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Abstrak

Kata kunci: Valuasi, FCFE, Nilai Ekuitas, Nilai Sinergi, Merger

Abstract
This study aims to calculate the equity value of PT. Bank Syariah Mandiri (BSM), PT. BNI Syariah Bank (BNIS), PT. Bank BRI Syariah (BRIS), and PT. Bank Tabungan Negara (BTN), while at the same time calculating the value of the synergy created from the merger of the four banks as well as seeing the business potential obtained by the merger. This study uses the discounted cash flow (DCF) method with the free cash flow to equity (FCFE) model to calculate the estimated value of each bank’s equity and uses a Monte Carlo simulation to see the range of equity values of each bank. BSM, BNIS, BRIS are state-owned Islamic banks that have merged in 2021 and become Bank Syariah Indonesia which aims to be one of the drivers of Islamic banking in Indonesia. BBTN is a state-owned bank that specializes in property and real estate financing. The DCF method shows a positive synergy value from the merger of these four banks.

Keywords: Valuation, FCFE, Equity Value, Synergy Value, Merger
INTRODUCTION

The development of Islamic banking has experienced a very rapid increase from year to year. The National Committee for Sharia Financial Economics (KNEKS) through the sharia economy master plan projects that global sharia financial income will continue to increase to USD 3,782 billion in 2022 and USD 2,439 billion in the same year for Islamic banking (National Committee on Sharia Finance, 2018). The Indonesian Islamic finance industry in the 2018/2019 Global Islamic Economy Index ranks 8th in the world. The Islamic finance industry here includes Islamic banking and Islamic capital markets. The growth of Islamic banking assets itself experienced a positive development. Based on data from the Financial Services Authority (OJK), as of June 2020, Indonesia's Islamic banking assets have reached IDR 545.39 trillion or grew 9.22% year on year. Meanwhile, financing disbursed by sharia banking grew 10.13% to IDR 377.53 trillion, while deposits grew 8.99% to IDR 430.21 trillion. In the Islamic banking industry, Islamic Commercial Banks have a market share of 65.33%, while the Islamic business unit is 32.17% and the Islamic people's financing bank is 2.50%. Sharia Commercial Banks are indeed the largest contributors to the sharia banking industry, both in total sharia banking assets, disbursed financing, and third-party funds. The total assets of Islamic Commercial Banks reached IDR 356.33 trillion. Meanwhile, the disbursed financing reached IDR 232.86 trillion. Financing disbursed by Islamic banking targets 5.68 million accounts. Most of the financing was channeled for consumption, 45.02%, followed by working capital at 31.60%, and investment at 23.38%. By sector, the highest percentage was in the household sector, reaching 39.07%, followed by wholesale and retail trade at 10.28%, construction at 8.98%, manufacturing industry at 7.37%, and financial intermediaries at 4.92%. Furthermore, the largest asset value for Islamic banking is DKI Jakarta at 55.07%, followed by West Java at 8.71%, followed by Nanggroe Aceh Darussalam at 5.86% and East Java at 5.72%.

The Islamic banking sector is one of the highlights in the development of the Islamic finance industry. However, when viewed from the total assets, capital adequacy ratio (CAR), potential return on assets (ROA), and a decrease in bad loans or non-performing financing net (NPF Net), Islamic banking data from 2016 to 2020 shows positive trend. As of September 2020, Islamic bank assets have reached IDR 561.84 trillion with a CAR of 20.41%, ROA of 1.36%, and a Net NPF of 3.28% (OJK, 2020). However, despite these achievements, the scope of Islamic banking is still very far when compared to conventional banking. According to the Financial Services Authority, as of April 2020, the market share of Islamic banks is currently 9.03%, while the remaining 90.07% is owned by conventional banks. At this time, conventional bank products are still widely used among the public because conventional banks control part of the market share. Despite its rapid growth, Islamic banking still has a long way to go to be able to overtake conventional banking if they go their separate ways. Furthermore, there are no Sharia Commercial Banks classified as Commercial Banks Based on Business Activities (BUKU) 4 or have a minimum core capital of IDR 30 trillion. As of September 2020, there were 7 banks that were included in the BUKU 4 bank category and not a single Islamic bank was included in that category. This category of BUKU 4 banks is a distinct advantage for both banks and customers where banks categorized in BUKU 4 can have wider opportunities to channel financing facilities for the economic movement of a region or household. Having strong capital will also make banks classified in BUKU 4 have a competitive side with banks in Southeast Asia.
Therefore, the government through the Ministry of SOEs carried out a merger between three state-owned Islamic banks in Indonesia, namely PT. Bank Syariah Mandiri (BSM), PT. Bank BRI Syariah Tbk. (BRIS), and PT. BNI Syariah Bank (BNIS). With this merger, it is hoped that the performance of Islamic banking will be even faster, with the potential to raise third party funds (DPK) of up to IDR 355 trillion and financing of around IDR 272 trillion. This merger is also considered beneficial for various parties, both for the government, the Islamic banking sector, and the development of the sharia industry in the future. This merger in the future will be named as PT. Bank Syariah Indonesia Tbk (BSI), with the BRIS stock code which was the previous BRIS stock code.

The merger will certainly bring fresh dynamics and bright prospects for Islamic banking in Indonesia with the existence of one bank that focuses on the three business lines that were previously divided into each BUMN Islamic bank, namely commercial banking, MSME banking, and corporate banking. However, to be able to compete with other state-owned banks that are already in BUKU 4, it is necessary to add back the appropriate business lines that can be aligned with sharia and can be beneficial for various parties. One of the banks that can be considered for a merger with BSI is PT. Bank Tabungan Negara Tbk. (BBTN) so that the four banks can synergize in terms of business and can dominate the potential market. Until now, BBTN is a bank that specializes in the property financing sector in Indonesia. With the merger with BSI, the four banks can strengthen their competitive position in terms of property financing. This merger can be an arena of mutualism for the four banks to complement each other’s strengths and weaknesses. For BSI, banks will benefit from economies of scale from this merger because BBTN can strengthen the prospect of BSI’s housing and property funding portfolio. BBTN with a broad customer base as well as the ease with which the government provides housing and property funding, when incorporated with BSI's housing and property financing portfolio, can reach a wider market so that it can be more competitive in the housing and property financing sector. This merger can also answer the next problem from BSI, namely the low quality of the disbursed funding. BBTN with the quality of its funding if incorporated into BSI can improve the quality of BSI funding to make BSI a healthier and more attractive bank in terms of funding quality. Then from the BBTN side, BSI can answer BBTN’s problems which have problems from the high cost of funds. The high cost of funds is because the largest portion of deposits owned by BBTN is time deposits. With BSI which has access to a more diversified business, BBTN can focus on several business sectors that require lower cost of funds such as commercial banking, corporate banking, consumer financing, and so on. The problems that have been answered have made BBTN benefit from cost efficiency from this merger.

This study investigates the addition of BBTN to the BSI merger as a step to strengthen the position of Islamic banking in Indonesia. This study will measure the results of the synergies arising from the merger of the four banks. Furthermore, this study will explain the addition of BBTN into the BSI merger as a step to strengthen state-owned Islamic banks from the property sector as well as product development and Islamic da’wah through these Islamic banking products.

**LITERATURE REVIEW**

**Equity Valuation.** Equity value is the value of equity contained in a company that is available to owners or shareholders after the debt is paid off. Equity value is the value...
consisting of the company's common stock outstanding in the public plus stock options, warrants, and convertible securities. Equity value can be calculated by multiplying the company's current share price by the fully diluted shares (Rosenbaum & Pearl, 2013).

**Discounted Cash Flow (DCF) Valuation.** Discounted cash flow (DCF) is a fundamental valuation methodology based on the principle that the value of a company, business, or set of assets can be derived from the projected free cash flow that is discounted. The company's free cash flow projections are obtained from various assumptions and assessments related to the company's expected financial performance, including sales growth rates, profit margins, capital expenditures, and net working capital requirements (Lilford, E, 2018). The following are the stages in analyzing the DCF method:

- **Studying targets and determining key performance drivers.** The first step in conducting a valuation with DCF is to learn as much information as possible about the target company. Mistakes at this stage can lead to erroneous assumptions and distortions of judgment later on. At this stage, determining the key factors that will have an impact on the financial performance of the target company. By determining these key factors, the analysis can then prepare financial statement projections at a later stage (Schueler, A. 2018).

- **Projecting Free Cash Flow.** In conducting a valuation using the DCF method, free cash flow is divided into two types, namely Free Cash Flow to Equity (FCFE) is cash flow that can be received by ordinary shareholders as dividends when the company has fulfilled its obligations to other parties (Damodaran, 2002). The obligations in question can be in the form of debt repayments, capital expenditures, and changes in net working capital. FCFE for the banking industry can be formulated as follows (Aggelopoulos, 2017).

  \[
  \text{FCFE} = \text{Net Income} + \text{Depreciation} - \text{Net Increase in Loans} - \text{Net Increase in Securities and Investment} - \text{Net Increase in Amount due from Banks} + \text{Net Increase in Deposits} + \text{Net Increase in Interbank Funds}.
  \]

- **Determining Terminal Value.** Terminal value is used to measure the residual value after the projection period. There are two methods that are widely used to calculate the terminal value of a company. The first method is the exit multiple method (EMM) and the second method that can be used is the stable growth method (SGM). EMM calculates the target residual value after the projection period based on multiples of EBITDA (or EBIT) in the terminal year, while SGM calculates the terminal value by assuming FCF in the terminal year as perpetual growth at a certain assumed rate (Nantell et al., 1991). Terminal Value based on Damodaran (2012), the stable growth method can be formulated as follows:

  \[
  \text{Terminal Value} = \frac{\text{Cashflow}}{(\text{discount rate} - \text{growth rate})}
  \]

- **Calculating Cost of Equity.** Cost of Equity is the rate used to discount FCFE and terminal value. Cost of Equity can describe the business risk and financial risk of the target company (Nantell et al., 1991). Cost of equity is referred to as the required return rate, in which a change in the rate of return and volatility can be affected by how the macroeconomics is in, such as the exchange rate of the rupiah against the dollar, world oil prices, and gold prices. There is also the influence of foreign exchanges that can affect the movement of returns and volatility (Cahyapuspita, H. A, 2021). Cost of Equity can be formulated as follows (assuming bank equity is common stock).
CAPM = Rf + β*(Rm-Rf)
CAPM = required return rate
Rf = risk free rate
β = beta
Rm= market return

Beta is calculated using a bottom-up approach. The bottom-up approach breaks down beta into business risk and financial leverage components (Vayas-Ortega, G, 2020). We can estimate beta for a company in the following steps:

1. Identify the business in which the company operates.
2. Determine other companies that are listed on the Indonesia Stock Exchange.
3. Unlevered beta estimation for the company in question.
4. Unlevered Beta = Average beta / [1+(1-Average Tax Rate) × Average DER]
5. Estimated leveraged beta for the company concerned

Levered Beta = Unlevered Beta × [1+(1- Tax Rate) × DER]

a. Calculate the present value
   The projected terminal value and FCF are discounted and then added up to become enterprise value. The projected terminal value and FCF are discounted and then added up to become enterprise value.

b. Calculate the equity value
   Equity value is obtained by subtracting enterprise value from net debt.

**RESEARCH METHODOLOGY**

This study uses a descriptive method with a quantitative approach which aims to describe descriptively the merger of the two banks based on the calculation of the equity value and profitability of the two banks if they do or do not merge. The valuation method used in this study is DCF-FCFE.

Bank mergers are carried out in the following stages:
1. Determine the assumptions used to project the financial statements. These assumptions are like:
   - The average growth of deposits from customers is used to project deposits from customers during 2015 to 2020. Financing is projected by multiplying the ratio of financing to deposit by deposits from customers. financing to deposit ratio itself is obtained from the average financing to deposit ratio during 2014 to 2018.
   - Allowance for impermanent losses is obtained by multiplying the gross NPL in Rupiah in 2019 to 2021 by the average percentage of the gross NPL impairment loss reserve during 2014 to 2018.
   - Cash, current accounts with Bank Indonesia, current accounts with other banks, placements with BI and other banks, and marketable securities are projected using the average ratio of these accounts to deposits from customers during 2014 to 2018.
   - The average liability growth is used to project liabilities in 2019 to 2021.
- Retained earnings come from retained earnings from the previous year plus net income and minus dividends.
- Other operating income, operating expenses, and non-operating expenses are projected using the percentage of sales method which refers to income after profit sharing and interest income.
- Tax expenses are assumed to be the average percentage of tax expenses against income before tax multiplied by income before tax.
- Market returns are assumed to be taken from the compound annual growth rate of stock market returns (IHSG).
- Risk free comes from 10-year government bonds.
- Company growth is assumed by using the weighted average growth between Indonesia's GDP growth and company growth on a CAGR basis.
- Beta is calculated using the average beta of Islamic banks listed on the Indonesia Stock Exchange.

2. Projecting the financial statements of BRIS, BNIS, BSM, and BBTN for the next five years if they do not merge based on the assumptions in point one.
3. Perform free cash flow to equity (FCFE) for BRIS, BNIS, BSM, and BBTN if not merged.
4. Calculate the cost of capital for BRIS, BNIS, BSM, and BBTN.
5. Determine return on assets, equity value, and earnings per share of BRIS, BNIS, BSM, and BBTN if not merged.
6. Consolidating the financial statements of both banks.
7. Projecting FCFE and cost of capital for the merged bank.
8. Determine the value of the synergy from the merger.
9. Determine the range of equity value valuation figures for each bank.

![Valuation Analysis Framework](image)

**Figure 1. Valuation Analysis Framework**
RESULTS AND DISCUSSION

In this study, the valuation analysis was carried out using the discounted cash flow (DCF) approach to obtain the result of each bank's equity value. DCF analysis has the basic principle of finding the present value, where the value of an asset is the present value of the projected future cash flows (Frensidy, B, 2020). This study uses the free cash flow to equity (FCFE) valuation model to assess the company's equity and get an idea of the equity value of each bank. The equity valuation of each bank uses a two stage FCFE model where it is assumed that each bank grows by 2% in the plan period and grows steadily at 2% at the terminal value. Another assumption used is the discount rate, namely the cost of equity of 16.88% for BSM and BNIS, 17.6% for BRIS, and 17.73% for BBTN. Another assumption is in terminal growth where the perpetual growth rate is 2%.

After doing a valuation analysis with FCFE for each bank, the results of each bank's equity value are as follows:

1. BSM: IDR 14.05 trillion
2. BNIS: IDR 6.6 trillion
3. BRIS: IDR 7.56 trillion
4. BBTN: IDR 21.8 trillion

To measure the value of synergy, a valuation value is needed if each bank is combined, and an increase in the valuation value of each bank (Feldman, E. R, 2021). For this reason, with the presentation of the calculated equity value valuation figures, the increase in the valuation value of each bank becomes IDR 49.3 trillion.

As for the calculation of the combined valuation of the four banks and the calculation of the synergy value, they are presented in table 1. In accordance with table 1, the result of the merger of the four banks resulted in a positive synergy value of IDR 911 billion. This calculation is obtained using the assumption of a terminal growth of 2%, a risk-free rate of 6.5% which corresponds to a 10-year government bond, an equity risk premium of 6.56% in accordance with the equity risk premium adjusted from Damodaran, and a beta of 1.33. from the beta adjusted results of the four banks. From these results, the merger activity of these four banks has a positive impact in terms of synergistic value and has financial benefits if the four banks merge.
Table 2. Synergy Valuation Analysis

<table>
<thead>
<tr>
<th></th>
<th>BRIS</th>
<th>BSM</th>
<th>BNIS</th>
<th>BBTN</th>
<th>After merger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta</td>
<td>1.69</td>
<td>1.58</td>
<td>1.58</td>
<td>1.71</td>
<td>1.61724</td>
</tr>
<tr>
<td>Pre-tax cost of debt</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>5.00%</td>
</tr>
<tr>
<td>Tax rate</td>
<td>25.00%</td>
<td>25.00%</td>
<td>25.00%</td>
<td>29.00%</td>
<td>25.00%</td>
</tr>
<tr>
<td>Debt to Capital Ratio</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>91.04%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Revenues</td>
<td>2,815.3</td>
<td>6,045.0</td>
<td>3,174.9</td>
<td>8,913.8</td>
<td>20,949.1</td>
</tr>
<tr>
<td>Operating Income (EBIT)</td>
<td>433.3</td>
<td>1,977.6</td>
<td>712.8</td>
<td>2,330.3</td>
<td>5,453.9</td>
</tr>
<tr>
<td>Pre-tax return on capital</td>
<td>15.00%</td>
<td>15.00%</td>
<td></td>
<td>15.00%</td>
<td></td>
</tr>
<tr>
<td>Reinvestment Rate</td>
<td>70.00%</td>
<td>70.00%</td>
<td>70.00%</td>
<td>70.00%</td>
<td>70.00%</td>
</tr>
<tr>
<td>Length of growth period =</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Computed Values

<table>
<thead>
<tr>
<th></th>
<th>BRIS</th>
<th>BSM</th>
<th>BNIS</th>
<th>BBTN</th>
<th>After merger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of Equity</td>
<td>17.59%</td>
<td>16.88%</td>
<td>16.88%</td>
<td>17.73%</td>
<td>17.11%</td>
</tr>
<tr>
<td>After-tax cost of debt</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Cost of capital</td>
<td>17.59%</td>
<td>16.88%</td>
<td>16.88%</td>
<td>1.59%</td>
<td>17.11%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>BRIS</th>
<th>BSM</th>
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<th>After merger</th>
</tr>
</thead>
<tbody>
<tr>
<td>After-tax return on capital</td>
<td>70.00%</td>
<td>70.00%</td>
<td>70.00%</td>
<td>70.00%</td>
<td>70.00%</td>
</tr>
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<td>70.00%</td>
<td>70.00%</td>
<td>70.00%</td>
<td>70.00%</td>
</tr>
<tr>
<td>Expected growth rate</td>
<td>2.00%</td>
<td>2.00%</td>
<td>2.00%</td>
<td>2.00%</td>
<td>2.00%</td>
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</table>

Value of firm

<table>
<thead>
<tr>
<th></th>
<th>BRIS</th>
<th>BSM</th>
<th>BNIS</th>
<th>BBTN</th>
<th>After merger</th>
</tr>
</thead>
<tbody>
<tr>
<td>PV of FCFE</td>
<td>3,187</td>
<td>4,887</td>
<td>3,328</td>
<td>13,986</td>
<td>25,972.8</td>
</tr>
<tr>
<td>Terminal value</td>
<td>3,430</td>
<td>9,165</td>
<td>3,504</td>
<td>7,853</td>
<td>24,279.1</td>
</tr>
<tr>
<td>Value of firm today</td>
<td>6,618</td>
<td>14,052</td>
<td>6,832</td>
<td>21,839</td>
<td>50,252</td>
</tr>
</tbody>
</table>

Value of Synergy with BTN (IDRbn)

<table>
<thead>
<tr>
<th></th>
<th>BRIS</th>
<th>BSM</th>
<th>BNIS</th>
<th>BBTN</th>
<th>After merger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of independent firms</td>
<td>49,340</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value of combined firm</td>
<td>50,252</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value of synergy</td>
<td>911</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Source: Author

CONCLUSION

It has been found that the results of the valuation of each bank using the DCF-FCFE method and using the cost of equity as the discount rate in discounting cash flows. From each valuation result, it has also been found that there is a positive synergy from the financial side with a synergy value of IDR 911 billion. Then from this merger, there are also several positive synergies obtained from the business side of the three Islamic banks with an economies of
scale approach and BBTN with a cost efficiency approach. Thus, the merger of these four banks has a positive impact on the four banks and the surrounding ecosystem. With these calculations, several analyzes of business synergies emerged from the merger as follows:

1. In terms of BSI, BSI has a very strong business portfolio as of March 2021 with a total financing of Rp. 159 trillion. 45% of the total portfolio is financing intended for consumers and 53% of the total consumer financing is financing intended for housing and property. With the merger with BBTN, BSI can increase its housing funding portfolio with a potential funding of IDR 274 trillion, mitigating its weakness in fee-based income which is still depreciating due to the termination of Umrah and Hajj activities by relying on income from other funding such as housing, consumer financing, and other. BSI can increase the potential for housing and property financing with the merger with BBTN because as of March 2021, BBTN has a total housing and property funding of IDR 236 trillion. With a broad customer base and large funding potential provided, BSI can have a more competitive side in the realm of housing and property funding. This merger can increase the value of BSI because BSI gets economies of scale with the potential for an increase in housing and property funding of IDR 274 trillion.

2. Synergy value for the merger came in positive with a value of IDR 911 billion based on the calculation above. This shows that the merger of BSI and BBTN is feasible financially and can create a positive value for both parties. For BSI itself, this merger can increase their product offering, especially in the housing and property financing, considering robust housing and property funding from BBTN. As for BBTN, BBTN will benefit from cost efficiency from this merger with the potential for BBTN to be able to access various products and business focuses offered by BSI such as MSME loans, commercial financing, and others. BBTN can have a wider business portfolio in terms of business operations and can expand the scope of business together with BSI. This merger can help BBTN to gain access to cheaper cost of funds due to access to deposit sources from BSI. As of March 2021, BSI recorded a decrease in cost of funds of -75 bps or equivalent to 2.19% while in the same period, BBTN had a cost of fund of 4.27%. In 2020, BBTN ranks first for banks that have the largest cost of funds when compared to the 10 largest banks in Indonesia. The reason the cost of funds is very large is because of the total deposits owned by BBTN, time deposits have the largest portion of 43% of the total deposit. BBTN takes this large time deposit to attract depositors to be able to deposit at BBTN to finance subsidized housing which has a weight of 46% of BBTN's total funding portfolio. With this merger, BBTN can have wider access to the business portfolio owned by BSI, so that BBTN can gain access to deposits from various sources and can potentially reduce the aggregate cost of funds held for subsidized housing finance and other financing.

RESEARCH SUGGESTIONS AND LIMITATIONS

For companies, this research is expected to be used as a reference for each bank if there is a potential for a further merger of BSI and BBTN with consideration of the synergy value created and the business potential that can be obtained by the two entities. For further research, given the limitations in this study, it is recommended for further researchers to enrich the research with other valuation methods such as the Gordon growth model, relative valuation, and contingent claim valuation. In addition, further research can use different
assumptions in making financial projections. Furthermore, further researchers can examine aspects of the managerial implications and institutional issues of the merger of the four banks.

There are several limitations in this study that may affect the results of the study. The assessment date is December 31, 2020, where the possibility of an end of year effect on the capital market is not taken into account in this study, then the cutoff time coincides with August 23, 2022, where there is a possibility of a return change from each bank which is not taken into account after this date. Furthermore, there are limitations in information on managerial implications and institutional issues because the focus of this study is to find the equity value of each bank and look for synergistic values, and the research does not explore the sharia aspects of combining assets, both funding and deposits, and the profit and loss section so that if there is any misperceptions and misconceptions regarding visibility from the shariah perspective are not taken into account.

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Merger Valuation Analysis of PT. Bank Syariah Mandiri, PT. BNI Syariah Bank...
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