Misvaluation comovement, market efficiency and the cross-section of stock returns: Evidence from China

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\section*{ABSTRACT}

In this study, we examine the relation between stock misvaluation and expected returns in China’s A-share market. We measure individual stocks’ misvaluation based on their pricing deviation from fundamental values, following Rhodes-Kropf et al. (2005, J. Finan. Econ. 77 (3), 561) and Chang et al. (2013, J. Bank. Finance, forthcoming), and find that the measure has strong and robust return predictive power in the Chinese market. We further form a misvaluation factor and find that misvaluation comovement and systematic misvaluation exist in the Chinese market. A comparison of our results with those of Chang et al. (2013, J. Bank. Finance, forthcoming) reveals that the misvaluation effect is much stronger in the Chinese market than in the U.S market. This evidence is consistent with the notion that the Chinese market is much less efficient than the U.S. market. Finally, we show that the return predictive power of misvaluation has weakened since China launched its split-share structure reform in 2005, which could result from the fact that the reform helps to promote market efficiency.

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1. Introduction

The influence of misvaluation on stock returns has caused intense attention from both academia and practitioners. The existence of misvaluation suggests that the stock market is not fully efficient, which could result from the trading of noise traders who are subject to various cognitive biases. Several behavioral models further suggest that misvaluation may comove in the market. For instance, Barberis and Shleifer (2003) contend that, to simplify portfolio decisions, investors tend to group stocks into different categories and then move funds among these categories. If some of the investors in these categories are noise traders with correlated sentiment, their coordinated demand will induce return comovement not justified by correlated changes in stock fundamentals. Daniel et al. (2001) offer a model in which stock prices reflect both covariate risk and investors’ misperception of firm prospects. They conjecture that investors may misinterpret private information about economic factors that influence firms’ profits, creating comovement among stocks with similar factor loadings when the private information about economic factors is received, misinterpreted and later on corrected. Barberis et al. (2005) propose a habitat model in which some investors trade only a subset of all available stocks. These investors alter the exposure to stocks in their habitat when their sentiment changes. As a result, stock return comovement will reflect not only news about fundamental values, but also changes in the systematic time-varying preferences, or sentiment, of important investor groups. Yu et al. (2014) find that investor sentiment affects the risk-reward relation, especially in emerging stock markets.

The aforementioned studies posit that misvaluation comoves and that systematic misvaluation exists in the stock market. Hirshleifer and Jiang (2010) were the first to examine the pricing of systematic misvaluation in the stock market empirically. They identify stock misvaluation in the U.S. market based on firms’ debt and equity financing activities, and accordingly propose a financing-based misvaluation factor. Their findings show that stock misvaluation is correlated across firms. Following the same line of research, Chang et al. (2013) argue that firms’ financing activities could be driven by factors other than misvaluation, and propose to measure stock misvaluation based on individual stocks’ pricing deviation from industry norms. Accordingly, they construct a misvaluation factor based on individual stocks’ pricing deviation, and confirm the findings of Hirshleifer and Jiang (2010) that misvaluation comoves in the market.

Both Hirshleifer and Jiang (2010) and Chang et al. (2013) investigate the U.S. market, while no study has yet examined misvaluation comovement in emerging markets. We fill this void by examining the misvaluation effect in China’s A-share market. We choose the Chinese market for several reasons. First, as one of the fastest growing economies in the world, China is becoming increasingly important to both academia and global investors. Second, the Chinese market is much less efficient compared to developed markets (Morck et al., 2000). Therefore, investigating the Chinese market and comparing the results with those obtained for the U.S. market helps to improve our understanding of the misvaluation effect conditional on market efficiency. The Chinese market is far from efficient as it is dominated by irrational individual investors who tend to push stock prices far away from fundamentals, resulting in severe stock misvaluation. Moreover, the Chinese stock market is characterized by various market frictions such as price limits (Kim and Rhee, 1997), stringent short-sale bans before 2010 (Diamond and Verrecchia, 1987; Bris et al., 2007; Saffi and Sigurdsson, 2011; Chang et al., 2014), strong intervention by regulators, and a bulk of non-tradable shares (e.g., Liao et al., 2014).

Furthermore, the proportion of institutional investors, who act as effective external monitors and arbitrageurs in developed markets, is very low in the Chinese market. Hence, misvaluation is expected to influence asset prices by a greater degree in the Chinese market, which deserves a thorough and comprehensive investigation. Lastly, the Chinese government started a split-share

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1 Morck et al. (2000) measure the efficiency of 40 countries based on measures of return synchronicity and R2. They argue that higher return synchronicity or R2 indicates lower efficiency, as firm-specific information is not incorporated into stock prices on a timely basis. The measures reveal that out of the 40 countries in the study, the U.S. has the highest market efficiency, while China has the second lowest market efficiency.

2 In unreported tests, we find that institutional holdings account for only about 3–4% of the total stock market value in China in 2013, while this percentage is above 70% in the U.S.
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