

# EQUITY RESEARCH REPORT

Phu Nhuan Jewelry Joint Stock Company (PNJ)



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June 17, 2020

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# EQUITY RESEARCH REPORT

## Manufacturing & Trading Jewelry

### Trading Gold Bars

#### VN INDEX

## Phu Nhuan Jewelry JSC.

Date: 29/05/2020

Current Price: VND 63,100

Target Price: VND 83,000 (32% upside)

Ticker: PNJ

Headquarter: HCMC

Recommendation: BUY

## INVESTMENT RECOMMENDATION

Market Profile - 29/05/2020	
Closing Price (VND)	63,100
52-Week Price Range (VND)	44,040.5 - 92,500
Shares outstanding	225,293,585
Volume per day	301,455
Market Cap (billion VND)	13,151
Dividend Yield	3.16
P/E	11.90
P/B	2.64

Figure 1: PNJ's market profile.



Figure 2: Share price movement compared to VN-INDEX (May2018-May2020).

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We issue a **BUY** recommendation on Phu Nhuan Jewelry Joint Stock Company (PNJ) with a target price of VND 83,300 which is 20,000 VND higher than its closing price of VND 63,100 on 29 May 2020, making the stock strongly undervalued with 32% margin of difference. For the record, PNJ's investors can expect a regular dividend yield of 3.16 with a spacious room for dividend growth in the future. We derive our target price by using the Discounted Free Cash Flow and Price to Earning model.

### Distinct Competitive Advantages by combine manufacturing and highly effective, well-distributed retailing network internal strength

PNJ's possesses the largest distribution network in the country of 411 stores (located at 53 provinces). With an average rate of 50 stores per year consistently upgrading its scales of distribution and its advantage in internal manufacturing ability (500,000 items/year), PNJ established a solid foundation for its future growth controlling and capturing the value chain's profit from the first production process to final distribution stage.

### Solid revenue growth rate and with the skillfulness in managing the cash flow

The capacity in generating strong revenues and meeting its annual year's target performance is proven through historical data. PNJ has had a high growth rate accounting for their 22% CAGR in the last five years. PNJ also presented an outstanding ability in converting these revenues into free cash flow for investors and effectively circling its daily operation cash flow (around 10% of revenue during the 2016-2019 period). As a consequence, PNJ's records yearly positive net cash allowing the company to pay a regular dividend, improve its business result thoroughly and freely investing in various projects to expand its future earning

### Advantages Economic Moat from Developing Digital Technology Assets

Being impressively invested in recent years, the firm's technology system including ERP-SAP 4HANA, CRM, etc, could help the firm maximize their logistic, workflow operation, management and organization capacity, reaching the full potential of resources including human, inventories, customer data. As a result, optimize the daily operating, data forecasting and strategic planning, leaving its competitors behind in productive and cost-effective management and deep understanding to lead the market.

### Potential Lucrative Prospect in venturing into a new profitable market

PNJ is expanding its product's portfolio by venturing into the wristwatch market. The old but potential business still has not been exploited leaving a huge potential future earning. PNJ has experienced 8 years, so far, in running their business in this industry. With a modest but promising revenue of 21 billion VND in 2017 and the industry's potential growth, PNJ is expecting to have this profitable market contribute to its future revenue.

## BUSINESS DESCRIPTION

Phu Nhuan Jewelry JSC (PNJ) is the largest retailer and manufacturer in the Vietnamese fragmented jewellery market. Established in 1988, PNJ now accounts for approximately 7% of the jewellery sales in the country and possesses the widest retail network 346 of stores at the end of 2019 (PNJ 2020a).

**PNJ's revenue is growing consistently throughout the year.** In the 2013-2019 period, PNJ's revenue recorded a 20% CAGR rate reaching 17 billion VND in the latest financial year 2019. Gross profit and EATI consistently improve in the last 5 year.

On average, 79.1% of PNJ's total revenue derives from sales of Gold and Silver jewellery and wristwatches. 22.4% comprise wholesale and 56.7% is retailing with a major distribution channel derived from Gold product, while wristwatch retailing is experiencing a consistent potential growth through this and future years. Gold bar sales make up the rest of 19.1%. Besides, PNJ provides diamond, gem and precious metal inspection service and design-crafted gift products for corporate customers contributing a small proportion of revenue.

The company's non-stop expanding store network is mainly placed at Ho Chi Minh and Ha Noi cities- the primary areas contributing around 50% of annual earnings. The sale channel grows at an average speed of 30-35 new stores per year. The overall structure is: 77% is PNJ GOLD, 14% is PNJ SILVER, 7% and 2% are PNJ WATCH and CAO, being well-distributed across 53/63 provinces within the county. In the meantime, PNJ possesses two factories strengthening its business activities as a jewellery manufacturer.

Products and services are distributed to the market under its network of 7 brands: PNJ GOLD JEWELRY, PNJSILVER & ACCESSORIES, CAO FINE JEWELLERY, JAMME JEWELRY & ACCESSORIES, PNJART, PNJ WATCH and PNJ LAB. PNJ's current subsidiary system comprises of 4 members: (1) PNJ JEWELRY PRODUCTION AND TRADING COMPANY LIMITED- PNJP, (2) CAO FASHION COMPANY LIMITED- CAF, (3) PNJ LABORATORY COMPANY LIMITED- PNJLAB, and (4) CUSTOMER ERA COMPANY LIMITED-CECL.

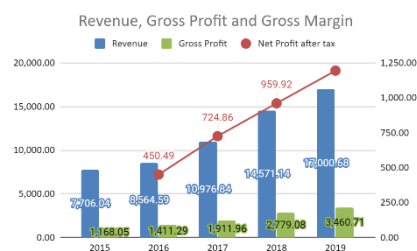


Figure 3: Revenue, Gross Profit and Profit Margin of PNJ.

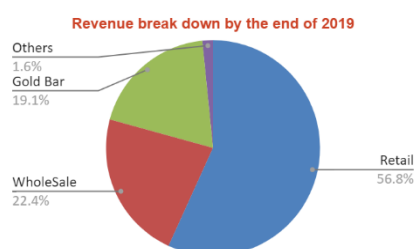


Figure 4: PNJ's revenue breakdown.

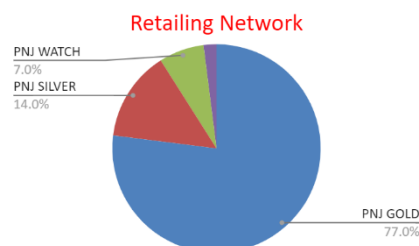


Figure 5: PNJ's retail network.

## Company Vision and Strategies

**PNJ's (2017-2030) vision** is to become the leading company in both retailing and manufacturing company in the Asian region with the highest position and the largest market share directing its current strategy in 3 orientations.

- **Strengthening the retail network and manufacturing**

The company is quickly building up, remaining, and upgrading various existing and new retailing stores and factories, focusing on speeding up its position in level 2 and 3 markets. These developing and investing activities including finance in facilities, properties and equipment, restructure and modernize the management capacity in the retailing network

- **Develop competency in technology, and human resource**

PNJ focuses on transforming and restructuring its organization 's management and operation of both the headquarters and retailing channels through technology and human resource. Various Digital transformation EPR, Data Analysis, HRM, CRM, the etc operation goes live in 2019 supports PNJ with the management's team expectations to effectively manage its production, supply chain, inventories, data warehouse, etc. Integrate with its store channel, PNJ created an omnichannel to improve exposure and interaction with customers aiming to improve sales through online channels. With a number of qualitative employees were, are and

will be well-trained in marketing, financing, etc to adapt to the innovation of the company, PNJ ready itself for the e-commerce retail and digital management time.

- **Subsidiary system optimization**

Enriching and remaining the leading position of the PNJ brand on the market is accelerated and assisted through the subsidiary brand group's business activities and integration with the main brand. These activities can create linkages and synergies among these brands and generate a Jewelry Ecosystem.

- **Venturing into the twist watch market**

According to an article published by PNJ, PNJ showed a huge interest in the wristwatch market since this market can return a huge profit, however, the market is considered “chaotic” with poor regulation (CAO THI NGOC DUNG, 2018). PNJ started to expand its business into this market in 2012 focusing on the high-end and middle segments, even though the extension is still in the market-testing stages, PNJ's brand watch grew strongly in the 2018 and 2019. 2018's revenue reached about 27 billion VND with gross profit increased from 4% in 2012 to 17% in 2017.

## **Company strategy in adaption to COVID-19**

The management team quickly outlined their approaches in management during this unexpected event which is not too different from the current directions. However, PNJ put more focus on developing the physical and human asset that is (1) continuing its target of opening 33 new stores and completing its ERP and other technology projects (2) Re-plan its investment portfolios including investment in the second factories, boost up research and its “REFRESH” in leaders and talents. At the same time, the firm works on (4) restructuring their inventories structure and temperament product portfolio, emphasizing on Gold products and Gold bar with high liquidity ability. (5) Re-financing its capital structure to meet short-term debt obligation while maintaining the most effective operation was also added to the list. (6) Negotiate rents, reduce wages to reduce the pressure on the operating cash flow.

## **Shareholder Structure**

PNJ is owned by 3 substantial shareholders and the public. Since the firm's establishment in 1988, CAO THI NGOC DUNG, PNJ's chairwoman remains as its largest shareholder holding 9.03%. Participated in 2018, Vina Capital owns 8.05% followed by 7% ownership of the group of foreign investors represented by Ms TRUONG NGOC PHUONG. The two smallest ownership occupies 0.08%, one is treasury fund, another belongs to some of PNJ's crucial individuals. The public owns the rest of 75.57% with 42.01% comprise domestic holding and 33.56% is foreign.

PNJ's internal ownership transfer was recorded quite often, according to the firm's reports. Nevertheless, these transactions do not seem to fluctuate the stock price and the business's performance.

At the end of 2016, Mekong Capital completely sold its position in PNJ stock. The deal made no negative effect on the company's market reaction and valuation. On the opposite side, PNJ's stock price significantly rose double from 32 000 VND to 64 000 VND in just one year.

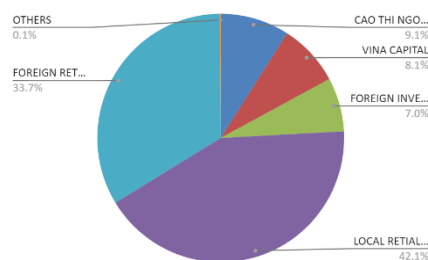


Figure 6: Shareholders' structure. Source: company's report.

## **CORPORATE GOVERNANCE AND SOCIAL RESPONSIBILITY**

### **Corporate Governance**

The PNJ's Board of Director has well-maintained supervision over the Management team and established frequent communication with one another to discuss strategies, business operations and resolutions proposed during the year. Members of the board also

receive regular training courses under the Regulations on Corporate Governance and the permission of the State Securities Commission of Vietnam.

The establishment of the Supervisory Board helps check and supervise the compliance of other board members' activities with the regulations and shareholders' meeting resolutions. In 2019, the Supervisory Board signed a contract with PwC, an independent party, on auditing and reviewing financial statements and supervising the preparation for the Annual General Meeting of Shareholders.

## Social Responsibility

In accordance to the company's 2019-2021 strategy, PNJ continues to focus on maintaining the leading position in the jewellery market with steady growth and building a sustainable development society under three pillars, which are environment protection, community development and human development. The company also integrates 17 Sustainable Development Goals recommended by the United Nations and Global Reporting Initiative standards to identify, assess and review its plans periodically to act on the benefits of its stakeholders and resolve any possible concerns.

Amidst the COVID-19 pandemic, although facing many challenges, PNJ has collaborated with two other start-ups to manufacture and donate disinfecting robots and medical equipment to many hospitals and clinics across HCMC. Furthermore, PNJ Charity Foundation also helps poor households in the Mekong River to fight drought and salt marsh in recent months (PNJ 2020c).

## INDUSTRY OVERVIEW AND COMPETITIVE POSITIONING

### Vietnam Macro Factors Impact the Industry

#### Vietnam economic growth

Viet Nam has recorded strong consistent growth in GDP since 2015. GDP growth reached 7% in both 2018 and 2019 was higher in comparison with China, average ASEAN and Asia due to extensive market-oriented and outward-looking economic policies (The World Bank 2020).

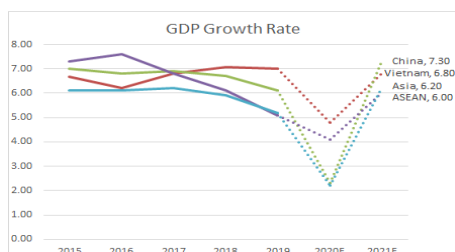


Figure 7: GDP growth rate. Source: World Bank.

#### Covid-19 outbreak impacts negatively on the Vietnamese economy

However, the Covid-19 outbreak impacted negatively on the GDP growth rate decreasing 2.2% in 2020 and lowered the inflation rate at 3.3% and 3.5% in 2021, 2022 respectively (Asian Development Outlook, 2020). Although the Covid-19 outbreak is under control in Vietnam, the quarantine and lockdown limit the country's import and export, consumer discretionary sector's behaviour and psychology. PNJ is facing numerous difficulties in the supply chain, human resources management and a shocking decrease in demand.

#### Middle class increase rapidly in Vietnam

With the young population in VietNam (25-45 age group) accounts for nearly 33% and the female group occupies 50,2% of Vietnam population. As Nam Duong (2019) reported, the middle class in Vietnam was 16.3% of the population in 2018 and forecasted to grow rapidly in recent years, potentially to reach 44 million by 2020 and 95 million by 2030. Vietnam has the fastest-growing middle class in Southeast Asia, average increases by 1.5 million people each year (BMI 2019), and an outstanding demand for jewellery consumption should be created (GSO 2019). Meanwhile, these more people from this age group can purchase medium-high price goods.

#### VIETNAM POPULATION GENDER I...

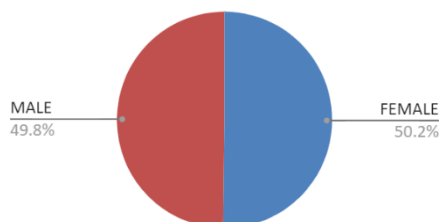


Figure 8: Vietnam's population by gender.



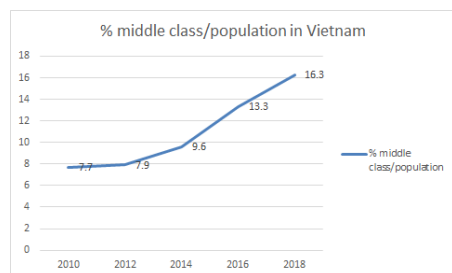


Figure 9: Middle- class population in Vietnam.

## Government control over the gold supply in Vietnam

According to Degree 24/2012/ND-CP, State Bank of Vietnam represented the Vietnam government to manage the gold industry, being the only one who has the right to export and import gold raw material. The Degree would control the supply of gold which can limit the production from gold (jewellery or gold bars, etc). However, in 2019, SBV published a draft circular that would adjust existing regulations managing gold trading which reduce the established requirements for new entries. If the circular is officially issued, the market could become more competitive in the low-end jewellery and gold bar industry.

## Jewellery Industry

### Vietnam jewellery market outlook

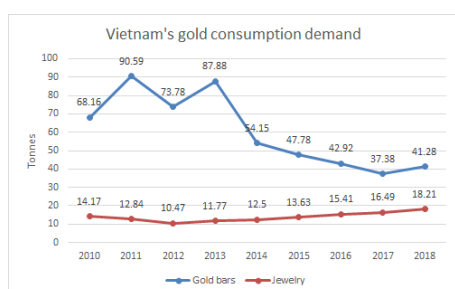


Figure 10: Vietnam's gold consumption demand.

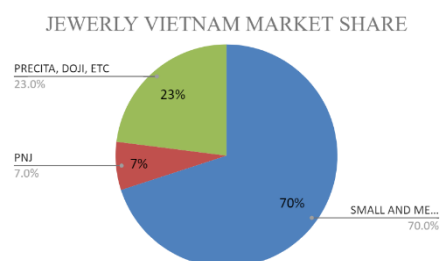


Figure 11: Vietnam's jewelry market share.

### Market growth

Based on the World Gold Council, the gold jewellery market, in general, achieved a CAGR of 10% between 2012 and 2016.

According to the World Gold Council's statistics, in the fourth quarter of 2018, demand for gold jewellery in Vietnam is at the highest level in the past 10 years, reaching about 16.5 tons/year (Thai Phuong, 2019).

Vietnamese consumers are tending to accumulate gold jewellery, instead of stockpiling gold as before leading to a growth in the jewellery industry an average 10% per year (Rong Viet Securities Company, 2019).

### Market size

PNJ (2019) recorded a national demand of 16.5 ton for the year-end 2017 for the jewellery market. Meanwhile, Ky Ngoc (2020) gives the market a more detailed picture, reporting demand for gold consumption and gold jewellery are 41.28 ton and 18.21 ton in this order in 2018. The paper also reviews a long tradition in purchasing gold and jewellery in Viet Nam, at least since 2010 while Van Giap (2020) expected the market will recover in 2021 reaching the turnover around 130 billion USD.

### Market share

According to Ky Ngoc (2020), Vietnamese Jewelry Market Share still belongs to small and medium retailers accounting for 70%. The big brands, modestly occupy the rest of 30% in which, PNJ comprise only a tiny 7% share. the other 23% are DOJ, PRECITA, etc. Information on distribution, revenue, etc of these local retail stores is complicated to identify.

## Five forces analysis

### 1. New entry-level threat

These significant entry barriers are the foundations for our assessment of the new entrants are **INSIGNIFICANT**.

- Many laws required for establishing a gold bar/ gold jewellery trading company including An initial capital of more than VND100 billion, more than 2 years' experience in the industry, high pay tax of VND 500 million / year or more in 2 latest consecutive years (Vietnam Government 2012).
- New retailers usually struggle for a period after their opening since fresh, un-widen known reputation since customers prefer high-level and well-known brands.



- The large investment required in building the design team, production capacity, branding and marketing as well as expanding the retail store system requiring extensive industry experience, strong financial capability, and operational ability

## 2. *The threat of substitute within the industry*

The fashion gold jewellery segment is dominated by a series of large chain stores: PNJ, DOJI, SJC and PRECITA. Sharing only several in-significant differences in their product portfolio, meanwhile targeting into quite similar segments, these retailers facing a high threat that customers would switch to their rivals for more satisfying alternatives. With the dominant size in the retailing channel, PNJ was in the leading position until 2019. However, with the current strong growth in the distribution network of DOJI, *we re-determined PNJ's threat of substitutes, now, to be **MODERATE**.*

## 3. *The intensity of competitors*

*Since the unexpected rise in the retailing network of DOJI, we assess the **MODERATE** level of competition in the industry to PNJ.*

### • **DOJI — PNJ's most competitive rivals**

DOJI's business across various industries including gem mining, manufacturing, and jewellery retailing. Since 2012, they have invested more in high-end jewellery. Recently, in May 2020, DOJI acquired Diamond world chain which increased their distribution network to nearly 200 stores in Vietnam (Fintel 2020). With a strong financial capacity and experienced management people, currently, DOJI is the most competitive rival to PNJ.

### • **SJC**

A government corporation being the only supplier of gold bars in Vietnam, possessing the perfect power to set and adjust the raw gold price in the local market. Majority of SCJ revenue comes from selling gold bars. In 2013, they started to establish a Diagold brand which provides luxury jewellery to increase their net profit. They have a total of 41 retail stores in Vietnam.

### • **PRECITA**

a young potential player in the industry with a modest retail channel of 9 stores. PRECITA's revenue and competition, now, are still considered non-significant to some big player such as PNJ, DOJI.

## 4. *Bargaining power of customers*

*Leading position in the retailing network reduces customer bargaining power.*

Within the high-jewel segment, PRECITA, DOJI, PNJ are the three biggest players while more competitors (including small and medium business) exist in the low to medium market. The wide and well-distributed retailing network of 346 stores (at the end of 2019) expands PNJ's products exposure to many customers across the nation. Putting together with the firm's long-term high-end reputation, as a result, lowering the customer's power of bargaining, especially, limiting the customer power in some level 2-3 market areas. However, the recent extension in DOJI's number of stores narrows this capacity of PNJ, so we assess a **MODERATE** threat of customer bargaining power (PNJ 2020b).

## 5. *The power of suppliers*

*Strong Manufacturing Capacity reduces the perfect monopoly power of suppliers.*

SCJ, even though, holds a perfect monopoly power as a supplier, as PNJ is transmitting into both retailing and manufacturing business to capture more profit, entering into an investment plan into its second factory which can generate at least 3000 billion VND in revenue per year. Simultaneously, with the huge demand for this leading brand's product, huge consumption of raw material (stone, gold, germ, etc) would be generated. We assume these factors should allow PNJ to increase its bargaining power with its supplier to **SIGNIFICANT**, compared to their competitors.

## **Consumer purchasing decision**

Fashion followers and the middle class are the main customers of fashion and gold jewellery. Traditionally, gold, gem, silver proportion is the main concern once it comes to purchasing. However, currently, there is a transmission move far away from this

“gold culture”, those other components including product exchange policy, insurance, sophisticated design, trend, reputation, meaning and other emotional values, are now taken into consideration among the millennial segment- the current primary market of this industry. These people are often willing to pay for these tangible aspects (Le, Nguyen & Dang 2017).

### Competitive positioning advantages of PNJ in industry

Besides the (1) *Leading position in retailing network* and (2) *Strong Manufacturing Capacity* economic moats (discussed above), PNJ possessed its final competitive advantages of (3) *Intangible Cost-productive management Digital Transform*: Completion of some digital transformation projects such as EPR, Data Warehouse, etc (discussed in Company Vision and Strategy) during 2019, did and will enormously contribute to producing management cost. Besides, with the capacity to collect, organize and analyse customer’s data (buying behaviours, purchased products, shopping time zones, etc), PNJ gained an advantaged deep insight into customer’ demand.

Putting these three factors together, PNJ possesses a very distinct economic moat placing PNJ at the very **HIGH POSITION IN COMPETITION WITHIN THE INDUSTRY**. The largest position in the market, owning the manufacturing process and efficient management capacity enable PNJ to adapt to changes in the demand’s quantity so much quicker and more cost-productive than other businesses. Meanwhile, with the customer’s data pool, PNJ can stay ahead of the new trends and movements in demand’s quality. This leading competitive Positioning was proved and identified since there is a consistent generation of more of the firm’s revenue, free cash flow, equity, EPS than from other businesses since 2015. Another illustration is how freely and quickly PNJ was increasing its productivity in late 2019 and ½ decreasing its manufacturing this April in response to the COVID-19 (Thanh Ha 2020).

## FINANCIAL ANALYSIS

We compare PNJ to SJC and Chow Tai Fook because (1) PNJ and SJC have the same market industry - jewelry market in Vietnam, however, there are some differences since SJC’s main products are gold bar rather than gold jewelry, (2) Chow Tai Fook does not compete directly with PNJ but they operate in the same strategies - developing high-end jewelry. Hence, compared with SJC and Chow Tai Fook, we could see the big picture of PNJ’s financial performance.

### Profitability

#### A high rate of revenue growth

From 2017 to 2018, the revenue increased sharply annually and reached 32.8% growth rate in 2018. It is because they expand their market by establishing more stores, going-live online platforms and restructuring products. They developed an e-commerce platform to attract more young customers. In addition, they also start to re-plan their brand strategy when developing a new product line: watches and focus more on medium to high-end customers. By building PNJ Next, they could bring customers new experiences and new value to increase their position.

#### Cost of goods sold accounts for a large proportion of revenue

Since gold raw material supply is managed by SBV, the limit of gold supply increases the COGS which make gold prices in Vietnam higher than anywhere globally. This explains the reason that Chow Tai Fook has a higher gross profit margin than PNJ. However, the gap has decreased annually since PNJ has tried to improve its production technology such as casting, dosing, gilding, diamond grinding; and enhancing Tai Loc mould production and machine-engraving efficiency. Consequently, continuously improve gross profit margin.

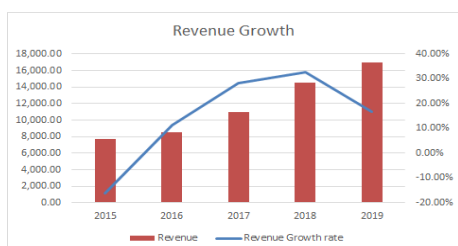


Figure 12: PNJ's revenue growth.

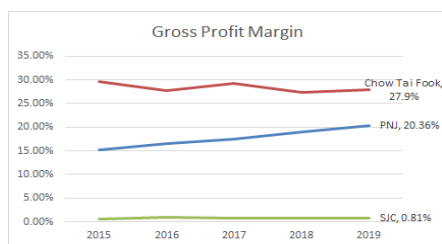


Figure 13: Gross profit margin comparison.

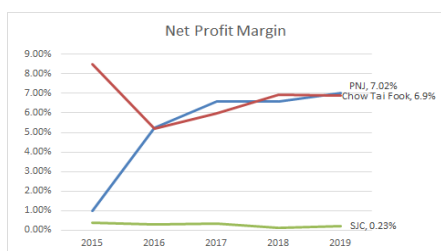


Figure 14: Net profit margin comparison.

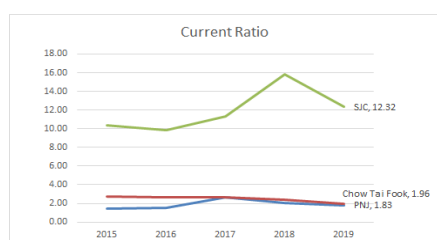


Figure 15: Comparison of Current Ratio.

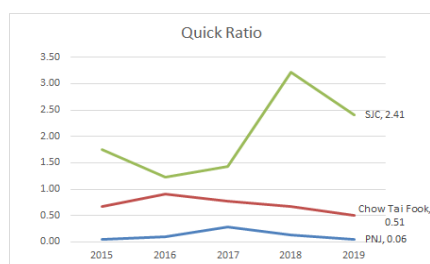


Figure 16: Comparison of Quick Ratio.

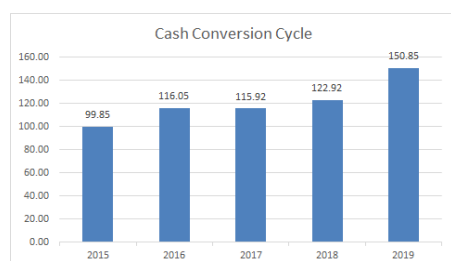


Figure 17: PNJ's cash conversion cycle.

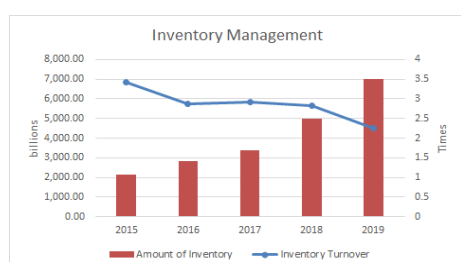


Figure 18: PNJ Inventory management.

## Effective cost control

Nevertheless, if we compare the net profit margin, PNJ had a higher rate, accounting 7.02% in 2019 and increased annually. In 2015, they had low net profit due to the provision for non-performing loan risk in Dong-A case. In the next few years, they did a lot of marketing programs which made up 35% of total revenue and managed cost efficiency.

## Liquidity

### High inventory decrease PNJ's liquidity

The current ratio of PNJ increased from 1.43 to 1.83 from 2015 to 2017 and slightly decreased to 1.83 in 2019. Compared to Chow Tai Fook, the ratio was quite similar while compared to SJC, PNJ is much lower. Due to low current liabilities, SJC's ratio is very high. They are a gold bar manufacturers monopoly in which the government holds 100% share, their assets mostly come from equity.

When comparing quick ratios, PNJ had the lowest ratio in 5 years which means their inventory contributed a large proportion of their current asset. They increased inventory significantly due to market expanding and strong revenue growth. Moreover, they also increase raw materials and merchandise inventory and reduce the finished goods inventory. PNJ has a strategy to develop its manufacturing from raw material to finished goods instead of importing.

However, PNJ is a jewellery manufacturer and retailer, hence, the majority of raw materials is gold, silver and gem which have less risk about value decreasing and could be reproduced and sold immediately. The fluctuating gold price could affect the inventory value but PNJ bought a futures contract to reduce risks.

Overall, PNJ current assets still cover current liability but if the inventory is not managed appropriately, PNJ would have negative cash flow.

## Efficiency

### Cash Conversion Cycle gradually increased mainly because of high days inventory outstanding

The CCC of PNJ has increased gradually in recent years, indicating that it took PNJ a longer time to sell its inventory, collecting its receivables and paying its bills. While PNJ does not have many accounts receivable and pays its debt obligation quickly, the main reason for the increase in CCC is because PNJ has a large amount of inventory and cannot convert it fast enough into cash revenue.

Since nearly 80% of sales of PNJ are from selling jewellery and wristwatches, the company's inventory would not contain a large number of gold bars but rather raw materials, supplies and finished goods. Hence, the inventory could not be transferred to revenue fast enough as PNJ's inventory turnover ratio is decreasing from 3.5 in 2017 to 2.26 in 2019. As a result, the company has a large number of inventory amounts at the end of the year, which accounts for most of its total assets.

## Low asset turnover due to high amounts of inventory

PNJ's ability to utilise its assets to create revenue is similar to Chow Tai Fook as the asset turnover ratio only stood at 2.26 in 2019, far less than SJC at 14.74. As analysed above, inventory accounts for most of the total assets and is increasing in recent years; therefore, lower the asset turnover ratio of the company.

## Financial leverage

High equity multiplier due to an increase in short term borrowings

Equity multiplier is examined to measure and compare the leverage ratio of PNJ with SJC and Chow Tai Fook. PNJ's ratio has decreased from 2016 to 2018 showing the company was lowering its dependence on debt leverage to finance its assets and investment projects. However, there is a slight increase in the equity multiplier of PNJ in 2019. It is because the company had pledged parts of its inventory as collaterals for short term borrowings, which significantly increased both its assets and liabilities, while the increase in equity was only due to net profit and was not relatively notable. The ratio of PNJ for 2019 stood at 1.81, which was nearly twice as much like that of SJC (1.07); meaning that the debt level of PNJ is quite high.

## DuPont Analysis

### High ROE compared to peers due to effective cost control and the use of debt leverage

Overall, the ROE of PNJ, which stood at 28.69% in 2019, is the highest compared to Chow Tai Fook and SJC in the gold industry, although there is a slight downward trend of the ratio starting from 2017. With a high ROE, PNJ is expected to create high value and return for its shareholders based on their investments in the company.

As analysed above, with effective cost management, net profit margin of PNJ, which has risen from 1% in 2015 to 7.02% in 2019, is the highest compared to other two companies in the same sector. Asset turnover is low since the inventory has gradually increased in recent years, which increased the total assets and reduced the ratio. The financial leverage ratio of PNJ slightly increased in 2019, indicating that PNJ has borrowed more money to fund for its assets and investments.

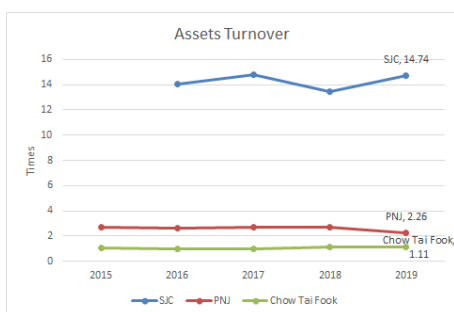


Figure 19: Asset Turnover comparison.

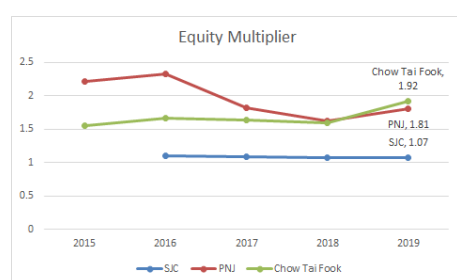


Figure 20: Comparison of Equity Multiplier.

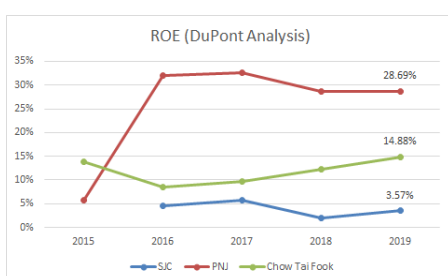


Figure 21: Comparison of DuPont Analysis.

## VALUATION

### Weighted Average Cost of Capital (WACC)

The cost of equity is calculated based on the Capital Asset Pricing Model (CAPM). The risk-free rate is 3.17% at the date of valuation, which is the Vietnam Government Bond 10 years yield (Hanoi Stock Exchange 2020). The market return of 16% is derived from the World Bank database for VN-Index performance in 20 years (The World Bank 2019). The beta of PNJ at 1.01 is computed based on regressing the return on PNJ's stock and the return on VN-Index from May 2017 to May 2020. As a result, the cost of equity is estimated at 16.12%. The cost of debt after tax is at 6% regarding the interest payments and total debt of PNJ. Based on PNJ's capital structure, it is estimated that the WACC is 11.87%.

## Discounted Cash Flow Model

Unit: VND billion	2019A	2020P	2021P	2022P	2023P	2024P
Revenue	17,001	14,340	19,072	22,505	27,007	32,948
EBIT	1,507	1,040	1,717	2,025	2,431	2,965
Tax Paid	301	208	343	405	486	593
Earning After Tax	1,205	832	1,373	1,620	1,944	2,372
D&A expense	61	83	67	79	95	115
Minus: Change in working cap	95	391	-480	581	762	1,005
Minus: CAPEX	222	222	441	293	351	428
Unlevered FCF		301	1,479	826	926	1,054
Long term growth rate of FCF	7.50%					
WACC	11.87%					
Terminal Value	25,929					
Present Value of Terminal Value	16,555					
Present value of FCF	3,618					
Enterprise Value	20,173					
Net Debt	2,615					
Firm Value	17,559					
Outstanding Share	225,193,585					
Firm value/ Share	77,972					

Figure 22: Firm's share value computation. Team estimated.

### Assumption

Due to COVID-19, we broke down the analysis into 2 components: 2020 financial forecast and 2021-2024 annual financial forecast. At the end of 2024, we assumed a constant growth rate for the terminal phase.

#### Revenue forecast

##### Financial Year 2020

As the COVID-19, revenue is expected to suffer a significant drop based on the forecast number from the PNJ report. In detail, revenues and EBIT slumps down 15%, % standing at 14340.15 and 832 billion VND respectively. The profit decreases because (1) 80% of PNJ stores closed in 2 weeks social distance in Vietnam which revenue decreased nearly 47% in April, (2) Covid-19 decreases the economic growth which leads to decrease in jewellery demand. However, since Vietnam controls the Covid-19 outbreak effectively and PNJ has good strategy by increasing their liquidity, controlling expenses and restructuring their inventory, they still have a positive profit in May 2020. Hence we believe that PNJ could recover their performance at the end of quarter 3.

##### Year-to-Year 2021-2024

As the current unstable economic situation and based on the firm's current strategic plan. We expected the recovery to occur at the end of 2020 bringing 2021's revenue back to the latest high in 2019, then grows at an annual rate of 20% which CAGR from 2020 to 2021 is 22%. The CAGR of the past 5-years (2015-2019) is 22% and we believe that in the next five years PNJ could increase at a similar amount because (1) middle to the high class which are PNJ main segmentation continue to increase, (2) the gold jewellery consumption increase 10% per year and is forecasted to increase, (3) new plants in Long An could produce 500,000 items/year which can replace the import products to reduce tax for nearly 100 billion/ year (Linh, 2020), (4) ERP development could help PNJ improve customers experience, analyse customers behaviours to attract more customers.

#### Capital expenditures forecast

PNJ's adaptation to COVID and long-term strategy put a significant emphasis on completely improving its operating and manufacturing infrastructures (PNJV- the second factory, expanding retailing channel, EPR and other technology software) by the end of the next year.

Since PNJ's recent investment plan aligns with the quick-changing and unpredictable demand, we assume the CAPEX for this 2020 remains at 221.83 to maintain the daily operation throughout this year. However, the majority of the investment will be put in place next year pushing the rate up to 2.31% of the net revenue. Afterwards, it remains at 1.30% of the net sales.

### Change in the working capital forecast

We observed an approximate annual ratio of current debt to assets of 47% and assume the current leverage structure remains the same for the coming years. As PNJ historical data reviews, the company plans to: (1) increase inventory annually to meet the growth in demand, (2) current debt rises/decrease in alignment with the rise/drop in purchasing more inventory and spending for investment.

### Terminal growth

The Jewelry Industry is expected to grow at 10% annually while the average inflation rate in these recent years is moving toward 2.5%. We assume the growing rate shall be 7.5% per annual reflecting the opposite of the two-above rate. (reference for inflation).

### Sensitivity analysis

		WACC				
Target price	77,972.14	10%	11%	12%	13%	14%
Terminal growth	6.50%	102,286	77,677	77,677	51,165	43,208
	7%	119,031	87,183	87,183	55,323	46,216
	7.50%	119,031	87,183	77,972	55,323	46,216
	8%	177,636	115,700	115,700	66,136	53,738
	8.50%	236,241	138,515	138,515	73,344	58,524

Figure 23: Sensitivity analysis based on the DCF model. Team estimated.

The above sensitivity analysis examines the changes in two factors, which are WACC and long term growth of PNJ. The result shows that PNJ's price ranges from VND 43,208 to VND 236,241.

### P/E Valuation

Compared with other companies in the same industry in Asia, in 2019, PNJ's P/E ratio is higher than Chow Tai Fook's and lower than Lao Feng Xiang's, however, the gap was quite small. Base in the ratio, we can expect the public generally value and have fair consensus in PNJ's stock price compared to the other businesses, in the present. The Covid-19 outbreak affected all stocks around the world, PNJ's P/E ratio dropped to 11.9 on 31/05/2019. Chow Tai Fook and Lao Feng Xiang are not the direct competitors of PNJ, so some assumptions would be given to justify the position of PNJ regarding the P/E ratio.

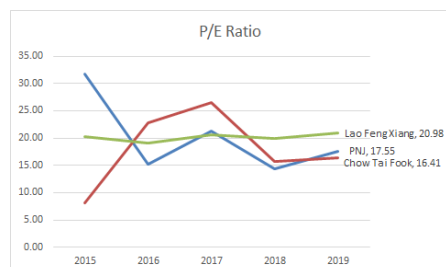


Figure 24: Comparison of P/E ratios.

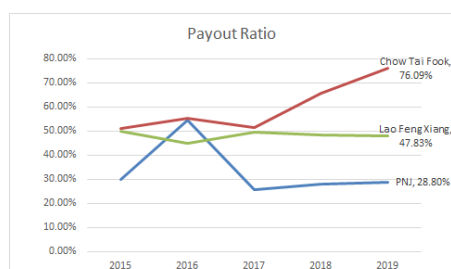


Figure 25: Comparison of payout ratio.

### Assumption

#### Dividend payout ratio forecast

From 2015 to 2017, PNJ did not pay dividend consistently, reaching 54.55% in 2016 but dropping immediately to 25.55% in next year. It could be explained that PNJ invested the retained profit into building a new factory, developing ERP and improving the performance. Since 2017, the payout ratio has increased slightly to 28.8% in 2019. However, Chow Tai Fook and Lao Feng Xiang had much higher payout ratios than PNJ for an average of 60% and 48%, respectively. Hence, PNJ would continue to increase their payout ratio slightly to increase the attraction to investors but regarding CAPEX plan they also need the capital for the second factory, ERP development and stores expanding. We estimate that PNJ could have a 34% payout ratio on average in the next five years from 2020 to 2024 and 45% from 2025 onward (similar to peers' payout ratio) since the stable operation period of PNJ could start from there.

#### Dividend Growth Rate Forecast

The retention ratio and ROE is based on the payout ratio and the revenue forecasted plan as mentioned above. Hence, we estimate that the dividend growth rate is 18.76% on average from 2020 to 2024 and 12% from 2024 onward.

	2020F	2021F	2022F	2023F	2024F	Average
<b>ROE</b>	26.92%	27.69%	28.47%	29.25%	30.03%	
<b>Retention Rate</b>	69.37%	67.68%	65.99%	64.30%	62.62%	
<b>Growth Rate</b>	18.67%	18.74%	18.79%	18.81%	18.80%	18.76%

Figure 26: Dividend growth forecast. Team estimated.

## Intrinsic value

Based on the above analysis, we can estimate the P/E ratio and PNJ's intrinsic value as below.

	2020-2024	2024 onward
Payout Ratio	34.01%	45%
Dividend Growth	18.76%	12%
Required of Retu	16.12%	16.12%
Estimated P/E	15.24	
<b>Intrinsic Value</b>	<b>88,627.90</b>	

Figure 27: PNJ's intrinsic value computation. Team estimated.

## Investment Decision

Using the DCF model with the above assumption, we value PNJ's share price at VND 77,972. PNJ's share price under P/E valuation model is VND 88,627.90. Both models bring two different perspectives: one is from free cash flow and one is from the dividend payment. Hence, we would take the average price of the two models.

We recommend a BUY decision for PNJ with a target price of VND 83,300 which is 32% higher than its closing price of VND 63,100 on 29 May 2020

## INVESTMENT RISK

### Covid-19 Affects PNJ's Revenue in Long Term

There is no certainty when the Covid-19 in a global context will end, which might lead to Vietnam's GDP to be affected in the longer term. So when there is no enhancement in the GDP growth rate, it is not likely for customers to be willing to spend on luxury goods, especially jewelry, which would lower the company's long-term revenues.

### The pressure of Not Having Enough Cash to Pay Debt and Maintain Daily Operations during COVID Time

PNJ's debt ratio has always been recorded at high risk, however, the company's sound and proven ability in managing the cash flow did a great job to make all the debt repayments before the maturity date.

However, in the current economic situation, the money supply experienced a huge decrease since investors and banks are more cautious and revenue dismiss. PNJ faces a higher risk of not having enough cash to cover short-term debt and maintain daily operation.

### Not Proactive in Acquiring Raw Gold Material

Government has the exclusive authority to import gold and set the price in the market. There are two consequences, (1) it might limit the amount of raw gold material input so that PNJ's products sold to customers would be restricted either, which makes the annual revenues to be lowered. (2) This situation hinders PNJ's potential to be an exporter to the global market because there is a difference in the domestic gold price and the world's.



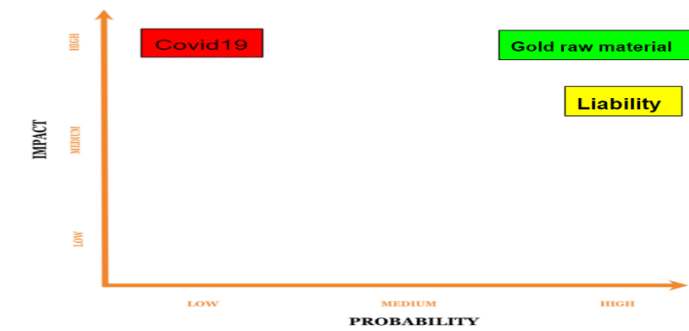


Figure 28: Risk matrix. Team estimated.

## Mitigation Strategies

**Applying the strategy for cash flow efficiency in Covid-19** will reduce the pressure on operating expense and demand for new debt, also, generate a good cash-flow circle, improve liquidity enabling PNJ to pay former current-debt and daily operating expenses.

**Strategies for Gold raw materials: Increasing inventory during high gold price time.**

Facing law regulation, PNJ can earn extra profit from acquiring gold at the right time. The inventory was increased significantly in 2018 and 2019 by VND 1,566.19 Bil and VND 2,062.27 Bil, respectively. Cao Thi Ngoc Dung stated in her last recorded meeting, she would forecast Vietnam's gold market through the Global economic events. Based on Tapchitaichinh (2020), the price of global gold increased by 18.33% for the whole year of 2019. And the average domestic gold price in 2019 increased by 7.55%.

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## APPENDICES

### Appendix 1: PNJ's Balance Sheet Forecasted 2020-2024

	2020F	2021F	2022F	2023F	2024F
<b>CURRENT ASSETS</b>	<b>6,233.36</b>	<b>8,290.37</b>	<b>9,782.63</b>	<b>11,739.16</b>	<b>14,321.78</b>
Cash and cash equivalents	80.94	107.65	127.03	152.43	185.97
Accounts receivable	110.24	146.61	173.00	207.60	253.28
Inventories	5,975.86	7,947.89	9,378.51	11,254.21	13,730.14
Other current assets	66.33	88.21	104.09	124.91	152.39
<b>LONG-TERM ASSETS</b>	<b>1,079.16</b>	<b>1,435.28</b>	<b>1,693.63</b>	<b>2,032.36</b>	<b>2,479.48</b>
Long-term trade receivables	60.11	79.95	94.34	113.21	138.12
Fixed assets	785.29	1,044.44	1,232.43	1,478.92	1,804.28
Long-term incomplete assets	24.19	32.17	37.96	45.55	55.58
Other long-term assets	246.55	246.55	246.55	246.55	246.55
<b>TOTAL ASSETS</b>	<b>8,602.96</b>	<b>8,602.96</b>	<b>8,602.96</b>	<b>8,602.96</b>	<b>8,602.96</b>
<b>LIABILITIES</b>	<b>3,421.84</b>	<b>4,551.05</b>	<b>5,370.24</b>	<b>6,444.29</b>	<b>7,862.03</b>
<b>Current liabilities</b>	<b>3,415.18</b>	<b>4,542.19</b>	<b>5,359.79</b>	<b>6,431.74</b>	<b>7,846.73</b>
Trade accounts payable	587.19	780.96	921.53	1,105.84	1,349.12
Advances from customers	81.05	107.80	127.20	152.64	186.22
Taxes and other payable to State Budget	163.78	217.83	257.04	308.44	376.30
Payable to employees	188.95	251.31	296.54	355.85	434.14
Accrued expenses	39.00	51.86	61.20	73.44	89.60
Other payables	58.87	78.30	92.39	110.87	135.26
Short-term borrowings	2,219.27	2,951.63	3,482.92	4,179.50	5,098.99
Bonus and welfare funds	77.08	102.52	120.97	145.16	177.10
<b>Long-term liabilities</b>	<b>6.66</b>	<b>8.86</b>	<b>10.46</b>	<b>12.55</b>	<b>15.31</b>
Other long-term payables	0.40	0.54	0.63	0.76	0.93
Long-term borrowings	3.15	4.18	4.94	5.92	7.23
Provision for long-term liabilities	3.11	4.14	4.88	5.86	7.15
<b>OWNER'S EQUITY</b>	<b>3,890.68</b>	<b>5,174.60</b>	<b>6,106.03</b>	<b>7,327.23</b>	<b>8,939.22</b>
Capital and reserves	3,890.68	5,174.60	6,106.03	7,327.23	8,939.22
Paid-in capital	1,915.00	2,546.94	3,005.39	3,606.47	4,399.90

## Appendix 2: PNJ's Income Statement Forecasted 2020-2024

	2020F	2021F	2022F	2023F	2024F
Net sales	14,450.58	19,219.27	22,678.74	27,214.49	33,201.67
	-15.00%	33.00%	18.00%	20.00%	22.00%
Cost of sales	-11,317.98	-14,799.61	-17,463.54	-20,956.24	-25,566.62
	-78.32%	-77.00%	-77.00%	-77.00%	-77.00%
Gross Profit	3,132.60	4,419.66	5,215.20	6,258.24	7,635.06
Financial income	23.97	37.52	62.54	112.60	222.55
Financial expenses	-190.49	-298.17	-497.04	-894.87	-1,768.70
of which: interest expenses	-171.44	-268.35	-447.34	-805.38	-1,591.83
Selling expenses	-1,409.67	-1,767.87	-2,086.08	-2,503.30	-3,054.02
General and admin expenses	-516.83	-675.20	-669.80	-542.89	-70.54
Operating profit/(loss)	1,039.58	1,715.95	2,024.82	2,429.79	2,964.34
Net other income/(expenses)	0.43	0.57	0.67	0.80	0.98
Net accounting profit/(loss) before tax	1,040.00	1,716.52	2,025.49	2,430.59	2,965.32
Corporate income tax expenses	-208.00	-343.30	-405.10	-486.12	-593.06
<b>Net profit/(loss) after tax</b>	<b>832.00</b>	<b>1,373.21</b>	<b>1,620.39</b>	<b>1,944.47</b>	<b>2,372.25</b>

## Appendix 3: PNJ's Statement of Cash Flow Forecasted 2020-2024

	2020F	2021F	2022F	2023F	2024F
<b>Net profit/(loss) before tax</b>	1,040.00	1,716.52	2,025.49	2,430.59	2,965.32
Depreciation and amortisation	82.53	66.57	78.77	94.52	115.32
Change in WC	-842.92	-1,366.89	-1,835.05	-2,169.34	-2,420.43
<b>Net cash inflows/(outflows) from operating activities</b>	<b>114.55</b>	<b>283.05</b>	<b>111.67</b>	<b>166.72</b>	<b>429.56</b>
Purchases of fixed assets and other long term assets	-221.83	-440.57	-292.57	-351.08	-428.32
<b>Net cash inflows/(outflows) from investing activities</b>	<b>-221.83</b>	<b>-440.57</b>	<b>-292.57</b>	<b>-351.08</b>	<b>-428.32</b>
<b>Net cash inflows/(outflows) from financing activities</b>	<b>283.45</b>	<b>346.11</b>	<b>415.58</b>	<b>463.82</b>	<b>456.06</b>
<b>Cash and cash equivalents at the beginning of period</b>	<b>95.22</b>	<b>80.94</b>	<b>107.65</b>	<b>127.03</b>	<b>152.43</b>
<b>Cash and cash equivalents at the end of period</b>	<b>80.94</b>	<b>107.65</b>	<b>127.03</b>	<b>152.43</b>	<b>304.87</b>

## Appendix 4: PNJ's Ratios Forecasted 2020-2024

Ratio	2018A	2019A	2020F	2021F	2022F	2023F	2024F
<b>Profitability</b>							
Gross Profit Margin	19.07%	20.36%	21.68%	23.00%	23.00%	23.00%	23.00%
Operating Margin	8.27%	8.86%	7.20%	8.93%	8.93%	8.93%	8.93%
Net Profit Margin	6.59%	7.02%	5.76%	7.14%	7.14%	7.14%	7.14%
ROE	28.68%	28.69%	19.65%	30.30%	28.73%	28.95%	29.17%
ROA	17.56%	15.88%	9.67%	15.96%	18.84%	22.60%	27.57%
<b>Liquidity</b>							
Current Ratio	2.02	1.83	1.83	1.83	1.83	1.83	1.83
Quick Ratio	0.16	0.08	0.08	0.08	0.08	0.08	0.08
Cash Ratio	0.08	0.02	0.02	0.02	0.02	0.02	0.02
<b>Activity</b>							
Day Inventory Outstanding	129.54	161.72	209.72	171.7	181.07	179.68	178.34
Day Sale Outstanding	3	3.06	3.03	2.44	2.57	2.55	2.53
Day Payable Outstanding	9.62	13.93	20.61	16.87	17.79	17.66	17.52
Cash Conversion Cycle	122.92	150.85	192.15	157.27	165.85	164.58	163.35
<b>Financial Leverage</b>							
Debt to Equity	0.72	0.88	0.88	0.88	0.88	0.88	0.88
Equity Multiplier	1.72	1.88	2.21	1.66	1.41	1.17	0.96

## Appendix 5: Capital Asset Pricing Model

The Capital Asset Pricing Model (CAPM) illustrates the relationship between the expected return of a stock and the systematic risks associated with the investment. The PNJ's expected return, or the cost of equity, can be calculated as below:

$$E(r_i) = r_f + E(r_m - r_i) \times \beta$$

In which:

$E(r_i)$ : required return on equity of PNJ

$E(r_m - r_i)$ : difference in the expected return of the market and the risk-free rate

(market risk premium)

$r_f$ : risk-free rate

$\beta$ : beta of PNJ (covariance of stock price and market fluctuation)

### 1. Risk-Free Rate ( $R_f$ )

The risk-free rate represents the rate of return that an investor would expect from a risk-free investment. In Vietnam, the risk-free rate can be derived by taking the Vietnam Government Bond 10 years yield at 3.17% on the valuation date.

### 2. Expected Market Return ( $R_m$ )

The expected market return ( $R_m$ ) of Vietnam is calculated based on the returns of Vietnam's main securities market index, which is the VN-Index, in the last 20 years. The market return is estimated to be 16% annually according to the World Bank's database (2019).

### 3. The beta of PNJ's Stock

The beta of PNJ is estimated by using regression analysis to show the correlation between the return on PNJ and the return on the VN-Index. The daily data from May 2017 to May 2020 is used to perform the analysis with better results.

SUMMARY OUTPUT		2017-2020							
<i>Regression Statistics</i>									
Multiple R	0.44								
R Square	0.19								
Adjusted R Square	0.19								
Standard Error	0.02								
Observations	743.00								
ANOVA									
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>				
Regression	1.00	0.10	0.10	177.45	0.00				
Residual	741.00	0.43	0.00						
Total	742.00	0.53							
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>	
Intercept	0.00	0.00	-0.83	0.40	0.00	0.00	0.00	0.00	
RVN	1.01	0.08	13.32	0.00	0.86	1.16	0.86	1.16	

The beta (RVN) at 1.01 means that when the VN-Index's return increases by 1%, the return of PNJ will increase by 1.01%, which illustrates a positive correlation between the returns.

The p-value of beta is lower than 0.01, indicating that we can reject the null hypothesis, which suggests that there is no correlation between both returns, at the significance level of 1%. In other words, we are 99% confident that there is a relationship between the return of PNJ and the return of VN-Index.

Hence, the cost of capital is (formula) = 16.12%

#### WACC calculation

Risk-free Rate	3.17%
Market Return	16%
Beta of PNJ	1.01
<b>Cost of Equity</b>	<b>16.12%</b>
Cost of Debt after Tax (20%)	6%
Debt Weighting	42%
Equity Weighting	58%
WACC	11.87%



## Appendix 6: Porter's Five Forces Applied to PNJ

