)
Altman's Z			0.02**			0.02
			(1.97)			(1.50)
Disp			-0.04***			-0.04***
			(-2.92)			(-2.89)
StdROA			-0.03			-0.02
			(-0.59)			(-0.28)
B/P		0.01	-0.01		0.00	-0.02
		(0.93)	(-0.75)		(0.10)	(-1.36)
Ltg		-0.16**	-0.08		-0.18**	-0.10
		(-2.04)	(-1.02)		(-2.23)	(-1.24)
r_e		-1.59***	-1.26***			
		(-5.25)	(-4.03)			
Adj. R^2	0.0019	0.0048	0.0112	0.0022	0.0025	0.0100
Obs.	10098	10098	10098	10151	10151	10151

Panel B. China Results (2004-2011, discount rate=12%)
Dependent variable = one-year-ahead returns (*ARET12*)

V/P =	V/P Quintile Rank					V/P				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Intercept	-0.06***	-0.08***	0.69***	0.69***	0.71***	-0.06***	-0.07***	0.67***	0.67***	0.70***
	(-3.93)	(-3.72)	(6.94)	(6.88)	(6.97)	(-3.52)	(-3.58)	(6.79)	(6.72)	(6.87)
V/P	0.02***	0.02**	0.02***	0.02***	0.01	0.07***	0.05*	0.06**	0.06**	0.01
	(3.11)	(2.40)	(3.00)	(2.97)	(0.99)	(2.69)	(1.82)	(2.07)	(2.05)	(0.32)
Beta			0.03	0.03	0.03			0.03	0.03	0.04
			(0.94)	(0.93)	(0.97)			(1.09)	(1.07)	(1.12)
Ivolatility			-6.90***	-6.88***	-6.86***			-7.14***	-7.10***	-7.09***
			(-4.06)	(-4.04)	(-4.04)			(-4.20)	(-4.17)	(-4.17)
D/M			-0.05	-0.05	-0.05			-0.04	-0.04	-0.04
			(-0.67)	(-0.65)	(-0.68)			(-0.58)	(-0.56)	(-0.56)
Ln(ME)			-0.07***	-0.07***	-0.07***			-0.07***	-0.07***	-0.07***
			(-7.3)	(-7.06)	(-7.08)			(-7.1)	(-6.85)	(-6.86)
Analysts			0.00	0.00	-0.01			0.00	0.00	0.00
			(-0.1)	(-0.11)	(-0.15)			(-0.01)	(-0.03)	(-0.07)
Altman's Z			0.02	0.03	0.02			0.03	0.03	0.03
			(1.52)	(1.52)	(1.51)			(1.58)	(1.60)	(1.53)
Disp			-0.13**	-0.13**	-0.13**			-0.13***	-0.13***	-0.13**
			(-2.45)	(-2.45)	(-2.46)			(-2.61)	(-2.60)	(-2.55)
StdROA			0.08	0.08	0.07			0.09	0.09	0.08
			(0.27)	(0.27)	(0.24)			(0.33)	(0.33)	(0.28)
SOE				0.00	-0.03				-0.01	-0.05
				(-0.21)	(-1.03)				(-0.34)	(-1.38)
V/P*SOE					0.01					0.07
					(1.10)					(1.40)
B/P		0.03	-0.05	-0.04	-0.05		0.03	-0.05	-0.04	-0.05
		(0.70)	(-1.06)	(-0.99)	(-1.02)		(0.65)	(-0.99)	(-0.90)	(-1.00)
Ltg		0.04	0.05	0.05	0.05		0.04	0.06	0.06	0.06
		(1.22)	(1.43)	(1.42)	(1.41)		(1.24)	(1.59)	(1.57)	(1.49)
Adj.R^2	0.0028	0.0027	0.0319	0.0316	0.0316	0.0020	0.0019	0.0304	0.0301	0.0304
N	3142	3142	3142	3142	3142	3142	3142	3142	3142	3142

Panel C. China Results (2004-2011, discount rate = 12%)
Dependent variable = three-year-ahead returns (*ARET36*)

V/P =	V/P Quintile Rank					V/P				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Intercept	-0.30***	-0.23***	1.93***	1.91***	2.00***	-0.22***	-0.18**	1.97***	1.94***	2.06***
	(-4.72)	(-2.65)	(4.78)	(4.71)	(4.80)	(-2.95)	(-2.10)	(4.84)	(4.76)	(4.90)
V/P	0.04	0.05*	0.06**	0.06**	0.02	-0.02	0.02	0.01	0.00	-0.17
	(1.44)	(1.79)	(2.24)	(2.15)	(0.39)	(-0.18)	(0.20)	(0.10)	(0.03)	(-0.90)
Beta			0.20	0.19	0.20			0.20	0.19	0.20
			(1.36)	(1.33)	(1.36)			(1.38)	(1.34)	(1.38)
Ivolatility			-15.14**	-15.1**	-15.16**			-15.56**	-15.48**	-15.53**
			(-2.06)	(-2.06)	(-2.07)			(-2.12)	(-2.11)	(-2.11)
D/M			-0.52*	-0.50	-0.51			-0.42	-0.40	-0.40
			(-1.66)	(-1.60)	(-1.62)			(-1.32)	(-1.27)	(-1.26)
Ln(ME)			-0.23***	-0.23***	-0.23***			-0.23***	-0.22***	-0.22***
			(-6.17)	(-5.78)	(-5.80)			(-6.10)	(-5.67)	(-5.7)
Analysts			0.40*	0.39*	0.39*			0.43**	0.42**	0.42**
			(1.93)	(1.88)	(1.90)			(2.09)	(2.03)	(2.03)
Altman's Z			0.19***	0.19***	0.19***			0.20***	0.20***	0.20***
			(2.83)	(2.85)	(2.82)			(2.99)	(3.02)	(2.93)

Disp			0.14	0.14	0.14			0.08	0.08	0.10
			(0.66)	(0.65)	(0.65)			(0.37)	(0.37)	(0.45)
StdROA			-1.61	-1.59	-1.56			-1.35	-1.32	-1.33
			(-1.16)	(-1.14)	(-1.12)			(-0.97)	(-0.95)	(-0.96)
SOE				-0.07	-0.19				-0.08	-0.25
				(-0.82)	(-1.27)				(-1.04)	(-1.54)
V/P*SOE					0.06					0.26
					(0.98)					(1.17)
B/P		-0.20	-0.45**	-0.43**	-0.43**		-0.13	-0.37**	-0.34*	-0.36*
		(-1.34)	(-2.52)	(-2.34)	(-2.37)		(-0.85)	(-1.96)	(-1.76)	(-1.85)
Ltg		-0.08	-0.15	-0.16	-0.16		-0.02	-0.05	-0.06	-0.07
		(-0.55)	(-1.00)	(-1.01)	(-1.01)		(-0.11)	(-0.33)	(-0.36)	(-0.44)
Adj.R^2	0.0007	0.0006	0.0370	0.0368	0.0368	-0.0006	-0.0014	0.0340	0.0340	0.0343
N	1630	1630	1630	1630	1630	1630	1630	1630	1630	1630

In Panels B and C in Table 5, we also analyse data on Chinese firms using model (3). When we use one-year-ahead returns (*ARET12*) as a dependent variable in Panel B, we find that both V/P and V/P quintile ranks are significantly and positively associated with future stock returns. This is consistent with the portfolio results in Table 3. In Panel C, when we use three-year-ahead returns (*ARET36*) as a dependent variable, our initial attempt using the raw value of V/P does not yield a significant coefficient on V/P. This is also consistent with the portfolio results in Table 3 where we fail to find significant hedge returns between the lowest and the highest quintiles in terms of *ARET36*. However, when we use the V/P quintile ranks instead, its coefficients become significantly positive in general, again confirming the V/P effect in regression specifications. We therefore conclude that potential measurement errors or possible outliers in V/P measures could have hampered clearer inferences on the return predictability of V/P in Chinese markets.[11]

Recall that Table 4 shows that SOE firms tend to be overvalued compared with non-SOE firms. If the Chinese markets successfully identify and correct for the overvaluation of SOE firms in future periods, the coefficient on SOE in model (3) should be negative. However, in Panels B and C, we find that all of the coefficients on SOE are insignificant, indicating that the overvaluation of SOE firms is not corrected over time. We also include the interaction terms of V/P with SOE, but none of the coefficients is significant.

Our last test considers institutional ownership. If institutional investors are more sophisticated than individual or retail investors in China, the stock prices of firms with more institutional investors would have been adjusted and hence the association between V/P and stock returns will be more positive in such firms. Specifically, we allow the V/P effect to vary with an indicator for high institutional ownership (*HighOwn*), which equals one if the fraction of institutional holdings is greater than the sample median and zero otherwise. Untabulated findings suggest that the coefficients on V/P ranks and *HighOwn* are significantly positive in most of the return regressions, indicating that institutional investors who supposedly have superior knowledge about accounting-based valuation move stock prices towards their fundamental values.

IV. Summary

[11] The smaller sample size due to the availability of *ARET36* might weaken the test power in Panel C, Table 5.

In this study, we aim to document the positive association between V/P and future stock returns in Chinese stock markets. We observe that the V/P effect exists at least for a short term (i.e. within one year). We further document that SOE firms are generally overvalued, but we fail to find evidence that the mispricing of SOE firms is corrected over time.

This paper has several caveats. First, we simply attempt to apply FL's methodology using the data on Chinese firms. In so doing, we have conveniently ignored institutional considerations, such as short sale constraints or other regulatory policies related to China market developments, which are potentially relevant to our analyses. Second, although the value constructs heavily rely on analysts' forecasts, we do not test how reliable they are. As such, we do not wish to defend forecast accuracy in China or the validity of the database providing such information (i.e. CSMAR), although we acknowledge that the reliability of analysts' forecast data could significantly influence the inferences we make in the paper. Third, we also abandon the variation of discount rates by simply using a constant discount rate (i.e. 12%). Thus, our approach considers cash flow news but ignores discount rate news in explaining information surprises reflected in future realised returns (Vuolteenaho, 2002). We thus would not be able to depict a complete picture of the success of the V/P trading strategy in China to the extent that a significant variation in discount rates exists across firms. Readers should keep in mind the preceding caveats when drawing inferences from our findings. We call for more future research on the accounting-based trading strategy in Chinese markets.

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