DETERMINANTS OF CORPORATE VALUE: EVIDENCE FROM THE FILM AND TV ENTERPRISES OF NEEQ MARKET IN CHINA

Pan Ying

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Pan Ying
School of Development Economics

..... Major Advisor
(Associate Professor Pariyada Sukcharoensin, D.B.A)

The Examining Committee Approved This Thesis Submitted in Partial Fulfillment of Requirements for the Degree of Master of Economics (Economics and Management).

..... Committee Chairperson
(Assistant Professor Suntharee Lhaopadchan, Ph.D.)

..... Committee
(Associate Professor Sorasart Sukcharoensin, D.B.A)

..... Committee
(Associate Professor Pariyada Sukcharoensin, D.B.A)

..... Dean
(Associate Professor Amornrat Apinunmahakul, Ph.D.)

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ABSTRACT

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The main purpose of this paper is to research the impact of the factors on the valuation of film and television companies in the National Equities Exchange and Quotations (NEEQ) market in China. The sample of research consisted of 88 film and television companies in the NEEQ market. Data related to the indicators were collected, where 300 unbalanced panel data were obtained from 2013 to 2018. Then, we established a fixed-effects regression model with demonstrated the impact of financial factors, non-financial factors and specific factors on firm value. The conclusion is that financial factors (Leverage, Asset Utilization, Growth Ability), non-financial factors (Equity Concentration, Firm Size, Established Time) and specific factors (Intellectual capital) have a significant impact on the enterprise value of film and television company in NEEQ market. And Equity Concentration has obvious advantages for increasing corporate value in this research. When the concentration of equity increases, more supervision work will be carried out, which will help reduce supervision costs and increase corporate value. The research limitation is we can only obtain information from the annual report for some specific factors, there is a subjective judgment, it may cause errors to the research. We hope that the related studies in the future can expand the time span of the sample and take a different measurement of specific factors. Based on the result of this paper, we will know how factors affect the firm value in film and television company. And, then we will propose the advice on evaluating the film and television's company for investors.

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CHAPTER 1

INTRODUCTION

1.1 Background

With the rapid development of new media, Chinese film and television dramas have entered the era of multimedia communication. Online drama has become a unique profit growth point for TV drama production companies. In 2015, the two online dramas "Nirvana in Fire" and "Wu Xin: The Monster Killer" were more popular. Moreover, "Day and Night" and " The Longest Day in Chang' an" were discussed by many people in 2017. There were also two well-known online TV series in the past two years: “The Untamed” and “Qin Yu Nian”. Different types of high-quality film and television works kept on appearing in the public view, and behind this, these film companies have also risen one after another in the NEEQ market in recent years. At the same time, the valuations of these companies have skyrocketed. For example, the P/E ratio of Jiaxing Media is between 42 and 45 times in 2016, which is estimated to reach 5.025 billion yuan. This makes us think about why the valuation of film and television companies is so high and what factors affect the valuation of NEEQ film and television companies.

China has developed cultural industries as pillar industries of the national economy where the film and television industry is an important part of the cultural sector. There were various policies to support the cultural sector since 2014. While the production of Chinese online dramas began to explode, the number of Chinese online dramas reached 205 in 2014, reaching the highest point in 2016. With the increase of online video users, as an essential category of video content production, the attention and influence of online drama have also been increasing. In 2018, the number of online video users in China reached 7110 million that is a year-on-year increase of 25.84%.

Table 1.1: The Trends of Chinese online drama and online video users in 2013-2018

	Number of online dramas	The scale of online video users (million people)
2013	50	2100
2014	205	2940
2015	379	4610
2016	349	5140
2017	295	5650
2018	283	6120

Source: Association, C.N.S. (2019)

In China, the capital market is in the stage of developing multi-level reforms. And it has developed various trading platforms. It includes the main board market (Shanghai Stock Exchange and Shenzhen Stock Exchange), the second board (Growth Enterprises Market), the new third board (National Equities Exchange and Quotations), the new fourth board (Regional Equity Trading Market). etc. NEEQ (National Equities Exchange and Quotations) or OTC (Over-the-Counter Market) is a new capital market that provides financial services to innovative companies during the entrepreneurial period or growth period and provides equity transfer services. In 2006, non-listed stock companies in Zhongguancun Technology Park enter the agency transfer system for share quotation transfer, which is called “the new third board market”. For small and medium-sized film and television companies, the NEEQ market provides them with an alternative doorway for entering the capital market, as well as attractive transfer procedures, more accessible access to bank loans, and help to enhance the corporate brand image and other benefits. The NEEQ market also provides the company which focuses on specialized product areas with more exposure to capital, opportunities for development and growth, and is more vulnerable to the attention of venture capital and private equity agencies.

At the end of 2013, all companies that meet the basic market requirements of the NEEQ can enter the NEEQ market. Table 1.2 below shows the growth of NEEQ listed companies from 2014 to 2019 in China. The number of companies listed on the

NEEQ market declined after 2017. In 2018, many film and television media companies were delisted from the NEEQ. Among them are many "star companies" in the industry. Many companies (including film and television companies) left for various reasons, such as: companies' strategic development, business crossover, or the need for deeper capital operations (such as IPO listing, merger, and issuance).

Table 1.2: The growth of NEEQ-listed firms in 2013-2018

	Total number of listed companies	Culture, sports and entertainment industry	Proportion
2013	356	7	1.97%
2014	1572	28	1.78%
2015	5129	104	2.03%
2016	10163	228	2.24%
2017	11630	261	2.24%
2018	10691	240	2.24%

Source: Quotations, N.E.E.a. (2020)

The listed companies on the NEEQ market lack liquidity. On the one hand, only 30% of the company's stocks have been traded. On the other hand, the price changes in these stocks are also minimal. Therefore, the growth rate of the NEEQ market is limited (Liu, N. and Xu, W., 2017). Since its listing on the new over-the-counter market, it has played a small role in improving the company's financing capabilities due to the limitations of stock liquidity (whether listed or not). At the same time, this will also increase the company's operating costs. The NEEQ market was established later. The company's equity in the NEEQ market is very small, and its financial and operating indicators fluctuate greatly. Thus, the evaluation of the value of the company in the NEEQ market has become more difficult. Due to the instability of the capital market, many investors will blindly support the film and television industry, resulting in its bubble development. It may cause losses to investors. Because the

transactions are relatively inactive in NEEQ market. The data acquisition in the NEEQ market is more troublesome than other markets. In the film and television industry, the assets and business characteristics of film and television companies make their valuations different from traditional production companies. The added value of the intellectual property of these film and television products is very high, which makes their value uncertain. In addition, only a few scholars (Jishen, C., 2017; Xiaojuan, F., 2018; Xuezhen, C. and Yuan, Z., 2017) used empirical methods to analyze influencing factors on firm value of film and television's company in the NEEQ market. Therefore, this study extends prior research to investigate potential influencing factors, especially the industry-specific factors, for example: star power, electronic word of mouth and production ability. Xiaojuan, F. (2018) pointed out that star ownership is a way to indirectly control the equity of film and television companies in the NEEQ market, and this method is more common in the film and television industry. It may affect firm value. However, there are little literatures that studied the relationship between the influence of star with firm value and between electronic word of mouth with firm value too. And there is constant as electronic word of mouth. Most of the related literature analyse the impact of electronic word of mouth on the box office. Luyuan, C. (2018) selected the movie box office revenue and cost ratio to represent the economic benefits of the movie products. She pointed out the Internet word of mouth has a U-shaped effect on movie box office's economically efficient.

This paper consists of five sections. After this introductory part, a survey of the related literature is discussed. The third section provides the research methodology followed in this study. Then, the fourth section reports the analysis of the data and the empirical results, and the paper concludes in the fifth section with summaries of the findings.

1.2 Research Objective

To identify factors influencing variation in the firm value of the film and television companies in NEEQ market.

To assess the impact of factors on film and television company's firm value.

1.3 Research Contribution

Based on the result of this paper, we will know how factors affect the firm value in film and television company. And, then we will propose the advice on evaluating the film and television's company for investors.

1.4 Research Questions

This study will attempt to answer the following two research questions:

1) How to measure the specific composition of financial factors, non-financial factors and specific factors in the film and television companies listed on the NEEQ market?

2) How do financial factors, non-financial factors and specific factors on affect the firm value among film and television firms listed in NEEQ market?

1.5 Research Model

This study proposes a conceptual framework of the relationship between firm value and financial factors (leverage, asset utilization, and growth ability), non-financial factors (governance efficiency, equity concentration, firm size and established time), specific factors (intellectual capital, star power, electronic word-of-mouth and production capacity). This is illustrated in Figure 1.

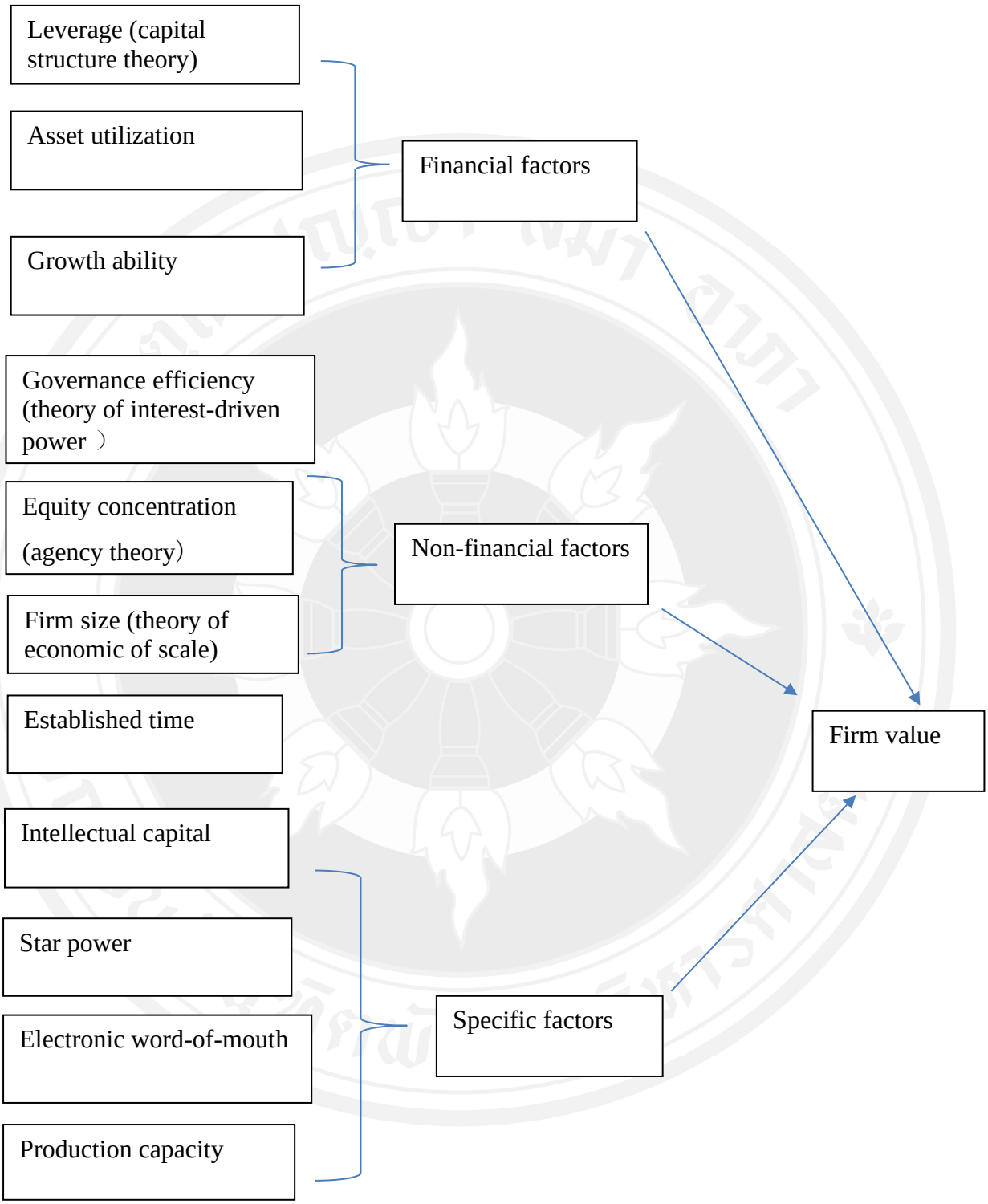

Figure 1.1: Conceptual framework of factors on firm value
Source: adapted from Panpan, W. (2018)

CHAPTER 2

LITERATURE REVIEW

2.1 Firm value

Firm value is an economic measure of a firm's performance which reflects the worth of the entire business (Grossman, S.J. and Stiglitz, J.E., 1977; Sarma, L.V.L.N.R., KS Hanumanta 2012). Corporate value is an important indicator for investors because it can help investors judge the overall situation of the company. Many factors influencs corporate value. We can find out the factors that affect the enterprise value and think about the reasons (Utami, W. and Sundari, T.W., 2013).

Over the past decade, most research in firm value has emphasized the use of three types of indicators which are financial statements, market value and income method. The financial indicators built on financial statements are the most common and most applicable traditional indicators. Based on net profit, it mainly includes the return on equity (ROE) and return on assets (ROA). In studying the relationship between capital structure and company value, Yu-Shu, C., Yi-Pei, L., and Chu-Yang, C. (2010) and Cuong, N.T. and Canh, N.T. (2012) use ROE to measure company value. Abor, J. (2005) uses ROE to represent company value when they examined relationship between capital structure and profitability, In the Chinese media industry and the NEEQ market, ROA and ROE are often used as indicators of firm value (Hanqing, D. and Jun, W., 2016; Jishen, C., 2017; Weijiao, S., 2016; Wenshi, X., 2018). In the study of the performance of China's media industry, ROA can be widely used because it can measure the utilization of the company's total assets, and ROE can measure the company's utilization of owner's equity (Hanqing, D. and Jun, W., 2016). Weijiao, S. (2016) and Jishen, C. (2017) used ROA to measure business performance when they analysed the small and medium companies in NEEQ market. In the media industry, Qiu, L. (2013) studied the value of Chinese listed film companies, where ROA and ROE were used as the dependent variables to measure firm performance,

then represents corporate value. Wenshi, X. (2018) adopted ROE as a performance indicator, representing the return rate of equity investment in the stock and the company's ability to make money. It reflected the level of returns that investors can obtain after investing in equity. His article sets the company's goal to maximize shareholder wealth. In addiation, ROE is the most accurate variable to reflect of the shareholder's wealth. Compared with other single financial indicators, the return on equity (ROE) is more representative of the fundamentals of the media company and is the most appropriate indicator.

The second category is based on market value, such as Tobin's Q ratio. Economist James Tobin has first proposed this ratio. The difficulty of calculation makes it difficult to estimate the replacement cost of the enterprise. Javed, A.Y. and Iqbal, R. (2007) used Tobin's Q as firm value to study the impact of corporate governance on firm value in the Karachi Stock Exchange. Anandhi S, B., Sundar G, B., and Benn R, K. (1999) used Tobin's Q ratio to measure the firm's performance. They examined the relationship between information technology (IT) investment and enterprise value through US data studies from 1988 to 1993. Which they concluded that IT contributes to the company's future performance potential. They believed Tobin's Q is a better method to capture the firm's future performance potential. Ying, F. and Jiayin, L. (2014) and Panpan, W. (2018) has taken the culture media companies listed on the main board as a sample to study the influence of factors from corporate value. They all use Tobin's Q to represent corporate value. The higher the Tobin's Q, the more investment value and growth the company has. Juanjuan, T. and Tiancai, X. (2014) analysed the particularity of liquidity risk management in the angle of trading way and trading regulation, fitted liquidity change rate sequence of the samples. They concluded that the risk characteristics of the NEEQ market are obvious. The NEEQ market is characterized by poor stability of liquidity risk value. Whereas the liquidity of other securities markets is higher than the NEEQ market. Therefore, China's emerging securities market is still in the development stage, and the market is volatile. The stock market price may not truly reflect the value creation ability of the enterprise. So, Tobin's Q values were used as firm value and may have been a bias in the research results. The Tobin's Q value also uses the market value of China's stocks.

Whether the indicators can truly reflect the company's level has yet to be considered (Xinyue, Z., 2016).

The third category is the discounted cash flow indicator EVA (Economic Value Added) built on the income method. The economic value-added method represents the difference between the net profit and the investment in the capital of the enterprise. The opportunity cost of investment capital is taken into account by the EVA method. The EVA method fully reflects is more fully reflects the exact business situation of the enterprise compared with the indicator of accounting profit. Therefore, this method is widely used in the evaluation of the performance of state-owned enterprises (Bingmei, Z. and Suhuan, Z., 2010). The ability of EVA to explain changes in corporate values, scholars such as Lehn, Makhija, Dodd, Chen and Farzad Farslo have obtained distinct evidence through empirical research on large amounts of data. For example, Lehn, K. and Makhija, A.K. (1996) analysed the data of 241 large companies in the United States for seven years and concluded that EVA has a better solution than other indicators. However, Dodd, J. and Shimin, C. (1997) research based on ten years of data from 566 companies puts forward that EVA's explanatory power is less than the ROA. Farslo, F., Degel, J., and Degner, J. (2000) even concluded that EVA is the poorest indicator of corporate value change based on the research on the S & P 500 companies. In China, Kai, G. (2014) believes that the use of EVA can provide a reference for M&A, acquisition and restructuring of culture media companies. In general, the performance evaluation of EVA indicators tends to provide a reference for investment and financing. However, Xinyue, Z. (2016) considers EVA as a suitable indicator to measure corporate value in culture media companies. But in the NEEQ market, the EVA method needs to adjust the matter, the process is complicated, and the adjustment process is prone to a lack of objectivity, so the EVA method is excluded (Wenshi, X., 2018).

2.2 Influencing factors of firm value

According to the existing research results, the factors affecting the firm value are multifaceted. There are differences in the factors affecting the value of enterprises in different industries. This paper believes that it is necessary to analyse the factors of

general financial factors, non-financial factors and specific factors to study enterprise value more comprehensively.

2.2.1 Financial factors

Some previous researchers found the empirical proof about the influence of fundamental factor, like financial factors. According to Stephen, A.R., Randolph, W.W., and Bradford, D.J. (2011), leverage is designed to address the company's long-term ability to comply with its obligations. Leverage helps individuals assess a company's debt tolerance. Abu-Rub, N. (2012) provide evidence of that leverage is positively related to corporate performance (ROE) in the different types of companies. They used data of 28 companies over 2006-2010 listed on the Pakistan Stock Exchange. However, Awunyo-Vitor, D. and Badu, J. (2012) showed that leverage was negatively correlated with corporate performance (ROA), and they used data from 2000 to 2010 to perform panel regression analysis on Ghanaian listed banks. Titman, S. and Wessels, R. (1998) used data of 469 large U.S. listed companies in the manufacturing industry to study the changes in company value between 1972 and 1982. They research showed debt ratio are shown to have negative effect on firm value. A study by Sogorb-Mira, F. (2005) was based on data from Spain's 6,482 SMEs from 1994 to 1998. They explained that SMEs with greater development potential will be as indebted as possible and have more efficient use of funds obtained from debt. Although the value of the enterprise may be inversely proportional to the debt ratio in the short term, it is still proportional to it in the long term. In China, Qiu, L. (2013) and Yu, D. (2013) concluded that the impact of asset-liability ratio on the firm performance (ROE, ROA) of listed companies in the radio, film and television industry is negative. Ying, F. and Jiayin, L. (2014) empirically concluded that the leverage of 44 culture media companies are negatively correlated with corporate value (Tobin’s Q) during 2009-2012. Excessive liquid assets of enterprises may affect the profitability of enterprises. In diverse industries of Chinese listed companies, the relationship between financial leverage and corporate value or operating performance is negatively correlated (Mou, X. and Wanrapee, B., 2014; Naiping, Z., Wenjuan, H., and Jun, L., 2013).

Kritsonis, A. (2004) believed that the level of asset utilization can explain whether the company is effective in using assets. As described by Stephen, A.R., Randolph, W.W., and Bradford, D.J. (2011), asset utilization is intended to describe the efficiency or intensity with which a company uses its assets for sales. Asset utilization can be determined from the fixed assets ratio, the receivable turnover, total asset turnover rate and inventory ratio. Kennedy, S. and Johnson, P. (2003) conducted an empirical research on LQ 45 Index stocks of BEJ for two years (2001 - 2002). The study found that TATO is proportional to stock returns. Shah, S.Z.A. and Hussain, Z. (2012) empirical research that by obtaining data on companies listed on the Karachi Stock Exchange for the period of 2008-2010, the control variable (asset turnover) did not have any significant impact on Tobin's Q. According to the empirical results of Yanzhen, Y. (2016) and Jingjing, L. (2017), asset utilization is positively correlated with corporate value (stock price) in asset-light companies or film and television companies in China.

Javed, A.Y. and Iqbal, R. (2007) selected a sample of companies listed on the Pakistan Stock Exchange and concluded that growth (average sale growth) and company value have a positive relationship. Abor, J. (2005) conducted an empirical research on GSE listed companies for five years (1998 to 2002) and concluded that companies with higher growth opportunities usually have higher profitability. Cuong, N.T. and Canh, N.T. (2012) has taken the relevant data of SEAs listed on two Vietnam's stock exchange markets during 2005 - 2010 and some seafood processing enterprises which are not listed in Vietnam. They reported that the growth rate of operating sales is insignificantly related to the company value. In China, Jianping, Z. (2014) reports that the growth ability mainly depends on the year-on-year growth rate of the media company's operating income, which is a key data to measure the strength of competitiveness. There was a positive correlation found between corporate development (net profit growth rate) and firm performance (ROA) in small and medium company listed on NEEQ market (Jishen, C., 2017). Jingjing, L. (2017) and Panpan, W. (2018) studied the factors affecting the value of Chinese culture media listed companies including growth ability.

2.2.2 Non-financial factors

The company's valuation includes both financial sector and non-financial sector. Even a comprehensive financial indicator is difficult to fully reflect the interests of all corporate stakeholders (Zhimou, Y., 2007).

Governance efficiency is considered as a non-financial variable that affects corporate value. Agency theory is proposed by Jensen and Meckling in 1976. They studied on the conflicts between shareholders and managers. Black, B.S., Love, I., and Rachinsky, A. (2006) confirmed that there are economically important and statistically relations between company governance and market value by using time-series data for the period of 1999-2006. Black, B.S., Jang, H., and Kim, W. (2006) used the data from 515 firms listed on Korea Stock Exchange in the year 2001. They studied the firm and found that higher corporate governance capabilities have better corporate value. In China, Ying, F. and Jiayin, L. (2014) concluded that the shareholding ratio of executives is negatively correlated with firm value (Tobin’s Q) in culture media companies. This demonstrates that it is possible to manage the board of directors when the shareholding ratio of senior executives is high, thereby harming the value of other investors. Through Xuezhen, C. and Yuan, Z. (2017) empirical research, result show that there was a positive correlation between the shareholding ratio of executives and firm value (Tobin’s Q) with impact on the financial companies listed in the NEEQ market.

Prior research suggests that equity concentration (direct equity of the controlling shareholder) could be considered. Berle, A. and Means, G. (1933) proposed that the concentration of equity is positively related to corporate performance in America. When large shareholders control equity, they can obtain more and cheaper corporate governance information, therefore reducing the costs of shareholder supervision and management, and reducing the liquidity of equity. Moreover, there are difficulties in the transfer of large shareholders' equity, which makes the majority of shareholders to take interest in the company's performance. The company encourages major shareholders to form self-motivation on the basis of pursuing their own interests. They will actively participate in corporate governance and supervision, thereby reducing equity agency costs (Mei, Y., 2015). But some scholars argued that the high degree of equity differentiation will cause conflicts among shareholders and reduce

corporate value. Fama, E.F. and Jensen, M.C. (1983) proposed the "manager's defend hypothesis", and concluded that the equity structure is negatively related to corporate value. They believed that the lack of effective external constraints on equity concentration could easily cause managers to defend the controlling shareholder and reduce corporate value. A survey of 456 sample companies came from Fortune 500, which was compiled in December 1980. This survey examined firm value were positively affected by ownership concentration.(Shleifer, A. and Vishny, R.W., 1986). Results from the study by Alimehmeti, G. and Paletta, A. (2012) noted that ownership concentration is positive correlated with firm value using all the listed Italian firms in 2006-2009, except 2008. In China, Xiang, G. and Dan, Z. (2011) examined that when the company appropriately increases the shareholding of the largest shareholder, the company's performance will be improved. They used data of small and medium-sized listed companies for the period of 2008-2010. But Yanzhen, Y. (2016) proved that the more concentrated the equity of an asset-light company, the worse the company's value. According to panel data of the NEEQ listed companies from 2014 to 2016, Hongxia, N. (2017) empirically concluded that the investment proportion of the first largest shareholder has a positive correlation with the corporate performance. Wenshi, X. (2018) concluded that the lower equity concentration cannot be conducive to improving the company's performance. Therefore, media listed companies with low equity concentration should reasonably increase their equity concentration. For a company with a relatively higher degree of equity concentration, it is necessary to monitoring the major shareholders and maintaining their relative control of the company.

According to the theory of economic of scale, the company that have achieved a larger economic scale have better purchasing bargaining power, sales pricing power and cost control capabilities than the company that have a smaller economic scale. Beatty, R.P. and Ritter, J.R. (1986) proposed a priori hypothesis. They proposed that the risk and uncertainty can be measured by firm size. The smaller the size of the enterprise, the higher the risk and uncertainty, and the higher the underpricing of new shares. Javed, A.Y. and Iqbal, R. (2007) examined firm size has a positive impact on the value of the company with 50 companies that comprise more than 70 percent of market capitalisations and listed on KSE. Jingjing, L. (2017) learned from factor

analysis and regression analysis that there is strong positive relationship between enterprise value (stock price) and company size in the film and television listed company. Jishen, C. (2017) has concluded firm size has a positive impact on company performance in NEEQ market. However, some scholars researched that the company size is a negative correlation with firm value. For example, Ghazal, N.A.M. (2010) used data of 87 non-financial listed companies from Malaysia for the year 2001, which they found that firm size is negatively related to Tobin's Q. Al‐Najjar, B. and Anfimiadou, A. (2012) examined that firm size would play a limited role in decreasing the firm value in the United Kingdom during 1999 - 2008. Large companies may have lower value than small companies.

According to Ruekert, R.W., Walker Jr, O.C., and Roering, K. (1985) Enterprise or organization characteristics are split into establishment time, environmental characteristics, type and size. Zeffane, R. (1989) concluded that the establishment time of an enterprise is negatively correlated to the firm performance. Corporate performance is affected by the degree of bureaucracy. While the enterprise is established for a long time, the degree of bureaucracy becomes higher. However, Miller, C.M. (2000) believes that the accumulation of goodwill and technology is a very important competitive weapon, and goodwill and technology are accumulated over time, so the establishment time of the enterprise is directly proportional to the corporate performance. In general, the longer the establishment of an enterprise, it has a certain reputation and strength in the market, more resources in the industry, and even a unique core competitiveness in a specified field, which can create more value. But at the same time, companies are required to consider their own innovation capabilities and life cycle. In the current mobile Internet era, all products and services are updated quickly. Especially for film and television companies, if it cannot change in time, the earlier the establishment of the company, the easier it will die (Liang, C., 2015). Li, Z. (2006) used data from software companies in mainland China and Taiwan from 2001 to 2002 concluded that the shorter the establishment time of the software company, the higher the operational efficiency. He believes that software companies that have been established for a long time may be weaker than new companies in terms of technology, expansion and talent attraction, and will accumulate a lot of administrative costs.

2.2.3 Specific factors

Intellectual capital includes structural capital and human capital, which includes systems, databases, processes, customers and brands (Edvinsson, L. and Malone, M.S., 1997). Nick, B., Sehwa, W., Ming‐Chin, C., Shu‐Ju, C., and Yuhchang, H. (2005) based on data from 4254 firm-year observations in Taiwan Stock Exchange, noted that intellectual capital has a positive impact on market value and financial performance. Min, Z. and Wenchao, X. (2011) found that there is a positive correlation between intangible assets and firm value in all industries in China, but the intangible assets of different industries contribute differently to the value of enterprises. Rindu Rika, G. (2015) studied the positive impact of intangible assets on company value in a listed company in Indonesia from 2007 to 2009. The company's intangible assets can increase the company's ability to generate profits and investors will appreciate the company more, thereby increasing its value. For Chinese film and television companies, Junhui, W. (2013) pointed out that the valuation of film and television media companies should fully consider the impact of intangible assets on corporate value. Liang, C. (2015) and Jingjing, L. (2017) demonstrates the role of intangible assets in enhancing the value of film and television media companies through factor analysis-multivariate regression analysis. Film and television enterprises are light-asset enterprises, and they invest more in intangible assets such as goodwill, human resources and intellectual capital cannot be fully reflected in the book value of assets (Jingjing, L., 2017; Lu, Y., 2017).

Based on Litman, B.R. and Kohl, L.S. (1989), Sochay, S. (1994) and Prag, J. and Casavant, J. (1994) views, they found that there was a significant relationship between the presence of stars and film revenues in America. Some factors also play an important role in performance. Reddy, S.K., Swaminathan, V., and Motley, C.M. (1998) studied star talent, genre and critical criticism where these factors have an important influence on Broadway performances. Albert, S. (1998) results show star power have an effect both on appeal audience to movie theater and estimate the possibility of box-office success. Pokorny, M. and Sedgwick, J. (2001) emphasize on evaluating the impact of stars on the company's profitability and believe that the effective risk reduction strategy is to deploy the development of stars to some extent. Rui, L. (2015) believed that well-known artists can increase the box-office income,

and the celebrity effect and derivative effect of the artists themselves will bring additional value to the film and television enterprises in China. Ying, S. (2015) proposed that media companies need to pay attention to the appeal of stars to enhance corporate value. She pointed out that Talent Television and Film Company is doing a good job of using the star appeal to improve the value of the company. Stars hold a certain proportion of equity, which has become an important measure for many film and television production companies to innovate incentive mechanisms and gather core resources (Yimei, W., 2016). Xiaojuan, F. (2018) pointed out that star ownership is a way to indirectly control the equity of film and television companies in the NEEQ market, and this method is more common in the film and television industry. In the Film and Television's company of the NEEQ market, there is a special group of stars different from other industries. The proportion of shares held by them is relatively high, which plays an important role in supporting the overall development of the company. The star IP effect is held against the stars. The expansion of the role of the stock has become an important factor in the equity structure of the NEEQ market. This can indirectly lead to the possible influence of star holdings on the development value of enterprises.

Electronic word-of-mouth (Movie review or film ratings) may also influence corporate value. Previous literature focused on the relationship between box office revenue and film review (Litman, B.R., 1983; Litman, B.R. and Ahn, H., 1998; Litman, B.R. and Kohl, L.S., 1989; Prag, J. and Casavant, J., 1994; Ravid, S.A., 1999). Using data from all 1687 movies from 1956 to 1988, Wallace, W.T., Seigerman, A., and Holbrook, M.B. (1993) concluded that, critic rating has an impact on box-office success. They found that movies with high ratings will make money for every positive review they get, while positive reviews will not benefit movies with low ratings. Ravid, S.A. (1999) also considered a source of high income is film reviews and noted that the more positive or negative movie reviews, the higher the returns. From 56 long-running films released in the early 1990s, Reinstein, D.A. and Snyder, C.M. (2005) used a "differences in differences" method to examine that good reviews was positively correlated with box-office revenue. They also found that the importance of the critical reviews of a few critics over the entire critic groups was to influence consumer demand. Liu, Y. (2006) concluded word-of-mouth (WOM) has a

positive impact on box office revenue and he collected professional film ratings from the Yahoo Movies Web site to represent word-of-mouth. Yanru, M. (2014) proved through empirical research that online review scores also have positive correlations with movie box offices. The film review or movie rating mostly represents the audience's satisfaction with these movies or programs. The higher the online rating of the movie, the higher the box office income; thus, it can be further inferred that the movie box office income will increase the company's operating income, thereby increasing the market value of film and television companies. Bin, L. (2012, 09. 07) divided the TV industry chain into a program-based industry chain and an audience-based industry chain based on the relationship between product value and audience value in the TV industry, that is, the concept of "dual industry chain". Jiawen, W. and Xiujuan, T. (2015) is based on Metcalfe's law and believes that customer value (i.e. the number of active users on the network) is an important factor affecting the value of Internet companies. The paper explores the intangible platform value of social networking companies and discards traditional financial data thinking. We speculate that TV dramas, programs and movies are the same product and they are all related to the amount of playback. The amount of playback can attract investment, thus it enhances the value of the enterprise. One of the factors that lead to an increase in the amount of playback is the TV score.

Another possible determinant is production ability. With the transformation of the film and television enterprises, we will pay more attention to the production ability when we measure the film and television enterprises. The production ability will directly influence its film and television output, film and television quality and will directly affect its income. For film and television enterprises, their production ability is not only reflected in the number of film and television dramas completed but also reflected the drama being filmed. So, this part of the production content is included in the inventory. Jinhui, W. and Jingxuan, B. (2016) established an evaluation system of network drama value based on the industry chain through the analysis of the creative-broadcast-marketing stage of the network drama industry chain. The influential factors in this system can help the production company. They propose using the production company's annual output and click volume and production cost to express production capacity. According to Jingjing, L. (2017),

through empirical research, the number of film and television dramas produced and the proportion of inventory on behalf of the production ability have a strong positive correlation with the value of film and television enterprises in China. Capkun, V., Hameri, A.P., and Weiss, L.A. (2009) noted that inventory is positively correlated with financial performance in manufacturing companies over the 26-year in America. Basu, N. and Wang, X. (2011) resulted that there is a negative relationship between inventory changes and company performance using data from the year 1950 to 2005 of 85,000 observations. But they found that different sampling periods may have different effects on the relationship. Gaur, V., Fisher, M.L., and Raman, A. (2005) and Roumiantsev, S. and Netessine, S. (2007) have demonstrated that among US-listed retailers, there is a negative correlation between inventory performance and financial performance, and its value proposition is related to the availability of effective products.

CHAPTER 3

DATA AND METHODOLOGY

3.1 Scope of the study

This study investigates and examines the effects of Financial factors (Leverage, Asset utilization, and Growth ability), Non-financial factors (Governance efficiency, Equity concentration, Firm size and Established time), Specific factors (Intellectual capital, Star power, Electronic word-of-mouth and Production capacity) on firm value of film and television firms listed on the National Equities Exchange and Quotations market in China.

Data will be analysed with a dependent variable, which is return on equity (ROE) to measure company value. According to prior literatures, they mainly use financial indicators (ROE and ROA), market indicators (Tobin's Q) and EVA to measure firm value. Based on Wenshi, X. (2018), EVA method is difficult for analyzing the NEEQ market. Moreover, Tobin's Q value involves stock prices, which reflects the truthfulness of the company's operating performance due to the weak form efficiency of China's stock market. So, both of the two methods are excluded. Referring to the research by Hanqing, D. and Jun, W. (2016); Qiu, L. (2013) ; Wenshi, X. (2018), the return on equity (ROE) of media companies represents the firm performance in China. In comparison to the return on asset, ROE is the primary concern of listing supervision in China, and it refers to the return on portfolios. The research of Zijun, W. (2013) notes that ROE is directly related to the performance of new investment portfolios (that is, company value). It also operates under the assumption of linear homogeneity. Thus, this paper adopted return on equity (ROE).

There are twelve independent variables. Leverage is calculated by debt ratio (DR). In order to evaluate the overall asset operation efficiency of film and television companies, we use the total asset turnover rate (TAT) as the indicator of asset utilization. Growth ability is calculated by revenue growth year-over-year (SG).

Operating income of film and television companies mainly includes copyright income from movies, TV series, documentaries, etc., box office income and artist brokerage income. The changing trend of operating income can most comprehensively reflect the company's overall growth ability (Jianping, Z., 2014). The increase in operating income represents greater potential for the company's main business development. Through equity incentives, managers and companies can become a community of interests and jointly pursue the maximization of company value. We choose shares of executives (MH) to represent the company's governance efficiency. Equity concentration is measured by direct equity of the controlling block holder (DIRECT). In order to control the impact of firm size on corporate value, we choose natural log of total assets (SIZE) as the firm size variable. Established time is calculated by natural log of the year since the establishment of the company (YEAR). Intellectual capital is measured by proportion of intangible assets (INTANG). Compare with other industry company, the proportion of intangible assets of film and television companies is relatively high. It includes intellectual property rights such as copyrights, patents and so on. These intangible assets can bring profits to film and television companies. Star power as measured by whether there is a star (STAR). Star holdings can expand the visibility of film and television companies, which have a certain degree of impact on the valuation of film and television companies(Yimei, W., 2016). Because we found that there were no more than 30 film and television companies with star holdings in the NEEQ market. In this paper, we set star power as the dummy variable. Electronic word-of-mouth is measured by an average score of film, television and program in Douban movie website (RATING). In China, Douban Movie is a relatively typical feedback mechanism platform, which mainly reflects the word-of-mouth effects of media products. Douban Movie includes movies, TV series, variety shows, books, music, etc. Their users can rate ten levels of scoring, from a score of one to ten scores. The higher the level, the higher the user's preference for the work. These are both a scoring evaluation system and a review evaluation mechanism. There is other three film and television drama review websites gather more senior fans and professional film critics to make comments which are MTime, MaoYan Movie and M1905. However, the number of users and the amount of review data in Douban is more than other website(Xiang, W., 2016). Because the vast majority of the registered

groups of Douban are highly compatible with the main audience of China's film market, Therefore, many scholars have chosen Douban network data for empirical analysis (Songyue, M. and Xin, X., 2016). Production capacity is divided into two parts: number of film and television and programs produced, invest and sale (NUMBER), proportion of inventory (INV). With the transformation of film and television companies, the market pays more attention to their production capacity when evaluating film and television companies. Production capacity includes finished products and inventory. It directly affects its income. This paper counted film and television products, invest and sale in the annual report of film and television's company in NEEQ market.

3.2 Source of data and sample

The sample firm was chose under the perspective of "Culture, sports and entertainment industry" and "broadcast, television, film and film recording production industry" in the Chinese NEEQ market. Based on the listed companies collected as of first October 2019, there will be 109 enterprises. Due to limited data sources, we can only find existing NEEQ companies. The sample was chosen from the main business about investment, production and sale of film and television works. The final sample, after excluding continuous negative operating income comprises (called ST comprise), and we get our database consists of the panel data set of 88 firms. Liang, Q. and Guoliang, R. (2010), Jingjing, L. (2017) and Panpan, W. (2018) all believe that ST companies may have major problems in their operations. It is unknown whether they can achieve continuous operations, and they are not comparable to normal listed companies. The panel is unbalanced, because data cannot be obtained for all sample companies during the period of 2013-2018. Such panel data consist of time series and cross-sectional variation. So, 300 unbalanced panels were built. The data of ROE, SG, DR, TAT, SIZE, TIME, INTANG, and INV come from Tonghuashun Financial Network; MH, DIRECT, NUMBER, and STAR come from annual reports; RATING comes from Douban Movie. The data collection of NUMBER and RATING is limited Since the annual report of the film and television company may not disclose the names of all film and television products. We assume that the products in the annual

report are expected to have high reputation and scores. When all companies choose high-scoring film and television products for disclosure, the analysis is relatively fair. The above variables are organized through excel tables.

3.3 The index system of film and TV firm's corporate value evaluation

Table 3.1: The index system of film and TV firm's corporate value evaluation

Type	Variable	Measurement	Expected sign	Literature Supporting
Financial factors	Leverage (DR)	Total liabilities/Total assets *100%	Negative	Titman, S. and Wessels, R. (1998); Yu, D. (2013); Qiu, L. (2013); Naiping, Z., Wenjuan, H., and Jun, L. (2013); Mou, X. and Wanrapee, B. (2014); Jishen, C. (2017); Xiaojuan, F. (2018).
	Asset Utilization (TAT)	Operating income/Total assets * 100%	Positive	Kennedy, S. and Johnson, P. (2003); Hongying, W. (2013); Mou, X. and Wanrapee, B. (2014); Yanzhen, Y. (2016).

Type	Variable	Measurement	Expected sign	Literature Supporting
	Growth Ability (SG)	(Total income(t) - Total income(t-1))/ Total income(t-1) * 100%	Positive	Abor, J. (2005); Cuong, N.T. and Canh, N.T. (2012); Liang, C. (2015); Yanzhen, Y. (2016); Jingjing, L. (2017); Panpan, W. (2018).
Non-financial factors	Governance Efficiency (MH)	Total executive holdings/ Total share capital* 100%	Positive	Black, B.S., Love, I., and Rachinsky, A. (2006); Black, B.S., Jang, H., and Kim, W. (2006); Liang, Q. and Guoliang, R. (2010); Dequan, Y. and Qian, L. (2011); Ting, W. (2011); Naiping, Z., Wenjuan, H., and Jun, L. (2013); Xuezhen, C. and Yuan, Z. (2017); Hongxia, N. (2017).

Type	Variable	Measurement	Expected sign	Literature Supporting
	Equity Concentration (DIRECT)	Largest shareholder holdings/Total share capital* 100%	Positive	Berle, A. and Means, G. (1933); Fama, E.F. and Jensen, M.C. (1983); Shleifer, A. and Vishny, R.W. (1986); Xiang, G. and Dan, Z. (2011); Yanzhen, Y. (2016); Hongxia, N.(2017);Wenshi, X. (2018).
	Firm Size (SIZE)	Natural log of total assets	Positive	Javed, A.Y. and Iqbal, R. (2007); Qiu, L. (2013); Naiping, Z., Wenjuan, H., and Jun, L. (2013); Jishen, C. (2017); Jingjing, L. (2017); Xiaojuan, F. (2018).
	Established Time (Year)	Natural log of year since the establishment	Negative	Child, S.R. (1973), Demsetz, H. and Lehn, K. (1985), Zeffane, R. (1989); Li, Z. (2006).

Type	Variable	Measurement	Expected sign	Literature Supporting
Specific factors	Intellectual Capital (INTANG)	Intangible assets/Total assets * 100%	Positive	Riahi‐Belkaoui, A. (2003); Nick, B., Sehwa, W., Ming‐Chin, C., Shu‐Ju, C., and Yuhchang, H. (2005); Min, Z. and Wenchao, X. (2011); Yanzhen, Y. (2016); Liang, C. (2015); Jingjing, L. (2017).
	Star Power (STAR)	Whether there is a star holding (1=Yes, 0=No)	Positive	Faulkner, R. and Anderson, A. (1987); Litman, B.R. and Kohl, L.S. (1989); Sochay, S. (1994); Prag, J. and Casavant, J. (1994); Rui, L. (2015).

Type	Variable	Measurement	Expected sign	Literature Supporting
	Electronic Word-of-Mouth (RATING)	Average Score of media product measure by Douban Score (0-10)	Positive	Wallace, W.T., Seigerman, A., and Holbrook, M.B. (1993); Ravid, S.A. (1999); Liu, Y. (2006); Terry, N., Butler, M., and De'Armond, D.A. (2011); Yanru, M. (2014).
	Production Capacity	Number of film and television and programmes produced, invest and sale (Number)	Positive	Jingjing, L. (2017).
		Inventory/Total assets * 100% (INV)	Negative	Gaur, V., Fisher, M.L., and Raman, A. (2005); Roumiantsev, S. and Netessine, S. (2007); Capkun, V., Hameri, A.P., and Weiss, L.A. (2009); Basu, N. and Wang, X. (2011).

Type	Variable	Measurement	Expected sign	Literature Supporting
Firm value	Return on Equity (ROE)	Net Income/ Shareholder's Equity		Abor, J. (2005); Nick, B., Sehwa, W., Ming‐Chin, C., Shu‐Ju, C., and Yuhchang, H. (2005); Nieh, C.-C., Yau, H.-Y., and Liu, W.-C. (2008); Yu-Shu, C., Yi-Pei, L., and Chu-Yang, C. (2010); Qiu, L. (2013); Mou, X. and Wanrapee, B. (2014); Hanqing, D. and Jun, W. (2016); Wenshi, X. (2018).

There is little literature we can find about star power, ratings of media product and firm value. Furthermore, most empirical papers analyses the correlation between star power with box office and ratings with box office at Table 3.1. But others papers pointed out it may relate to firm value. So, we suppose both of them have a relationship.

3.4 Hypotheses

H1: There is a significant relationship between financial factors (leverage, asset utilization, and growth ability) and ROE of film and television's company in the NEEQ market.

H2: There is a significant relationship between non-financial factors (governance efficiency, equity concentration, firm size and established time) and ROE of film and television's company in the NEEQ market.

H3: There is a significant relationship between specific factors (intellectual capital, star power, electronic word-of-mouth and production capacity) and ROE of film and television's company in the NEEQ market.

3.5 Model

This study uses panel data analysis. On the one hand, panel data can reflect variations both different companies and different times. It reduces the interaction between variables, and the parameters will be more reliable (Hsiao, C., Pesaran, M., Lahiri, K., and Lee, L.F., 1998). On the other hand, since the time series data in this study is small, panel data analysis can effectively prevent data loss due to collection. Due to the cross observations collected during the entire period are combined, the number of observations will increase (Sun, H. and Parikh, A., 2001). Using panel data can increase the validity of parameter estimation and increase its degree of freedom to reduce the multiple collinearities between explanatory variables. Panel data analysis also obtained more dynamic information. The most common models of panel data analysis are the fixed effects model and random effects model (Balestra, P. and Krishnakumar, J., 2008; Baltagi, B.H., 2001). According to the research of Wooldridge, J.M. (2010), when we selected different samples for the panel data of each period, the pooled ordinary least square (OLS) will be used. When we want to observe individuals of the same sample, the fixed or random effects models will be used.

3.5.1 Hausman test

The Hausman test is designed to choose between fixed-effect and random-effect methods.

H0: The random effects are consistent and efficient

H1: The random effects are inconsistent

The Hausman test use the following test statistic:

$$H = \left(\beta^{\widehat{FE}} - \beta^{\widehat{RE}}\right)\left[var\left(\beta^{\widehat{FE}}\right) - var\left(\beta^{\widehat{RE}}\right)\right]^{-1}\left(\beta^{\widehat{FE}} - \beta^{\widehat{RE}}\right) - x^{2(k)} \quad (1)$$

$\beta^{\widehat{RE}}$=RE estimator; $\beta^{\widehat{FE}}$=FE estimator

If we accept the null hypothesis of using a random effects model and use a random effects estimator, we need to get the value of the statistic small enough, this means that the estimated value is very close, and vice versa.

3.5.2 Panel data regression model

The equation 1 is a classical regression model.

$$y_{it} = \alpha_i + \beta' x_{it} + \varepsilon_{it} \quad (2)$$

In equation 2, y_{it} denotes the dependent variable; α_i is a random variable, indicating that there are i different intercept terms for i individuals. β is 1 by N regression coefficient column vector. There are 1*N regressors in independent variable x_{it}, with ε_{it} as the error term.

Based on Table 3.1 film and TV firm corporate value evaluation the econometric model to be estimated is,

$$ROE_{it} = \alpha + \beta_1 DR_{it} + \beta_2 TAT_{it} + \beta_3 SG_{it} + \beta_4 MH_{it} + \beta_5 DIRECT_{it} + \beta_6 SIZE_{it} + \beta_7 YEAR_{it} + \beta_8 INTANG_{it} + \beta_9 STAR_{it} + \beta_{10}\mathrm{RATING}_{it} + \beta_{11}\mathrm{NUMBER}_{it} + \beta_{12} INV_{it} + \varepsilon_{it} \quad (3)$$

CHAPTER 4

RESULT

4.1 Descriptive Statistics

Table 4.1: Descriptive statistics for the model variables

Variable	Mean	Median	Maximum	Minimum	Std. Dev.
DR	0.3555	0.2946	1.1552	0.0091	0.2363
TAT	0.5159	0.4500	3.5800	-0.3843	0.4340
SG	1.0873	0.2182	54.9298	-1.0527	4.9522
MH	0.5484	0.5567	1.0000	0.0000	0.2869
DIRECT	0.5014	0.4805	0.9994	0.1537	0.1986
SIZE	182.4715	95.8755	1752.0530	7.5657	237.1773
YEAR	8.7800	8.0000	22.0000	3.0000	3.9738
INTANG	0.0167	0.0002	0.3898	0.0000	0.0478
STAR	0.1333	0.0000	1.0000	0.0000	0.3405
RATING	5.8519	5.9000	9.2000	2.3000	1.5462
NUMBER	6.5833	5.0000	37.0000	0.0000	5.8427
INV	0.3469	0.3153	2.7315	0.0000	0.3224
ROE	0.0104	0.04601	3.7396	-4.7534	0.5805

Descriptive Statistics shows there are large differences in various variables between different NEEQ film and television companies. In the evaluation of enterprise value, ROE has a minimum of -4.7534 and a maximum of 3.7396, the mean number is 0.0104.

For financial factor, average Leverage (DR) in the sample is 0.3555. This suggests that around 36% of total assets is long-term liabilities. Most of the company are in the initial stage or growth stage. Although the differences of growth ability (SG) between different companies is above 50%, the average year-on-year growth rate is 108.72%, and the overall situation is better.

For non-financial factor, average Governance Efficiency (MH) in the sample is 0.5484. It is not common for China's executives to hold shares above 50%, and the

sample average reflects that the management shares of the film and television company in the NEEQ market are relatively high. The proportion of senior management's shareholding can measure the balance between decision-making and management. In previous researches, they show that when executives do not hold shares or their shareholdings are low, management cannot balance shareholders and are subject to strict supervision by shareholders. However, when executives have a high shareholding, the internal distribution of corporate profits is balanced and agency costs can be reduced (Xuezhen, C. and Yuan, Z., 2017). The average of Equity Concentration (DIRECT) is 0.5014. Theoretically speaking, if the shareholding ratio of a single owner is above 51%, it is an absolute shareholding ratio. It means that the enterprise is likely to exist in a dominant situation. However, the sample data obtained indicate that the shareholdings of cultural enterprises are relatively dispersed. The raw data for Firm Size (SIZE) is the most scattered in this table. This factor in the research sample varies from a low of 7.5657 million yuan to a high of 1752.053 million yuan. The difference between the maximum value and the minimum value is 234 times. The average of SIZE is 182.4715. There are many film and television companies, the industry is fiercely competitive, and the degree of monopoly is low.

For specific factor, Intellectual capital (INTANG) in this set of data is the most stable with a standard deviation of 0.0478, indicating that the distribution of its observations is more concentrated. The average of intangible assets is 0.0167, this shows that the innovation ability of these companies in China is still relatively weak. Among the intangible assets, intellectual property rights unique to cultural media companies, such as copyrights, etc., cannot be recorded in the current accounting information system, resulting in less disclosure of this information. There are only 153 observations for electronic word-of-mouth (RATING), since some works are not expected to be popular or are not shown in theatre and on TV shows, and not every year's film and television works have a Douban rating. A standard deviation of electronic word-of-mouth in the research cohort is 1.5462 with a maximum of 9.2 and a minimum of 2.3. Audiences have different degrees of recognition for different film and television products, but in general, the average score of samples is 5.8519 points.

Table 4.2: Correlation coefficients between the variables

	DR	TAT	SG	MH	DIRECT	SIZE	YEAR	INTANG	STAR	RATING	NUMBER	INV
DR	1	0.1281	0.1605	0.1306	0.2452	0.0778	0.0911	-0.0508	0.1514	-0.1258	0.03	0.2371
TAT	0.1281	1	0.0596	0.0101	0.0597	0.3378	0.0673	-0.0156	0.1659	0.013	0.0334	0.1755
SG	0.1605	0.0596	1	0.0924	0.0733	0.0044	0.0332	-0.0473	0.0078	-0.1098	-0.0989	0.021
MH	0.1306	0.0101	0.0924	1	0.1586	0.3921	0.2526	0.0392	0.0944	0.0795	-0.0693	0.1632
DIRECT	0.2452	0.0597	0.0733	0.1586	1	0.1818	0.1716	0.0278	0.1573	-0.1554	-0.073	0.1067
SIZE	0.0778	0.3378	0.0044	0.3921	-0.1818	1	0.0338	-0.0816	0.1554	-0.0543	0.2261	0.0488
YEAR	0.0911	0.0673	0.0332	0.2526	-0.1716	0.0338	1	-0.1409	0.0556	0.3509	0.0401	0.0075
INTANG	0.0508	0.0156	0.0473	0.0392	0.0278	0.0816	0.1409	1	0.0877	0.0454	0.1104	0.5395
STAR	0.1514	0.1659	0.0078	0.0944	-0.1573	0.1554	0.0556	-0.0877	1	0.0046	-0.0961	0.1346
RATING	0.1258	0.013	0.1098	0.0795	-0.1554	0.0543	0.3509	0.0454	0.0046	1	-0.0121	0.037
NUMBER	0.03	0.0334	0.0989	0.0693	-0.073	0.2261	0.0401	0.1104	0.0961	-0.0121	1	0.1514
INV	0.2371	0.1755	0.021	0.1632	0.1067	0.0488	0.0075	0.5395	0.1346	0.037	0.1514	1

The Table 4.3 portray that there is not a high correlation between the variables as all correlation coefficients are less than 0.6, indicating that multiple collinearity is not a serious problem in estimation. From the correlation matrix, it can relatively clearly be seen that INTANG has a moderate positive correlation with INV (0.5395), TAT has s weak negative correlation with SIZE (-0.3378) and YEAR has a weak positive correlation with RATING (0.3601).

4.3 Hausman Test

Table 4.3: Hausman Test Result

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	33.0151	12	0.0010

The Table 4.3 shows the results imply cross-section random is significant in the model to a 1% level of significance. So, the H1 hypothesis in Hausman test indicates that the random effect model has little effect than the fixed effect model. Therefore, this study uses a fixed effects model to analyse the regression of panel data.

4.4 Fixed effect model regression

Table 4.4: Model summary

Model	**R-squared**	**Adjusted R-squared**	**F-statistic**	**Prob (F-statistic)**
1	0.7450	0.5273	3.4223	0.0000

Table 4.5: Fixed effect regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-9.089717	1.853681	-4.903604	0.0000
DR	-1.179821	0.346897	-3.401065	0.0010***
TAT	0.434436	0.158651	2.738309	0.0076***
SG	0.025019	0.006714	3.726571	0.0004***
MH	0.205241	0.337816	0.607554	0.5452
DIRECT	3.594261	0.841583	4.270835	0.0001***
SIZE	0.432788	0.090754	4.768807	0.0000***
YEAR	-0.428656	0.302180	-1.418548	0.1598
INTANG	1.291886	3.645949	0.354335	0.7240
STAR	0.009113	0.274466	0.033201	0.9736
RATING	0.009955	0.029813	0.333921	0.7393
NUMBER	0.003974	0.007659	0.518820	0.6053
INV	0.336514	0.380536	0.884317	0.3791

Note: Coefficients are shown as significant at: "***" significant at 1 %. Dependent variable: ROE.

Based on regression results, we can get the simplified form of this model:

$$ROE_t = -9.0897 - 1.1798DR_{it} + 0.4344TAT_{it} + 0.0250SG_{it} + 3.5943DIRECT_{it} + 0.4328SIZE_{it} + \varepsilon_{It} \quad (4)$$

The adjusted R-squared of the model is 0.5273 as shown in Table 4.4, which means that the independent variables in the model can explain the 53% difference in ROE. The factors that affect the company's corporate value are complex. The variable we set that cannot completely explain the change of the dependent variable, and the possibility of ignoring some variables is higher. The F value of the model is 3.4223 which is observed from the Table 4.4 and the P value confirms that the model is statistically significant due to it being less than 0.01.

4.5 Result

According to the regression results in Table 4.6, the significance values of DR, TAT, SG, DIRECT, SIZE are within the significance level of 1%. This means that leverage (DR), asset utilization (TAT), growth ability (SG), equity concentration (DIRECT), firm size (SIZE), have a significant impact on the firm value (ROE) of all selected film and television companies. However, the significance value of MH is 0.5452. The significance value of YEAR and INTANG are 0.1598 and 0.7240. The significance value of STAR and RATING are 0.9736 and 0.7393. NUMBER and INV represent the production capacity which P values are 0.6053 and 0.3791, respectively. Therefore, there is no effect of governance efficiency (MH), established time (YEAR), intellectual capital (INTANG), star power (STAR), electronic word-of-mouth (RATING), production capacity (NUMBER, INV) on the firm value (ROE) in selected film and television companies. Considering the above results, hypothesis H1 and H2 are accepted, except governance efficiency, established time. while H3 is rejected. Compared with the expected signs in Table 3.1, the estimates of most variables are the same as the expected signs, except for INV. For financial factor, the results of fixed effect regression analysis observed that leverage (DR) has a negative impact on firm value (ROE), asset utilization (TAT) and growth ability (SG) are positive variables informing the firm value (ROE). For non-financial factors, governance efficiency (MH) insignificantly positively predicts firm value (ROE). Equity concentration (DIRECT) and firm size (SIZE) are positively related with firm value (ROE). While established time (YEAR) is insignificantly negatively related with firm value (ROE). For specific factors, intellectual capital (INTANG), star power (STAR) and production capacity (NUMBER, INV) insignificantly positively predicts firm value (ROE). In addition, the number of film and television and programmes produced, invest and sale (NUMBER) insignificantly negatively predicts firm value (ROE). Among them, the biggest coefficient of variable is DIRECT, which shows that the equity concentration has the greatest impact on the value of film and television companies in the NEEQ market. Beside this, film and television company need topay attention to the impact of leverage on the company's value.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Since Chinese domestic scholars are still in the early stages of studying the valuation of film and television companies in the NEEQ market, they are still under discussion. Moreever, there is little researches for the analysis of combining three factors. So, our research may be considered as a step to fill the gaps in the literature. This paper draws from studies by seniors about influencing factor of firm value and combines financial factors, non-financial factors and specific factors analysis by the industry characteristics of film and television companies to construct an index system that influenced the evaluation of film and television company in the NEEQ market and conducts quantitative analysis of its influencing factors. This paper selected the 88 film and television companies with the main business about investment, production and sale of film and television products under the perspective of “broadcast, television, film and film recording production industry" in the NEEQ market. Through the company's annual report, Tonghuashun Finance Network, Douban Movie, we collected related indicator data and obtained 300 unbalanced panel data from 2013 to 2018. Then, through descriptive statistics, unit root test, multicollinearity test, and the establishment of fixed effect model regression, we conducted an empirical research on the influencing factors that promoted film and television firm value in the NEEQ market. The following conclusions are drawn:

First, the empirical result shows that if we want to improve the factors so that the film and television company can obtain a greater value in the NEEQ market, we could consider more financial and non-financial factors. All financial factors, some of non-financial factors have a significant effect on firm value. Asset Utilization, Growth Ability, Equity Concentration, Firm Size have positive effect on firm value. Equity concentration has obvious advantages for increasing corporate value. Most of the

largest shareholders in the NEEQ companies are management. Due to the existence of information asymmetry, under the condition of weak market supervision and control, if the environment of market is not competitive, it is more likely to cause moral hazard and improper operator selection. Coefficient of equity concentration (DIRECT) is 3.5943, which means that if the shareholding of largest shareholder increases can bring about profit-driven effects, effectively reduce agency costs, and increase corporate value (Jensen and Meckling, 1976; Qingmei, T. and Dongyi, W., 2014). When the concentration of equity increases, more supervision work will be carried out, which will help reduce supervision costs and increase corporate value. The next factor is asset utilization. Film and television companies generally have large inventories, slow collection of accounts receivable, and high rate of bad debts, which affects the asset utilization(Panpan, W., 2018). Many movies and TV series cannot be played or produced due to various reasons. With the characteristics of film and television industry, the average of asset turnover rate is low. The company's low corporate value is partly due to slow asset turnover. Low total asset turnover rate indicates lower capital utilization efficiency, and company's funds cannot increase value quickly and effectively(Hongying, W., 2013). The empirical result shows that a 1% increase in total asset turnover rate will increase corporate value by 43.44%. Therefore, if we want to increase the value of an enterprise, we need improve the management level of various assets, and improve the efficiency of asset operation and the level of internal control. Next, the coefficient of firm size is 0.4328. As the scale of the enterprise expands, there is a scale effect, which is conducive to the growth of enterprise value. But film and television companies cannot expand blindly, they need to find a reasonable company size. Growth ability has minimal positive effect on company value, the coefficient is 0.0250. Moreover, film and television companies in the NEEQ market with negative net cash flow in some year. But growth ability still has an impact on corporate value. These film and television companies still favored by many private equity investors due to their potential opportunity value. There are only one factors that have a negative impact on corporate value. That one is leverage with coefficient of -1.1798. When the leverage of film and television company reaches a certain level, the higher the leverage, the lower the company value. This is because the leverage means that the company's financial risk is relatively high. The

cash flow will likely be insufficient in the future. If the company cannot pay its debts in time, the company will not be able to improve its firm value. Therefore, they need to reduce financing costs and operate with reasonable debt.

Second, the regression of non-financial factors (governance efficiency, established time), specific factors in this paper are not significant. The reason why the governance efficiency is not significant may be that the equity incentives of film and television companies in the NEEQ market have not been fully implemented in the initial stage. The main method of strengthening equity incentives is to increase the shareholding of executives. Executive shareholding is an important part of employee shareholding, but film and television companies on the NEEQ rarely implement employee shareholding plans, and they are less efficient than other industries. Some stars do not directly hold equity but operate through investment companies or agents. And the ownership of stars has not been controlled in terms of shareholding structure. Some stars hold relatively high equity in film and television companies, but the disclosure is not clear in the NEEQ market, which may be the reason for the insignificant of star holdings. Additionally, due to the cyclical development of stars, stars will not always add value to the enterprise. Under the business model with stars with huge fan bases as the core, the life cycle of stars will be shorter. The other assumption that the company's value is affected by production capacity cannot pass. In the descriptive statistics, the average number of film and television products produced (NUMBER) and the proportion of inventory (INV) are only 6.58 and 0.34. The market may not pay attention to the number of productions. However, the film and television company with a higher net profit ranking or the highest growth rate are mainly engaged in the investment and distribution of TV series. This shows that the production ability does have an impact on corporate operation.

5.2 Recommendations

5.2.1 Limitation of study

1) Compare with the film and television companies in the main board, the information transparency of film and television companies in the NEEQ market is low. For some specific variables, we can only obtain information from the annual

report, it may cause errors to the research. It is also expected to expand the time span of the sample, so we could obtain more samples in the future, making the research results on this topic more convincing and adaptable.

2) This paper presents new variable measurement method about specific factor (like STAR or RATING), the results of which are not good. However, we also need to consider the impact of this aspect in the future research. The measurement method of specific factors could be changed. For future research, variable measurement methods can be further explored.

5.2.2 Policy implications

Firstly, the film and television company have small share capital and the large fluctuation of operating indicators in the NEEQ market, coupled with the uncertain profitability of film and television products, so the value of the companies in the NEEQ market varies. The film and television companies should appropriately increase or maintain the concentration of equity and encourage shareholders to participate in company management and supervision activities, which is conducive to enhancing the company's value. It is necessary to clarify the shares of all parties in the company. Different investors have different investment purposes, which has a greater incentive for the company's management. They also need to control the company's core shareholding structure. They should also optimize their internal governance structure and choose appropriate financing methods and channels according to their own situation. At the same time, some companies with high asset-liability ratios should rationally adjust their capital structure, increase equity accumulation through debt-to-equity swaps, promote the healthy development of enterprises, and increase overall value. The film television company can improve their concentration and competitiveness through reasonable and effective capital market operations.

Secondly, it is recommended for investors to analyse the company's value by combining comprehensive financial factors with non-financial factors and industry-specific factors. The efforts in non-financial factors and other aspects should explain the company's strategic choices, and then be able to see whether the company can sustain long-term operations. And multi-factor analysis can be used to comprehensively judge the growth of the company.

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ปญฺญา สมา อาภา
สถาบันบัณฑิตพัฒนบริหารศาสตร์

BIOGRAPHY

Name-Surname	PAN YING
Academic Background	September 2014 - July 2018: Chengdu University BacheIor Degree August 2018 - June 2021: National lnstitute of DeveIopment Administration, ThaiIand Master Degree
Experience	None