Value Investment in the Banking and Insurance Industries

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Abstract—Much research explains how to compare and select appropriate stocks among a few choices, but little specifies the method of value investment in different business industries. The trade-off on value investing and stocks selections seems to be an interesting issue. This paper aims to help investors to use multiple decision factors and external relative company information to make value investing decisions among three companies, i.e., Grupo Financiero Galicia, Wintrust Financial Corporation, and the Progressive Corporation, in banking and insurance industries. To conduct our research, we apply four decision factors, i.e., cost, growth, profitability, and payout, to compare the measurement ratios among comparison groups. The research also includes non-numeric analysis on internal company performance including ownership structure, compensation program, and commercial program. The result indicates that the Progressive Corporation should be focused more, because of its low cost, increasing annual growth, stable profitability, and dividend payout. To sum up, based on the numeric factors and internal company analysis, investors should pay more attention to The Progressive Corporation.

Keywords-value investing, different industries, bank and insurance, factors, company analysis

1. INTRODUCTION

Fama defined the 'efficient' with a market in which prices always 'fully reflect' available information [1]. The concept was widely accepted within the financial world from the 1970s.

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However, recent research studies challenge this hypothesis. For example, the research explains that there are times where markets show inefficiency due to people's cognitive errors when making investment decisions [2]. Therefore, the market price of a share is not always at its fair value; thus, the price may be undervalued or overvalued. Then, value investment comes out to help investors to measure intrinsic value and make investment decisions.

Tons of research proves the feasibility and usefulness of investment by applying value investing. For example, previous research explained that value investors do add value, in the sense that their process of truly selecting undervalued stocks [3]. Therefore, investors should focus on how to find truly undervalued stocks. One famous investor from real life is Warren Buffett who bought shares and waited for the price to change from $7.60 to around $30,000 [4]. Berkshire also bought many shares from different areas, including GEICO in the auto insurance industry and Bank of America in the banking industry. Berkshire's choices showed the possibilities of exploring truly undervalued stocks in the financial service industry, especially in the insurance and banking area. Based on some research analysis from Hu and Gu, they constructed a comprehensive index, i.e., B-score, on how to apply safety, cheapness, and quality for value investment [5]. People also verify the effectiveness of these indicators in a different market. Senchack and Martin believed that the performance of a security portfolio with a low P /S ratio exceeds the market average, and found that the income brought by the low P / E ratio was more stable than that by the low P / S ratio [6]. Huang and Peng used P / B, P / E, and P / S ratios as valuation indicators to test the adaptability of value investment strategy in China's securities market [7]. Also, some research uses different ratios as measurements of those indexes and makes empirical analysis. For example, Tuo's analysis used comparisons between Minsheng Bank and other banks with factors such as earnings per share for value investment, showing that how investors can apply different ratios to make a value investing decision in the banking industry [8]. Another example explained how multiples, including the P/E ratio and the P/S ratio, are related to comparisons among companies for value investment in the insurance industry [9]. Even those research proves the effectiveness of how multiples can decide on value investing, they do not show what can happen if investors choose companies from two different industries. Besides ratios, the existing research does not contain a more thorough analysis of the company as a whole. Therefore, this research paper aims to help investors make more comprehensive decisions on stock selections when they have to make choices between the banking area and the insurance area.

To the best of our knowledge, this paper makes the following contribution to the existing literature. First, we select three companies, i.e., Progressive Corp. (PGR) in the insurance industry, Galicia SA(GGAL), and Wintrust Financial Corp. (WTFC) in the banking area, which is a reasonable extension of existing studies on comparing cross-industry companies; besides, we analyze these companies by looking into their fundamental indicators and multiples as well as giving reasons behind the company selection; Second, we move on to consider companies' growth from, 2015 to 2019, by taking into consideration of their annual sales growth, annual EPS growth, and annual EBITDA growth. The empirical results show that PGR grows steadily, beating its competitors' average while GGAL experienced negative growth in 2017; Third, we compare companies' profitability and payout by using the gross profit-to-assets ratio, the profit margin, and the dividend yield. The results show that WTFC's dividend yield does not meet its competitors' average while PGR outgrows its competitors on profitability as well as the payout; Finally, we discuss possible reasons behind PGR with a view to its ownership concentration, compensation program, management, and advertising decision.

The remainder of this paper is organized as follows. Section 2 presents the data and method. Section 3 reports the empirical results. In section 4, we provide further discussion on the three companies. Section 5 concludes the paper.

2. DATA AND METHOD

We derive our analysis data from S&P Global between 2015 and 2019. The targeted three companies are PGR, GGAL, and WTFC. PGR is an insurance holding company founded in 1937 in the United States, which provides personal or commercial auto insurance and property-casualty insurance [10]. Apart from the basic company profile, PGR was the first insurance company that started its website for insurance selling in 1995 [11]. The unique combination of using its website and independent insurance agents gives us a possible research analysis on PGR during the current digital world. Within the banking industry, we choose GGAL and WTFC. GGAL is an Argentina financial service holding company founded in 1905. The main business segment is through banking which covers several aspects, i.e., savings, current, etc. [12]. As an international company, many factors can influence the operation of banks. For example, the currency exchange rate can strongly affect international banks. Therefore, the reason we choose GGAL is to provide analysis on how to make investment decisions when the macro-environment can influence the performance of a company. Another banking company is WTFC which is a U.S. financial service holding company founded in 1991. Its three main segments are Community Banking, Specialty Finance, and Wealth Management [13]. To make better comparisons between the insurance and banking industries, we select WTFC as another U.S. firm to reduce the effects on the currency exchange rate and other international issues.

Then, we apply previous fundamental measurements to determine the cheapness, growth, profitability, and payout for GGAL, WTFC, and PGR. For cheapness, we use the price earnings ratio (P/E), the enterprise value-to-sales ratio (EV/S), the enterprise value-to-EBITDA ratio (EV/EBIDTA), to measure the cost. For the company's growth, we use the annual sales growth rate, the annual EPS growth rate, and the annual EBITDA growth rate to compute the growth. We also apply the EBITDA margin, the gross profit margin, the net profit margin, and the gross profit-to-assets ratio to measure the profitability. Then, the payout is calculated through the dividend yield.

2.1 Cheapness

- The P/E ratio is a multiple in value investing. Low P/E means that the company has a safety margin, and its price is undervalued, thus, a low P/E usually can represent cheap [14].

$$\text{Price Earnings Ratio}=\text{MPPS}/\ \text{EPS} \tag{1}$$

where MPPS refers to the market price per share, and EPS refers to earnings per share.

- The EV-to-EBITDA ratio, like the P/E ratio, measures the intrinsic value of a company. As it is not affected by something like tax rate and industry leverage, it can better reflect the internal value of an enterprise than the P/E ratio [15].

$$\text{EV-to-EBITDA} = \text{EV}/\text{EBITDA} \tag{2}$$

where EV refers to the enterprise value, and EBITDA refers to earnings before interest, tax, depreciation, and amortization.

- The EV-to-Sales ratio reflects the company's viability and competitiveness in the emerging market. The indicator has comparability, authenticity, sustainability, and predictability. It considers the growth of a developing company [16].

$$\text{EV/SALES} = \text{SP/SR\_PS} \tag{3}$$

where SP is the stock price, and SR_PS is the sales revenue per share.

2.2 Growth

- Sales, also called revenue, present the operation of a company and the popularity of its products. In this situation, annual sales and the annual sales growth rate can show the stability of operation, growth, and quality of the company's strategy.

$$\text{Sales growth rate} = R / (R\_ly) *100\% \tag{4}$$

where SGR refers to the sales growth rate, R refers to the revenue, and R_ly refers to the revenue last year.

- EPS is an important accounting indicator to state the number of incomes, that is contained in every sheet of common stocks that are published [17]. A higher EPS indicates greater value because investors will pay more for a company's shares if they think the company has higher profits relative to its share price. The annual EPS growth ratio can continuously observe the EPS changes and the profitability.

$$\text{EPS} = \text{EACS} / \text{NSSO} \tag{5}$$

$$\text{EPS Growth rate} = \text{delta} / \text{EPS\_ly}*100\% \tag{6}$$

where EACS refers to earnings available for common stockholders, NSSO refers to the number of shares of common stock outstanding, delta is the difference of two consecutive EPSs, and EPS_ly is the EPS recorded last year.

- EBITDA is usually regarded as an important indicator to measure the company's cash flow. It also can be adjusted by the companies for different industries [15]. where NS refers to the net sales, OE refers to the operating expenses, DE refers to the depreciation expense, AE refers to the amortization expense, EBITDAGR refers to the EBITDA growth rate, delta refers to the difference of two consecutive EBITDAs, and EBITDA_lr refers to the EBITDA in last year.

$$\text{EBIT} = \text{NS} - \text{OE} \tag{7}$$

$$\text{EBITDA} = \text{EBIT} + \text{DE} + \text{AE} \tag{8}$$

$$\text{EBITDAGR} = \text{delta} / \text{EBITDA\_lr} \tag{9}$$

2.3 Profitability

- The EBITDA margin is a measure of a company’s operating profit, shown as a percentage of its revenue. Investors can then use the margin as a benchmark for comparing against other similar businesses in the industry. Alcalde in the university of São Paulo discusses changes in the EBITDA margin among companies from the same sector as well as distinct sectors of the industry to measure their profitability [18]. A low EBITDA margin indicates that a business has profitability problems as well as issues with cash flow. A high EBITDA margin suggests that the company's earnings are stable.

$$\text{EBITDA Margin} = \text{EBITDA} / \text{Sales} \tag{10}$$

- The gross profit margin is an indicator that analysts use to assess a company's financial health by calculating profits generated from sales subtracting the cost of goods sold (COGS). Nariswari and Nugraha studied the impacts of the gross profit margin and net profit margin on Profit Growth in the plastic and packaging industry sub-sector companies listed in Indonesia Stock Exchange for the period from 2014 to 2018, pointing out they have a significant effect on profit growth [19]. A higher percentage gross profit margin is indicative of a company producing its products more efficiently. And a high net profit margin means that a company can effectively control its costs and provide goods or services at a price significantly higher than its costs.

$$\text{Gross Profit Margin} = \text{GP} / \text{RE} \tag{11}$$

$$\text{Net Profit Margin} = \text{NP} / \text{RE} \tag{12}$$

where GP refers to the gross profit, RE refers to the revenue, and NP refers to the net profit.

- The gross profit-to-assets ratio is used to help determine how efficiently a firm uses its assets to generate gross profits. Novy-Marx measures profitability by this indicator and selects profitable firms that generate significantly higher returns than unprofitable firms, despite having significantly higher valuation ratios [20].

$$\text{Gross Profit to Assets} = \text{GP} / \text{TA} \tag{13}$$

where TA refers to the total assets, and GP refers to the gross profit.

2.4 Payout

The dividend yield is a financial ratio that shows how much a company pays out in dividends each year relative to its stock price. Black and Scholes use dividend yield as the indicator to measure the companies' expected return, showing results that the expected returns on high yield common stocks differ from the expected returns on low yield common stocks either before or after taxes [21].

$$\text{Dividend Yield} = \text{DP} / \text{P} \tag{14}$$

where DP refers to the dividend payment and P refers to the share price.

3. RESULT

To obtain the final value investing decision, we make comparisons among GGAL, WTFC, and PGR on measurement indexes by using the ratios we mentioned above. The following content explains the result we got through calculations. To gain more accurate comparison results, we compare calculations for each firm within all target firms and the peer group. The following content will demonstrate the results for comparing process.

3.1 Cost

We use P/E, EV to EBITDA, and EV to Sales to compare the cost of buying stocks for each firm between 2015 and 2019. The following figures demonstrate comparisons on those measures among three firms with their major competitors. The major competitors came from the list of firms that appeared on each firm's financial statements. Figure 1, Figure 2, and Figure 3 explain the cost of each firm compared to its peer group.

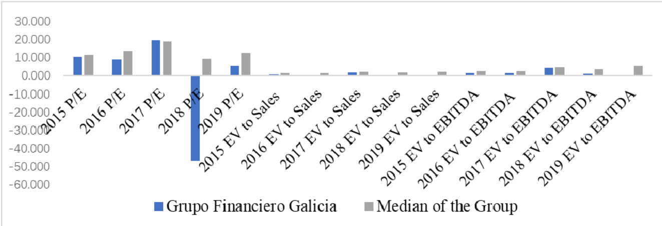

FIGURE 1. 2015-2019 GGAL AND PEER GROUP COMPARISONS ON COST

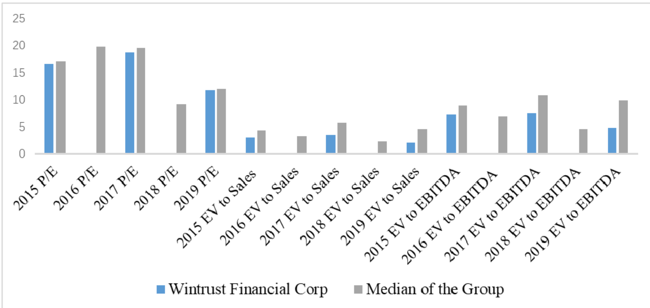

FIGURE 2. 2015-2019 WTFC AND PEER GROUP COMPARISONS ON COST

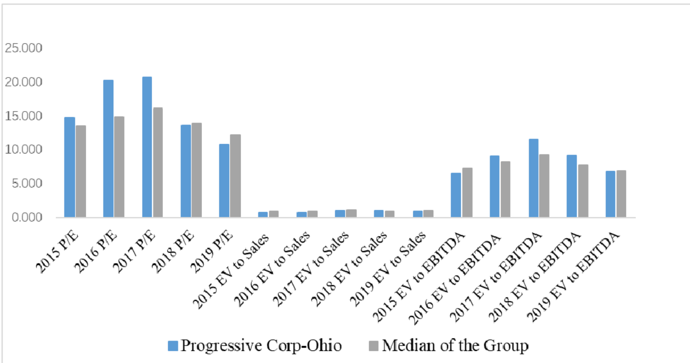

FIGURE 3. 2015-2019 PGR AND PEER GROUP COMPARISONS ON COST

3.2 Growth

We use sales growth, EBITDA growth, and EPS growth to compute the growth for each firm from 2015 to 2019. While considering the growth, we do not compare each company's growth with its major competitors. We believe a constant increasing growth rate within the company itself can demonstrate steady overall growth. Figure 4 shows the annual sales growth rate for each firm between 2015 and 2019.

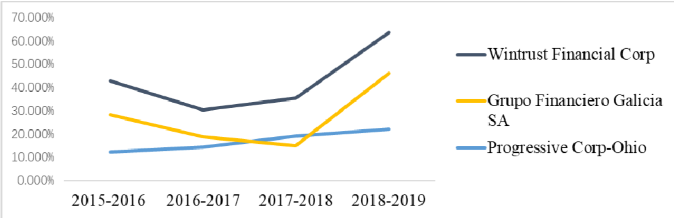

FIGURE 4. 2015-2019 TARGET COMPANIES ANNUAL SALES GROWTH

Unlike sales growth, we do not compute the percentage growth for EPS and EBITDA growth. The reason is that the percentage change may not be only due to the increase in earnings or EBITDA, but also the decrease in share price, taxes, or depreciation, etc. Figure 5 and Figure 6 demonstrate the EPS growth and EBITDA growth for each firm between 2015 and 2019.

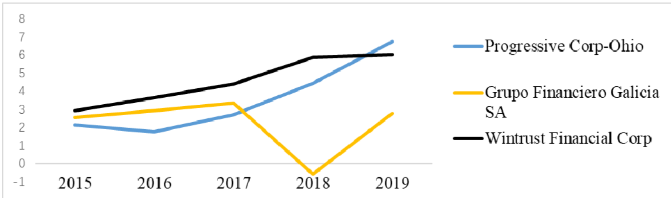

FIGURE 5. 2015-2019 TARGET COMPANIES ANNUAL EPS GROWTH

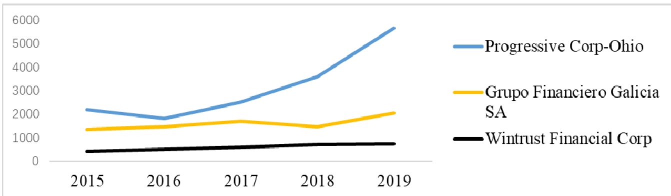

FIGURE 6. 2015-2019 TARGET COMPANIES ANNUAL EBITDA GROWTH

3.3 Profitability

To measure the profitability, we compute the peer group analysis for each target firm. Within each group, we use data in target firms to compare with the median of the group data to find out the level of profitability. We use measuring tools including the GP/A ratio, the EBITDA margin, and the net profit margin to measure profitability. Figure 7, Figure 8, and Figure 9 express the result on profitability for GGAL, WTFC, and PGR between 2015 and 2019.

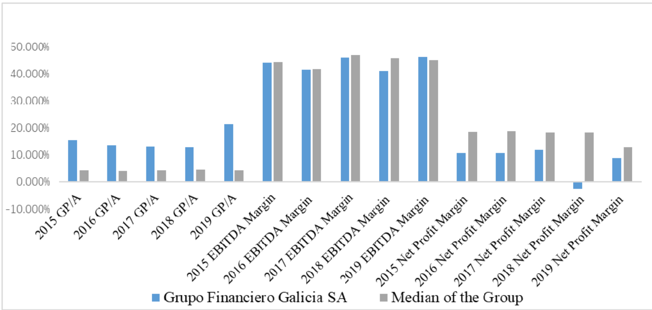

FIGURE 7. 2015-2019 GGAL AND PEER GROUP COMPARISONS ON PROFITABILITY

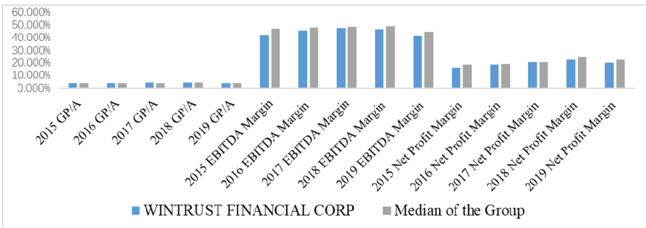

FIGURE 8. 2015-2019 WTFC AND PEER GROUP COMPARISONS ON PROFITABILITY

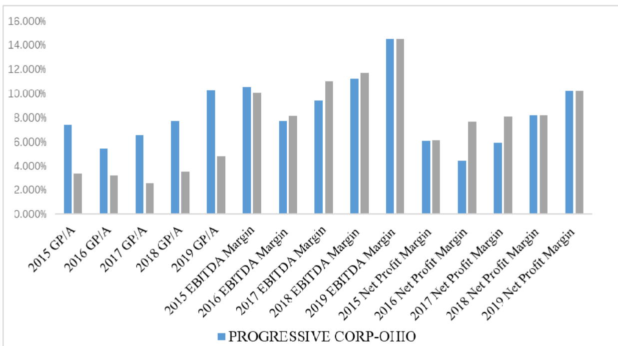

FIGURE 9. 2015-2019 PGR AND PEER GROUP COMPARISONS ON PROFITABILITY

3.4 Payout

To measure a company's payout, we mainly use comparisons on the dividend yield with the peer group to analyze a company's performance on dividend payment. The comparisons on long-term dividend payments can reflect whether a company's dividend policy is beneficial enough to investors. The dividend payment can also reflect the overall performance of the company. Figure 10, Figure 11, and Figure 12 reflect the dividend yield measures within each group for target companies from 2015 to 2019.

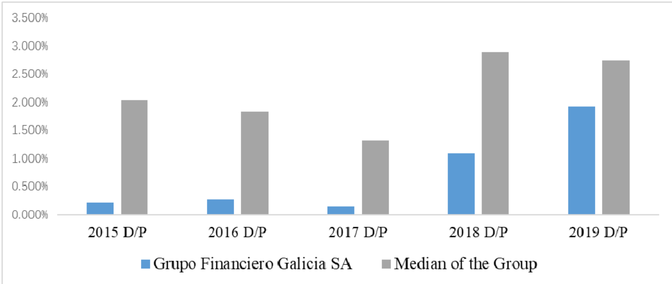

FIGURE 10. 2015-2019 GGAL AND PEER GROUP COMPARISONS ON PAYOUT

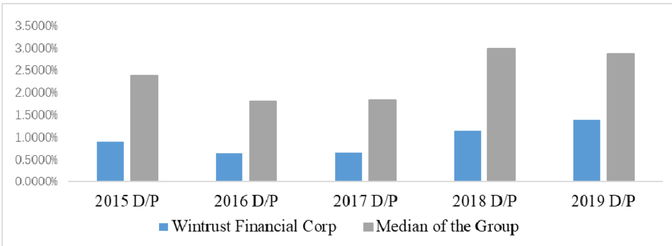

FIGURE 11. 2015-2019 WTFC AND PEER GROUP COMPARISONS ON PAYOUT

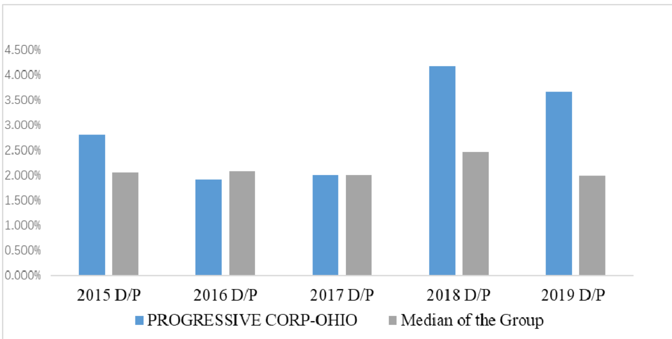

FIGURE 12. 2015-2019 PGR AND PEER GROUP COMPARISONS ON PAYOUT

4. DISCUSSION

In this section, we provide the interpretation of the results and give further discussion. We choose three financial companies, PGR, GGAL, and WTFC, to analyze the indicators we discuss in the data and method part.

First, these three companies all stay in the range from 5 to 15 of its P/E ratio and their stocks are all above $1 billion in the market capitalization, satisfying basic requirements of value investment. We cannot compare them with each other directly, for different industries, different areas, and different market capitalization, making an accurate judgment of whether firms are worth investing in. Then from the proxy statement, we include each company's competitors, considering the market share, and the enterprise value, etc.

Second, we compare these three companies' indicators with their peer groups. The PGR behaves perfectly in all indicators and beats its competitors, meaning that it is a cheap, fast growth, profitable and high-payout company. We use the result in 2019 as an example, the Progressive company's P/E, EV/SALES, and EV/EBITDA ratio are below its peer group, showing an undervalued performance. To overcome the value trap, we can see that the profitability and the operation of sales are under the same level as its peer group. Its GP/A and D/P are far greater than the peer group. Table 1 shows comparisons on indicators between the PGR and its peer group.

TABLE 1. 2015-2019 PGR AND PEER GROUP COMPARISONS

	P/E	**EV/SALES**	**EV/EBITDA**	**GP/A**
PGR	10.772	0.979	6.752	10.303%
Peer Group	12.210	1.036	6.921	4.816%
	EBITDA Margin	**Net Profit Margin**	**D/P**	
PGR	14.504%	10.181%	3.659%	
Peer Group	14.504%	10.181%	1.986%	

However, the GGAL and WTFC have some problems. Although they behave well in some indicators, they may have a value trap. The GGAL has high volatility on annual growth between 2017 and 2018, even negative growth. And its share price has sharply increased than down at the same time. Compared to its peer group, the GGAL is relatively low on net income, dividend yield, gross profit margin, and net profit margin, giving a sign of the value trap. The WTFC has the same problems——low net income, dividend yield, gross profit-to-assets ratio, and net profit margin. Table 2 reflects PGR, GGAL, and WTFC comparisons on the growth rate.

TABLE 2. 2015-2019 PGR, GGAL, AND WTFC COMPARISONS ON GROWTH

		2015-2016	**2016-2017**	**2017-2018**	**2018-2019**
Annual Sales	PGR	12.400%	14.508%	19.168%	22.041%
	GGA	15.936%	4.379%	-4.298%	24.138%

Growth	L				
	WTFC	14.569%	11.500%	20.685%	17.422%
EPS Growth rate	PGR	-0.39	0.96	1.7	2.3
	GGAL	0.37	0.41	-3.94	3.37
	WTFC	0.73	0.74	1.46	0.17
EBITDA Growth rate	PGR	-17.79%	39.70%	42.27%	57.27%
	GGAL	9.26%	15.61%	-14.38%	39.79%
	WTFC	24.66%	15.94%	17.61%	5.73%

Moreover, this paper also compares some indicators among these three companies, not just with their peer groups, revealing which company is worth investment. We can directly see the PGR has fast growth in sales, but the others behave unstably. The EBITDA Growth rate of GGAL from 2017 to 2018 is -14.38%; the one of WTFC decreases from 2015, even single digits in 2019. As a result, we can say that PGR performs well in long term and keeps growing. Table 3 demonstrates PGR, GGAL, and WTFC comparisons on dividend yield.

TABLE 3. 2015-2019 PGR, GGAL AND WTFC COMPARISONS ON DIVIDEND YIELD

	2015	**2016**	**2017**	**2018**	**2019**
PGR	2.80%	1.92%	2.00%	4.17%	3.66%
GGAL	0.22%	0.27%	0.14%	1.09%	1.92%
WTFC	0.90%	0.64%	0.67%	1.14%	1.39%

Finally, pay attention to the key sign —— the dividend yield, the money that the company shares with its shareholders. The PGR gives a high payout of up to 4.17% and keeps paying out over 15 years. But GGAL and WTFC give a low payout, even no payout. Based on the dividend discount model, they are not worth investing in.

Besides, we aim to look for hidden benefits of Progressive other than its indicators itself, considering its ownership structure, its compensation program as well as its commercial program.

First, the ownership structure. Progressive has over 85% of shares held by institutional holders and mutual fund holders such as JP Morgan Chase & Company, Vanguard Group, etc. (The Progressive Corporation Holders). This implies strong evidence of the high shareholding concentration and the powerful government, and in turn, may leave a message to investors that Progressive is worth investing in. Table 4 shows the top 5 institutional holders and mutual fund holders, as well as their proportions.

Table 4. TOP 5 Institutional holders and Mutual Fund holders

Top Institutional Holders	**%out**	**Top Mutual Fund Holders**	**%out**
Vanguard Group, Inc. (The)	8.37%	Vanguard Total Stock Market Index Fund	2.82%
Blackrock Inc.	7.67%	Vanguard/Wellington Fund Inc.	2.18%
Wellington Management Group, LLP	5.09%	Vanguard 500 Index Fund	2.05%
State Street Corporation	4.51%	MFS Series Trust I-MFS Value Fund	1.41%
JP Morgan Chase & Company	2.97%	SPDR S&P 500 ETF Trust	1.04%

Second, Progressive's compensation program presents a strong alignment between pay and performance, as they provide target compensation to executives below the market median, with performance-based compensation providing upside potential. As a result, executive salaries are intended to be lower than median amounts paid to executives who have similar responsibilities at comparable companies, while its annual incentive and performance-based equity awards provide the potential to earn above the market median total compensation when certain challenging goals are achieved. We believe that this structured program, to a great extent, stimulates the enthusiasm of the staff and further increases the potential benefits of the company.

Finally, Progressive holds a positive and all-sided plan on its commercials. It plays its commercials on TV 24/7, and shares the latest news through social media, to gain recognition. All of its commercials, presenting an intriguing while humorous plot along with famous actors, gain the trust of the audiences.

These three aspects show a big picture of how Progressive relates to its staff, investors as well as ordinary people, which stands as a potential factor to increase the value of the company.

5. CONCLUSION

This paper analyzes undervalued cross-industry companies, starting by making comparisons of indicators that measure their cheapness, growth, profitability, and payout. The novelty of this paper is that it considers companies in different segments of social finance with a comprehensive and systematic way to study the situation of each firm. Empirical results in this paper show that PGR maintains steady growth, along with a consistently high payout on its dividend yield, while GGAL and WTFC both suffer from the negative growth or inability to outgrow their peer group on profitability. The results further help to select trustful companies even though the comparing options do not all rest in one industry. Besides, the study provides an alternative way to analyze the company other instead of just focusing on the indicators.

However, there are some disadvantages. For example, in this empirical analysis, the shortage in time series may present an incomplete view of companies. In the future, attempts to include a longer time series would be studied; In addition, this article only offers further discussion from governmental aspects on PGR, leaving possible significant decisions other two companies shall take that could result in conversion, along with an increase of the company's value and profitability. These defects deserve in-depth studies in the future.

REFERENCES

[1] Fama, E. (2021). Efficient Capital Markets A Review of Theory and Empirical Work. In J. Cochrane & T. Moskowitz (Ed.), The Fama Portfolio: Selected Papers of Eugene F. Fama (pp. 76-121). Chicago: University of Chicago Press.

[2] McManus, P. (2020). How Efficient is Market Pricing: Can Investors Beat the Market? Further, are Prices Always Right as Stated in the Efficient Market Hypothesis? HONORS THESES AND CAPSTONES.

[3] George, A. (2011, 5 2011). Do Value Investors Add Value? The Journal of Investing, 20(2), 86-100.

[4] Gates, B. (1996). What I Learned from Warren Buffett. Harvard Business Review. https://hbr.org/1996/01/what-i-learned-from-warren-buffett.%20Accessed%209%208%20 21

[5] Hu Yi & Gu Ming. (2018). Buffett's Alpha: Evidence from China Stock Market. Management World, 34(8), 41-54+191.

[6] A. J. Senchack & John D. Martin. (1987). The Relative Performance of the PSR and PER Investment Strategies. Financial Analysts Journal, 43(2), 46-56.

[7] Huang Huiping & Peng Bo. (2010). Market Valuation and Value Investing Strategy- Empirical Research on China Stock Market. Accounting Research (10),40-46+96.

[8] Tuo Wei. (2014). Investment value analysis of Minsheng Bank. (Master Dissertation, Yan'an University).

[9] Sun, J. (2020). Value Investment Based on Data Analysis with Comparison of Three Insurance Corporations in the US. Web of Conferences. 214(1),1.

[10] The Progressive Corporation (PGR) holders. Yahoo Finance. https://hk.finance.yahoo.com/quote/PGR/holders?p=PGR

[11] The Progressive Corporation (PGR). (2021). Profile, business summary. Yahoo!Finance. https://finance.yahoo.com/quote/PGR/profile?p=PGR

[12] Grupo Financiero Galicia S.A. (GGAL). (2021). Profile, business summary. Yahoo!Finance.https://finance.yahoo.com/quote/GGAL/profile?p=GGAL

[13] Wintrust Financial Corporation (WTFC). (2021). Profile, business summary. Yahoo!Finance.https://finance.yahoo.com/quote/WTFC/profile?p=WTFC

[14] Chen Gongrong & Liu Ran. (2011). Can PER be effective in investment analysis and decision Accounting research(09),9-16+96.

[15] Tang Yu. (2020). Application of EBIT and EBITDA index in investment analysis. Finance & Accounting (17),78.
[16] Li Shengjun. (2012). Application of Book Value and Commercial Rate in Analysis on Investment Value of Listed Companies. Value Engineering (05),145.
[17] Pratiwi Nafisa Berliana Indah,Saputro D R S & Widyaningsih P. (2021). Fuzzy c-shells for clustering of data's LQ45 in Indonesia based on earnings per share and price earning ratio. Journal of Physics: Conference Series (1).
[18] Alcalde, A. (2017). EBITDA margin in brazilian companies Variance decomposition and hierarchical effects. Contaduría y Administración, 62(5), 197-220. ScienceDirect.
[19] Nariswari, T. N., & Nugraha, N. M. (2020). Profit Growth: Impact of Net Profit Margin, Gross Profit Margin and Total Assests Turnover. International Journal of Finance &Amp; Banking Studies (2147-4486), 9(4), 87–96.
[20] Novy-Marx, R. (2013). The Other Side of Value: The Gross Profitability Premium. Journal of Financial Economics, 108(1), 1-28.
[21] Black, F., & Scholes, M. (1974). The effects of dividend yield and dividend policy on common stock prices and returns. Journal of Financial Economics, 1(1), 1-22.