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Research Paper

The Role of Financial Inflexibility in Explaining Value Anomaly with Emphasis on the Business Cycle[1]

Mohammadreza Mehrabanpour[2], Taher Porkavosh[3], Ezatollah Abbasian[4], Seyyed Mohammad Alavi Nasab[5]

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INTRODUCTION

One of the unusual phenomena in the capital market, which may certify the irrational behavior of investors and be a reason for the inefficiency of the market, is the "value premium" phenomenon. The value premium refers to the excess return of value stocks compared to the return of growth stocks, and it has attracted the attention of financial and accounting researchers in recent years. Some notable studies in this area include those by Fama and French (1992), Jegadeesh and Titman (1993), Hagen (2004), Assadi and Eslami Bidgholi (2013), and Hoseini et al. (2014).

There is some consensus that value stocks earn higher returns than growth stocks, but the interpretation of why this is a controversial issue, and there is no clear

1. DOI: 10.22051/jfm.2020.25491.2038
2. Assistant Professor, Department of Financial and Accounting, Faculty of Management and Accounting, College of Farabi, Tehran University, Qom, Iran. Corresponding Author. Email:mehrabanpour@ut.ac.ir.
3. Ph.D. Department of Financial and Management, Faculty of Management and Accounting, College of Farabi, Tehran University, Qom, Iran. Email: porkavoshtaher@ut.ac.ir.
4. Associate Professor, Department of Governmental Management, University of Tehran, Tehran, Iran. Email:E.abbasian@ut.ac.ir.
5. Assistant Professor, Department of Financial and Management, Facylty Accounting and Management, College of Farabi, Tehran University, Qom, Iran. Email:alavinsb@ut.ac.ir.

explanation for this stock feature. The investment-based asset pricing theory (Cochrane, 1991; Berk et al., 1999) has provided some clues. The key word is inflexibility. The basic idea is that due to a variety of sources (investment irreversibility, leverage, and financial constraints), value stocks have less flexibility to adjust their capital during economic shocks. As a result, the risk and expected return of value stocks are highest during economic recessions relative to growth stocks. In other words, financial inflexibility is the reason for the co-movement of the expected return of value stocks with economic recession compared to the expected return of growth stocks (Gulen et al., 2008). Based on the studies of Assadi and Eslami Bidgoli (2013) and Hoseini et al. (2014), there is a value premium in the Tehran Stock Exchange. The reason for the value premium, based on investment-based asset pricing theory, is financial inflexibility. This research, for the first time in Tehran Stock Exchange, following the studies of Poulsen et al. (2013), has tried to add the financial inflexibility factor (a combined index of investment irreversibility, total leverage, and financial constraints) to Fama and French's three-factor model (1993), looking for the answer to these questions: does financial inflexibility have an impact on value anomaly (stock risk premium and value premium)? Secondly, does financial inflexibility during the business cycle affect the value anomaly? So that we can achieve a model with high explanatory power and predictive power about stock returns.

MATERIALS AND METHODS

The purpose of this research is practical, and its nature is causal correlation. To gather information on the theoretical foundations, the library method was used. The study utilized data from 450 firms for the period from 2008 to 2017 to achieve the research objectives. To test the research hypotheses, the fourth-factor Asset Pricing model by Poulsen et al. (2013) was used at both the stock and portfolio levels. These models were then tested while considering the moderating effect of the business cycle. It should be noted that the financial inflexibility factor was added as the fourth factor to the Fama and French (1993) three-factor Asset Pricing model in the Poulsen et al. (2013) fourth-factor Asset Pricing model. To investigate the role of financial inflexibility on the value anomaly, the above models were used once by using panel data for the value and growth stocks, and once again, these models were fitted with time series data for value, growth, and value premium portfolios.

RESULTS AND DISCUSSION

The results of the first hypothesis (there is a difference between the effect of financial inflexibility on the stock risk premium in value and growth stocks) and the second hypothesis (there is a difference between the effect of financial inflexibility on the stock risk premium during the business cycle in value and growth stocks) show that there is a significant difference between the coefficients of the financial inflexibility factor and the stock risk premium among value and growth stocks, and this effect is significantly greater in value stocks. Additionally, financial inflexibility during the recession has a positive and significant risk premium in the stock level of value stocks and a negative and significant risk premium in the stock level of growth stocks. Finally, the results of the third hypothesis (financial inflexibility has an effect on the value premium) and the fourth hypothesis (the business cycle affects the relationship between financial inflexibility and the value premium) show that financial inflexibility affects the value premium, and the effect of financial inflexibility on the value premium is not constant during the business cycle, and the impact of financial inflexibility during the economic recession on the risk premium of the value portfolio is more significant than that of the growth portfolio.

CONCLUSION

This research investigates the role of financial inflexibility in explaining value anomalies during the business cycle. The results of the research hypotheses indicate that financial inflexibility leads to an increase in stock risk premium, which means that stocks exposed to financial inflexibility experience higher risk premium. According to Poulsen et al.'s (2013) studies, financial inflexibility leading to positive and significant risk premium at the stock level can explain value anomalies at the stock level. The research also suggests that companies with a high book value to market value ratio are more exposed to the risk of financial inflexibility, resulting in higher stock risk premium. Additionally, the effect of financial inflexibility on stock risk premium is not constant over time, as Gulen et al.'s (2008) studies indicate. During the recession period, financial inflexibility has a positive and significant effect on the stock risk premium of value stocks, and the stock risk premium of value stocks increases with an increase in financial inflexibility during this period.

Furthermore, the adjusted coefficient of determination of the Fama and French three-factor model increases when the financial inflexibility factor is added, indicating that the four-factor model of Poulsen et al. (2013) has more explanatory power than the Fama and French model in the Tehran Stock Exchange. Therefore, it should be considered in pricing models that include factors such as size, value, and market return.

The results obtained from this research are consistent with the findings of Clark and Qiao (2019), Oad Rajput et al. (2019), Gu et al. (2017), Sanchez and Gomez (2015), Poulsen et al. (2013), Gulen et al. (2008), Cao (2010), Xing and Zhang (2005), and Moradijoz (2016), but inconsistent with the results of Valuchova's (2011) research.

Based on the studies by Assadi and Islami Bidgoli (2013) and Hoseini et al. (2013), it has been shown that there is value premium in the Tehran Stock Exchange. Additionally, the investment-based asset pricing theory suggests that financial inflexibility is the approach behind value premium. This study found that consistent with the aforementioned research, there is a value premium in the Tehran Stock Exchange, and compensation for the risk of financial inflexibility is the approach behind value premium. It is also the reason for the co-movement of the expected returns of value stocks with economic recession compared to the expected returns of growth stocks. Therefore, it can be concluded that the effect of this factor on stock risk premium is not constant over time.

Keywords: Business Cycle, Financial Inflexibility, Value Anomaly.

JEL Classification: E32, G12.

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