

# **BANK HEALTH ANALYSIS USING RISK BASED BANK RATING AND STOCK VALUATION ON PT BANK JAGO TBK**

## **FINAL PROJECT**

**By:  
BAMBANG HARYANTO  
29120460**



**Master of Business Administration Program  
School of Business and Management  
Institut Teknologi Bandung  
2022**

## ABSTRACT

### **BANK HEALTH ANALYSIS USING RISK BASED BANK RATING AND STOCK VALUATION ON PT BANK JAGO TBK**

**By**  
**Bambang Haryanto**  
**29120460**  
**(Master of Business Administration Program)**

PT Bank Jago Tbk launched a Digital Bank called Jago officially became a public company and was listed on the Indonesia Stock Exchange through an Initial Public Offering (IPO) in 2016 with the code ARTO Stock. In December 2020, Gojek through PT Dompot Karya Anak Bangsa (GoPay) became an investor with an ownership portion of 22.16%. After that, ARTO's shares moved up by 710% to reach the highest price of Rp. 19.500 on January 20, 2022. However, after that, the share price fell to Rp. 6.600 or decreased by 66% on May 19, 2022.

This study is to determine the healthy level of PT Bank Jago, using the Risk-Based Bank Rating (RBBR) method. Stock valuation is conducted using the relative valuation model method, the method used is book value (PBV) and price-to-earnings ratio (PER) and absolute valuation model uses discounted cash flow model with the method dividend discount model and excess return model.

The Results from the RBBR analysis of Bank Jago's health are: Risk Profile : NPL is Healthy, LDR is Less Healthy, GCG is Good, Earning : ROA is quite healthy, and Capital : CAR is Very Healthy, The calculation of the relative valuation using the PER and PBV Ratio show that the book value is Rp. 598. The PBV ratio is 26.8. PT Bank Jago in December 2021 share price for Rp. 16,000.00 which is well above the book value. Absolute valuation : Dividend Discount Model for stable growth, value of shares is Rp. 100 and the calculation is using the normalized Earning to be Rp. 1,201. Excess Return Models : the value of shares is Rp. 1.069, when compared to the stock price in December 2021, shares are considered overvalued

**Keywords:** Bank Jago, digital bank, RBBR financial health, stock valuation,

*This page is intentionally left blank*

## **ABSTRAK**

### ***ANALISA KESEHATAN BANK MENGGUNAKAN RISK BASED BANK RATING DAN VALUASI SAHAM PT BANK JAGO TBK***

*Oleh*

**Bambang Haryanto**

**29120460**

***(Program Studi Magister Administrasi Bisnis)***

*PT Bank Jago Tbk meluncurkan Bank Digital bernama Jago resmi menjadi perusahaan publik dan tercatat di Bursa Efek Indonesia melalui Initial Public Offering (IPO) pada tahun 2016 dengan kode ARTO Stock. Pada Desember 2020, Gojek melalui PT Dompot Karya Anak Bangsa (GoPay) menjadi investor dengan porsi kepemilikan sebesar 22,16%. Setelah itu, saham ARTO naik 710% hingga mencapai harga tertinggi Rp. 19.500 pada 20 Januari 2022. Namun, setelah itu harga saham turun menjadi Rp. 6.600 atau turun 66% pada 19 Mei 2022.*

*Penelitian ini untuk mengetahui tingkat kesehatan PT Bank Jago dengan menggunakan metode Risk Based Bank Rating (RBBR). Penilaian saham dilakukan dengan menggunakan metode model penilaian relatif, metode yang digunakan adalah nilai buku (PBV) dan price-to-earning ratio (PER) dan model penilaian absolut menggunakan model discounted cash flow dengan metode dividend discount model dan excess return.*

*Hasil dari analisis RBBR kesehatan Bank Jago adalah: Profil Risiko : NPL Sehat, LDR Kurang Sehat, GCG Baik, Earning : ROA cukup sehat, dan Permodalan : CAR Sangat Sehat, Perhitungan valuasi relatif menggunakan Rasio PER dan PBV menunjukkan nilai buku Rp. 598. Rasio PBV adalah 26,8. PT Bank Jago pada Desember 2021 harga saham Rp. 16.000,00 yang jauh di atas nilai buku. Penilaian Absolut : Model Diskon Dividen untuk pertumbuhan yang stabil, nilai saham Rp. 100 dan perhitungannya menggunakan Earning yang dinormalisasi menjadi Rp. 1.201. Excess Return Models : nilai saham Rp. 1,069, jika dibandingkan dengan harga saham Desember 2021, saham dianggap overvalued*

*Kata kunci: bank Jago, bank digital, RBBR, kesehatan keuangan, valuasi saham.*

## DECLARATION OF NON-PLAGIARISM

### Plagiarism is:

Taking, using, and submitting a work of another, including an idea, writing, or invention, as if it was her or his own.

### Plagiarism includes (but not limited to):

1. **quoting verbatim** the work of another without acknowledgement of the source;
2. **paraphrasing** the work of another without acknowledgement of the source;
3. **using** the idea of another without acknowledgement of the source; 4. **submitting** the work of another without identifying clearly who did the work;
5. **colluding** by submitting the work of another as her or his own with consent from the other.

I understand that Plagiarism is wrong, a breach of academic integrity, and against Program, School, and University's Policy and Regulation.

I declare that all material in this Final Project is original, my own work, and does not involve plagiarism.

I have not allowed, and will not allow, another to copy my work with the intention of submitting it as her or his own work.

Name Bambang Haryanto Student ID 29120460

Signed  Date 21 Oktober 2022

**VALIDATION PAGE**

**BANK HEALTH ANALYSIS USING RISK BASED BANK  
RATING AND STOCK VALUATION ON PT BANK JAGO TBK**

**By:**

**BAMBANG HARYANTO**

**29120460**

**Master of Business Administration Program**

**School of Business and Management**

**Institut Teknologi Bandung**

**Validated By**

**Dr. Erman Arif Sumirat S.E, M.Buss., CRP., CSA, CIB, Ak**

## ACKNOWLEDGEMENTS

First and foremost, I would like to express my high gratitude to Allah SWT for the blessing and every moment I have. So many times, I thank Allah for the strength to get through my study in SBM MBA ITB. Give thank the blessing, so the author could complete the final project entitled: BANK HEALTH ANALYSIS USING RISK BASED BANK RATING AND STOCK VALUATION ON PT BANK JAGO TBK as a requirement to complete master degree of MBA program at School of Business Management ITB. there are a lot of people that has been very supportive in the writing process of this final project, do the author will take this opportunity to present special gratitude for:

1. Dr. Erman Arif Sumirat S.E, M.Buss., CRP., CSA, CIB, Ak, as my counselor of this final project, for his guidance and direction so that I can complete this thesis successfully.
2. My parents and my beloved family have always given me strength and prayer in order to complete this project.
3. My wife Endang Kurniawaty Lestari Harahap has supported me, her patience and her motivation has been and always inspired me.
4. All lectures in MBA ITB for all knowledge and experience during all the lectures.
5. All staff of MBA ITB who helped in the operation of studies.
6. My lovely friends at syndicate 9 and student EMBA SBM ITB In House Class PT Berau Coal Batch 2 to share knowledge and wonderful time we spent.

Berau, 9 September 2022

Bambang Haryanto

## TABLE OF CONTENT

|                                                             |      |
|-------------------------------------------------------------|------|
| ABSTRACT .....                                              | ii   |
| ABSTRAK .....                                               | iv   |
| VALIDATION PAGE .....                                       | vi   |
| ACKNOWLEDGEMENTS .....                                      | vii  |
| TABLE OF CONTENT .....                                      | viii |
| LIST OF APPENDICES .....                                    | x    |
| LIST OF FIGURES .....                                       | xi   |
| LIST OF TABLES .....                                        | xii  |
| CHAPTER I INTRODUCTION .....                                | 1    |
| I.1    Background .....                                     | 1    |
| I.2    Company Profile of PT Bank Jago, Tbk .....           | 5    |
| I.2.1 PT Bank Jago, Tbk Vision, Mission, and Values.....    | 11   |
| I.2.2 PT Bank Jago Tbk Organization Structure.....          | 12   |
| I.2.3 PT Bank Jago Business Scope.....                      | 12   |
| I.3    Business Issue.....                                  | 16   |
| I.4    Research Questions .....                             | 17   |
| I.5    Research Objective.....                              | 17   |
| I.6    Final Project Limitation.....                        | 18   |
| CHAPTER II BUSINESS ISSUE EXPLORATION .....                 | 19   |
| II.1    Conceptual Framework .....                          | 19   |
| II.2    External Analysis .....                             | 19   |
| II.2.1 Macro Economic .....                                 | 19   |
| II.2.2 Industry Analysis .....                              | 22   |
| II.2.3 Porter's Five Forces Analysis .....                  | 24   |
| II.2.4 PESTEL Analysis.....                                 | 27   |
| II.3    Internal Analysis.....                              | 32   |
| II.3.1 Bank Jago's Transformation into a Digital Bank. .... | 32   |



|                                                |    |
|------------------------------------------------|----|
| II.3.2 Bank Jago and Gojek collaboration. .... | 34 |
| II.3.3 Bank Healthy Analysis.....              | 38 |
| II.3.3.1 Risk Based Bank Rating (RBBR) .....   | 39 |
| II.3.3.2 Risk profile.....                     | 40 |
| II.3.3.3 Good Corporate Governance (GCG) ..... | 49 |
| II.3.3.4 Earning .....                         | 54 |
| II.3.3.5 Capital .....                         | 54 |
| II.5. Stock Valuation .....                    | 56 |
| II.5.1 Relative Valuation Methods.....         | 57 |
| II.5.2 Absolute valuation .....                | 59 |
| CHAPTER III BUSINESS SOLUTION.....             | 62 |
| III.1 Bank Jago Financial Ratio Analysis.....  | 62 |
| III.1.1 Capital Adequacy Ratio (CAR) .....     | 63 |
| III.1.2 Non Performing Loan (NPL).....         | 64 |
| III.1.2 Loan to Deposit Ratio (LDR) .....      | 65 |
| III.1.3 Return on Assets (ROA) .....           | 66 |
| III.2 Stock Valuation .....                    | 68 |
| III.2.1 Relative Valuation .....               | 68 |
| III.2.2 Absolute Valuation .....               | 70 |
| CHAPTER IV CONCLUSION.....                     | 76 |
| IV.1 Conclusion.....                           | 76 |
| IV.2. Recommendation.....                      | 77 |
| IV.2.1 Recommendation for Investors.....       | 77 |
| IV.2.2 Recommendation for Bank.....            | 78 |
| REFERENCE.....                                 | 80 |
| APPENDICES .....                               | 82 |

## LIST OF APPENDICES

|                                                                                                     |    |
|-----------------------------------------------------------------------------------------------------|----|
| APPENDICES A Top 11 Listed Bank by Asset Listed - Share Information .....                           | 82 |
| APPENDICES B Financial Ratio PT Bank Jago Tbk. Q3 2017 - Q2 2022 .....                              | 83 |
| APPENDICES C : Dividend Discount Model PT Bank Jago Tbk. Q3 2017 - Q2 2022) .....                   | 84 |
| APPENDICES D Dividend Discount Model PT Bank Jago Tbk. Q3 2017 - Q2 2022 - Normalized Earning ..... | 85 |
| APPENDICES E : Excess Return Model PT Bank Jago Tbk. (Q3 2017 - Q2 2022) .....                      | 86 |

## LIST OF FIGURES

|                                                                                         |    |
|-----------------------------------------------------------------------------------------|----|
| Figure 1.1 Smartphone User Penetration in Indonesia .....                               | 3  |
| Figure 1.2 Logo of PT Bank Jago, Tbk.....                                               | 9  |
| Figure 1.3 PT Bank Jago Organization Structure .....                                    | 12 |
| Figure 1.4 Interface Gojek and Jago .....                                               | 15 |
| Figure 1.5 PT Bank Jago Stock Price 03 Des 2021 - 20 Jan 2022.....                      | 16 |
| Figure 1.6 PT Bank Jago Stock Price 20 Jan 2021 - Mei 2022 .....                        | 17 |
| Figure 2.1 Conceptual Framework of research .....                                       | 19 |
| Figure 2.2 Indonesia's economy is getting better .....                                  | 28 |
| Figure 2.3 Customer Growth Bank Jago,.....                                              | 33 |
| Figure 2.4 Gojek Application for Indonesian public to open a Jago bank account<br>..... | 35 |
| Figure 2.5 Share Performance and Volume Bank Jago .....                                 | 36 |
| Figure 2.6 Third Party Fund Composition .....                                           | 37 |
| Figure 3.1 Capital Adequacy Ratio PT Bank Jago, Tbk, Q3 2017 - Q2 2022.....             | 64 |
| Figure 3.2 Non Performing Loans Ratio Q3 2017 - Q2 2022 PT Bank Jago .....              | 64 |
| Figure 3.3 Loan to Deposit Ratio PT Bank Jago, Tbk, Q3 2017 - Q2 2022.....              | 65 |
| Figure 3.4 Return on Asset Ratio PT Bank Jago, Tbk, Q3 2017 - Q2 2022.....              | 66 |
| Figure 3.5 Return on Asset Ratio PT Bank Jago, Tbk, Q3 2017 - Q2 2022.....              | 67 |
| Figure 3.6 Bank Jago's P/E Ratio.....                                                   | 69 |
| Figure 3.7 Bank Jago's PBV Ratio.....                                                   | 70 |

## LIST OF TABLES

|                                                                                                 |    |
|-------------------------------------------------------------------------------------------------|----|
| Table 1.1 World's Most Unbanked Countries .....                                                 | 2  |
| Table 1. 2 Composition of Bank Jago's Shareholders as of December 2021 .....                    | 6  |
| Table 2.1 Bank's risk profile end of 2021 .....                                                 | 48 |
| Table 2.2 Non-Performing-Loans (NPL) Criteria.....                                              | 48 |
| Table 2.3 Loan to Deposit Ratio (LDR) Criteria .....                                            | 49 |
| Table 2.4 Criteria for Determining GCG Ratings (self-assessment) .....                          | 49 |
| Table 2.5 Governance Implementation Self-Assessment Result .....                                | 50 |
| Table 2.6 Criteria for Determining Profitability Rating (ROA) .....                             | 54 |
| Table 2.7 Criteria for Determining Capital Rating (CAR) .....                                   | 56 |
| Table 3.1 PT Bank Jago, Tbk Financial Ratios 2017-2022 .....                                    | 62 |
| Table 3.2 Summarizes the Expected Earnings During this High Growth period PT<br>Bank Jago ..... | 71 |
| Table 3.3 Expected Earnings and Dividends during transition phase PT Bank<br>Jago .....         | 72 |
| Table 3.4 The Excess Returns to Equity Investor PT Bank Jago.....                               | 74 |
| Table 3.5. Value Per Share PT Bank Jago .....                                                   | 75 |

# CHAPTER I INTRODUCTION

## I.1 Background

Advances in digital technology in the banking and financial industry are currently the main strategy issue for the banking sector. Innovation development in the digital era has an impact on the banking industry. Lately, they often hear the term digital bank when you hear the news. Whether it's news about the establishment of a new digital bank, acquisition of banks by fintech, or banks that turn into digital banks. Still fresh, of course, when Gojek did the acquisition of PT Bank Jago Tbk (ARTO).

In fact, legendary investor Warren Buffett owner of Berkshire Hathaway, recently also invested in the Nubank parent company, a Brazilian-based digital bank. Investment made worth 500 million USD or around 7.15 trillion IDR. However, what exactly is a digital bank? What's the difference with the conventional bank that we have known so far?

Definition of Digital Bank in accordance with *Peraturan Otoritas Jasa Keuangan Nomor 12/POJK.03/2021 Tentang Bank Umum*, Digital Banks are Indonesian Legal Entity Banks (*Badan Hukum Indonesia*) that provide and carry out business activities, especially through electronic channels without physical offices other than head offices, or use limited physical offices

Based on the services and products offered, conventional banks and digital banks are actually not much different, each bank offers banking services, such as savings, deposits, withdrawal of funds, transfers, and loans. The fundamental difference between digital and conventional banks lies in its manifestation. Conventional banks have a physical form in the form of branch offices, while digital banks do not have a branch office.

Simply by using a smartphone, you can already do various banking transactions on digital banks. Launch Forbes, digital banking is generally defined as the transformation of banking services from the traditional way to online

According to data taken from by the British Research Research Platform Merchant Machine. Three countries located in Asia Pacific (APAC), namely Vietnam, the Philippines and Indonesia, entered into the top ten countries whose population is unbanked in the world. Indonesia is ranked ninth with 51% of the total population does not have access to traditional banking services or similar financial organizations, or around 139.2 million people

The metric used came in the middle of the use of relay cash, low card penetration and rare traditional financial access points, such as ATMs. the data show

Table 1.1 World's Most Unbanked Countries

| Country     | Total Population (Millions) | Unbanked Population (%) | Cash Transactions (%) | Card Transactions (%) | # of ATMs per 100,000 Adults | Internet Penetration (%) |
|-------------|-----------------------------|-------------------------|-----------------------|-----------------------|------------------------------|--------------------------|
| Morocco     | 36.9                        | 71                      | 41                    | 27                    | 28.6                         | 62                       |
| Vietnam     | 97.3                        | 69                      | 26                    | 35                    | 25.9                         | 66                       |
| Egypt       | 102.3                       | 67                      | 55                    | 27                    | 20.1                         | 45                       |
| Philippines | 109.6                       | 66                      | 37                    | 22                    | 29.0                         | 60                       |
| Mexico      | 128.9                       | 63                      | 21                    | 44                    | 61.5                         | 66                       |
| Nigeria     | 206.1                       | 60                      | 24                    | 27                    | 16.9                         | 70                       |
| Peru        | 33.0                        | 57                      | 22                    | 62                    | 126.7                        | 49                       |
| Colombia    | 50.9                        | 54                      | 15                    | 55                    | 41.3                         | 62                       |
| Indonesia   | 273.5                       | 51                      | 13                    | 34                    | 53.3                         | 55                       |
| Argentina   | 45.2                        | 51                      | 18                    | 45                    | 60.9                         | 76                       |

Source : The British Research Research Platform Merchant Machine

While on the other hand, smartphone penetration and internet use in Indonesia continue to increase. In 2017, there were only 44.4% of the population in Indonesia using smartphones. Over time, smartphone prices are increasingly affordable for the community so as to increase their use as well.

In 2021, smartphone penetration was projected to reach 72.07% and in 2025 it was projected to reach 81.09%, so that the infrastructure of the Indonesian people was ready for digital banking. There were also 196.7 million or 73.7% of the total population of Indonesia who had access to the internet.

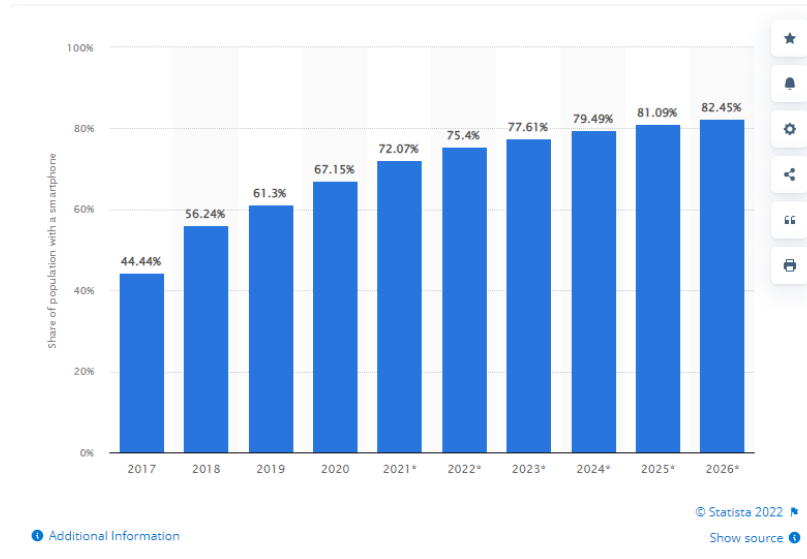


Figure 1.1 Smartphone User Penetration in Indonesia

Source : statistica 2022

This digital bank is different from mobile banking, mobile banking is a bank service in applications installed on customer smartphones. Meanwhile, in digital banks, customers can manage their bank accounts and plan all finances using a smartphone. Here are some of the facilities offered by digital banks.

**Easier access.** Customers can make transactions anywhere through applications on smartphones or digital bank websites.

**Flexibility.** In terms of time, digital bank customers are more shortened in conducting transactions. Moreover, they do not need to be set on operating hours, such as in the conventional bank branch office. We also do not need to queue in tellers or customer service because all services, ranging from opening accounts, deposits, transfers, etc., can be done online without having to visit the bank.

**Higher interest rates.** Conventional banks generally offer savings interest rates in the range of 1% per year. While digital banks generally provide higher interest rates than conventional banks to withdraw funds from customers.

**Lower costs.** On the other hand, digital banks also impose monthly administration fees and cheaper or even free transfer fees for their customers, of course in accordance with applicable terms and conditions.

With various advantages possessed, digital banks also have several challenges such as the following.

**Internet Network.** If the internet network is disturbed, then customer access through the application also experiences interference. Customers can have difficulty conducting transactions and even can not make transactions at all.

**Not yet technology literate.** For customers who are not yet technology literate, digital bank services will feel more difficult compared to conventional banks.

**Security.** Considering that all digital bank customer transactions are carried out online, security must be a challenge for digital banks, given the quite widespread hacking.

Of course this is a great opportunity for digital banks if it can be put to good use. Especially in this pandemic period, digitalization of economic and financial activities is increasingly driven by changes in the lifestyle of the people.

It is not impossible if a digital bank can be a solution to the efficiency of the conventional bank branch offices later, based on research from the 2019 SEA E-Conomy, Indonesia is recorded as a country with a population of Unbankend

One of the digital banks operating in Indonesia is Bank Jago, Bank Jago was previously known as Bank Artos Indonesia. After fully transforming into a digital bank, Bank Jago is able to run its operations without geographical and time constraints. In this case with the development of information and communication technology innovations that can be used to improve financial services to the public. It is expected that the long-term effect of aggregate bank operating costs will decrease, provide better services, and more competitive interest rates so as to increase the number of customers who use banks, make banking industry



competition more efficient, increase the number of business sectors financed by loans, and be able to create a digital ecosystem that is more complete.

In April 2021, Bank Jago launched the Jago app, which was extended toward year-end to cater to our Syariah segment. Across both conventional and Shariah platforms, Bank Jago ended the year with a solid user base of 1.5 million consumers nationwide.

In March 2021, Bank Jago successfully completed its second Rights Issue in less than twelve months from the first rights issue by raising an additional capital of US\$500 million to prepare for growth. With this sizable capital, Bank Jago became a Category 3 bank (currently as KBMI 2) and the fastest bank to have moved two categories. Balance sheet-wise, Bank Jago assets and loans grew roughly five times from respectively, Rp. 2,2 trillion to Rp. 12,3 trillion, and from Rp 0,9 trillion to Rp 5,4 trillion. To fund this growth deposits expanded more than four times from Rp 0,8 trillion to Rp 3,7 trillion.

With this growth, Bank Jago is among the fastest digital banks to reach profitability. They closed 2021 with a Net Profit of Rp 86 billion from a loss of Rp 190 billion a year ago and after six consecutive loss-making years. Given the Bank's Rp 7 trillion rights issue in early 2021, its CAR stood at 169.9% at year-end, while its NPL closed at 0.6%. Strong capital is critical to weather the storm during these uncertain times. This remarkable turnaround is testament to the management's capability and the efficacy of the bank's business model.

## **I.2 Company Profile of PT Bank Jago, Tbk**

Before changing to PT Bank Jago, Tbk previously known as PT Bank Artos Indonesia Tbk (Bank Artos) which was established in Bandung in 1992, in Bandung that offers savings and loan products and banking services.

Company Profile :

- Corporate Identity : PT Bank Jago Tbk.
- Business Line : Banking
- Ticker Code : ARTO
- Ownership : PT Metamorfosis Ekosistem Indonesia (29,81%)  
: Wealth Track Technology Limited (11,69%)  
: PT Dompot Karya Anak Bangsa (21,40%)  
: PT GIC Private Limited (9,12%)  
: Public (27,98%)

Table 1. 2 Composition of Bank Jago's Shareholders as of December 2021

| Nama<br>Name                              | Jumlah Saham<br>Number of Shares | Nilai (Rp)<br>Value (IDR) |
|-------------------------------------------|----------------------------------|---------------------------|
| PT Metamorfosis Ekosistem Indonesia (MEI) | 4.129.978.125                    | 412.997.812.500           |
| Wealth Track Technology Limited (WTT)     | 1.619.309.375                    | 161.930.937.500           |
| PT Dompot Karya Anak Bangsa               | 2.965.745.000                    | 296.574.500.000           |
| GIC Private Limited                       | 1.263.180.418                    | 126.318.041.800           |
| Masyarakat ( <i>Public</i> )              | 3.878.037.082                    | 387.803.708.200           |

- Majority and Controlling Shareholders :
  1. PT Metamorfosis Ekosistem Indonesia (MEI)

MEI was established in South Jakarta pursuant to the Deed of Establishment No. 51 dated 14 March 2014. MEI is domiciled in Jakarta, and is engaged as a management consultancy company.

## 2. Wealth Track Technology Limited (WTT)

WTT is an investment company established in Hong Kong pursuant to the Certificate of Incorporation No. 2070088 dated 28 March 2014. WTT is domiciled in Hong Kong.

Non Controlling Shareholders :

### 1. PT Dompot Karya Anak Bangsa (DKAB)

DKAB was established in Jakarta with the Deed of Establishment No. 37 dated 9 February 2016. It is domiciled in Jakarta and is engaged in other management consulting services.

### 2. GIC Private Limited (GIC)

- GIC is a sovereign wealth fund institution that was established by the Government of Singapore in 1981. GIC is one of the three investment entities in Singapore that manage the Government's reserves, alongside the Monetary Authority of Singapore (MAS) and Temasek.
- ISIN Code : ID1000136708
- IPO : January 12, 2016 on the Indonesia Stock Exchange
- Authorized Capital: IDR 4,000,000,000,000 in 40,000,000,000 shares with a nominal value of IDR 100 per share each.
- Issued and Fully Paid in Capital : IDR 1,385,625,000,000 in 13,856,250,000 shares at par value of IDR 100 per share
- Total Assets as of December 31, 2021 : 12.312.422 IDR Millions
- Number of Employees as of December 31, 2021 : 386 People
- Address : Menara BTPN, Lantai 46, Jl. Dr. Ide Anak Agung Gde Agung Kav. 5.5–5.6 Jakarta Selatan 12950, Indonesia
- Corporate Website : [www.jago.com](http://www.jago.com)
- Location of Bank Operational Area

After fully transforming into a digital bank, Bank Jago is able to run its operations without geographical and time constraints. The borderless operation is also complemented with a number of branch offices located in strategic areas, in 3 major cities in Indonesia: Jakarta, Banten, and Bandung. For Jakarta itself, the location of the Branch Office is in Mega Kuningan and the SubBranch Office is in Kelapa Gading. In the Banten area there is a BSD Sub-Branch Office which also has a Sharia Business Unit Branch Office, and in the Bandung area there is a Gatot Subroto Branch Office

- Quantity of Operational Service Points

As of 2021, Bank Jago has: 1 Non Operational Head Office, 2 Branch Offices, 2 Sub-Branch Offices, 1 Sharia Branch Office, and 4 ATMs

- Contact Center Operations

To provide services that are always-on and able to connect with customers anywhere and anytime, Bank Jago has built a contact center service with the following technical details: • Contact center staff (as of December 31, 2021): 392 people

## **History Bank Jago**

- **1992**

PT Bank Artos Indonesia Tbk was established in Bandung, West Java with a variety of banking product & services

- **2016**

PT Bank Artos Indonesia became a public company and offered the first shares to the public and recorded its shares on the Indonesia Stock Exchange (IDX) with the Arto Emitter Code,

Based on the Extraordinary General Meeting of Shareholders dated 21 September 2015, which was notarised by Notarial Deed No. 7 dated 21 September 2015, of Notary Kirana Ivyminerva Wilamarta, S.H., LL.M., and was approved by

the Minister of Law and Human Rights of the Republic of Indonesia No. AHU-AH.01.03-0967173 dated 23 September 2015, the shareholders approved the Initial Public Offering of Ordinary Shares plan to the public through capital market and listing of the Bank's shares on the Indonesia Stock Exchange ("IDX").

The Bank received an effective statement from IDX through letter No. S-384/D.01/2015 on 30 December 2015. The Bank undertook an initial public offering to the public in Indonesia of 241,250,000 shares with a par value of Rp 100 (full amount) per share.

- **2019**

PT Metamorphosis Ecosystem Indonesia (May) and Wealth Track Technology Limited (WTT) made the acquisition of shares of PT Bank Artos Indonesia Tbk with a total ownership of 51%.

- **2020**

(April) Bank Jago conducts limited public offering I (rights issue). Bank's core capital is IDR 1.3 trillion.



Figure 1.2 Logo of PT Bank Jago, Tbk

(14 May 2020), the Bank which was formerly under the name of PT Bank Artos Indonesia Tbk and domiciled in Bandung changed its name to PT Bank Jago Tbk and domiciled in South Jakarta.

In accordance with Article 3 of the Bank's Articles of Association, the scope of activities of the Bank is conducting general and sharia banking activities.

(December) Gojek through PT Dompot Karya Anak Bangsa (Gopay) becomes a non-controlling strategic investor with a portion of ownership of 22.16%.

- **2021**

(March)

Bank Jago conducted a limited public offering II (rights issue). The bank raised IDR 7.05 trillions from oversubscribed the Rights Issue II. Bank's core capital to IDR 8.11 trillion.

(March) GIC Private Limited invests capital and becomes a non -controlling shareholder.

(April) PT Bank Jago, Tbk launches a life-centric-based Jago application that makes financial management more simple, collaborative and innovative.

(July) Bank Jago established a strategic partnership with APERD ONLINE, PT Bibit Grows together (Bibit). Through the integration of these two applications, consumers can invest and open a good, fast, and seamless account. Collaboration in the spirit of making investment experience simpler - Bank Jago and Bibit are integrating to make it easier to invest in mutual funds online.

(July) Integration The initial stage of the Jago application with Gojek was launched. Jago bags are one of the non -cash payment methods in the Gojek application. Collaboration in the spirit of making investment experience simpler - Bank Jago and Bibit are integrating to make it easier to invest in mutual funds online. Becoming more integrated to create one ecosystem.

(September) PT Bank Jago, Tbk (Jago) inaugurated the Sharia Business Unit (UUS) to serve the mass market segment based on sharia principles. Bank Jago officially operates the Sharia Unit to offer digital financial solutions that focus on customer life (life centric) by optimizing the latest technology. They're starting the endeavor to develop a new product, which is digital accounts for the sharia segment.

(Oktober) The bank recorded a net profit of IDR 14 billion on a quarterly basis in the third quarter of 2021, making it one of the fastest digital banks in the world when it comes to reaching profitability

(December) 2021

Bank Jago obtained a license from the Financial Services Authority (OJK) to offer sharia digital banking services.

Bank Jago became the bank administrator for RDN (Customer Fund Account). Through this initiative, Bank Jago plays a role in accelerating the growth of investors in the country.

### ***1.2.1 PT Bank Jago, Tbk Vision, Mission, and Values***

#### **Vision**

A strong Indonesian bank, ready for the digital economy, that fulfills the needs of the middle & mass market, embedded in an ecosystem and technology-based.

#### **Mission**

Enhance the growth of millions through life-focused digital financial solutions.

#### **Values**

Life-Centricity : Perceive work and finances from a life perspective. We look at work and finances from a life perspective.

Fearless Creativity : Adaptive to changes and making decisions quickly. We productively challenge normality to invent creative solutions.

Purposeful Growth : The spirit of self-development and increasing customer growth through the process of self-knowledge and capacity development.

We passionately develop ourselves through self discovery and self mastery, and together enhance growth for our customers.

Empowered Agility : Adaptive to changes and making decisions quickly.

Our working system enables us to adapt to changes quickly, and make decisions fast.

### 1.2.2 PT Bank Jago Tbk Organization Structure

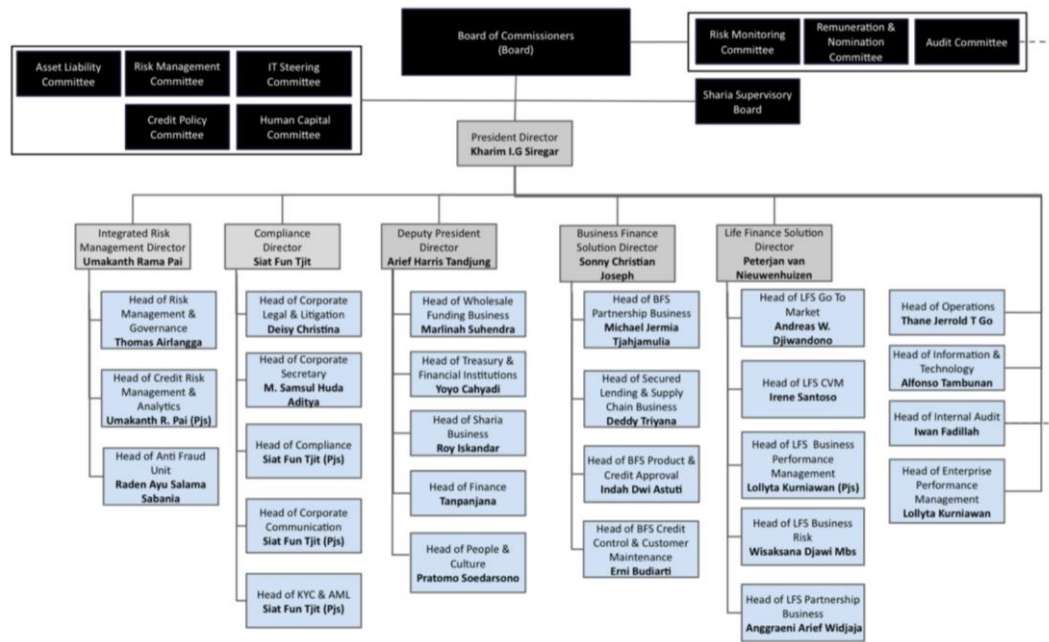


Figure 1.3 PT Bank Jago Organization Structure

Source [www.jago.com](http://www.jago.com)

### 1.2.3 PT Bank Jago Business Scope

#### - Bank Jago's Products and Services

Pursuant to article 3 of the Bank's Articles of Association, the Bank's scope of business activities covers general activities related to banking. Bank Jago offers various banking products and services that are generally categorized into funding and lending activities, along with other supporting banking services.

Bank Jago's Products and Services in 2022. In 2022, the Bank's active business activities included:

#### a. Funding

The Company had launched several products to amass funding from the public, namely:

1. Giro;
2. Savings; and
3. Time Deposits.



4. Wadiah current account with wadiah contract yad dhamanah
5. Wadiah savings with wadiah yad dhamanah contract
6. Mudharabah deposits with mudharabah muthlaqah contracts

#### Fund Placement

The Bank's intermediation function is carried out by providing credit to individual debtors and business entities. Bank Jago focuses on distributing Islamic loans and financing to the retail and mass market segments, including Micro, Small and Medium Enterprises (SMEs) and ultra micro. In the distribution of Islamic loans and financing, Bank Jago collaborates with various business actors in the field of financial institutions and digital ecosystems.

##### b. Lending

The intermediary function of the Bank is carried out through lending to individual debtors or business entities. In line with its transformation towards becoming a tech-based bank, to distribute credit to the Small and Medium Enterprises (SME) segment and potential debtors in the sectors that meet the lending criteria, the Bank has collaborated with various businesses in the digital ecosystem. The Bank always pays substantial attention to credit portfolio diversification, the principle of prudence, risk management, and continuous supervision in channeling its loans.

The lending products offered by the Bank include:

1. Working Capital Loan;
2. Investment Loan;
3. Consumption Loan;
4. Multipurpose Loan; and
5. Bank Guarantee.

##### c. Other Banking Services

The Bank provides information technology systems that are secure and convenient for its customers to make transactions. The banking services offered by the Bank include:

1. Transaction shuttle service;
2. Monthly bill payment centers (telephone, electricity, internet, etc.);
3. Money transfers/RTGS/SKN;
4. Out-of-town script bills;
5. In-town script bills – clearing; and
6. ATM Bersama and ALTO networks.
7. Customer Fund Account (RDN)
8. Debit Card

### Product Development

In addition to the products above, Bank Jago launched the Jago digital banking app aimed at the consumer and business customers.

Jago App is a life-centric financial application that makes managing money simple, innovative and collaborative, bringing our customers one step closer to their dreams. Jago App introduced several novel features in the Indonesian market and beyond. For instance, the ability for users to partition their money into multiple pockets, both for spending or savings purposes. This feature is made even more powerful by the option to share any pocket with other users — e.g. a spouse, families, a group of friends or colleagues, a household helper and others. Equally important is Jago's integration in digital ecosystems – payment in Gojek and its ecosystems through integration in GoPay, mutual fund investment through the Bibit app and stock investment through Stockbit. This integration goes both ways, with selected GoPay, Bibit and Stockbit functionality available in the Jago App. All in the spirit of offering the customers what he or she needs where it's most convenient. It is powered by a strong technology foundation, which delivers performance and scalability. Our tech stack is cutting edge.

As a digital bank, PT Bank Jago Tbk has the Jago application which can be downloaded on the App Store or Google Play. The new application was launched around mid-2020, the Jago application or the Jago App on the Play Store has been downloaded reaching more than 1 million downloads and continues to grow

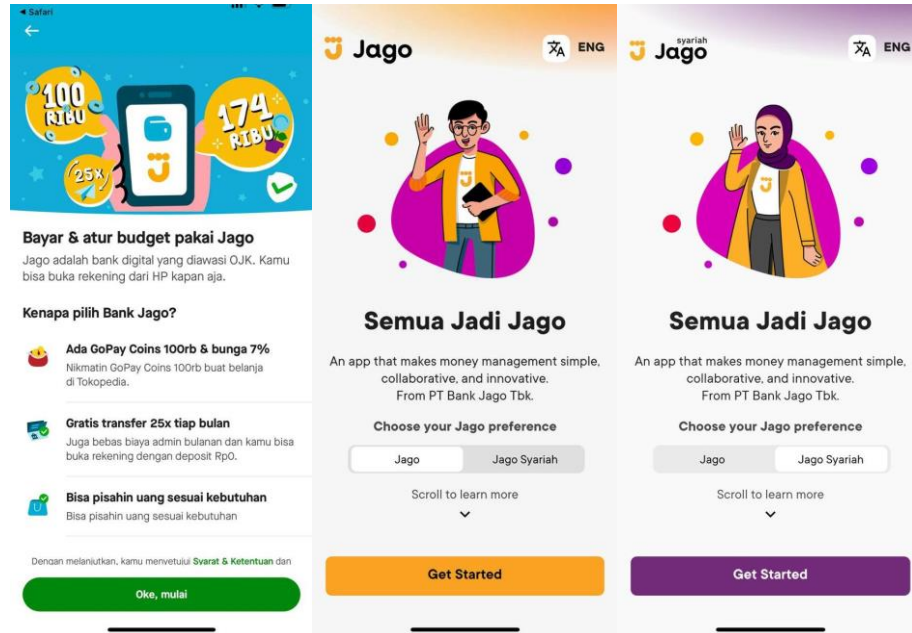


Figure 1.4 Interface Gojek and Jago

if we install the Jago application, we can find several features available in the Jago Bank application, include: *Kirim dan Bayar*, *Kontak*, *Personalisasi*, *Shortcut*, *Kartu Debit Visa*, *Spend Analysis*, *Kantong*, *Plan Ahead*, *Kantong Terkunci*, *Kantong Bersama*, *Kantong Berbagi*, *Tagih Uang*, *Fitur Keamanan*, *Rekening Jago 0% (Jago Syariah)* and *RDN*.

### Sharia Banking

In 2021, Bank Jago started the process to build the infrastructure to provide Sharia-based financial services, an area we believe offers huge untapped opportunities in Indonesia. Sharia banking penetration in Indonesia is a mere 7%, far below Malaysia's 29%, Brunei (57%) and Saudi Arabia (65%).

Since they were granted our Sharia-based banking license in September last year, they have consistently posted high revenue growth.

Our Sharia-based financing rose to Rp 2.05 trillion at end-2021, from Rp 1.37 trillion at end October 2021, while funding grew to Rp 515 billion from Rp 252 billion in the same period. In February 2022, Bank Jago launched our Sharia-based app that will tap into the potential market size of 45 million Indonesians. It has been

designed to be a personal app that makes managing money simple, innovative and collaborative

### I.3 Business Issue

PT Bank Jago, Tbk (ARTO) is one of the digital banks that are listed in Indonesia stock exchange. The author chooses ARTO as the object of research because ARTO had the biggest market capitalization in digital bank sectors, at the Q1 of 2022 its market capitalization was approximately IDR 124,71 T or USD 8,6 B.

In December 2020 Gojek through PT Dompot Karya Anak Bangsa (GoPay) became a non-controlling strategic investor with an ownership portion of 22.16%. After Gojek became shareholders, ARTO's shares increased by 710% and its shares reached the highest price at IDR 19.500 on January 20, 2022.



Figure 1.5 PT Bank Jago Stock Price 03 Des 2021 - 20 Jan 2022

But after that, from January 21, 2022 to May 19, 2022, the share price decreased by 66%, the share price dropped to Rp. 6.600. The movement of stock prices that have decreased can be seen in the chart below.



Figure 1.6 PT Bank Jago Stock Price 20 Jan 2021 - Mei 2022

This final project will discuss PT Bank Jago stock performance in comparison between the end of 2020, 2021 with Q2 of 2022. The focus of this project is to evaluate and analyze stock valuations based on stock price projections and analyze the health of PT Bank Jago.

#### I.4 Research Questions

The research questions author of this final project are :

1. How is the financial health of PT Bank Jago, Tbk, in earning, terms of risk and capital factor
2. Is the stock price of PT Bank Jago, Tbk undervalued or overvalued?
3. What are the recommendations to investors, whether to buy, hold or sell the stock of PT Bank Jago, Tbk?

#### I.5. Research Objective

The author in this final project uses the point of view of the investor who will invest in the stock, the author wants to know the stock performance of PT Bank Jago, Tbk and the purpose of this paper is to measure financial ratios in terms of profitability

and this paper evaluates shares and finds out whether the stock is overvalued or undervalued and provide recommendations to investors based on the stock valuation to buy, hold or sell.

#### **I.6. Final Project Limitation**

The final project will be limited to data from the financial statement and annual report of PT Bank Jago, Tbk for analysis of financial ratio analysis and stock valuation. The research sample was taken from Bank Jago with 10 stocks, 4 from conventional banks and 6 from digital banks with big market capital ranking 2022. The data used is from the end of Q3 2017 to Q2 of 2022.

## CHAPTER II BUSINESS ISSUE EXPLORATION

### II.1 Conceptual Framework

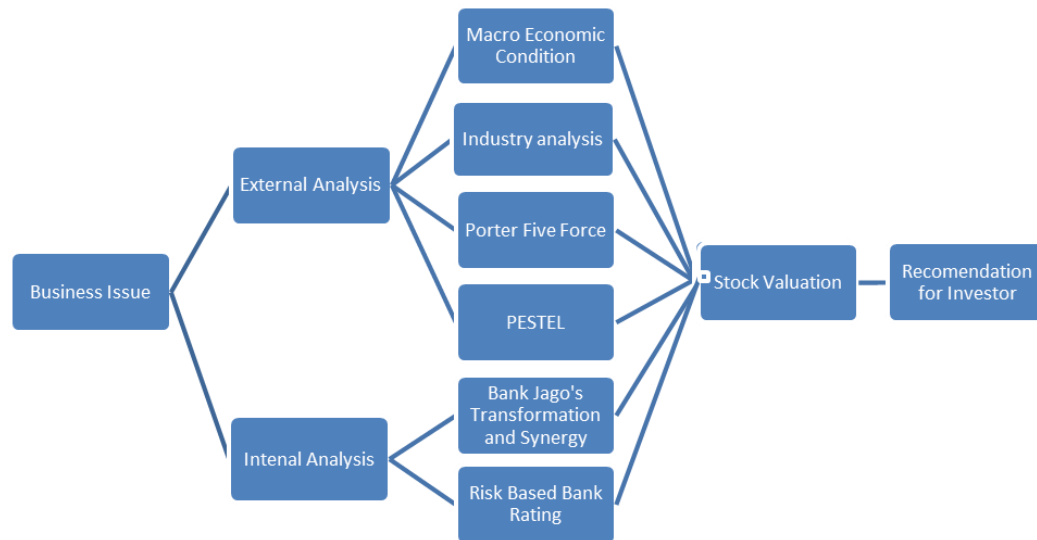


Figure 2.1 Conceptual Framework of research

Conceptual framework in Figure 2.1 used helps to guide the research process in finding solutions or providing recommendations for investors. In providing recommendations using fundamental analysis, top down analysis companies are analyzed using external analysis and internal analysis. Then conduct stock valuation so that the results can be known if the stock is undervalued or overvalued

### II.2 External Analysis

External analysis is research conducted by companies looking at the wider business environment that affects their business, things that can disrupt the company such as economic conditions both domestic and world economic conditions, competition, and environmental influences. In this case, the author of this thesis uses macroeconomic situation analysis, PESTEL and industry analysis to complete the conditions and evaluate the growth of digital banks.

#### II.2.1 Macro Economic

Looking back at 2021, while the global environment was starting to improve, uncertainty remained high. There was the spread of Covid-19's Delta and then

highly contagious Omicron strain, holding back tepid recovery as countries started to limit social mobility. Supply chain bottlenecks began to emerge, raising commodity prices and fueling inflation concerns. And finally, rising geo-political tensions have prompted countries to increasingly look inward and ultimately drive deglobalization. In Asia, it was China's ongoing trade dispute with the US, its territorial claim over the South China Sea, and its uncompromising policy towards Hong Kong and Taiwan. In Europe, it was the ominous build-up of Russian troops and armor along its western border with neighboring Ukraine.

While Indonesia felt the impact of the world's sluggish and turbulent recovery, the country was still able to grow by 3.7% in 2021. Inflation was kept at 1.9% and with the upswing of commodity prices, the country's long standing negative current account turned positive, thus strengthening the Rupiah which closed the year at Rp 14,312 per USD. The banking industry also began to grow its loans by 5.2%. Banking sector deposits grew at a higher 12.2%, thus bringing down its Loan to Deposit ratio to a very liquid 77.1%. Gross NPL (non-performing loan) remained slightly higher than usual at 3.0%, however the industry's CAR (capital adequacy ratio) stood at a strong and comfortable 25.7%.

Globally, the economic recovery is predicted to continue even though the results are lower than previously projected, plus the uncertainty in global financial markets is still high. The continuing geopolitical tensions between Russia and Ukraine, the Russian war in Ukraine has caused another disruption to global trade, resulting in weakening of trade transactions, rising commodity prices, and uncertainty in global financial markets, amid the declining spread of Covid-19. Economic growth in various countries, such as Europe, the United States, Japan, China, and India is predicted to be lower than the previous projection.

In these developments, Bank Indonesia revised its prediction for global economic growth in 2022 to 3.5%, which was previously predicted at 4.4%. The volume of world trade is also predicted to be lower in line with the slowdown in the global economy and ongoing supply chain disruptions.

Global commodity prices have increased, including energy, food and metal commodities, putting pressure on global inflation. Global financial market



uncertainty also remains high in line with continued geopolitical tensions amid the acceleration of monetary policy normalization in various developed countries, including the US, in line with rising inflationary pressures. This has led to limited prospects for foreign capital flows, particularly portfolio investment, and pressure on the exchange rate of developing countries, including Indonesia. Improvements in the domestic economy are predicted to continue in line with increasing community mobility. Until the first quarter of 2022, economic improvement will continue, supported by increased consumption, non-construction investment, and export performance in line with population mobility and improved economic activity. A number of early indicators in March 2022, such as retail sales, consumer expectations, and manufacturing PMI indicate the continued recovery of the domestic economy. Economic growth was also supported by the positive performance of various business fields, such as manufacturing, trade, transportation and warehousing, as well as information and communication industries. Spatially, the economic recovery was supported mainly by the acceleration of economic growth in Java and Balinusra, accompanied by continued good economic performance in Sulawesi-Maluku-Papua (Sulampua), Sumatra and Kalimantan. In the future, improvement in economic performance will be influenced by restrained export volumes in line with lower global economic growth and world trade due to continued geopolitical tensions between Russia and Ukraine. Improvements in domestic demand in the future will also be affected, both due to restrained export volumes and increases in global energy and food prices. With these developments, for the whole of 2022, Bank Indonesia predicts economic growth will reach 4.5-5.3%, slightly lower than the initial projection of 4.7-5.5%.

Bank Indonesia continues to strengthen policies for a cepat/fast, mudah/easy, murah/cheap, aman/safe, and handal/reliable (cemumuah) and inclusive payment system in order to encourage economic growth. Digital economic and financial transactions show rapid development in line with the increasing acceptance and preference of the public in online shopping, the expansion and convenience of digital payment systems and the acceleration of digital banking. On the non-cash side, the value of electronic money transactions (e-money) in the first quarter of

2022 was recorded to grow by 42.06% (yoy), and for the whole of 2022 it is projected to increase by 18.03% (yoy) to reach IDR 360 trillion. The value of digital banking transactions in the first quarter of 2022 increased by 34.90% (yoy), and for the whole of 2022 it is projected to increase by 26.72% (yoy) to reach IDR 51,729 trillion. Bank Indonesia continues to encourage payment system innovation, including in support of government programs and the acceleration of *Pemulihan Ekonomi Nasional* (PEN) as well as encouraging the acceleration of an inclusive and efficient *Ekonomi dan Keuangan Digital* (EKD) through a non-cash payment system policy. Bank Indonesia continues its efforts to expand BI-FAST services through mobile banking and improve communication to the public and related institutions. Synergies with the Government also continue to be carried out to encourage the acceleration of digitization of payments through the electronification of social assistance, regional government transactions, and transportation. On the cash side, currency in circulation / *Uang kartal yang diedarkan* (UYD) in the first quarter of 2022 increased by 13.58% (yoy). Bank Indonesia strengthens cash services to the public through the implementation of mobile cash service digitization (*PINTAR*), Bank Indonesia strengthens cash services to the public through the implementation of mobile cash service digitization (*PINTAR*), maintaining the availability of cash, including an additional provision of IDR 27.4 trillion to IDR 202.7 trillion during the period of Ramadan and Eid al-Fitr 1443H and strengthening institutional cooperation in the circulation of money throughout the territory of the Republic of Indonesia.

### ***II.2.2 Industry Analysis***

Lending has started to grow at a faster pace for the most part of 2021 as compared to the previous year as funding has continued to book a high growth. Lending rose 5.24% to Rp 5,769 trillion at the end of 2021, from a year earlier. In the same period, total third party funds rose 12.21% to Rp 7,479 trillion. Banks' profitability also grew as shown by better return on assets (ROA) and the ratio between operating costs and operating income (BOPO). ROA rose 26 basis points to 1.85% as per end-2021. BOPO fell by 3.0 percentage points to 83.55%, indicating higher efficiency.

Credit risks have started to decline as negative effects from the pandemic started to abate. Gross NPL fell by 6 basis points to 3.00% at end of 2021, as compared to last year.

The financial industry is increasingly diversified with the presence of digital banks and fintech. Both compete with conventional banks that were first born and established. With the issuance of OJK regulations issued a regulation POJK No. 12/POJK.03/2021, serves as the basis for the rules regarding the definition of digital banks, this also clarifies the criteria for Digital Banks in Indonesia. The competition between conventional banks and digital banks is also felt.

Any digital bank can win the competition as long as it fulfills three main conditions. First, digital banks must have the ability to access the digital ecosystem. In the past, banks with many branches and ATMs were winners, now banks with large ecosystems have a great chance of becoming winners. Second, digital banks must have products and services that suit the needs of today's and future consumers. This is because customer demands for banking services continue to increase, especially in the current digital era.

Third, digital banks must have large capital and strong human resources. This is also one of the determinants of digital banks being able to win the competition in the future.

In running the bank's business and can maintain the viability of the bank. Banks must be able to maintain income, to obtain bank income, collect public funds in the form of savings and channel them back to the community in the form of loans. Of course, the main advantage of the bank is based on the difference in interest from the interest income on loans provided with interest payments on customer deposits. In addition, other benefits also come from monthly account administration fees, money transfer transaction fees, as well as sales of insurance and investment products.

This industry analysis is used to conduct market assessments which are used by businesses and analysts to understand the competition of an industry. This analysis helps to understand what is happening in an industry, analysis that can be carried out for example the influence of external factors on the industry, ranging from the

level of competition in the industry, demand-supply, the state of industry competition with substitute industries or other new entrants, technological changes that can affect the industry's future prospects.

### ***II.2.3 Porter's Five Forces Analysis***

One of the models used for industry analysis, known as Porter's 5 Forces, was introduced by Michael Porter in his 1980 book "Competitive Strategy: Techniques for Analyzing Industries and Competitors."

#### **1) Rivalry Among Existing Firms - High**

This section looks at how competition is with banks and within their industry, competition is shaped by existing and existing banks, and intensified by the number of existing banks. and dominated by large banks such as BCA, Mandiri, BRI, BNI and BTN, in addition to the large number of customers, their branch offices are available everywhere and an ATM network. If it can be classified as a conventional bank with Digital Bank. Bank Jago is the largest for the number of digital bank market caps. The more digital banks that appear, the more new competition in the digital banking industry will increase. The existence of a digital bank is an attraction in the current era of disruption. and the prospects are so promising. Based on the description above, the strength of the company's competitive intensity in the industry in this segment is quite high. competition in the digital banking business is very tight—the same number of service providers and existing facilities as well as the low switching costs of customers from one service to another

#### **2) The Power of the Threat of New Entrants - High**

Widespread digital transactions, online shopping, adoption of digital wallets, driven by the presence of various start-ups, the wider the reach of financial technology services in shaping a new financial ecosystem.

October 2021, OJK launched a digital banking transformation blueprint to accelerate digital transformation in the national banking industry. encourage the acceleration of digital banking transformation in Indonesia. This Blueprint is expected to be the basis for developing digitalization in the national banking system

so that it is more resilient, competitive, and contributive. The prospect makes Indonesian technology companies interested in owning a mini bank which will later be transformed into a digital bank and a conventional bank that turns into a digital bank.

### **3) The Threat of Substitute Products**

Digital banks have advantages when compared to conventional banks. The reason is because digital banks can reach a wider target through the use of information technology tools. This advantage is an opportunity for digital banks to obtain funding and potential income from the side of fast fee-based income as a source of profitability. Digital banks have the advantage of reaching more customers by relying on IT infrastructure.

However, even though most people have adopted digital technology, national digital literacy is still not evenly distributed. This is the background for BRI to form a hybrid bank, which combines physical and digital services. Digital has not been able to replace cash needs directly.

According to the description above, it showed that the threat of substitute products in this segment has a substantial value because there are still many Indonesians who are not fully ready for non-cash transactions and digitization, so it takes time to become a cashless society.

### **4) Bargaining power of suppliers**

Bank Jago requires suppliers to support customer service tools such as ATM machines, information system applications, company ERP, etc. This supplier is from various supply companies that are many in number and of various types. The number of suppliers is relatively large and their customers (Banking) are few, make the level of demand for their products not too high. This too will affect the level of bargaining power of suppliers. The influence of suppliers in the banking world can be said to be low, this is different when compared to the industrial business world which has a considerable influence.

## **5) Buyer Bargaining Power**

Digital banks are starting to grow, old banks are moving to digital and there are still many users in big cities due to the uneven distribution of the internet network. create buyer position relatively more profitable because of the many alternative digital bank service providers as well as low costs and easy switching to other bank services. customers will choose services that are profitable and often provide discounts and bonuses. it can be concluded that the threat from buyers' bargaining power is high due to the many alternative service providers and low switching costs and this makes it easier for customers to switch services between digital bank service providers.

### **Key Success Factor**

In this study, critical success factors were identified from the literature. The following are the critical success factors identified in the digital banking business, namely:

#### **1) Banks with Different Perspectives**

For individual customers, Bank Jago makes financial planning and management simple, innovative, and collaborative so they can be closer to family and friends. Bank Jago also makes financial management of entrepreneurial customers easier to support their focus on growing their business.

#### **2) Qualified and Up-to-Date Technology**

Bank Jago needs to be a robust technology-based bank to support the delivery of its unique value proposition. Bank Jago utilizes advanced technology, consists of solid data analytics and AI, and generally carries out technology companies' work ethic and patterns.

That is why Bank Jago innovates quickly and integrates into the digital ecosystem. This makes Bank Jago operate at an efficient scale while ensuring the security of Bank Jago' customer data and money.

#### **3) Partnership with Ecosystem as Strength**

Bank Jago is present in the digital ecosystem of Indonesia. Bank Jago assists customers to live a more leisurely life where financial services are combined with lifestyle banking services can be accessed through applications that they often use

anytime and anywhere. Thus, the customer acquisition process for Bank Jago to achieve business scale becomes faster and more efficient.

#### 4) Talent and Work Culture at Bank Jago

Bank Jago combines competence and experience with an open mind. Bank Jago work culture combines ginger and recency like a technology company with the Bank's compliance and risk management. Thus, Bank Jago continues to broaden its horizons through cross-functional internal collaboration and all of Bank Jago's strategic partners.

### ***II.2.4 PESTEL Analysis***

Industry Analysis conduct using the PESTEL analysis, where the author identifies 6 (six). PESTLE analysis provides a framework for investigating and analyzing the external environment for an organization. The framework identifies six key areas that should be considered when attempting to identify the sources of change. These six areas are: political, economy, social culture, technology, environment, and law.

#### **1. Political Factor**

The government, OJK, and BI affirm their commitment to continue to support the development and contribution of the Fintech industry to strengthening the national digital economy through regulations that can spur the birth of digital financial service innovations, as well as being able to provide optimal protection to the community who use Fintech services and their ecosystem.

As the Government representatives, Bank Indonesia and OJK discussed the role of digital financial services to support the MSME sector. Bank Indonesia has synergized with the Government and business actors to encourage end-to-end MSME digitization efforts in various aspects, including the production side to increase productivity, expand marketing access through onboarding, and utilize digital payment transactions to increase MSMEs' competitiveness. Meanwhile, OJK has initiated the acceleration of the Digital Transformation of the Financial Services Sector, which is contained in the Master Plan for the Indonesian Financial Services Sector (MPSJKI) 2021-2025 and the Roadmap & Action Plan for

Innovation in the Financial Services Sector 2020- 2024. Throughout 2021, OJK has prepared strategic initiatives to deal with various developments and challenges in the financial services sector. One of the priorities is the acceleration of digitization and optimization of the digital ecosystem and increasing digital literacy.

## 2. Economic Factor

Banks have a role to meet domestic economic needs such as financial administration activities, money storage, use of money, money exchange and trading, money control, credit and remittances.

The Head of the Fiscal Policy Agency (BKF) of the Ministry of Finance, Febrio Kacaribu, explained that the current economic conditions were getting better, as the Covid-19 pandemic was under control in Indonesia. This can be seen from the condition of daily cases of Covid-19 which continues to decline



Figure 2.2 Indonesia's economy is getting better  
Source : covid19.go.id

With the improvement in Indonesia's economic conditions, as explained above, Indonesia's balance of trade and exports hit a record high in history.

The trade balance surplus in April 2022 reached US\$7.56 billion with export performance in the same month reaching US\$27.32 billion. This achievement has



made the Indonesian economy more resilient, considering that the trade balance is one of the main indicators in increasing foreign exchange reserves and maintaining the resilience of Indonesia's external sector.

Several countries have also shown the direction of recovery. This condition is a good thing because it will have a positive impact on Indonesia. However, there are still risks that may have to be faced, for example the Zero Covid Policy from China resulted in a contraction in its manufacturing activities and geopolitics in Russia. This is a risk that we still have to face in the context of the global economy. In addition, inflation is also something that must be considered and anticipated properly, several countries have implemented quite strong monetary policies, for example Brazil, Russia, Mexico, and South Africa in response to inflation by increasing their benchmark interest rates. On the other hand, America, even though inflation is already at 8 percent and above, has not adjusted its policy interest rate quickly. Currently, inflation in Indonesia is still relatively low when compared to many other countries, at 3.5 percent in April or still in line with the government's outlook. Even so, the Government will continue to mitigate the impact of inflation on commodity prices, both energy and food, so that the inflation transmitted to households can still be managed relatively well.

Based on the description above, it is concluded that economic factors provide opportunities for Digital Bank business because of the growth improvement in post-covid-19 economic conditions.

### **3. Socio-Cultural Factors**

Socio-cultural factors that affect providing network access are changes in people's lifestyles in adapting to internet use. The dynamics of people's lives today has given birth to a new pattern of thinking that also develops along with the progress of the times. When payment mechanisms are required to always accommodate every need of the community in terms of transferring funds quickly, safely and efficiently, payment technology innovations are emerging very rapidly. In addition, Bank Indonesia regulations are required to always ensure that any developments in the

payment system must always be within the corridor of applicable regulations. This is of course for the smooth and secure running of payment system activities.

Currently, the pandemic is changing consumer shopping preferences when transacting online. Because consumers are more active from home, the pandemic has pushed consumers to buy products that aim to increase productivity and reduce spending on non-essential products. However, the convenience offered provides convenience for the millennial generation to behave consumptive.

One of the efforts through the millennial generation culture in awareness for future financial planning is through investment. Investments are now digitized. According to Indonesia Stock Exchange data, we can see that the growth of young investors is increasing significantly every year.

Based on the description above, it is concluded that socio-cultural factors provide opportunities for Digital Bank business because of lifestyle changes that lead to digital. Many potential residents and millennials with digital literacy have made the development of Digital Banks multiply in the last two years.

#### **4. Technological Factor**

Availability of internet network coverage throughout Indonesia. The 5G network has also begun to enter Indonesia in mid-2021. Ease of internet access and a variety of mobile phone options can support the development of digital banks in Indonesia. In the 2020-2025 Indonesia Banking Development Roadmap, one of the pillars that becomes the policy direction is the acceleration of banking digital transformation. This pillar is further elaborated through the Banking Digital Transformation Blueprint. The Blueprint for Digital Banking Transformation was prepared by prioritizing the principle of balance between digital banking innovation and prudential aspects to maintain banking performance in a healthy condition (prudent, safe, and sound banking). In addition, this Blueprint also carries the principle of technology neutral, which does not regulate technical aspects related to technology. The Banking Digital Transformation Blueprint contains 5 (five) main elements, namely data, technology, risk management, collaboration, and institutional arrangements that need to be considered in the banking digital transformation

process. The Blueprint for Digital Banking Transformation will provide a more concrete reference for future banking digitalization in the context of accelerating digital transformation, as well as a policy response to mitigate various challenges and risks from banking digital transformation. The implementation of this Blueprint is expected to encourage national banks to be more resilient, competitive, and contributive.

Digital transformation requires banks to change their management and operational patterns. The shift from the traditional bank concept to the future bank encourages the Bank, among others, to adjust its business strategy, reorganize the distribution network, encourage banking transactions through digital channels (mobile app and internet) including the use of the latest electronic banking devices, in an effort to improve customer experience (end-to-end banking). to-end digital solutions).

In addition, these technological advances can be used by bad people to commit fraud in the form of social engineering. A number of loopholes are used by fraudsters in targeting victims. Fraudsters or hackers redirect from legitimate sites to fake sites without the victim knowing and realizing, those who don't double check and immediately trust every email, chat, and call they receive will be the easiest targets targeted by fraudsters. This can give a bad impression in the development of digital banks.

## **5. Environmental Factor**

The author did not find issue about environmental factor

## **6. Legal Factor**

The function of banking regulation and supervision is transferred to the OJK. The DPR passed Law No. 21 of 2011 concerning the Financial Services Authority /*Otoritas Jasa Keuangan (OJK)* which transferred the functions of banking regulation and supervision from Bank Indonesia to OJK. OJK issued a regulation POJK No. 12/POJK.03/2021 that has become the legal covering for digital banking. Regulation numbered POJK No. 12/POJK.03/2021 contains 19 chapters and 160 articles. One that is regulated in the POJK number is a digital bank listed in Chapter

IV of this rule. In more detail, OJK allows Digital Banks to operate only 1 physical office as the Head Office. Digital Banks may operate without physical offices or may use limited physical offices.

In this regulation, OJK also stipulates that the establishment of a digital bank can be done with 2 options, firstly the establishment of an Indonesian Legal Entity Bank / *Bank Berbadan Hukum Indonesia (BHI)* to become a digital bank or transformation from a commercial bank to a digital bank.

If the first option is taken, the establishment of a digital bank is the same as the establishment of BHI, namely a minimum paid-up capital of IDR 10 trillion. However, there is also a special regulation, namely that the capital deposit at the time of application for approval in principle for the establishment of a digital bank can be fulfilled at least 30%, which is IDR 3 trillion. in this case bank Jago must meet the funds according to the rules for the establishment of the bank. Based on the explanation above, it can be shown that legal factors threaten the digital bank business.

### **II.3 Internal Analysis**

Internal analysis conducted to PT Bank Jago, financial performance through financial ratio analysis.

#### ***II.3.1 Bank Jago's Transformation into a Digital Bank.***

PT Bank Artos Indonesia issued new shares on the IDX, and changed its name to PT Bank Jago Tbk, with a focus on becoming a technology-based digital bank. At the end of the year, PT Dompot Karya Anak Bangsa (GoPay) became a 22.16% shareholder.

The direct change is shown by the number of customers of PT Bank Jago Tbk (ARTO) increasing dramatically to reach 1.4 million by the end of 2021. Of this number, 99% of Bank Jago's customers come from digital acquisitions.

During the second quarter of 2021, the number of Bank Jago customers was still at 110 thousand. However, the number consistently rose to 580 thousand (quarter 3/2021) and 1.4 million (quarter 4/2021).

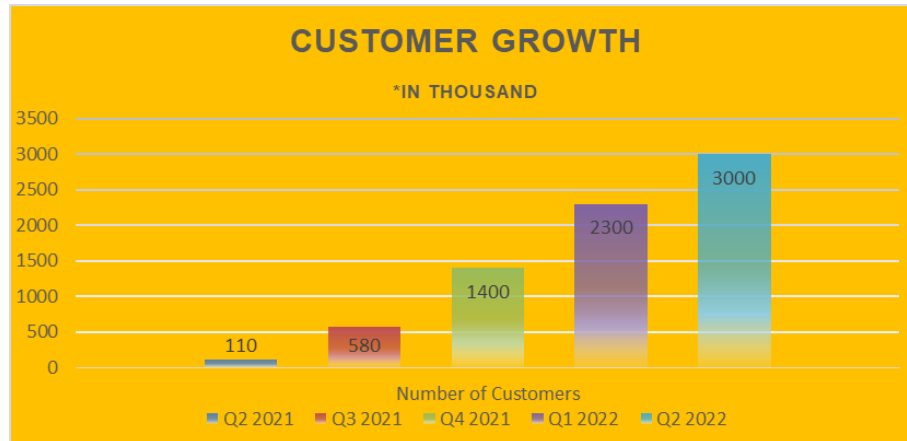


Figure 2.3 Customer Growth Bank Jago,

Source : Analysis

The increase in the number of Bank Jago customers throughout 2021 was followed by an improvement in the company's performance. Throughout 2021, Bank Jago managed to record a net profit of IDR 86 billion and its assets grew 465% annually to IDR 12.31 trillion. Bank Jago's funding grew 4.5 times on an annual basis from Rp800 billion as of 2020 to Rp3.7 trillion at the end of 2021. Then, the company's credit distribution grew 491% YoY to Rp5.37 trillion as of the end of 2021.

Credit quality is still very good, our NPL is still very low below 1%. Cost of Funds (CoF) also decreased from 4.5% in 2020 to 3.2% in 2021. With this achievement, ARTO managed to record a net interest income of IDR 590 billion or grew 812% yoy.

The number of funding customers until the end of March 2022 reached 2.3 million customers. Public interest in saving their funds in digital banks continues to increase. The Deposit Insurance Corporation (LPS) reported that the number of deposit accounts at digital banks reached 38.2 million in May 2022. This value increased by 8,238.4% yoy.

Most recently, in June 2022, the number of customers increased to 3 million, the number of customers of the issuer codenamed ARTO grew more than 100 percent in 6 months or recorded 1.4 million customers at the end of 2021.

### ***II.3.2 Bank Jago and Gojek collaboration.***

Gojek is a leading technology company in Southeast Asia, pioneering the Super App model and integrated ecosystem. Since its inception in 2010, Gojek started its journey with courier services for delivery of goods and two-wheeled transportation. The Gojek application was first launched in January 2015 in Indonesia, and has now developed into the leading Super App in Southeast Asia, offering a variety of services ranging from transportation and digital payments, food delivery, logistics, and various other on-demand services.

Gojek now operates in 207 cities in five countries in Southeast Asia. As of the fourth quarter of 2019, the Gojek application and ecosystem have been downloaded nearly 170 million times by Gojek users in Southeast Asia. Launching data from App Annie '2020 State of Mobile Report', Gojek became the most widely used on-demand application by Indonesian people throughout 2019.

As a Super App, Gojek is committed to continuing to offer smart ways to solve problems that people face on a daily basis, while helping to improve the quality of life for millions of people using the Gojek application in Southeast Asia, especially in the informal sector and Micro, Small and Medium Enterprises (MSMEs). In line with its mission to simplify daily life and create positive social impact on a large scale for users, driver partners, service provider partners, as well as business partners and MSMEs in its ecosystem, in August 2019 Gojek ranked 11th out of 52 international companies. and being the only company from Southeast Asia to enter Fortune Magazine's 2019 World Changing Companies list for the second time (Fortune's "Change the World" 2019). The Gojek application is available for download via iOS and Android.

After Gojek became a shareholder of Bank Jago, in December 2020, several projects had been implemented. Gojek, an on-demand service application and leading payment service provider in Southeast Asia, invests in PT Bank Jago Tbk. This corporate action is part of a long-term investment plan and strategic partnership to accelerate financial inclusion in Indonesia.

July 2021, the initial stage introduced by Gojek as a collaboration with Bank Jago is the Jago Pocket, the Jago Pocket can be used as a source of funds to pay for various services such as transportation, food, and bills in the Gojek application.

November 2021 Gojek announced a new service integration that will enable the Indonesian public to open a Jago bank account directly from the Gojek application. This integration between an on-demand platform and a digital bank is the first of its kind in Indonesia, and will provide convenient access to digital banking for the millions of unbanked and underbanked consumers in the country.

The service is available to all consumers in Indonesia with a verified GoPay account and the Gojek application, with no fees or minimum balance required to open a Jago bank account. Once their accounts are opened, GoPay Jago users will not have to pay any top-up fees when moving funds between GoPay and Jago, giving them greater benefits and convenience in managing their finances. Bank Jago's customer growth in Q4 2021 was 1.4 million and in Q2 2022 the number of customers grew to 3 million customers.

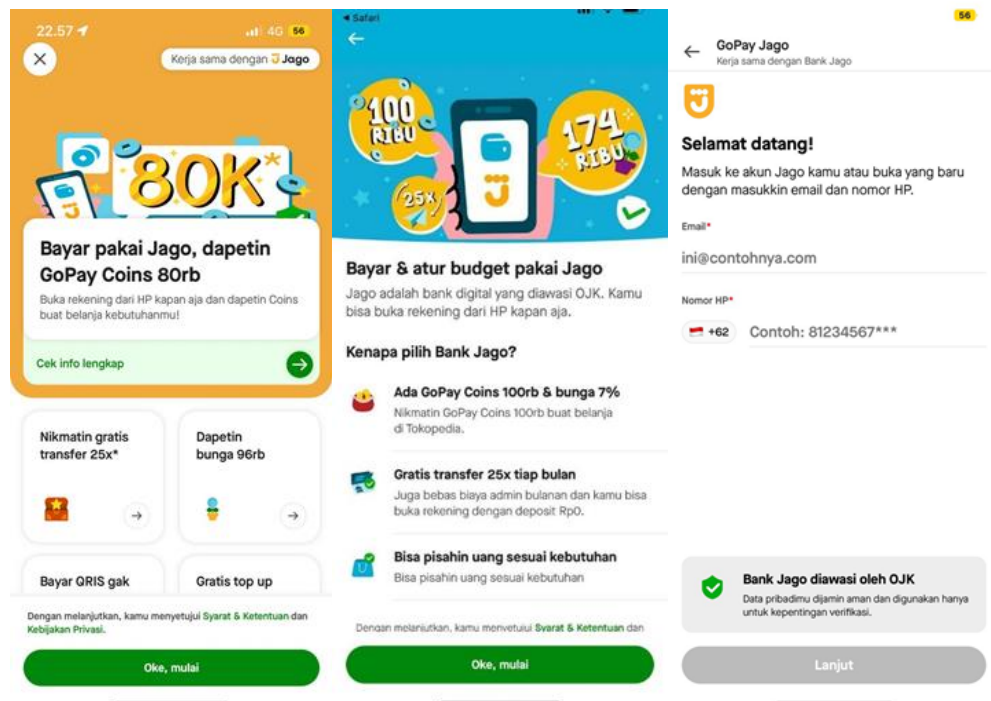


Figure 2.4 Gojek Application for Indonesian public to open a Jago bank account

The strategic decision by the shareholders and management to transform Bank Jago into a tech-based bank, synergy with gojek and began to work together with ecosystem partners has come to fruition . In 2021, the bank swung to net profit of Rp 86 billion, after loss-making episodes in six previous years. This remarkable turn-around is testament to the management's capability and the efficacy of the bank's business model.

Bank Jago's stock performance increased by 669.77% in 2021. At the end of 2020 the share price was Rp. 1,770 per share and at the end of Rp. 13,625 per share.

#### Share Performance

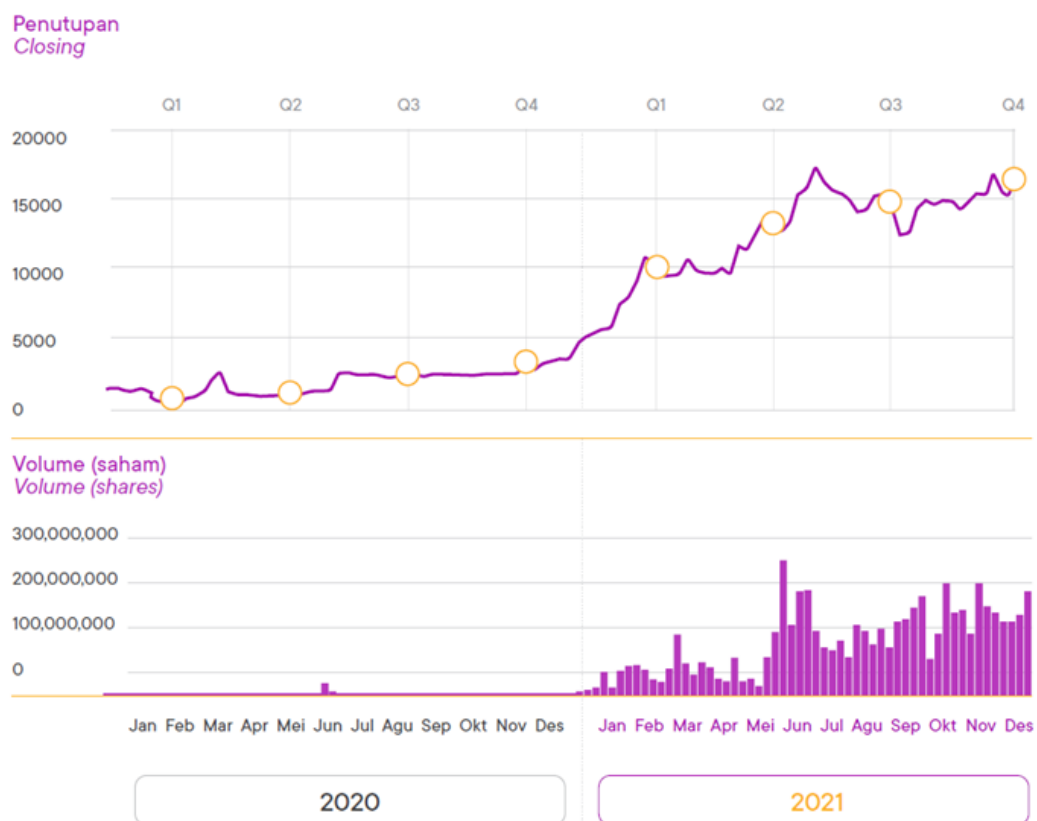


Figure 2.5 Share Performance and Volume Bank Jago

The collaboration also boosted the number of customers and the growth of third party funds (DPK) grew by 253% to Rp6.1 trillion year on year (yoy). The growth of third party funds and their composition can be seen in graph 4.



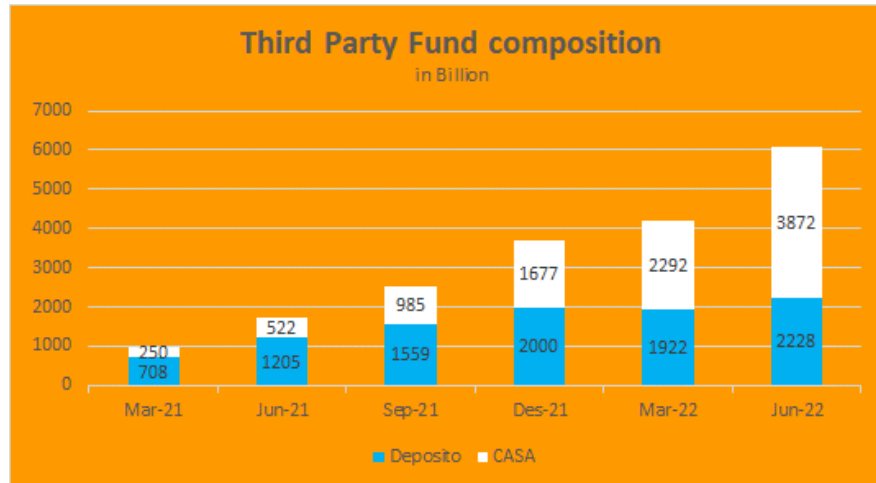


Figure 2.6 Third Party Fund Composition

Source : Analysis – Annual Report

On a year-to-date basis, TPF grew 65.9% compared to the end of 2021 which was recorded at Rp3.68 trillion. In more detail, current account savings accounts (CASA) increased 643% yoy to Rp3.87 trillion, while time deposits grew 85% to Rp2.23 trillion. This has made the cost of funds structure better as reflected in the ratio of CASA to total TPF reaching 63%.

Positive performance was also shown in the disbursement of Islamic loans and financing which grew 234% yoy to Rp7.3 trillion at the end of Q2-2022. In terms of ytd, lending and sharia financing increased by Rp1.9 trillion or grew 35% compared to the end of 2021 which was recorded at Rp5.4 trillion.

The increase in CASA managed to keep interest expenses and sharia expenses low, at Rp64 billion in the second quarter of 2022. Meanwhile, Bank Jago's interest income and sharia income increased 340% to Rp705 billion in the second quarter of 2022. Thus, net interest income was recorded at Rp641 billion or grew by 361% yoy. Net profit after tax until the second quarter of 2022 was IDR 29 billion, in contrast to the second quarter of 2021 which still recorded a loss.

The high growth in deposits has encouraged the improvement of the liquidity ratio or loan to deposits ratio (LDR) to 119% at the end of the second quarter of 2022 from 146% at the end of 2021. Bank Jago recorded a NIM of 10.8% and has a capital adequacy ratio (CAR) 110%, strong enough to support future business

expansion. Until the end of June 2022, Bank Jago recorded total assets of Rp. 14.6 trillion, grew 44.8% compared to the same period the previous year.

### ***II.3.3 Bank Healthy Analysis***

In accordance with Law Number 7 of 1992 concerning Banking as amended by Act Number 10 of 1998, Banks are required to maintain their health. The soundness of the Bank which is a reflection of the condition and performance of the Bank is a means for the supervisory authority in setting strategy and focus supervision of the Bank. In addition, the health of the Bank is also in the interest of all related parties, both owners, managers (management), and the public who use the Bank's services. In accordance with the development of the Bank's business which is always dynamic and affects the level of risk faced, the Bank Soundness Level assessment methodology needs to be refined in order to better reflect the current condition of the Bank and in the future. These adjustments need to be made so that the assessment of the Bank's Soundness Level can be more effectively used as a tool to evaluate the Bank's performance, including the implementation of risk management with a focus on significant risks, and compliance with applicable regulations and the application of prudential principles.

Bank Indonesia has established a risk-based bank soundness rating system in PBI No. 13/1/PBI/2011 (Bank Indonesia, 2011) which was converted by Otoritas Jasa Keuangan in 2016 into SAL POJK No.4/POJK.03/2016 (Otoritas Jasa Keuangan, 2016a) regarding the assessment of the soundness of commercial banks using a risk approach Risk Based Bank Ratings (RBBR). This Risk Based Bank Rating method covers four factors, namely risk profile, Good Corporate Governance (GCG), profitability (earnings) and capital or abbreviated as RGEC. This regulation replaces the CAMELS Assessment which was previously regulated in PBI No.6/10/PBI/2004 (Bank Indonesia, 2004). Based on the latest regulations for this internal analysis, the author uses the RBBR method as a bank health analysis

### ***II.3.3.1 Risk Based Bank Rating (RBBR)***

One method used to measure a bank financial performance is the Risk-based Bank Rating (RBBR) approach, banks are required to perform self-assessment using the RBBR approach as means for the Financial Services Authority to monitor the soundness of the bank (*Otoritas Jasa Keuangan*, 2016).

RBBR can also be used to determine the health of a bank. Bank health is of interest to all parties (stakeholders), namely bank owners, bank management, the public as bank service users and the government as a regulator. Intended as a benchmark for bank management, whether they run the bank's business in accordance with applicable regulations, so as to avoid problems that occurred in the past. Public trust and monetary stability in Indonesia are factors that are affected by this

In *Otoritas Jasa Keuangan* regulation No. 4 /POJK.03/2016, it is stated that banks are required to assess the soundness of banks using a risk approach (Risk Based Bank Rating) both individually and in consolidation. In this method there are several indicators as a reference, namely:

The scope of the assessment includes:

- Risk profile - assessing inherent risk and implementing risk management in bank operations against 8 identified risks.
- Good corporate governance conducts as a benchmark for performance and governance in bank management and can be used as a factor in getting solutions when banks experience obstacles in company management..
- Earnings - used as a measure of bank profitability can be adequate for the viability of bank operations.
- Capital - used as a measure of the ability of banks to provide minimum capital owned by banks in managing bank assets that contain risks, such as credit risk, market risk, and operational risk.

Based on risk profile factor using the calculation of credit risk, market risk and liquidity risk. The GCG factor takes into account the assessment of the implementation of self-assessment. Earning factor or profitability is measured by indicators of profit before tax to total assets (ROA), net interest income to total

assets (NIM). Capital factor is measured by the CAR ratio. With the RGEC method, overall it has a very healthy predicate

### ***II.3.3.2 Risk profile***

According to *Otoritas Jasa Keuangan* No. 4/POJK.03/2016 risk profile is an assessment of the inherent risk and quality of risk management implementation in bank operations which is carried out on 8 (eight) risk namely: credit, market, liquidity, operational, legal, strategic, compliance and reputation risks.

#### **a. Credit Risk**

Credit risk is the potential financial loss resulting from the failure of the borrower or counterparty to fulfill their obligations in accordance with the agreement. Credit risk exposure to the Bank arises primarily from lending activities. Credit risk exposure can also increase due to the concentration of credit on certain debtors, geographical areas, products, types of financing or business fields. The purpose of credit risk management is to control and manage credit risk exposures within acceptable limits, while maximizing risk adjusted returns. The Bank regularly monitors during lending. Before deciding credit, first ensure Legal Lending Limit (LLL), collateral adequacy, the credit facility and documentation so that this decision can be maximized. Bank also monitors the development of the loan portfolio periodically which allows for timely preventive action in the event of a decline in credit quality.

Maintaining credit quality and supporting the national economic recovery program, Bank Jago issued policy and regulations related Credit facility restructuring policy for debtors affected by Covid-19 as a follow-up Regulation of the Financial Services Authority of the Republic of Indonesia Number 17/POJK.03/2021 concerning the Second Amendment to the Regulation of the Financial Services Authority Number 11/POJK.03/2020 concerning National Economic Stimulus as a Countercyclical Policy for the Impact of the Spread of Coronavirus Disease 2019 dated September 10, 2021.

Bank Jago always applies risk management discipline in terms of lending which caused the NPL ratio to be under control at the level of 0.58% at the end of 2021, lower than the Bank's risk appetite at the level of 4%. For restructured loans, loans restructured in 2021 decreased to Rp 35 billion or decreased by 58% compared to 2020 of Rp 84 billion. So, total restructured loans decreased significantly to only 0.65% of the total loan portfolio of Bank Jago. Bank Jago also measures the Loan at Risk (LAR) ratio to describe a wider scope of credit risk. LAR is the sum of loans with 'Non-performing Loans (NPL)', 'In Special Mention' and restructured loans with 'Current' collectibility. Bank Jago's LAR in 2021 is at the level of 6.41% if it includes credit restructuring due to Covid-19 or 6.07% if not including credit restructuring due to Covid-19. Bank Jago continues to monitor the condition of the debtors who has restructured the loan. In this regard, Bank Jago established an allowance for impairment losses of Rp 127 billion in 2021, an increase 46% from IDR 82 billion in 2020. This is one of the steps taken by Bank Jago in anticipating increased credit risk in the midst of uncertainty. The ratio of allowance for impairment losses to LAR is at the level of 13,7% if it includes credit restructuring due to Covid-19 or 14,2% if it does not include credit restructuring due to Covid-19. In managing the credit portfolio (including concentration risk), Bank Jago always pays attention and evaluates the implementation of diversification of lending to industrial sectors that have good business prospects and performance, granting limits for certain financing.

#### b. Market Risk

Market risk is the risk on the balance sheet and administrative account positions, including derivative transactions, due to overall changes in market conditions, including the risk of changes in option prices. What is meant by market factor is the exchange rate, interest rates, stock prices and commodity prices. The objective of market risk management is to manage and monitor market risk exposures using acceptable parameters and at the same time optimize revenue. Market risk may occur in the banking book or the trading book. In the trading book, the impact of market risk directly affects the income statement. Meanwhile in the banking book,

market risk indirectly affects the NII (net interest income), economic value and capital

In carrying out market risk management, the implementation of the powers and responsibilities of the Board of Commissioners and the Board of Directors has been carried out including the implementation of the authority to grant approval limits for treasury transactions in accordance with the limits of the authority of each limit holder. In 2021 the Bank does not face volume risk and portfolio composition related to market risk because the bank has a non-foreign exchange status and does not carry out transactions in financial assets that are trading book.

Interest rate risk is the probability loss that may occur from adverse movement in market interest rates compared to the Bank's position or transaction. Banks may face market risk related only to interest rates, however, with high liquidity reserves (securities balances and placements with other banks) originating from bank capital, Bank Jago has the flexibility to make adjustments to the accumulation of funds (reduction in deposit interest rates).

#### c. Liquidity Risk Management (LIQA)

Liquidity risk is the risk due to the Bank's inability to meet its obligations from cash flow funding sources, and/ or from high quality liquid assets that can be used as collateral, without disrupting the activities and financial condition of the Bank. There are two types of liquidity risk, i.e. funding liquidity risk and market liquidity risk. Funding liquidity risk refers to the risk of not being able to acquire funds at a reasonable cost within a reasonable period of time to meet financial liabilities. Meanwhile, market liquidity risk arises when certain assets cannot be converted into cash at a fair price within a reasonable period of time. As it may have an impact on funding liquidity risk, market liquidity risk must be taken into account when assessing funding liquidity risk. The main objective of risk management for liquidity risk is to minimize the possibility of the Bank's inability to obtain cash flow funding sources.

In liquidity management, the Bank manages and monitors the reserve requirements (GWM), Macprudential Liquidity Buffers (PLM), and Giro RIM with Bank Indonesia which are maintained in accordance with regulatory provisions. Risk Management Directorate monitors and reports on risk appetite and risk tolerance on a regular basis to the Risk Management Committee.

#### d. Operational Risk

Operational risk is the risk due to the inadequacy and/ or failed internal processes, human error, system failure, and/or the occurrence of external events affecting the operations of the Bank. The Bank's objective in managing operational risk is to prevent or minimize the impact of these risks which may result in financial losses and damage the reputation of the Bank. Operational risk can lead to financial loss directly or indirectly and cause potential lost opportunities for profit. The Bank's approach to operational risk management is to determine a mitigation strategy in order to obtain an optimal balance between operational risk exposure, control mechanism effectiveness, and risk appetite creation as one of the bank's strategies by implementing consistent implementation of the Operational Risk Management framework ("ORM").

The implementation of the Operational Risk Management framework at the Bank is carried out in an integrated ORM process consisting of: 1. Identification and analysis of risks inherent in new and modified products, services, systems and processes, as well as ensuring the adequacy of preventive controls over the entire process. 2. Measuring risk at the operational unit level. 3. Risk monitoring through the preparation of periodic reports to management to identify problems that arise due to weaknesses or failures in the implementation of the control function. 4. Risk control is carried out, among others, by ensuring the availability of operational policies and the adequacy of controls in all operational procedures to mitigate operational risks, including emphasizing the importance of preventive controls and early detection mechanisms for operational risk exposure. To improve the quality

of operational risk management, the bank already has a regular forum, each of which discusses risk management specifically, namely:

- HR (People Risk Forum)
- IT (Tech Risk Forum)
- Fraud (Fraud Risk Forum)
- Banking Operations (Banking Operational Forum)

This forum aims to be a forum for coordination of prevention and monitoring of issues related to operational risk. The results of these forums were escalated as material for the Risk Management Committee and the Risk Monitoring Committee.

#### e. Reputation Risk

To maintain reputation risk related to customer complaints, banks use the Customer Complaint Registration system to record all contact processes with customers through contact points, whether in the form of inquiries regarding product or account information (inquiry), requests for service facilities, and related services. by means of providing feedback on the quality of bank services (feedback). The process of submitting consumer complaints and their handling (complaint handling) has been socialized and started to be used at an early stage by Contact Center agents who operate 24 hours a day and 7 days a week. In addition, reputation risk limits have been set and the implementation has been monitored, including SLAs to respond to customer complaints

In managing reputation risk in times of crisis, Bank Jago has:

- Have Crisis Management, which includes
- Crisis Management Policy, namely a strategy used to manage crises or events that interfere with service operations and / or worsen the reputation of Bank Jago.



- Formation of a Special Team (Crisis Management Team) which is responsible for coordinating the crisis management process including the recovery process.
- Crisis Communication Management, which is an action to coordinate crisis communication to internal and external parties of Bank Jago, including the mass media. At all stages of the crisis, the communication protocol flow and the person in charge of communication have been arranged.
- Owned a Communication Crisis Management Manual, which is a strategy used to manage communication crises or events that can have a negative impact on the company's reputation - Owned a business continuity plan and a disaster recovery plan designed to minimize disruption and speed up the recovery process in the event of a disaster.
- Owned a Secondary Operation Center which is a backup work area for critical work units to maintain the continuity of the Jago Bank's business. • Owned a back up system to prevent high risk business failure.

#### f. Strategic Risk

In the future, Bank Jago will become a bank that will serve the middle and lower segments in the market pyramid (“mass market”) by becoming a technology-based bank and making Bank Jago a stronger and sustainable bank.

In order to identify and respond to changes in the business environment, both external and internal, the Bank is good at:

- Regular RBB review in accordance with business developments and the state of the Indonesian economy. In the event that it is necessary to update the strategic plan and business initiatives in response to changes in the business environment, the Bank can prepare a Revised RBB with due observance of the prevailing regulations.
- Setting targets on business aspects taking into account the current economic conditions as well as the forecast for the coming year by emphasizing the principle of prudence, taking into account the capacity / capacity of Jago Bank and the trend of competition from banking and non-banking. The determination

of the Bank Jago strategy is formulated with due observance of Bank Indonesia and Financial Services Authority regulations as well as other related provisions and takes into account the impact of strategic risk on Bank capital and Capital Adequacy Ratio (KPMM) and is based on risk appetite, risk tolerance and consideration of Bank Jago's ability.

In the implementation of strategic risk management, active supervision is carried out by the Board of Commissioners and the Board of Directors through the Risk Management Committee and the Risk Monitoring Committee. The Board of Commissioners and the Board of Directors fully understand the strategic risks faced by the Bank and always provide clear directions

#### g. Compliance Risk

Compliance Risk Management Organization, The organization and duties and responsibilities of implementing the compliance function are as follows:

##### - Board of Commissioners

In ensuring the implementation of the compliance function runs well, the board of commissioners carries out active supervision of the implementation of the compliance function, among others, through the Risk Monitoring Committee and provides an evaluation of the implementation of the compliance function. •

##### - Directors

The Board of Directors has the duty and responsibility to foster and realize the implementation of a Compliance Culture and ensure the implementation of the Compliance Function at all levels of the organization and business activities

##### - Director in charge of Compliance Function

The Director in charge of the Compliance Function is responsible for formulating a compliance culture strategy, establishing compliance systems and procedures, minimizing compliance risk and ensuring that all policies, regulations, systems and

procedures implemented by the Bank are in accordance with prevailing laws and regulations.

- Compliance Work Unit (Compliance Unit and AML & CFT Unit)

The Compliance Unit assists the Director in charge of the Compliance Function in carrying out his duties and responsibilities independently in the implementation of the Compliance Function, as well as ensuring and evaluating the AML-CFT program that has been determined by the Bank in accordance with applicable regulations.

- Head of Work Unit

Head of Work Units are responsible for realizing a Compliance Culture in their respective Work Units, managing compliance risk and ensuring that their work policies and procedures are in accordance with applicable regulations

#### h. Legal Risk

Legal risk is the risk due to weaknesses in juridical aspects which are caused by, among other things, weak contracts, absence and/or changes in laws and regulations that cause a transaction that has been carried out to be incompatible with the provisions to be issued, and litigations that arise from either a third party against the Bank, or vice versa. The engagements carried out by the Bank in lending, funding, and other business engagements have been carried out properly and have sufficient legal force. Agreements for Bank transactions/products that have not been regulated by law on the total number of Bank agreements have the following conditions:

- a. All applicable legal regulations must not be violated.
- b. Regulatory approval must be sought after (whenever required).
- c. Legal opinion/internal memo must be prepared by the Internal Legal Division.

In 2021, legal risk rating remain low.

Table 2.1 Bank's risk profile end of 2021

| Risk Profile     | Assessment per position |              |
|------------------|-------------------------|--------------|
|                  | Inherent Risk Rating    | KPMR Rating  |
| Credit Risk      | Low To Moderate         | Satisfactory |
| Market Risk      | Low                     | Satisfactory |
| Liquidity Risk   | Low                     | Satisfactory |
| Operational Risk | Low To Moderate         | Satisfactory |
| Legal Risk       | Low                     | Satisfactory |
| Strategic Risk   | Low To Moderate         | Satisfactory |
| Compliance Risk  | Low To Moderate         | Fair         |
| Reputation Risk  | Low To Moderate         | Satisfactory |

Source : Annual Report 2021 PT Bank Jago

Based on the results of self-assessment, in 2021, the individual risk profile rating of Jago Bank is “low to moderate”. The risk profile rating is the result of an assessment of the inherent risk rating of “low to moderate” and the “satisfactory” risk management implementation quality rating. Based on the results of the prudential meeting with the OJK in 2021, the assessment of Bank Jago's risk profile is also “low to moderate”.

This study also measures credit risk using the ratio of Non Performing Loans (NPL) and Loan to Deposit Ratio (LDR) to measure liquidity risk.

- Credit risk using the Non Performing Loan (NPL) ratio is calculated by the formula:  $NPL = (\text{Non-performing Loans}) / (\text{Total Credit}) \times 100\%$

Table 2.2 Non-Performing-Loans (NPL) Criteria

| Rank | Category      | Criteria              |
|------|---------------|-----------------------|
| 1    | Very Healthy  | $NPL < 2\%$           |
| 2    | Healthy       | $2\% \leq NPL < 5\%$  |
| 3    | Quite Healthy | $5\% \leq NPL < 8\%$  |
| 4    | Less Healthy  | $8\% \leq NPL < 12\%$ |
| 5    | Unhealthy     | $NPL \geq 12\%$       |

Source : BI Circular Letter No. 13/24/DPNP-2011

- Liquidity risk using the Loan to Deposit Ratio (LDR) is calculated by the formula:

$$\text{LDR} = (\text{Amount of Credits Disbursed}) / (\text{Third Party Funds}) \times 100\%$$

Table 2.3 Loan to Deposit Ratio (LDR) Criteria

| Rank | Category      | Criteria                        |
|------|---------------|---------------------------------|
| 1    | Very Healthy  | $\text{LDR} \leq 75\%$          |
| 2    | Healthy       | $75\% < \text{LDR} \leq 85\%$   |
| 3    | Quite Healthy | $85\% < \text{LDR} \leq 100\%$  |
| 4    | Less Healthy  | $100\% < \text{LDR} \leq 120\%$ |
| 5    | Unhealthy     | $\text{LDR} > 120\%$            |

Source : BI Circular Letter No. 13/24/DPNP-2011

#### ***II.3.3.3 Good Corporate Governance (GCG)***

By analyzing the Good Corporate Governance report based on Bank Indonesia Regulation No.13/1/PBI/2011 by looking for the published annual report and determining the assessment carried out by the bank based on the self-assessment system.

Table 2.4 Criteria for Determining GCG Ratings (self-assessment)

| Rank | Category   |
|------|------------|
| 1    | Very Good  |
| 2    | Good       |
| 3    | Quite Good |
| 4    | Less Good  |
| 5    | Not Good   |

Source : BI Circular Letter No. 15/15/DPNP 2013

In accordance with OJK regulations, the Bank periodically conducts self-assessments of the adequacy of its GCG implementation measures. The following

report details the results of the Bank's GCG implementation self-assessment, dated 31 December 2021.

Table 2.5 Governance Implementation Self-Assessment Result

|            | Rating | Rating Definition |
|------------|--------|-------------------|
| Individual | 2      | Good              |

Source : Annual Report 2021 PT Bank Jago

The Bank's governance implementation in general is deemed Good, in light of its performance in the following governance aspects:

#### A. Governance Structure

1. Bank Jago's BOC and BOD are adequate in terms of number and composition. Each member of the BOC and BOD always implements their competence and integrity in carrying out their duties and responsibilities in all aspects of the Bank's business activities.
2. The BOC of the Bank is sufficient in terms of structure, qualifications, independence, and competence of the Committees.
3. The Bank has a Director in charge of the Compliance function and an independent Compliance Unit. The Compliance Director is responsible for submitting all policies, regulations, systems and procedures as well as business activities carried out by the Bank in accordance with the prevailing laws and regulations.
4. The Bank has an adequate organizational structure to support the implementation of risk management and internal control by establishing a Risk Management, Compliance and Risk Management Committee which has been run effectively and supported by competent personnel in their respective areas.

5. The Bank's Internal Audit Unit has prepared an audit plan and regularly updates the audit charter. Currently, the Internal Audit unit is in the process of reviewing policies and procedures to support an independent organizational structure.

6. In providing related party funds and providing large funds, the Bank has a Risk Management Policy, Credit Policy, Business Operational Procedures including monitoring and handling of non-performing loans.

7. The Bank's strategic plan has been prepared in the form of a Corporate Plan and a Business Plan that is aligned with the vision and mission of the Bank and is fully supported by the Controlling Shareholders as reflected in their effort to strengthen the Bank's capital.

## **B. Governance Processes**

1. The BOC has carried out its supervisory function through the holding of BOC meetings to monitor the performance of the BOD, including providing strategic direction and streamlining the functions of the committees that support the implementation of their duties and responsibilities.

2. The BOD in managing the Bank acts within their given authority and responsibilities, and in compliance with the prevailing laws and regulations, and is able to act independently and implement the GCG principles in every business activity.

3. Implementation of committee duties and responsibilities has been effective and in accordance with the respective committees charters in providing support for the implementation of the duties and responsibilities of the BOC and the BOD.

4. In implementing the Compliance culture, the BOD including the Compliance Director and the Compliance Unit have carried out their duties and responsibilities effectively.

5. The Internal Audit audit plan is carried out by considering the risks inherent in each unit (risk based audit) including business developments.

6. The process of implementing GCG principles related to the implementation of risk management is reflected in the supervisory function of the BOC through the Risk Monitoring Committee meetings, which have established, approved, and evaluated the Risk Management Policy. The BOD has performed its functions through the implementation of a risk culture which, among others, is demonstrated by setting the Lending Limits, recruiting qualified employees to complete effective risk management tasks, and carrying out adequate certification in accordance with the areas handled, establishing the necessary policies and procedures, and determining products and new activities in the Bank Business Plan.

7. The Bank has implemented the principle of transparency on financial and non-financial conditions to stakeholders, including transparency of bank products and mechanisms/procedures for managing customer complaints.

8. The Bank has prepared and submitted the Bank's Corporate Plan based on OJK regulations on the Bank Business Plan (RBB), which has taken into account external and internal factors based on the prudential banking principle and sound banking.

### **C. Governance Outcome**

1. The supervisory function of the BOC on the performance of the BOD has been effective and supported by strict monitoring of internal control systems and risk management, playing a role in encouraging the Bank's efforts to further its strategic initiatives and targets.

2. The results of Committee meetings have been proposed as recommendations to aid the BOC's decision-making.

3. The Bank has submitted a compliance implementation report in accordance with OJK provisions, which covers the time of submission and reporting coverage as



well as a compliance culture in decision-making, and which in the Bank's operational activities, has been adequately performed.

4. The Internal Audit unit has performed its functions objectively and independently.

5. Implementation of strong risk management and internal control has played a role in reducing risks that may result in financial and non-financial losses, which in turn has boosted the Bank's excellent performance in implementing the established strategy.

6. The Bank has consistently implemented the LLL regulations by taking into account the capacity of capital and the distribution/diversification of its portfolio as regards provision of funds. Provision of funds to related parties and provision of large funds (large exposures) have been properly monitored to anticipate all conditions that violate provisions set by the regulators.

7. The Bank has submitted financial and non-financial reports including GCG implementation reports in a timely manner, and whose coverage is in accordance with applicable regulations. The Bank implements transparency of information regarding products and the use of customer personal data as well as mediation in order to resolve customer complaints.

8. The governance outcome aspect related to the Bank's strategic plan has been well implemented by the Bank, among others, the Bank's strategic plan is supported by an adequate infrastructure capacity enhancement to accommodate business expansion in terms of human resources, information technology, policies and procedures as well as risk management.

The supervisory function of the BOC on the performance of the BOD has been effective and supported by strict monitoring of internal control systems and risk management. The results of Committee meetings have been proposed as recommendations to aid the BOC's decision-making. The Bank has submitted a compliance implementation report in accordance with OJK provisions, which covers the time of submission and reporting coverage as well as a compliance culture in decision-making, and which in the Bank's operational activities, has been adequately performed. The Internal Audit unit has performed its functions

objectively and independently. Implementation of strong risk management and internal control has played a role in reducing risks that may result in financial and non-financial losses, which in turn has boosted the Bank's excellent performance in implementing the established strategy. The Bank has consistently implemented the LLL regulations by taking into account the capacity of capital and the distribution/diversification of its portfolio as regards provision of funds. The governance outcome aspect related to the Bank's strategic plan has been well implemented by the Bank, among others, the Bank's strategic plan is supported by an adequate infrastructure capacity enhancement to accommodate business expansion in terms of human resources, information technology, policies and procedures as well as risk management.

#### ***II.3.3.4 Earning***

Earnings assessment (profitability) is measured using the ratio of Return On Assets (ROA) using the following formula:

$$\text{ROA} = (\text{profit before tax})/(\text{average total assets}) \times 100\%$$

Table 2.6 Criteria for Determining Profitability Rating (ROA)

| Rank | Category      | Criteria                         |
|------|---------------|----------------------------------|
| 1    | Very Healthy  | $\text{ROA} > 1,5\%$             |
| 2    | Healthy       | $1.25\% < \text{ROA} \leq 1,5\%$ |
| 3    | Quite Healthy | $0,5\% < \text{ROA} \leq 1,25\%$ |
| 4    | Less Healthy  | $0\% < \text{ROA} \leq 0,5\%$    |
| 5    | Unhealthy     | $\text{ROA} \leq 0\%$            |

Source : BI Circular Letter No. 13/24/DPNP-2011

#### ***II.3.3.5 Capital***

In line with OJK Regulation, the Bank's capital structure consists of the Core Capital (Tier 1) and Supplementary Capital (Tier 2). Core Capital (Tier 1) consists of paid-up capital, other comprehensive income which comprises the changes in the fair value of financial assets available for sale and the surplus from the revaluation of fixed assets, other capital additional reserves in the form of share premiums,

general reserves, previous years loss and current year profit loss, differences between required provision and allowance for impairment losses for non-earning assets, and deductionary components of capital, consisting of intangible assets, and deferred tax.

Supplementary Capital (Tier 2) mainly consists of required provision for earning assets at a maximum of 1.25% of the Credit Risk-Weighted Assets. The objective of the Bank's capital management is to maintain a strong capital position to support business growth and maintain investors, depositors, customers and market confidence. In managing capital, the Bank considers factors such as: optimal return on capital to the shareholders; balance between higher profit and gearing ratio; as well as the security provided by a sound capital position.

Banks are required to meet the requirements for the CAR set by BI and OJK which consider quantitative aspects, such as assets, liabilities and certain off balance sheet accounts, as well as qualitative considerations of components and weighted risk. CAR is an indicator to determine the soundness and capital of a bank.

Riyadi (2006:171) said that every bank operating in Indonesia is required to maintain the Minimum Capital Adequacy Requirement/*Kewajiban Penyediaan Modal Minimum* (CAR). The level of Minimum Capital Adequacy Requirement or CAR of a bank will be influenced by 2 main factors, namely the amount of capital owned by the bank and the amount of Risk Weighted Assets (RWA) managed by the bank. This is because the assessment of the capital factor is based on the ratio of Capital to Risk Weighted Assets (RWA). Capital factor assessment is measured using the Capital Adequacy Ratio (CAR) with the following formula:

$$\text{CAR} = (\text{Bank capital}) / (\text{Risk weighted assets}) \times 100\%$$

Table 2.7 Criteria for Determining Capital Rating (CAR)

| Rank | Category      | Criteria              |
|------|---------------|-----------------------|
| 1    | Very Healthy  | $CAR > 12\%$          |
| 2    | Healthy       | $9\% \leq CAR < 12\%$ |
| 3    | Quite Healthy | $8\% \leq CAR < 9\%$  |
| 4    | Less Healthy  | $6\% < CAR < 8\%$     |
| 5    | Unhealthy     | $CAR \leq 6\%$        |

Source : BI Circular Letter No. 13/24/DPNP-2011

## II.5. Stock Valuation

Stock valuation is a procedure/method/procedure to get the intrinsic value (or theoretical value) of a company's shares. Stock valuation is used by investors to find out which companies are worth investing in. Investors are more likely to buy or hold shares depending on price, prospects and future growth, and then they will sell it when the stock price rises or the target stock price is reached/overvalued.

Approaches to Valuation is Discounted cashflow valuation, Relative valuation, and Contingent claim valuation,

Valuation is the process to determine the worth of a company. Valuation is used for various purposes such as mergers and acquisitions, investing in stocks or other special events. Valuation is the process that connects risks and return to determine the worth of an asset (Gitman & Zutter, 2012). The models used for calculating valuation are quantitative, however the inputs used are based on subjective judgements. Therefore the final result of a valuation can be biased based on the assumptions used by the analyst. The biases in these analyses are also influenced by the understanding of the industry in which the company is in.

Banks as financial services companies face special challenges for analysts trying to valuation banks for two reasons. Banks as financial services companies face special challenges for analysts trying to assess banks for two reasons, The first reason is that the nature of the business makes it difficult to define debt and reinvestment,

leading to more cash flow estimates and the second is that banks tend to be highly regulated and the effect of regulatory requirements on value must be considered. Banks are regulated in maintaining capital ratios, where the funds can be invested, and entering the market. This resulted in modified assumptions used when considering reinvestments for financial service firms (Damodaran, 2012).

There are several valuation methods, there are two main categories that are commonly known: relative valuation and absolute valuation. Absolute valuation calculates intrinsic value based on fundamentals such as dividends, cash flow, or the company's growth rate. Absolute valuation focuses on the value of an individual firm without comparison to other similar firms in the same industry. Relative valuation calculates ratios and compares the company in question to other companies in similar industries, estimates the value of an asset by looking at the pricing of 'comparable' assets relative to a common variable like earnings, cashflows, book value or sales.

#### ***II.5.1 Relative Valuation Methods***

In relative valuation, the value of an asset is derived from the price of similar assets, or comparing investments with similar companies, based on common variables such as profit, cash flow, book value, or earnings.. The best example of relative stock valuation is comparable company analysis.

In relative valuation, the value of an asset is derived from the pricing of comparable assets, standardized using a common variable such as earnings, cash flows, book value, or revenues. One illustration of this approach is the use of an industry-average price-earnings ratio to value a firm, the assumption being that the other firms in the industry are comparable to the firm being valued and that the market, on average, prices these firms correctly (Damodaran, 2012).

Relative Valuation is an approach that is often used by securities practitioners (Damodaran, 2012). Through this approach, the analysis uses price earnings ratio (PE) and price to book value (PBV) as a comparison tool to conduct stock valuations.

## 1. Analysis of Share Prices with PER

The formulas used in analyzing share prices are as follows:

- Earning per share (EPS) is the company's net profit divided by the number of shares outstanding – not including treasury stock. Earnings per share reflects the share of net income for holders of 1 share of a company, formula in detail :

$$EPS = \frac{\text{Net Income} - \text{Preferred Dividend}}{\text{Average outstanding Common Shares}}$$

- The price-to-earnings ratio (**P/E ratio**) is a ratio used to assess the price of shares based on the company's ability to generate net income. Net income in this case is earnings per share (EPS).
- The formula for P/E ratio is as follow:

$$P/E \text{ Ratio} = \frac{\text{Market Value per Share}}{\text{Earnings per Shares}}$$

## 2. Analysis of Share Prices using PBV

The formulas used in analyzing price to book value are as follows:

- Price to book value (PBV) is the ratio used by investors to compare stock prices to the company's book value. The formula for calculating P/B ratio is as below detail

$$PBV = \frac{\text{Market Price per Share}}{\text{Book Value per Shares}}$$

$$= \frac{\text{Market Price per Share}}{\frac{\text{Total Asset} - \text{Total Debt}}{\text{Outstanding Shares}}}$$

Bank Jago's PBV Ratio will be compared with the banking industry P/E Ratio for the same period

### ***II.5.2 Absolute valuation***

Absolute stock valuation is used to determine the intrinsic value of a stock using fundamental data. Several methods that can be used in absolute valuation include the dividend discount model, the discounted cash flow model and the residual income model.

Absolute stock valuation relies on the company's fundamental information. The method used usually uses an analysis of various financial information that can be found in or derived from the company's financial statements. Many techniques of absolute stock valuation primarily investigate the company's cash flows, dividends, and growth rates. Notable absolute stock valuation methods include the dividend discount model (DDM) and the discounted cash flow model (DCF).

In this research, intrinsic valuation of PT Bank Jago's stock will be using one approach is relative valuation methods and absolute valuation (dividend discounted method and excess return models.

Absolute valuation models are used to calculate the intrinsic value for an investment. Absolute valuations focuses on the fundamentals such as the dividends, cash flows and growth rate of the company to identify the intrinsic value. Popular absolute valuation models for valuating Banks is Discounted Cash Flow Model (DCF) : Dividend Discount Model (DDM), and Excess Return Models.

#### ***2.5.2.1 Dividend Discount Model (DDM)***

Dividend is the only cash flow investors receive from publicly traded stocks (Damodaran, 2012) The Dividend Discount Model is often used and is the simplest valuation model. When buying shares, investors generally expect to receive two types of cash flows—dividends earned during ownership of the stock and the expected price at the end of the holding period or when selling the stock.

There are 3 types of DDM that will be used, including the Gordon growth model, Two-stage growth model, and Three-stage growth model,

$$\text{Value per share of equity} = \sum_{t=1}^{1=\infty} \frac{DPS_t}{(1 + k_e)^t}$$

$DPS_t$  = Expected dividend per share in period t

$k_e$  = Cost of equity

In the special case where the expected growth rate in dividends is constant forever, this model collapses into the Gordon Growth model.

$$\text{Value per share of equity in stable growth} = \frac{DPS_1}{(k_e - g)}$$

$g$  = expected growth rate in perpetuity.

In the more general case, where dividends are growing at a rate which is not expected to be sustainable or constant forever during a period (called the extraordinary growth period), we can still assume that the growth rate will be constant forever at some point in the future. This allows us to then estimate the value of a stock, in the dividend discount model, as the sum of the present values of the dividends over the extraordinary growth period and the present value of the terminal price, which itself is estimated using the Gordon growth model (Damodaran, 2012).

Value per share of equity in extraordinary growth =

$$\sum_{t=1}^{1=\infty} \frac{DPS_t}{(1 + k_{e,hg})^n} + \frac{DPS_{n+1}}{(K_{e,st} - g_n)(1 + k_{e,hg})^n}$$

The extraordinary growth is expected to last n years,  $g_n$  is the expected growth rate after n years and  $k_e$  is the cost of equity (hg: high growth period and st: stable growth period).

### Normalized Earning

Normalized earning is the term used for all of the adjusted net income. These adjustments include seasons, cycles, one-time expenses, and other items such as related party transactions. After normalized to generate revenue figures that better reflect actual business operations.



There are several ways in which income can be normalized :

- *Average company earnings over the previous period*: this is the simplest way to normalize earnings, this is done by using the average earnings over the previous period.
- *Average return on investment or company profit margin over the previous period*: This approach is almost the same as the previous normalized, but the calculation is done with the average income scale instead of dollar income. The advantage of using this approach is that it allows normalized revenue estimates that can reflect the current condition of the company.

The author only uses normalized earnings by using *Average return on investment or company profit margin over the previous period*, with the formula :

Normalize Net Income = Book Value of Equity this year x ROE Average Industry

#### **2.5.2.2 Excess Return Models**

To perform an equity valuation in the excess return model, two data inputs are required. The first data is to calculate how much the company's equity capital is currently invested, enter the second and more difficult is how much excess returns are expected from equity investors in the future period

Value of Equity = Equity Capital invested currently + Present Value of  
Expected Excess Returns to Equity investors

The definition of excess return in equity terms can be explained in terms of return on equity and cost of equity

Excess Equity return = (Return on equity – Cost of equity) (Equity capital  
invested)

## CHAPTER III BUSINESS SOLUTION

### III.1 Bank Jago Financial Ratio Analysis

In this study the authors use a risk profile assessment using the Risk Based Bank Rating (RBBR), Based on risk profile factor using the calculation of credit risk, market risk and liquidity risk. The GCG factor takes into account the assessment of the implementation of self-assessment. Earning factor or profitability is measured by indicators of profit before tax to total assets (ROA), net interest income to total assets (NIM). Capital factor is measured by the CAR ratio. With the RGEC method, overall it has a very healthy predicate. By using Bank Jago's financial statements, it can provide financial ratios, CAR, ROA, RoE, NIM, NPL, and LDR. Table 3.1 shows the chart of the financial ratio of PT Bank Jago from Q1 2017 - Q2 2022.

Table 3.1 PT Bank Jago, Tbk Financial Ratios 2017-2022

| Financial Ratios                                    |    | 2017    | 2018    | 2019    | 2020    | 2021    | 2022    |
|-----------------------------------------------------|----|---------|---------|---------|---------|---------|---------|
| Capital Adequacy Ratio (CAR)                        | Q1 | 22,78%  | 19,73%  | 17,79%  | 116,15% | 538,01% | 130,60% |
|                                                     | Q2 | 22,02%  | 20,72%  | 16,02%  | 215,20% | 342,80% | 109,80% |
|                                                     | Q3 | 20,85%  | 20,87%  | 15,47%  | 133,00% | 224,24% |         |
|                                                     | Q4 | 21,26%  | 18,63%  | 148,28% | 91,38%  | 169,92% |         |
| Non Performing Loans Ratio - Gross                  | Q1 | 6,16%   | 8,50%   | 6,64%   | 2,04%   | 0,00%   | 1,49%   |
|                                                     | Q2 | 7,57%   | 8,30%   | 6,41%   | 0,92%   | 0,00%   | 2,70%   |
|                                                     | Q3 | 8,20%   | 8,87%   | 8,18%   | 0,37%   | 0,59%   |         |
|                                                     | Q4 | 8,30%   | 6,17%   | 2,05%   | 0,00%   | 0,58%   |         |
| Non Performing Loans Ratio - Net                    | Q1 | 2,93%   | 4,22%   | 4,46%   | 0,17%   | 0,00%   | 0,39%   |
|                                                     | Q2 | 4,14%   | 4,09%   | 3,93%   | 0,03%   | 0,00%   | 1,41%   |
|                                                     | Q3 | 4,32%   | 4,49%   | 4,63%   | 0,00%   | 0,14%   |         |
|                                                     | Q4 | 4,09%   | 4,15%   | 0,00%   | 0,00%   | 0,04%   |         |
| Return on Assets (RoA) Ratio                        | Q1 | 0,10%   | -1,94%  | -3,59%  | -8,15%  | -3,33%  | 0,77%   |
|                                                     | Q2 | -1,27%  | -1,78%  | -4,16%  | -6,81%  | -1,30%  | 0,57%   |
|                                                     | Q3 | -1,46%  | -1,80%  | -3,66%  | -8,95%  | -0,52%  |         |
|                                                     | Q4 | -1,06%  | -2,76%  | -15,89% | -11,27% | 0,10%   |         |
| Return on Equity (RoE) Ratio                        | Q1 | 0,40%   | -11,50% | -23,75% | -15,46% | -4,53%  | 0,99%   |
|                                                     | Q2 | -7,04%  | -10,25% | -28,71% | -10,55% | -1,66%  | 0,76%   |
|                                                     | Q3 | -8,33%  | -10,38% | -26,90% | -13,59% | -0,68%  |         |
|                                                     | Q4 | -6,38%  | -19,61% | -89,03% | -18,03% | 1,28%   |         |
| Net Interest Margin (NIM)                           | Q1 | 4,88%   | 4,66%   | 3,45%   | 3,79%   | 7,72%   | 11,08%  |
|                                                     | Q2 | 4,93%   | 4,90%   | 3,16%   | 4,14%   | 5,04%   | 10,83%  |
|                                                     | Q3 | 4,72%   | 4,87%   | 2,62%   | 4,37%   | 6,09%   |         |
|                                                     | Q4 | 4,46%   | 4,84%   | 2,05%   | 4,74%   | 7,42%   |         |
| Operating Expense to Operating Revenue Ratio (BOPO) | Q1 | 99,12%  | 120,35% | 143,12% | 222,16% | 169,80% | 93,34%  |
|                                                     | Q2 | 110,16% | 117,91% | 146,64% | 203,35% | 124,22% | 95,12%  |
|                                                     | Q3 | 112,74% | 118,02% | 157,84% | 233,91% | 108,03% |         |
|                                                     | Q4 | 115,47% | 127,00% | 258,09% | 261,10% | 98,52%  |         |
| Loan to Deposit Ratio (LDR)                         | Q1 | 76,76%  | 79,68%  | 68,94%  | 58,33%  | 133,33% | 145,68% |
|                                                     | Q2 | 88,99%  | 76,91%  | 68,33%  | 67,39%  | 124,91% | 118,81% |
|                                                     | Q3 | 69,13%  | 73,42%  | 63,07%  | 157,69% | 145,76% |         |
|                                                     | Q4 | 72,68%  | 76,74%  | 47,54%  | 111,07% | 145,86% |         |

(Source : Financial statement PT Bank Jago, 2017- Q2 2022)

### ***III.1.1 Capital Adequacy Ratio (CAR)***

Capital Adequacy Ratio (CAR) measures how much capital a bank has relative to its risk-weighted assets that include loans, sharia-based financing and securities placed at the third-parties. Higher CAR means the bank could make sure it has enough capital to protect depositors' money. The average CAR from Q1 2017 - Q2 2022 is 110,71%, CAR increased in Q3 2019 until Q1 2021, in Q3 2021 Following the acquisition agreement obtained by the new controlling shareholder, capital deposit fund was deposited by the controlling shareholders as part of early rights issue process in December 2019 equivalent to 51% of their combined shareholding in the amount of Rp682.9 billion which played significant role in increasing in the Bank's CAR to 148,28% at the end of 2019 and decreased again until Q2 2022. The biggest increase occurred in 5 years, in Q4 2020 to Q1 2021 with an increase of 488,76% from 91,38% to 538,01%. in accordance with Risk Exposure and Capital Publication Bank Jago. dated June 30, 2021. The Bank's Core Capital increased significantly in March 2021 due to the process of adding capital through a rights issue of Rp 7 trillion, therefore the Bank's CAR ratio is at a strong level. In March 2021, Bank Jago successfully completed its second Rights Issue in less than twelve months from the first rights issue by raising an additional capital of US\$500 million to prepare for growth.

At the end of 2021, the Bank's CAR rose significantly, due to the March 2021 Rights Issue. This shows that PT Bank Jago can provide more than enough capital to mitigate the risk and can be considered very healthy.

With this sizable capital, Bank Jago became a Category 3 bank (currently as KBMI 2) and the fastest bank to have moved two categories. Balance sheet-wise, Bank Jago assets and loans grew roughly five times from respectively, Rp 2.2 trillion to Rp 12.3 trillion, and from Rp 0.9 trillion to Rp 5.4 trillion. To fund this growth deposits expanded more than four times from Rp 0.8 trillion to Rp 3.7 trillion. With this growth, Bank Jago is among the fastest digital banks to reach profitability. They

closed 2021 with a Net Profit of Rp 86 billion from a loss of Rp 190 billion a year ago and after six consecutive loss-making years.

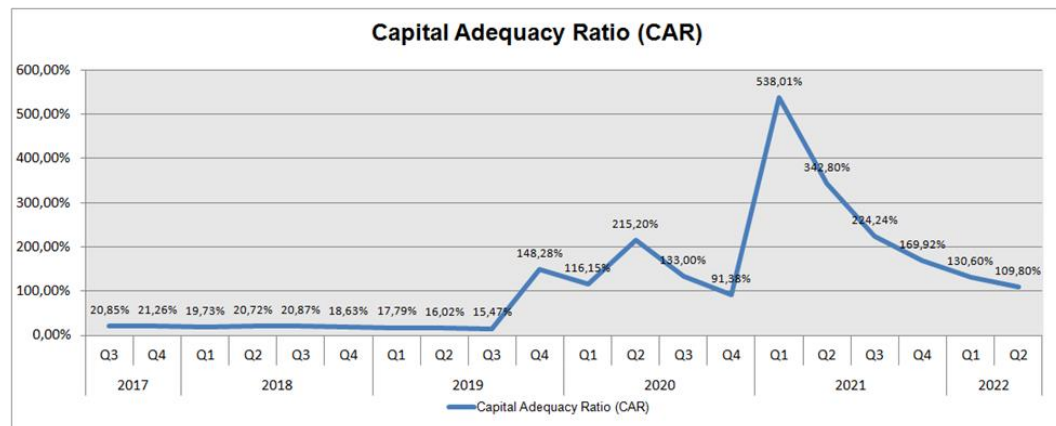


Figure 3.1 Capital Adequacy Ratio PT Bank Jago, Tbk, Q3 2017 - Q2 2022

(Financial Report PT Bank Jago, 2017-2022)

based on the CAR data obtained, PT Bank Jago is categorized as very healthy with a CAR  $\geq 12\%$ .

### III.1.2 Non Performing Loan (NPL)

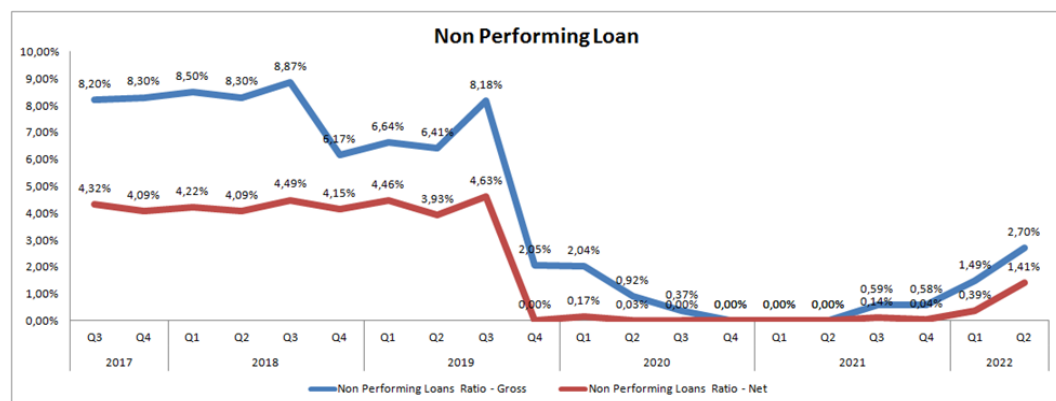


Figure 3.2 Non Performing Loans Ratio Q3 2017 - Q2 2022 PT Bank Jago

(Financial Report PT Bank Jago, 2017-2022)

Figure 3.2 shows the line chart of PT Bank Jago Non performing loans ratio from Q3 2017 to Q2 2021. From Q3 2017 until Q3 2018 there is an increase of 8,17% from 8,20% to 8,387, the ratio shows that is Quite Healthy. From 2017 until 2020, the ratio keeps lowering until 0.00%. in Q3 2021 - Q2 2022 increase, At the end of

2021, the Bank maintained an excellent level of collectibility – both for loans and Sharia financing.

Of the IDR 3.32 trillion loans, more than 91% or IDR 3.04 trillion were classified as current, more than 7% or IDR 248,8 billion were classified as special mention, and very little was classified as substandard, doubtful or loss. While of the IDR 2.05 trillion Sharia financing, 98% or IDR 2.01 trillion were classified as current, 1.7% or IDR 36 billion were classified as special mention, and very little were classified as substandard, doubtful or loss. Bank Jago always applies risk management discipline in terms of lending which caused the NPL ratio to be under control at the level of 2.70% at the Q2 of 2022, lower than the Bank's risk appetite at the level of 4%. This ratio shows that PT Bank Jago is very healthy from Q4 2019 - Q1 2022, and in the Q2 2022 financial report, the NPL ratio 2,70% is healthy.

### III.1.2 Loan to Deposit Ratio (LDR)

Another ratio that assesses the risk profile is the Loan to Deposit Ratio. Loan to Deposit Ratio Loan to deposit ratio is the ratio of loans to deposits (LDR) which is often used in assessing bank liquidity by comparing total deposits and total bank loans in the same period. LDR was 69% in Q3 2017 and decreased to 48% in Q4 2019. In Q3 2020, LDR increased by 190% from 67% to 158%.

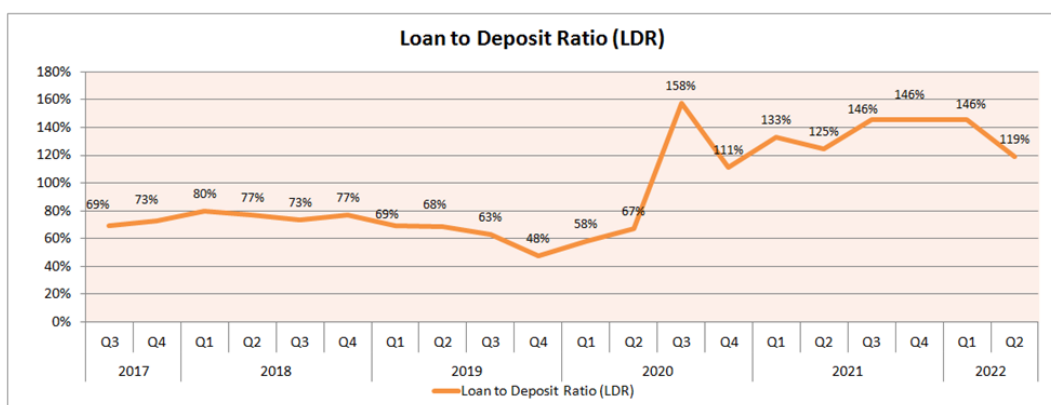


Figure 3.3 Loan to Deposit Ratio PT Bank Jago, Tbk, Q3 2017 - Q2 2022

(Financial Report PT Bank Jago, 2017-2022)

A low LDR ratio indicates a lot of idle funds that have not been channeled into credit, but the quality of liquidity is good. Conversely, if the LDR ratio is high, it means that the distribution of funds in the form of credit is optimal, but the bank's liquidity capacity is not good. The combination of an improved fund structure and high credit growth had a positive impact on net profit after tax until the second quarter of 2022 of Rp29 billion, in contrast to the second quarter of 2021 which still recorded a loss. The high growth in deposits has encouraged the improvement of the liquidity ratio or loan to deposits ratio (LDR) to 119% at the end of the second quarter of 2022 from 146% at the end of 2021. The LDR ratio in the second quarter of 2022 Bank Jago is less healthy.

### III.1.3 Return on Assets (ROA)

The following profitability ratios were used to measure the Bank's performance: Return on Assets (ROA); Return on Equity (ROE); Net Interest Margin (NIM); and Operating Expenses to Operating Income (BOPO).

ROA is a bank's ability to generate profit before tax on asset ownership. Meanwhile, ROE is the bank's ability to generate after-tax profit on capital management. The strategic decision by the shareholders and management to transform Bank Jago into a tech-based bank has come to fruition. In 2021, the bank swung to net profit of Rp 86 billion, after loss-making episodes in six previous years.

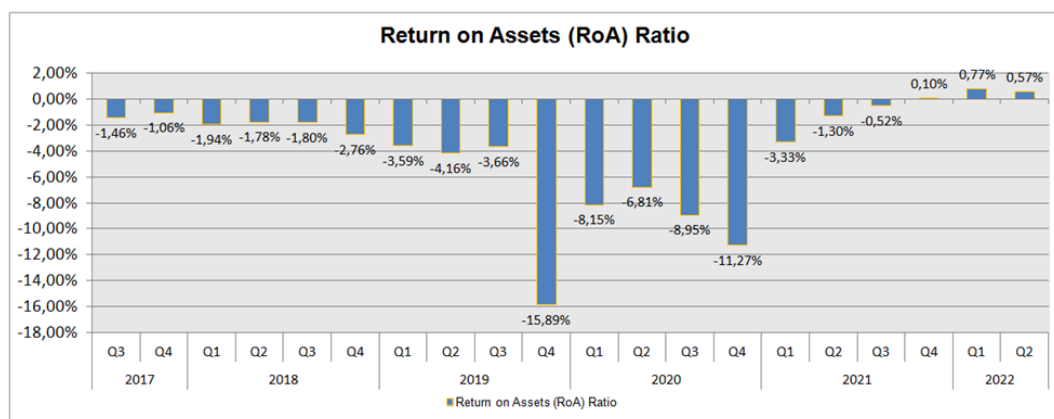


Figure 3.4 Return on Asset Ratio PT Bank Jago, Tbk, Q3 2017 - Q2 2022

(Financial Report PT Bank Jago 2017-2022)

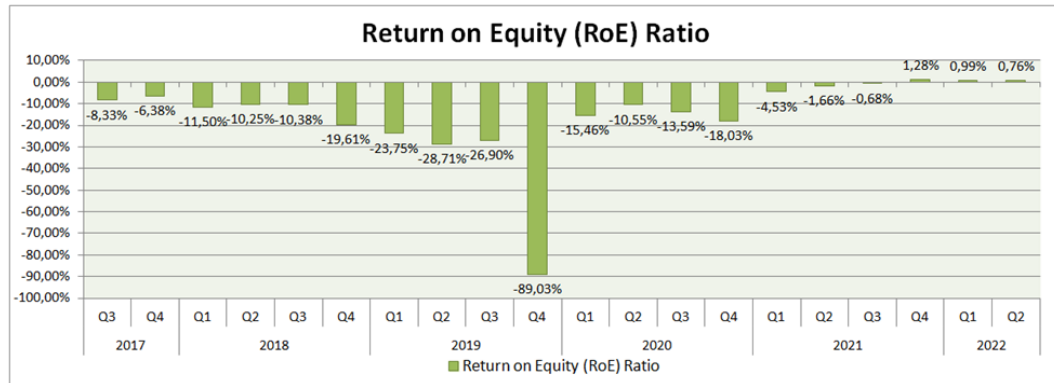


Figure 3.5 Return on Asset Ratio PT Bank Jago, Tbk, Q3 2017 - Q2 2022

(Financial Report PT Bank Jago 2017-2022)

Return on assets and return of Equity from 2017 to Q3 2021 is negative, In Q4 2021, ROA and ROE swung to 0,10% and 1.28%, respectively, a turnaround from negative 11,27% and ROA further increased by 0,77% and 0,57% in the second quarter of 2022 and ROE decreased by 0,99% and 0,76% in the second quarter of 2022

In addition, the Bank's NIM rose to 7.42% in 2021 compared to 4.74% in 2020. Such improvement was in line with the Bank's improving operating performance, as reflected in the increase in interest income and lower interest expenses. Meanwhile, the Bank's BOPO in 2021 fell to 98.52% from 261.10%, indicating an improvement in efficiency.

Bank Jago's total assets rose almost six-fold to IDR 12.31 trillion, from IDR 2.18 trillion a year ago. The bank's lending rose six-fold to IDR 5.37 trillion at the end of 2021, from IDR 908 billion a year earlier. The surge was attributable from partnership with ecosystem players that among others consist of multi-finance companies, P2P lenders and trade supplier financing. The average loan size is IDR 5 million. Bank Jago's default rate, at 0.6%, remains unusually low and way beyond the industry standard. Until the end of June 2022, Bank Jago recorded total assets of Rp. 14.61 trillion, grew 44.8% compared to the same period the previous year. Based on the analysis of the ratios, Bank Jago is growing previously negative. trend since becoming Bank Jago launched Jago App and Bank Jago officially operates

the Sharia Unit to offer digital financial solutions that focus on customer life (life centric) by optimizing the latest technology. The bank can earn return on asset, ROA obtained by Bank Jago is 0,57%, it means the Bank is entering quite healthy.

### **III.2 Stock Valuation**

In this study, the authors use two valuation models, the relative valuation method and the absolute valuation method, this method conducts to provide an overview to investors about the value of the stock price of PT Bank Jago Tbk (ARGO). The results of this study are written to provide recommendations to investors.

For the relative valuation method, the author will use Price to Earning Ratio (PER) and Price to Book Value (PBV). As for the absolute valuation method, the author will use the Discounted Cash Flow Methods (DCF) model. Damodaran (2012) states that the DCF model can be used to evaluate companies that have too high or too low leverage and are expected to change from time to time. In addition, the company will have new shareholders who are expected to affect the company's performance in the future, so the assessment must represent the company as a whole.

#### ***III.2.1 Relative Valuation***

The first valuation method used in this approach is the Valuation using Price Earnings Ratio (P/E) Methods The valuation method included in the other relative valuation method approach is the price to earnings ratio (P/E). The Authors calculate P/E ratio using data of net income per share for each of the 2020 and 2021 financial years. As a comparison, Bank Jago's P/E are compared with other Top 10 banks and digital banks in Indonesia based on 4 conventional banks and 6 digital banks by largest market capitalization ranking



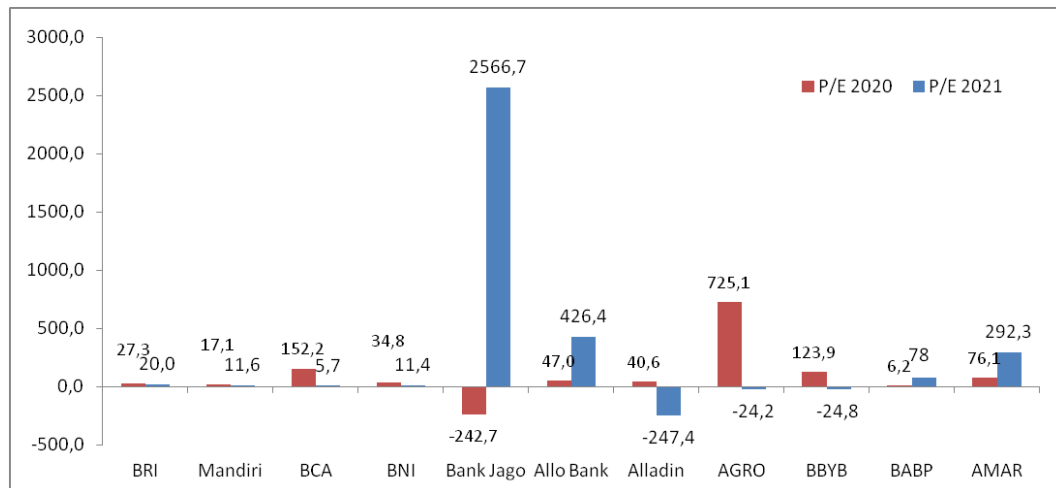


Figure 3.6 Bank Jago's P/E Ratio

Source: Analysis

Among top 11 banks in Graph 3.6, Bank Jago recorded the first highest P/E for a two years period consecutively. Bank Jago's high P/E ratio reflects the share price of Bank Jago that is valued higher than the average bank in Indonesia. Higher prices in this share, which reflected in high P/E, indicate that investors' have higher expectations toward Bank Jago stock performance. The market value itself is Rp 16,000 (as of Dec 2021) which indicates Bank Jago's stock price is already expensive or overvalued. based on PER and the current price is still overvalued and it is recommended for public investors to wait if they want to buy the stock, because they are still above the current market value.

The second valuation method used in this approach is the price to book value ratio (PBV). PBV ratio is usually used in evaluating whether the price of a stock is expensive or not, especially for the banking sector (Frensidy, 2010). As a comparison, Bank Jago's PBV are compared with other top 10 banks and digital banks. in Indonesia based on ranking by largest market cap

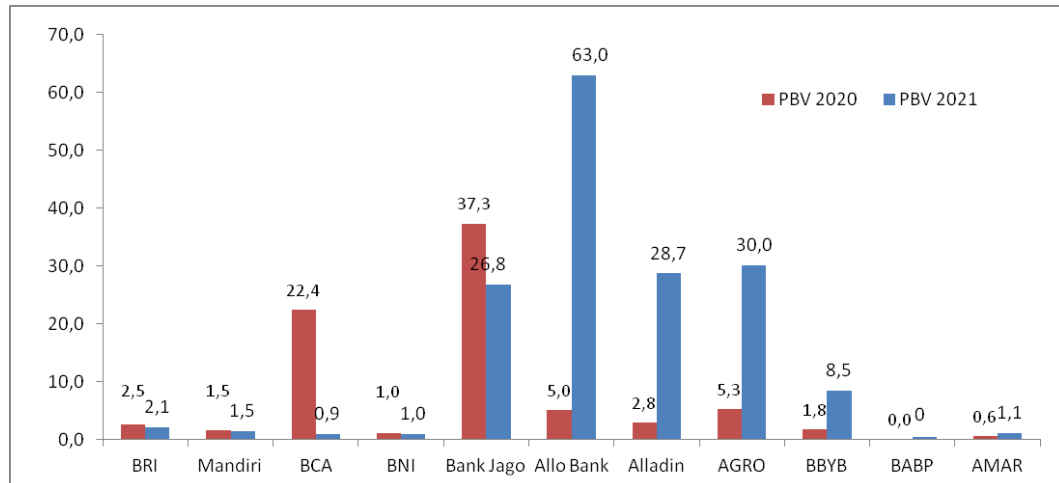


Figure 3.7 Bank Jago's PBV Ratio

Source: Analysis

Relative valuation is calculated using the Price to Book Value ratio assessment. the result of dividing total equity by total shares. The data used is from the 2021 financial statements. In 2021. Based on the data, the book value is Rp. 598. The PBV ratio is 26.8. PT Bank Jago in December 2021 sold for Rp. 16,000.00 which is well above the book value. According to Damodaran, stocks that are selling well above the book value are considered to be overvalued portfolios.

Bank Jago's (ARTO) PBV is 37,3 for 2020, and 26,8 for 2021, which is still relatively high among the 10 other banks as seen on the graph. The average PBV of the banking industry in 2020 is 7,3, and 14,9 in 2021. Average big 4 banks (BRI, Mandiri, BCA and BNI) in 2020 are 6,9 and 1,4 in 2021. PBV figures of Bank Jago that are still above the industry average and average of the big 4 banks, show that the shares of Jago banks are still considered to be expensive or overvalued.

### ***III.2.2 Absolute Valuation***

#### ***III.2.2.1 Dividend Discount Model (DDM)***

Bank Jago is a digital bank that offers banking services to customers. At the time of this valuation, the bank had just made the turn to profitability and reported net income of Rp. 86.024 million on a beginning book value of equity of Rp. 8.249.455 million; this amounted to earnings per share of Rp. 6,20. The bank paid no dividends but we anticipate significant growth in earnings both from growth in deposits and

economies of scale (which should improve the return on equity). The expected growth rate in earnings is 12.5% for the next 10 years and it is then expected to decline linearly to a stable growth rate of 5% in the 10th year.

Bank Jago is not expected to pay dividends during the first 5 years of high growth. Stock price on December 31, 2021 is Rp. 16.000. During this period, the bank is also exposed to significant risk. Use a beta of 1.37 to reflect the risk of Bank Jago and estimate a cost of equity of 10.53%, based upon a treasury bond rate of 6,38% and a risk premium of 3,04%.

$$\text{Cost of equity} = 6,38\% + 1,37 (3,04\%) = 10,53\%$$

Table 3.2 Summarizes the Expected Earnings During this High Growth period PT Bank Jago

|                           | 1       | 2       | 3       | 4       | 5       |
|---------------------------|---------|---------|---------|---------|---------|
| Expected Growth Rate      | 12,50%  | 12,50%  | 12,50%  | 12,50%  | 12,50%  |
| Earnings per share        | 6,98    | 7,85    | 8,83    | 9,93    | 11,17   |
| Payout ratio              | 0,00%   | 0,00%   | 0,00%   | 0,00%   | 0,00%   |
| Dividends per share       | 0,00    | 0,00    | 0,00    | 0,00    | 0,00    |
| Cost of Equity            | 10,53%  | 10,53%  | 10,53%  | 10,53%  | 10,53%  |
| Cumulative Cost of Equity | 110,53% | 122,17% | 135,04% | 149,26% | 164,98% |
| Present Value             | 0,00    | 0,00    | 0,00    | 0,00    | 0,00    |

(Source:Analysis)

In stable growth (after the 10 year), the bank is expected to earn a return on equity of 12% which will allow it to pay out 58.33% of its earnings as dividends during the period:

$$\text{Expected dividend payout ratio in 10th year} = 1 - \frac{g}{ROE} = 1 - \frac{5\%}{12,5} = 60\%$$

Between years 5 and 10, as the growth rate tapers off, we will assume that the payout ratio will increase from 0% to 60% in linear increments. Bank Jago will also assume that the risk in the equity will also decline, with the beta dropping from 1,37 to 1,00 in stable growth. Table 3.3 summarizes the expected earnings and dividends during this transition period.

Table 3.3 Expected Earnings and Dividends during transition phase PT Bank Jago

|                           | 6       | 7       | 8       | 9       | 10      |
|---------------------------|---------|---------|---------|---------|---------|
| Expected Growth Rate      | 11,00%  | 9,50%   | 8,00%   | 6,50%   | 5,00%   |
| Earnings per share        | 12,40   | 13,58   | 14,67   | 15,62   | 16,40   |
| Payout ratio              | 12,00%  | 24,00%  | 36,00%  | 48,00%  | 60,00%  |
| Dividends per share       | 1,49    | 3,26    | 5,28    | 7,50    | 9,84    |
| Cost of Equity            | 10,31%  | 10,09%  | 9,86%   | 9,64%   | 9,42%   |
| Cumulative Cost of Equity | 181,99% | 200,34% | 220,11% | 241,33% | 264,06% |
| Present Value             | 0,82    | 1,63    | 2,40    | 3,11    | 3,73    |

(Source: Analysis)

The dividends begin in year 5 and grow at a much faster rate than earnings because the payout ratio increases. The terminal price at the end of the 10th year can be estimated using the dividends in year 11, the stable period cost of equity and the expected growth rate in perpetuity.

$$\begin{aligned}
 \text{Terminal price per share} &: \frac{EPS_{12}(1+g_{stable})(Payout\ Ratio_{11})}{Cost\ of\ Equity_{11}-g_{stable}} \\
 &: \frac{16,40(1,05)(60)}{0,0942-0,05} \\
 &: \text{Rp. 233,76}
 \end{aligned}$$

The value per share today can then be computed as the sum of the present values of the dividends during high growth and the present value of the terminal price:

$$\text{Value per share} = 0,82+1,63+2,40+3,11+3,73+\frac{233,76}{2,6406} = \text{Rp. 100}$$

The terminal price per share is discounted at the compounded cost of equity of 2,6406 in year 10. the stock price on December 31, 2021 is 16000, when compared to the results of calculations using DDM is Rp.100, the stock price of Bank Jago is overvalued

#### - Normalized Earning

In this research the author also conducts normalized earnings. three different normalization techniques : Average income, industry average margin, and historical margin. The author only uses normalized earnings by using industry average margin, with the formula :

$$\text{Normalize Net Income} = \text{Book Value of Equity this year} * \text{ROE}$$

where : ROE = industry average.

Normalize Net Income = Rp.8.249.455 \* 12,5 = Rp. 1.031,181,88

Expected dividend payout ratio in 10th year =  $1 - \frac{g}{ROE} = 1 - \frac{5\%}{12,5} = 60\%$

Terminal price per share :  $\frac{EPS_{12}(1+g_{stable}(Payout\ Ratio_{11}))}{Cost\ of\ Equity_{11}-g_{stable}} : \frac{196,59(1,05)(60)}{0,0942-0,05}$   
: Rp. 2.802,13

Value per share =  $9,80+19,50+28,75+37,24+44,67+\frac{2.802,13}{2,6406} = \text{Rp } 1.201.$

after normalized, the value of stock Rp. 1.201 Bank Jago's stock price is still overvalued after being normalized

### ***III.2.1.2 Excess Return Model***

Bank Jago is a digital bank that offers banking services to customers. In 2021, the firm was earning a return on equity of 1,28%, for this calculation the author uses the bank industry average ROE is 12.5%, on its equity capital of Rp. 8.249.455 million. Based upon comparable firms, we estimate the beta of the firm to be 1.37, which results in a cost of equity of 10,53% (with a treasury bond rate of 6,36% and a risk premium of 3,04%).

Cost of equity = 6,38% + 1.37 (3,04%) = 10,53%

assume that the return on equity over the next 5 years will average 12,5%, reflecting the industry average and that the cost of equity will be unchanged over that period. In addition, the author assumes that the bank will not pay dividends in the next 2 years, the 3th year just starts paying dividends. The excess returns to equity investors are computed in Table 3.4..

Table 3.4 The Excess Returns to Equity Investor PT Bank Jago

|                                 | 1            | 2            | 3             | 4             | 5             |
|---------------------------------|--------------|--------------|---------------|---------------|---------------|
| Net Income                      | 1.031.181,88 | 1.160.079,61 | 1.305.089,56  | 1.448.649,41  | 1.564.541,37  |
| - Equity Cost (see below)       | 868.779,32   | 977.376,73   | 1.076.342,16  | 1.143.220,99  | 1.179.038,37  |
| Excess Equity Return            | 162.402,56   | 182.702,88   | 228.747,40    | 305.428,42    | 385.502,99    |
| Terminal Value of Excess Equity |              |              |               |               | 9.157.876,52  |
| Cumulated Cost of Equity        | 1,10531      | 1,22172      | 1,34767       | 1,48061       | 1,62008       |
| Present Value                   | 146.928,95   | 149.545,87   | 169.735,98    | 206.285,94    | 5.890.683,37  |
|                                 |              |              |               |               |               |
| Beginning BV of Equity          | 8.249.455,00 | 9.280.636,88 | 10.440.716,48 | 11.589.195,30 | 12.516.330,92 |
| Cost of Equity                  | 10,53%       | 10,53%       | 10,31%        | 9,86%         | 9,42%         |
| Equity Cost                     | 868.779,32   | 977.376,73   | 1.076.342,16  | 1.143.220,99  | 1.179.038,37  |
|                                 |              |              |               |               |               |
| Return on Equity                | 12,50%       | 12,50%       | 12,50%        | 12,50%        | 12,50%        |
| Net Income                      | 1.031.181,88 | 1.160.079,61 | 1.305.089,56  | 1.448.649,41  | 1.564.541,37  |
| Dividend Payout Ratio           | 0,00%        | 0,00%        | 12,00%        | 36,00%        | 60,00%        |
| Dividends paid                  | 0,00         | 0,00         | 156.610,75    | 521.513,79    | 938.724,82    |
| Retained Earnings               | 1.031.181,88 | 1.160.079,61 | 1.148.478,81  | 927.135,62    | 625.816,55    |

(Source: Analysis)

Bank Jago's net income each year calculated by multiplying the return on equity each year by the beginning book value of equity.

The book value of equity each year is augmented by the portion of earnings that is not paid out as dividends – the retained earnings. To put closure on this valuation, The author has to make assumptions about excess returns after year 5. If it assumes that excess returns are zero, the value of Bank Jago equity would be the sum of the present values of the excess returns calculated in table 3.4. and the existing book value of equity.

The author assumed that the net income would grow 5% a year beyond year 5, that the beta for the stock would remain unchanged at 1.00. Bank Jago will assume that the return on equity after year 5 will be 9.42%, set equal to the cost of equity. Since the firm earns its cost of equity after year 5, there is no value gained or lost after that year. The value of equity can then be computed as the sum of the three components—the book value of equity invested today, the present value of excess equity returns over the next five years, and the present value of the terminal value of equity.

Table 3.5. Value Per Share PT Bank Jago

|                            |                 |
|----------------------------|-----------------|
| Equity Invested =          | 8.249.455,00    |
| PV of Equity Excess Return | 6.299.631,87    |
| Value of Equity =          | 14.549.086,87   |
| Number of shares =         | 13.856,00       |
| Value Per Share =          | <b>1.050,02</b> |

(Source:Analysis)

At the time of this valuation in December 2021, Bank Jago was trading at Rp 16.000 a share, making it overvalued. In increasing revenue the company must be able to increase capital to be channeled as loans, and increase the company's return of equity, approaching the 4 big Bank average or the industry average. Perform efficiency in high expenditure, especially for administrative expenses and the payment of employee salaries. This step is taken to increase revenue growth and the value of the company will increase

## CHAPTER IV CONCLUSION

### IV.1 Conclusion

Based on the study, the result can be concluded as follows:

1. How is the financial health of PT Bank Jago, Tbk, in earning, terms of risk and capital factor?

Jago Bank's financial performance began to improve after 6 years of loss and started to generate profits in 2021. In terms of profitability from Q3 2017 - Q2 2022, analyze the income factor by calculating the return on assets. Bank Jago's ROA in Q3 2017 was negative and positive in Q2 2022. increased from -1.46% to 0.57%. The increase occurred because Bank Jago got a net profit after the previous 6 years of loss. ROA growth has also increased since Bank Jago released the JAGO application. In terms of capital factor, Bank Jago used Capital Adequacy Ratio (CAR) in the capital factor analysis showing the increasing trend of the ratio. The average CAR from Q1 2017 - Q2 2022 is 110,71%, CAR increased in Q3 2019 until Q1 2021 and decreased in Q2 2022, in Q2 2022 PT Bank Jago is categorized as very healthy with a CAR  $\geq 12\%$ . In terms of credit risk factor from Q3 2017 - Q2 2022, based on the analysis of the Non Performing Loan (NPL) ratio, the ratio had dropped to 0.0% and again rose to 2.7%, the criteria for Bank Jago's NPL ratio is healthy. The second ratio used is the Loan to Deposit Ratio (LDR). PT Bank Jago's LDR is in the range of 48-158%. This shows that the competence to repay bank obligations to customers is considered quite high and is categorized as very healthy, because the lower the ratio number shown, the higher the liquidity capacity. The increase significantly in March 2021 due to the process of adding capital through a rights issue of Rp 7 trillion Capital increased significantly in March 2021 due to the process of adding capital through a rights issue of Rp 7 trillion. This ratio shows that PT Bank Jago has more than enough capital to mitigate risk. capital risk criteria is very healthy.

2. Is the stock price of PT Bank Jago, Tbk undervalued or overvalued?



The study uses both relative and absolute valuation method for valuation of PT Bank Jago stock.

- Relative valuation

Based on the data, the book value is Rp. 598. The PBV ratio is 26.8. PT Bank Jago in December 2021 sold for Rp. 16,000.00 which is well above the book value.

- Absolute valuation

The calculation used the Dividend Discount Model for stable growth, the value of the shares is calculated to be Rp. 100 and the calculation is using the normalizer income to be Rp. 1,201, when compared to the stock price in December 2021, which is Rp. 16,000.00. shares are considered overvalued.

Using Excess Return Models the value of the shares is calculated to be Rp. 1.069 when compared to the stock price in December 2021, which is Rp. 16.000,00. shares are considered overvalued.

## **IV.2. Recommendation**

### ***IV.2.1 Recommendation for Investors***

What are the recommendations to investors, whether to buy, hold or sell the stock of PT Bank Jago, Tbk?

When recommending stocks there are several other considerations such as easier digital access and the presence of the Bank Jago application, which can be reached by people who are always connected to smartphones and can answer the need for banking transactions in real time, this can directly increase the number of customers. The number of funding customers reached more than 3 million customers by the end of June 2022. This number of customers grew more than 100% in 6 months or recorded 1.4 million customers at the end of 2021.

The increasing number of customers encourages third party funds to grow and can be channeled through loans. Bank Jago's collaboration with the Gojek super-app, the online mutual fund application Bibit, and the online trading platform Stockbit can increase the growth of lending and sharia financing. PT Bank Jago has recovered a little bit. In terms of prospects, PT Bank Jago still has a quite good growth of its business. Adding customers and increasing the number of loans will

increase the amount of income from interest and fee income so that banks can grow. PT Bank Jago is still considered as a good prospect. For now, investors are recommended not to buy this stock because it is overvalued.

Investors are also advised to re-evaluate stock every year to get additional data, On dividends, stock performance, and financial performance This new information may change the valuation method or even the results. Besides DDM, another method that can better capture abnormal returns is the EBO model (Edwards, Bell, and Ohlson) (Charumathi & Sudhakar, 2014). Investors can perform a more complete assessment analysis to reduce potential risks. Risk stems from uncertainty in global conditions, macroeconomic conditions such as recession, decline in GDP, and certain industries that may affect the quality of the Bank's assets.

#### ***IV.2.2 Recommendation for Bank***

As a digital bank, bank Jago must realize that digital banking must be interpreted beyond just moving branch services to mobile phones, but also changing the entire banking process, and changing the paradigm from bank-centric to customer-centric. Bank Jago's main income is from the financing business and the rest is from fees or other income. Bank Jago focuses on distributing Shariah / Islamic loans and financing to the retail and mass market segments, including Micro, Small and Medium Enterprises (SMEs) and ultra micro. Banks must increase capital so that it can be used as a lending activity, capital is obtained from the current account, savings and time deposits. with increased capital impact on their ability to repay financing into increased income. Bank Jago is expediting efforts to reach out to more than 60 million Indonesian micro, small and medium enterprises (MSMEs) in need of business finance solutions, long shunned by banks. Bank Jago began to improve tie up with scores of ecosystem partners, including finance companies. This partnership has driven loan growth in 2021. including finance company Home Credit and BFI Finance, Atome Finance and peer-to-peer lenders KreditPintar, Findaya, Dhanapala, and Investree.

Bank Jago must increase other income streams or fees that can generate at least 15% of revenue for Bank Jago and provide a secure and convenient information technology-based system for its customers to transact. The banking services offered by the Bank include: Payment of monthly bills (telephone, electricity, internet, etc.), Remittance/RTGS/SKN, Inter-cities warkat invoices, In-city warkat invoices – clearing, ATM Bersama and Alto Network, Customer Fund Account (RDN), and Debit Card

## REFERENCE

- Bank Indonesia, ed. 2022. *Laporan Kebijakan Moneter Triwulan I 2022*.
- Damodaran, Aswath. 2012. *Investment Valuation; Tools and Techniques for Determining The Value Of Any Asset*. 3rd ed. New Jersey: John Wiley & Sons.
- Damodaran, Aswath. n.d. "Discounted Cash Flow Valuation." NYU Stern. <https://pages.stern.nyu.edu/~adamodar/pdfiles/eqnotes/dfallOld.pdf>.
- Ernst & Young. 2013. "The Journal of Financial Perspectives." Volume 1 (Issue 1).
- Gitman, Lawrence J., and Chad J. Zutter. 2015. *Principles Of Managerial Finance*. 14th ed. London: Pearson Education.
- Gubernur Bank Indonesia. 2016. *Peraturan Bank Indonesia Nomor:13/1/PBI/2011 Tentang Penilaian Tingkat Kesehatan Bank Umum*.
- “• Indonesia: smartphone penetration rate 2026.” 2022. Statista. <https://www.statista.com/statistics/321485/smartphone-user-penetration-in-indonesia/>.
- McKinsey & Company. 2019. *Digital Banking in Indonesia: Building Loyalty and Generating Growth*.
- Otoritas Jasa Keuangan. 2016. *Peraturan Otoritas Jasa Keuangan (Nomor 11/POJK.03/2016) Tentang Kewajiban Penyediaan Modal Minimum Bank Umum*.
- Otoritas Jasa Keuangan. 2021. *Cetak Biru Transformasi Digital Perbankan*.
- Otoritas Jasa Keuangan. 2021. *Peraturan Otoritas Jasa Keuangan Republik Indonesia Nomor 12/POJK.03/2021 Tentang Bank Umum*.

Otoritas Jasa Keuangan. 2022. *Statistik Perbankan Indonesia*. 3rd ed. Vol. 20.

Otoritas Jasa Keuangan Republik Indonesia. 2016. *Peraturan Otoritas Jasa Keuangan Nomor 4/POJK.03/2016 Tentang Penilaian Tingkat Kesehatan Bank Umum*.

PT Bank Jago Tbk. 2021. *Annual Report 2020*. Jakarta: PT Bank Jago Tbk.

PT Bank Jago Tbk. 2022. *Annual Report 2021*. Jakarta: PT Bank Jago Tbk.

“Ranking Bank Digital Terbesar di Indonesia Berdasarkan Market Cap, Tembus Level Dunia?” 2022. Finansial Bisnis.

<https://finansial.bisnis.com/read/20220601/90/1538943/ranking-bank-digital-terbesar-di-indonesia-berdasarkan-market-cap-tembus-level-dunia>.

Riyadi, Selamat. *Banking Assets and Liability Management*. 3 ed., Jakarta, Penerbit FE UI, 2006.

Skinner, Chris. 2014. *Digital Bank: Strategies to Launch Or Become a Digital Bank*. N.p.: Marshall Cavendish Business.

“Tembus 3 Juta Nasabah, Struktur Dana Bank Jago Semakin Membaik.” 2022. Bank Jago. <https://jago.com/id/media-center/press/tembus-3-juta-nasabah-struktur-dana-bank-jago-semakin-membaik>.

“Vietnam, Philippines, Indonesia Among Top 10 Most Unbanked Countries in the World | Fintech Singapore.” 2021. Fintech News Singapore. <https://fintechnews.sg/53303/financial-inclusion/vietnam-philippines-indonesia-among-top-10-most-unbanked-countries-in-the-world/>.

## APPENDICES

### APPENDICES A Top 11 Listed Bank by Asset Listed - Share Information

| Top 11 Listed Banks | Profit attr to S/H (Rp. bn) | EPS (Rp) | Book Value per share (Rp) | Price** (Rp) | Market Cap (Rp. bn) | P/E 2021 x | PBV 2021 x | Equity (Rp. bn) | O/S Shares (bn shares) |
|---------------------|-----------------------------|----------|---------------------------|--------------|---------------------|------------|------------|-----------------|------------------------|
| BRI                 | 31067                       | 205,7    | 1932                      | 4110         | 620610              | 20,0       | 2,1        | 291787          | 151,0                  |
| Mandiri             | 28028                       | 606,7    | 4808                      | 7025         | 324555              | 11,6       | 1,5        | 222111          | 46,2                   |
| BCA                 | 31423                       | 1287,4   | 8311                      | 7300         | 178182              | 5,7        | 0,9        | 202849          | 24,4                   |
| BNI                 | 10899                       | 590,3    | 6853                      | 6750         | 124620              | 11,4       | 1,0        | 126520          | 18,5                   |
| Bank Jago           | 86                          | 6,2      | 598                       | 16000        | 220800              | 2566,7     | 26,8       | 8249            | 13,8                   |
| Allo Bank           | 192                         | 16,6     | 112                       | 7075         | 82070               | 426,4      | 63,0       | 1303            | 11,6                   |
| Alladin             | -121                        | -9,3     | 80                        | 2290         | 29999               | -247,4     | 28,7       | 1046            | 13,1                   |
| AGRO                | -3046                       | -74,6    | 60                        | 1810         | 73848               | -24,2      | 30,0       | 2458            | 40,8                   |
| BBYB                | -986                        | -106,1   | 311                       | 2630         | 24459               | -24,8      | 8,5        | 2890            | 9,3                    |
| BABP                | 13                          | 2        | 438                       | 186          | 1004                | 78         | 0          | 2365            | 5,4                    |
| AMAR                | 4                           | 1,3      | 344                       | 388          | 1203                | 292,3      | 1,1        | 1067            | 3,1                    |

|                        |       |  |  |  |          |       |      |  |  |
|------------------------|-------|--|--|--|----------|-------|------|--|--|
| Average                | 229,7 |  |  |  | 152850,0 | 283,2 | 14,9 |  |  |
| Average Big 4 Banks    | 672,5 |  |  |  | 311991,6 | 12,2  | 1,4  |  |  |
| Average Small-Mid Size | -23,3 |  |  |  | 61911,9  | 438,2 | 22,6 |  |  |

\*\* Closing Price Dec 2021

December-20

| Top 11 Listed Banks | Profit attr to S/H (Rp. bn) | EPS (Rp) | Book Value per share (Rp) | Price** (Rp) | Market Cap (Rp. bn) | P/E 2020 x | PBV 2020 x | Equity (Rp. bn) | O/S Shares (bn shares) |
|---------------------|-----------------------------|----------|---------------------------|--------------|---------------------|------------|------------|-----------------|------------------------|
| BRI                 | 18655                       | 152,8    | 1637                      | 4170         | 509209              | 27,3       | 2,5        | 199911          | 122,1                  |
| Mandiri             | 17119                       | 370,5    | 4195                      | 6325         | 292215              | 17,1       | 1,5        | 193796          | 46,2                   |
| BCA                 | 27131                       | 222,4    | 1514                      | 33850        | 4129700             | 152,2      | 22,4       | 184715          | 122,0                  |
| BNI                 | 3280                        | 177,7    | 6114                      | 6175         | 114004              | 34,8       | 1,0        | 112872          | 18,5                   |
| Bank Jago           | -190                        | -17,7    | 115                       | 4300         | 46010               | -242,7     | 37,3       | 1232            | 10,7                   |
| Allo Bank           | 37                          | 9,0      | 85                        | 424          | 1738                | 47,0       | 5,0        | 347             | 4,1                    |
| Alladin             | 45                          | 3,4      | 49                        | 139          | 1821                | 40,6       | 2,8        | 641             | 13,1                   |
| AGRO                | 31                          | 1,4      | 196                       | 1035         | 22667               | 725,1      | 5,3        | 4288            | 21,9                   |
| BBYB                | 16                          | 2,4      | 170                       | 298          | 1967                | 123,9      | 1,8        | 1121            | 6,6                    |
| BABP                | 10                          | 8,0      | 1193                      | 50           | 65                  | 6,2        | 0,0        | 1551            | 1                      |
| AMAR                | 9                           | 3,7      | 464                       | 284          | 653                 | 76,1       | 0,6        | 1067            | 2,3                    |

|                        |       |  |  |  |           |       |     |  |  |
|------------------------|-------|--|--|--|-----------|-------|-----|--|--|
| Average                | 84,9  |  |  |  | 465458,9  | 91,6  | 7,3 |  |  |
| Average Big 4 Banks    | 230,8 |  |  |  | 1261281,9 | 57,8  | 6,9 |  |  |
| Average Small-Mid Size | 1,5   |  |  |  | 10703,0   | 110,9 | 7,6 |  |  |

\*\* Closing Price Dec 2020

# APPENDICES B Financial Ratio PT Bank Jago Tbk. Q3 2017 - Q2 2022

| Financial Ratios                                    |    | 2017    | 2018    | 2019    | 2020    | 2021    | 2022    |
|-----------------------------------------------------|----|---------|---------|---------|---------|---------|---------|
| Capital Adequacy Ratio (CAR)                        | Q1 | 22,78%  | 19,73%  | 17,79%  | 116,15% | 538,01% | 130,60% |
|                                                     | Q2 | 22,02%  | 20,72%  | 16,02%  | 215,20% | 342,80% | 109,80% |
|                                                     | Q3 | 20,85%  | 20,87%  | 15,47%  | 133,00% | 224,24% |         |
|                                                     | Q4 | 21,26%  | 18,63%  | 148,28% | 91,38%  | 169,92% |         |
| Non Performing Loans Ratio - Gross                  | Q1 | 6,16%   | 8,50%   | 6,64%   | 2,04%   | 0,00%   | 1,49%   |
|                                                     | Q2 | 7,57%   | 8,30%   | 6,41%   | 0,92%   | 0,00%   | 2,70%   |
|                                                     | Q3 | 8,20%   | 8,87%   | 8,18%   | 0,37%   | 0,59%   |         |
|                                                     | Q4 | 8,30%   | 6,17%   | 2,05%   | 0,00%   | 0,58%   |         |
| Non Performing Loans Ratio - Net                    | Q1 | 2,93%   | 4,22%   | 4,46%   | 0,17%   | 0,00%   | 0,39%   |
|                                                     | Q2 | 4,14%   | 4,09%   | 3,93%   | 0,03%   | 0,00%   | 1,41%   |
|                                                     | Q3 | 4,32%   | 4,49%   | 4,63%   | 0,00%   | 0,14%   |         |
|                                                     | Q4 | 4,09%   | 4,15%   | 0,00%   | 0,00%   | 0,04%   |         |
| Return on Assets (RoA) Ratio                        | Q1 | 0,10%   | -1,94%  | -3,59%  | -8,15%  | -3,33%  | 0,77%   |
|                                                     | Q2 | -1,27%  | -1,78%  | -4,16%  | -6,81%  | -1,30%  | 0,57%   |
|                                                     | Q3 | -1,46%  | -1,80%  | -3,66%  | -8,95%  | -0,52%  |         |
|                                                     | Q4 | -1,06%  | -2,76%  | -15,89% | -11,27% | 0,10%   |         |
| Return on Equity (RoE) Ratio                        | Q1 | 0,40%   | -11,50% | -23,75% | -15,46% | -4,53%  | 0,99%   |
|                                                     | Q2 | -7,04%  | -10,25% | -28,71% | -10,55% | -1,66%  | 0,76%   |
|                                                     | Q3 | -8,33%  | -10,38% | -26,90% | -13,59% | -0,68%  |         |
|                                                     | Q4 | -6,38%  | -19,61% | -89,03% | -18,03% | 1,28%   |         |
| Net Interest Margin (NIM)                           | Q1 | 4,88%   | 4,66%   | 3,45%   | 3,79%   | 7,72%   | 11,08%  |
|                                                     | Q2 | 4,93%   | 4,90%   | 3,16%   | 4,14%   | 5,04%   | 10,83%  |
|                                                     | Q3 | 4,72%   | 4,87%   | 2,62%   | 4,37%   | 6,09%   |         |
|                                                     | Q4 | 4,46%   | 4,84%   | 2,05%   | 4,74%   | 7,42%   |         |
| Operating Expense to Operating Revenue Ratio (BOPO) | Q1 | 99,12%  | 120,35% | 143,12% | 222,16% | 169,80% | 93,34%  |
|                                                     | Q2 | 110,16% | 117,91% | 146,64% | 203,35% | 124,22% | 95,12%  |
|                                                     | Q3 | 112,74% | 118,02% | 157,84% | 233,91% | 108,03% |         |
|                                                     | Q4 | 115,47% | 127,00% | 258,09% | 261,10% | 98,52%  |         |
| Loan to Deposit Ratio (LDR)                         | Q1 | 76,76%  | 79,68%  | 68,94%  | 58,33%  | 133,33% | 145,68% |
|                                                     | Q2 | 88,99%  | 76,91%  | 68,33%  | 67,39%  | 124,91% | 118,81% |
|                                                     | Q3 | 69,13%  | 73,42%  | 63,07%  | 157,69% | 145,76% |         |
|                                                     | Q4 | 72,68%  | 76,74%  | 47,54%  | 111,07% | 145,86% |         |

## APPENDICES C : Dividend Discount Model PT Bank Jago Tbk. Q3 2017 - Q2 2022)

|                                     |            |
|-------------------------------------|------------|
| Cost of Equity =                    | 11,13%     |
| Net Income =                        | 154.041,63 |
| Earnings per Share =                | 11,10      |
| Growth rate in EPS =                | 12,50%     |
| Payout Ratio for high growth phase= | 0,00%      |

*The dividends for the high growth phase are shown below (upto 10 years)*

|                           | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10      |
|---------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Expected Growth Rate      | 12,50%  | 12,50%  | 12,50%  | 12,50%  | 12,50%  | 11,00%  | 9,50%   | 8,00%   | 6,50%   | 5,00%   |
| Earnings per share        | 12,49   | 14,05   | 15,81   | 17,78   | 20,01   | 22,21   | 24,32   | 26,26   | 27,97   | 29,37   |
| Payout ratio              | 0,00%   | 0,00%   | 0,00%   | 0,00%   | 0,00%   | 12,00%  | 24,00%  | 36,00%  | 48,00%  | 60,00%  |
| Dividends per share       | 0,00    | 0,00    | 0,00    | 0,00    | 0,00    | 2,66    | 5,84    | 9,45    | 13,43   | 17,62   |
| Cost of Equity            | 11,13%  | 11,13%  | 11,13%  | 11,13%  | 11,13%  | 10,79%  | 10,44%  | 10,09%  | 9,75%   | 9,40%   |
| Cumulative Cost of Equity | 111,13% | 123,50% | 137,25% | 152,53% | 169,52% | 187,80% | 207,41% | 228,34% | 250,60% | 274,15% |
| Present Value             | 0,00    | 0,00    | 0,00    | 0,00    | 0,00    | 1,42    | 2,81    | 4,14    | 5,36    | 6,43    |

|                                           |               |
|-------------------------------------------|---------------|
| Growth Rate in Stable Phase =             | 5,00%         |
| Payout Ratio in Stable Phase =            | 60,00%        |
| Cost of Equity in Stable Phase =          | 9,40%         |
| <b>Price at the end of growth phase =</b> | <b>420,49</b> |

|                                                   |        |
|---------------------------------------------------|--------|
| Present Value of dividends in high growth phase = | 20,16  |
| Present Value of Terminal Price =                 | 153,38 |
| Value of the stock =                              | 173,54 |

### Estimating the value of growth

|                                 |        |
|---------------------------------|--------|
| Value of assets in place =      | 118,11 |
| Value of stable growth =        | 40,85  |
| Value of extraordinary growth = | 14,57  |
| Value of the stock =            | 173,54 |



## APPENDICES D Dividend Discount Model PT Bank Jago Tbk. Q3 2017 - Q2 2022 - Normalized Earning

|                                     |              |
|-------------------------------------|--------------|
| Cost of Equity =                    | 11,13%       |
| Net Income =                        | 1.031.181,88 |
| Earnings per Share =                | 74,32        |
| Growth rate in EPS =                | 12,50%       |
| Payout Ratio for high growth phase= | 0,00%        |

*The dividends for the high growth phase are shown below (upto 10 years)*

|                           | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10      |
|---------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Expected Growth Rate      | 12,50%  | 12,50%  | 12,50%  | 12,50%  | 12,50%  | 11,00%  | 9,50%   | 8,00%   | 6,50%   | 5,00%   |
| Earnings per share        | 83,61   | 94,06   | 105,82  | 119,05  | 133,93  | 148,66  | 162,78  | 175,80  | 187,23  | 196,59  |
| Payout ratio              | 0,00%   | 0,00%   | 0,00%   | 0,00%   | 0,00%   | 12,00%  | 24,00%  | 36,00%  | 48,00%  | 60,00%  |
| Dividends per share       | 0,00    | 0,00    | 0,00    | 0,00    | 0,00    | 17,84   | 39,07   | 63,29   | 89,87   | 117,96  |
| Cost of Equity            | 11,13%  | 11,13%  | 11,13%  | 11,13%  | 11,13%  | 10,79%  | 10,44%  | 10,09%  | 9,75%   | 9,40%   |
| Cumulative Cost of Equity | 111,13% | 123,50% | 137,25% | 152,53% | 169,52% | 187,80% | 207,41% | 228,34% | 250,60% | 274,15% |
| Present Value             | 0,00    | 0,00    | 0,00    | 0,00    | 0,00    | 9,50    | 18,84   | 27,72   | 35,86   | 43,03   |

|                                           |                 |
|-------------------------------------------|-----------------|
| Growth Rate in Stable Phase =             | 5,00%           |
| Payout Ratio in Stable Phase =            | 60,00%          |
| Cost of Equity in Stable Phase =          | 9,40%           |
| <b>Price at the end of growth phase =</b> | <b>2.814,87</b> |

|                                                   |          |
|---------------------------------------------------|----------|
| Present Value of dividends in high growth phase = | 134,94   |
| Present Value of Terminal Price =                 | 1.026,76 |
| Value of the stock =                              | 1.161,70 |

### Estimating the value of growth

|                                 |          |
|---------------------------------|----------|
| Value of assets in place =      | 790,64   |
| Value of stable growth =        | 273,49   |
| Value of extraordinary growth = | 97,57    |
| Value of the stock =            | 1.161,70 |

APPENDICES E : Excess Return Model PT Bank Jago Tbk. (Q3 2017 - Q2 2022)

|                        |         |
|------------------------|---------|
| Return on Equity =     | 12,50%  |
| Retention Ratio =      | 100,00% |
| Expected growth rate = | 12,50%  |
| Cost of equity =       | 11,13%  |

|                           | 1            | 2            | 3             | 4             | 5             | Terminal Year |
|---------------------------|--------------|--------------|---------------|---------------|---------------|---------------|
| Net Income                | 1.031.181,88 | 1.160.079,61 | 1.305.089,56  | 1.448.649,41  | 1.564.541,37  | 1.642.768,43  |
| - Equity Cost (see below) | 918.395,33   | 1.033.194,74 | 1.126.160,74  | 1.169.711,39  | 1.176.535,11  | 1.235.361,86  |
| Excess Equity Return      | 112.786,55   | 126.884,87   | 178.928,82    | 278.938,02    | 388.006,26    | 407.406,57    |
| Terminal Value of Excess  |              |              |               |               | 9.259.240,26  |               |
| Cumulated Cost of Equity  | 1,11133      | 1,23505      | 1,36827       | 1,50637       | 1,64796       |               |
| Present Value             | 101.488,08   | 102.736,63   | 130.770,56    | 185.172,80    | 5.854.038,02  |               |
| Beginning BV of Equity    | 8.249.455,00 | 9.280.636,88 | 10.440.716,48 | 11.589.195,30 | 12.516.330,92 | 13.142.147,47 |
| Cost of Equity            | 11,13%       | 11,13%       | 10,79%        | 10,09%        | 9,40%         | 9,40%         |
| Equity Cost               | 918.395,33   | 1.033.194,74 | 1.126.160,74  | 1.169.711,39  | 1.176.535,11  | 1.235.361,86  |
| Return on Equity          | 12,50%       | 12,50%       | 12,50%        | 12,50%        | 12,50%        | 12,50%        |
| Net Income                | 1.031.181,88 | 1.160.079,61 | 1.305.089,56  | 1.448.649,41  | 1.564.541,37  | 1.642.768,43  |
| Dividend Payout Ratio     | 0,00%        | 0,00%        | 12,00%        | 36,00%        | 60,00%        | 60,00%        |
| Dividends paid            | 0,00         | 0,00         | 156.610,75    | 521.513,79    | 938.724,82    |               |
| Retained Earnings         | 1.031.181,88 | 1.160.079,61 | 1.148.478,81  | 927.135,62    | 625.816,55    |               |

|                            |               |
|----------------------------|---------------|
| Equity Invested =          | 8.249.455,00  |
| PV of Equity Excess Return | 6.374.206,09  |
| Value of Equity =          | 14.623.661,09 |
| Number of shares =         | 13.856,00     |
| Value Per Share =          | 1.055,40      |