



PNJ – COMPANY VALUATION REPORT

HA PHAN – S3926968

Phu Nhuan Jewelry for Phu Nhuan Jewelry Joint Stock Company (PNJ)

Recommendation: **SELL**

I recommend a **SELL** for Phu Nhuan Jewelry for Phu Nhuan Jewelry Joint Stock Company with a target price of VND 55,742.43, with 41% upside from the closing price of VND94,200 on April 26, 2024. The final target price is estimated according to DCF-FCFE and relative P/E model with accuracy weight of 50-50 respectively.

Key Financials

History (Statutory)						Forecast				
PNJ	FY19A	FY20A	FY21A	FY22A	FY23A	FY24E	FY25E	FY26E	FY27E	FY28E
Revenue	17,140,837	17,675,521	19,670,704	34,208,261	33,479,234	34,918,277	36,365,017	37,889,769	39,454,720	41,092,331
Net Profit after Taxes	1,334,081	1,234,043	1,152,688	2,142,186	2,313,404	2,874,821	3,419,217	4,016,209	4,627,269	5,284,121
Net Profit Margin	7.78%	6.98%	5.84%	6.26%	6.91%	8.23%	9.40%	10.60%	11.73%	12.86%
Capex	48,293	66,389	57,926	53,670	64,228	76,862	91,980	110,073	131,724	157,634
Return on Equity	28.70%	21.80%	18.30%	25.00%	21.60%	22.07%	22.54%	23.03%	23.53%	24.04%

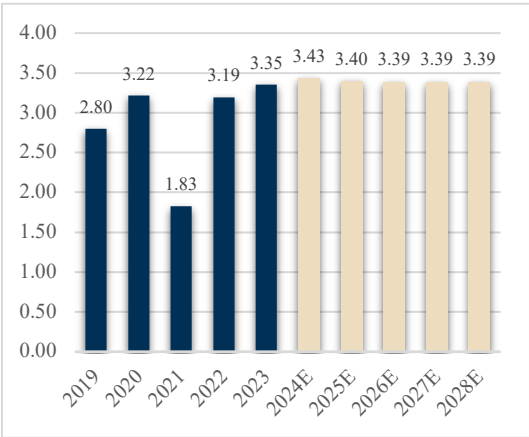
Figure 1: PNJ overview

MARKET PROFILE	
Closing Price (VND)	94200
Target Price	58,403
Recommendation	Sell
Average Volume	1,654,400
52-week Price Range	68.38-104
Day's range	2.5-95.1
Market Cap (VND million)	31,783,163
Outstanding Shares (million)	33455.96%
Dividend	0.0168
EPS (VND)	2215

*All prices as of close 26 April 2024

Source: Refinitiv Eikon

Figure 2: Vietnam Inflation rate from 2019 to 2028



Source: Statista (2024)

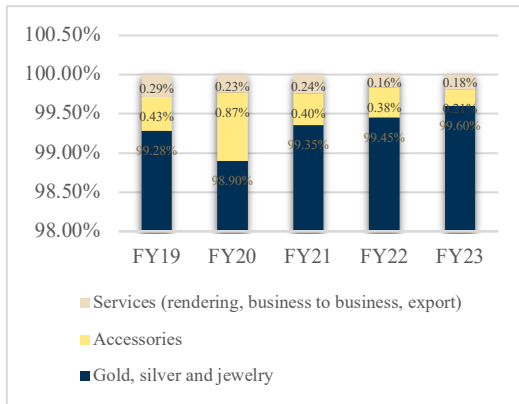
MACROFACTORS, INDUSTRY, COMPANY OVERVIEW

Rising inflation rates hindered consumer balance sheets despite lower borrowing rates

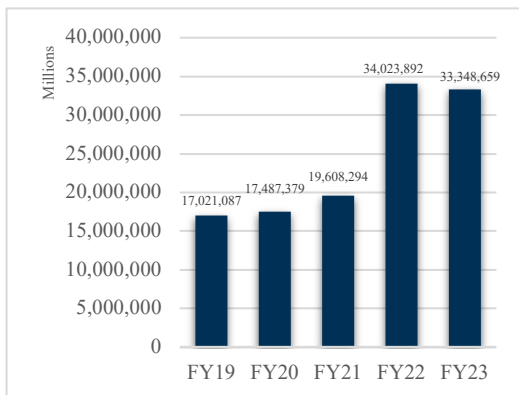
Inflation increased from 3.25% in FY22 to 3.43% in FY23 and it is expected to continue growing in FY24 due to increasing money supply into circulation and rising costs in primary sectors (Statista 2024, Viet 2024). January, February and March 2024 gave inflation rate of 3.37%, 3.98% and 3.35%, respectively (TradingEconomics 2024). In 2023, State Bank of Vietnam (SBV) lowered its policy interest rates fourfold: deposit interest rates declined 2-2.5% points accordingly for new loans, outstanding loans still have +10% interest rates per year (VCBS 2023). In 2024, lending interest rates for new loans decreased by another 0.15-0.25% points after Jan, 2024. Banks will also cut rates for promising businesses to assist them in restructuring debts and weather intricate times (Duong 2024). Vietnamese labourers' monthly average income was up 6.9% in 2023 to attain VND 7.1mm (GSO 2024). It will increase another 6% thanks to The Ministry of Labor, War Invalids and Social Affairs's proposal to heighten Vietnam's regional minimum wage to stay ahead inflation, effective July 1, 2024 (Chau 2024). Consumer confidence in Vietnam has been decreasing to 51 point index in Jan 2024 (IFM 2024), signifying quite gloomy economy. This explains Vietnamese people's non-discretionary consumption reduction in Q1, 2024 (Nguyen 2024). However, every 3 out of 10 Vietnamese people will buy gold and silver/jelryery, with 62% buying jewelry, 58% buying gold or silver (BrandsVietnam 2024). Thus, Vietnam's accessories and jewelry market

Resilience of jewelry and gold industry admist inflationary pressures

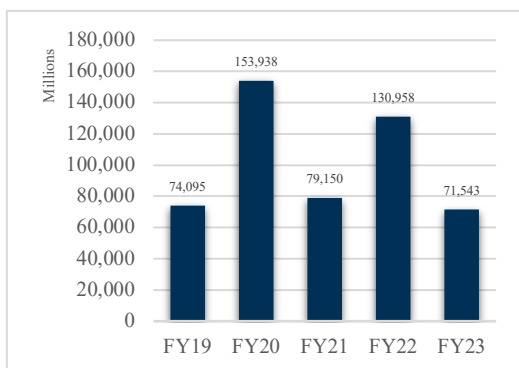
Vietnam's luxury and non-luxury luxury jewelry industry underwent annual CAGR 1.35% and CAGR 5.02% in 2024 respectively (Statista 2024; Le 2024). This is because of gradual rising demand for beauty, anniversary, couple's love representative, wedding of Vietnamese (Baunat 2024). Gold market also become properous market for citizens in Vietnam to hedge against inflationary pressures. Gold bar price surged to VND 84.5mm/tael, gold ring price increased

Figure 3: PNJ Revenue Contribution

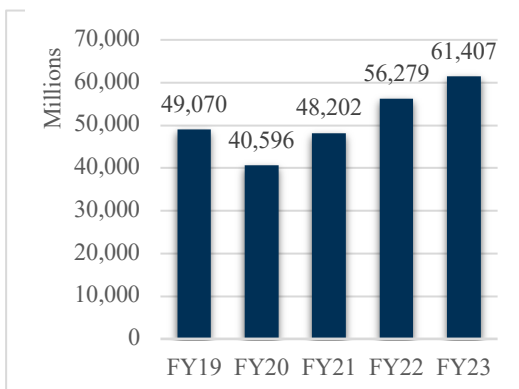
Source: Company fillings

Figure 3: PNJ Revenue from Gold, Silver, Jewelry

Source: Company fillings

Figure 4: PNJ Revenue from Accessories

Source: Company fillings

Figure 5: PNJ Revenue from Services (rendering, business to business, export)

Source: Company fillings

to VND73-74.8mm/tael (Tong 2024; Quang 2024). If entering positions at this time, investors may witness a loss or very low profit. Similarly, commercial banks and companies are not interested in gold investment, as reflected by that only 2 out of 11 entities joining the SBV's gold auction, making 13,400 taels stagnant (equivalent to 80%) in the current bidding session due to very low gross margin of VND20,000/ounce (Thi 2024).

Business description

Founded in 1988, PNJ has enjoyed its 36 years of operation to have prevailed as Vietnam's and Asia's leading jewelry manufacturer, retailer and exporter. Its total stores have increased up to 399 outlets nationwide to serve 4m+ customers clients in FY2023 and an annual 2m+ customers historically. PNJ also served +3,000 wholesale clients in both FY2023 and historically.

PNJ was honored as "Retail Marketing Initiative of the Year" thanks to its transformation of traditional Enterprise Resources Planning (ERP) to multicloud-based system to save cost up to 200% and bolster customer relationship management. This settles a shielding economic moat that allows upselling and cross-selling, broadens revenue streams, improves topline performance, evident by consistent growth in net profit margin in FY19-FY23.

PNJ is expanding store network to accumulate market share and maintain market dominance power, especially in Tier 2 Tier 3 areas where its modern trade presence remains limited. This will further enable PNJ to remain ahead of other mid to high-end jewelry brands slower to enter Vietnam's Tier 2 and Tier 3 cities and provinces' market. This enables PNJ to reach even new potential customers. PNJ's jewelry factories are the most advanced in Vietnam thanks to AI integration to enhance manufacturing process, 3D printers adoption to improve design quality manufactured, explaining gradual rise in return on equity.

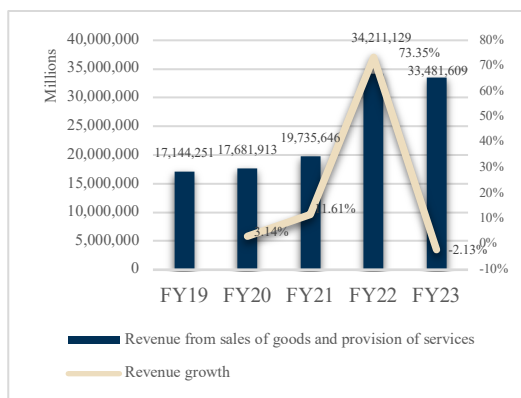
FINANCIAL PERFORMANCE

Revenue Breakdown

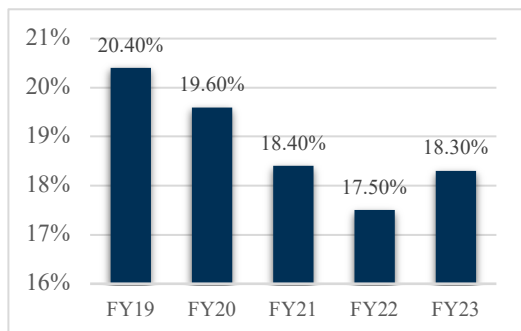
PNJ earns revenues from 3 channels: sales of gold, silver and jewelry, sales accessories and services sales (rendering, business to business, export). Gold, silver and jewelry contributed the largest to the total revenue, followed by accessories then services. PNJ offers five distinct product lines: (1) CAO: high-end jewelries targeting successful business women; (2) Jemma: accessories focusing on clients in between the mid-income and high-income segments; (3) PNJ Gold: targeting women above 30 years old; (4) PNJ Silver: targeting young girls and office women; (5) Yabling: satisfying teenagers' needs for low-priced accessories.

Sales of Gold, Silver and Jewelry

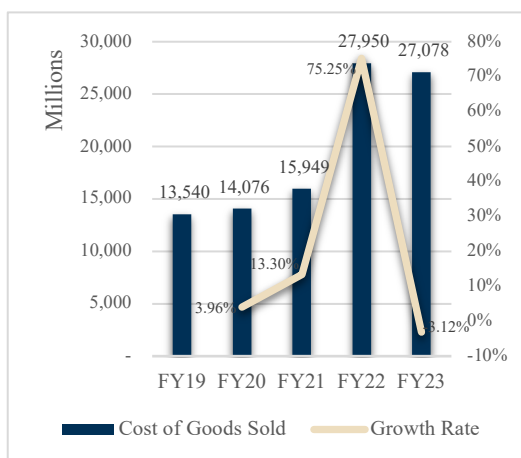
PNJ's Gold, Silver and Jewelry revenue saw 4Y CAGR of 18.31% (FY19-FY23). PNJ ventured into less-developed cities in Tier 2 and 3 areas to acquire new potential customers and expand its market share, increasing sales (Hieu 2024). Company re-positioned Valentine's Day as proposals day, provoking jewelry gifting instead of traditional flowers or chocolates presents, forming a new reasonable occasion for jewelry purchases (Hoang 2024). PNJ's themed

Figure 6: PNJ Revenue growth

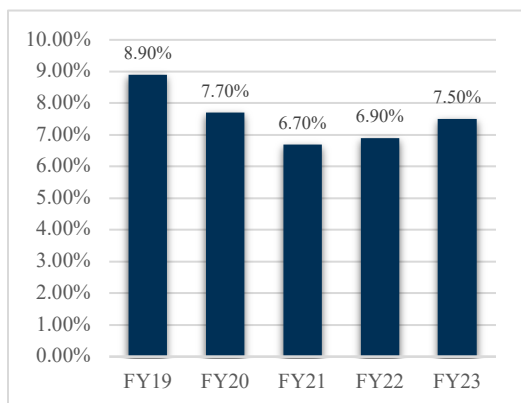
Source: Company fillings

Figure 7: PNJ Gross Profit Margin

Source: Company fillings

Figure 8: Cost of Goods sold

Source: Company fillings

Figure 9: Operating Margin

Source: Company fillings

jewelry capitalized on this niche target customer's willingness - Vietnamese fans who favor cute anime characters like Hello Kitty, Disney characters - to spend on fandom-related merchandise (Van 2024; Urrutia 2024), improving jewelry sales. Yet, revenue of gold decreased in FY23 since BRICS countries (Brazil, Russia, India, and China) diversified reserves away from the US dollar by hoarding gold to enhance their currency independence amidst geopolitical tensions and rising inflation (Hoang 2024). This increased demand pushed gold prices in the near future, making quantity reduce, so people spend less, inducing slowdown in sales volume, ultimately reduction in sales volume in FY23.

Sales of accessories

PNJ's accessories revenue was 4Y CAGR of -0.87% (FY19-FY23). Its accessories involve totally imported luxury eyeglasses and watches, which can only target at the mid-income to high-income clients who are becoming tech-savvy and transitioning smartwatches to assist in phone call, health record (Quan 2024).

Sales of services (rendering, business to business, export)

PNJ's Service (Rendering, B2B, Exports) revenue 4Y CAGR of 5.77% (FY19-FY23) was bolstered by (1) strong investment in rendering services (Original Equipment Manufacturing (OEM) and Original Design Manufacturing (ODM)) by adopting metal 3D printer printing technologies to improve design quality (PNJ Export 2024; Meslab 2023); (2) consistent exports to the U.S, UK, Germany, Oceania markets due to reliable resources along with stringent quality control system (PNJ Export 2024).

Revenue growth

Overall, FY23 revenue growth -2.13% was impacted mainly by revenue from gold, silver, jewelry and accessories, decreasing from VND34,211,129mm to VND 33,481,609mm (Figure 6).

FINANCIAL ANALYSIS

Operating Profitability

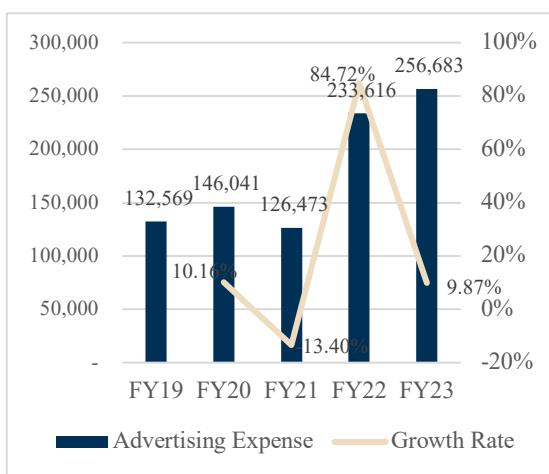
Gross Margin

During FY19-FY22, PNJ's gross margin decreased from 20.40% to 17.50% because CODVI-19-induced mobility restrictions raised cost of goods sold up to 75.25% in FY22 (Figure 8). PNJ also launched fast delivery in 3 hours with free shipping fees and gift a VND100,000 if delivery is any minute late, even raising the costs. But this provoked the rebound of sales in FY23 via PNJ's retail omnichannels as Vietnamese customers started to preferring online order. PNJ leveraged the marketing power of Disney princesses to launch theme-related jewelries, boosting significant sales in this category by 60% annually in 2019 (VPBS 2019). Similar trend was recovered in FY23 after COVID-19.

Operating Margin

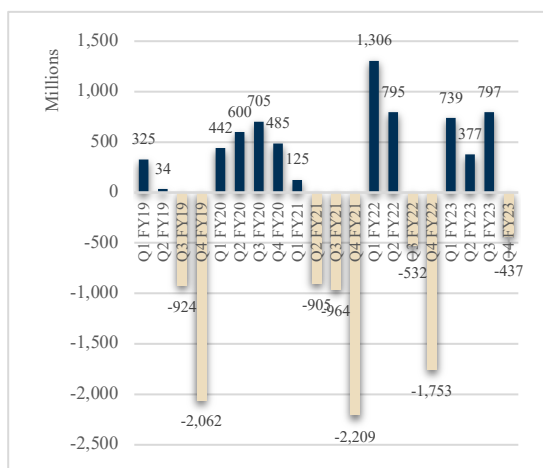
PNJ's operating margin declined from 8.9% in FY19 to 6.9% in FY22. FY22 was a year of TikTok booming, so PNJ had to invest much expenses to join the short-video marketing race. PNJ utilized the after-COVID-19 period to

Figure 10: Advertising Expenses



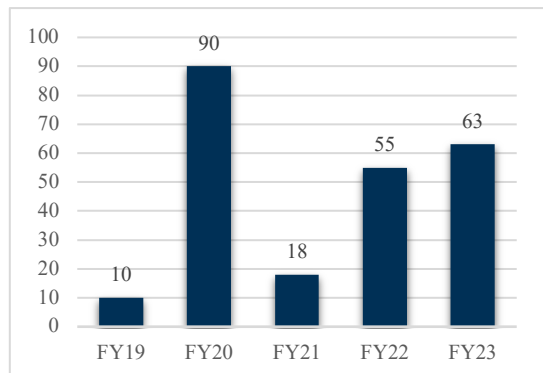
Source: Company fillings

Figure 11: Increase/Decrease in Inventory



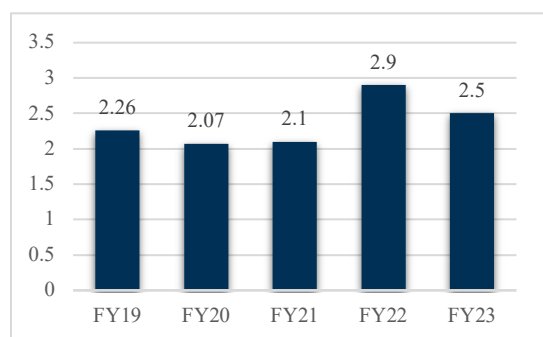
Source: Company fillings

Figure 12: Earnings Quality Score



Source: Company fillings

Figure 13: Inventory Turnover Ratio



Source: Company fillings

collaborate with Vietnamese singer Đức Phúc and the internationally recognized British band 911. This aimed to encourage men to propose their women with formal jewelry, leaving a surge in domestic and international sales. This explained a surge in advertising expenses in FY22. Coming to Tet festival, ‘Shake fortune - God of Wealth’ has always been favored by Vietnamese people to purchase golds to pray for wealth. Therefore, PNJ’s operating cash flows seem to be negative in almost 3 quarters per year. To fulfill peak demand during the year-end holidays (Q2, Q3, possibly extending to Q4 if Tet falls early in January) (Figure 11), PNJ strategically expanded inventory in Q2 and Q3. Despite PNJ’s dependence on short-term loans to finance retail inventory, interest rate insignificantly impacted PNJ. Strong credit-rating and healthy established relationship with multiple banks aided in PNJ’s favorable borrowing rates at 4%. Negative operating cash flow (OCF) for PNJ’s core business during a slow sales period would be compensated by profitability rebounds during peak seasons. This was reflected via PNJ’s consecutive improvement in gross profit margin from core business activities (FY19-FY23), but with slower pace due to COVID-19 and inflationary pressures derived by Ukraine-Russia war (Figure 7).

Earnings Quality

PNJ has not get back to its capability like in FY20, locating at 63 scores in FY23. But it still remained the rising trend. PNJ attempted to raise earnings (net profit) despite revenue decreased minimally by gradually adopting new technologies. This reflected their earnings were good quality. But their operating cashflows were still negative in many periods, as aforementioned.

Operating Efficiency

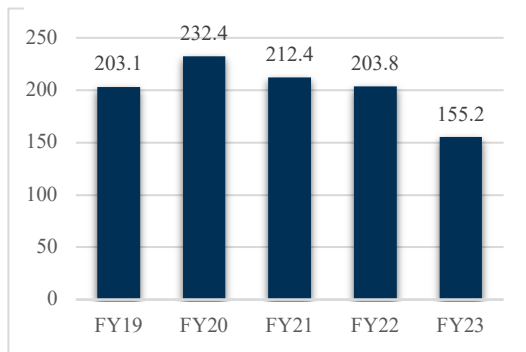
Inventory Turnover

PNJ's inventory turnover ratio improved annually from 2.29 to 2.9 (FY2019-2022) (Figure 13) thanks to (1) 3-hour free delivery (including weekends) owing to extensive network of stores and a VND100,000 guarantee voucher for late-delivery; (2) digital transformation process (omnichannel with e-commerces); (3) PNJ’s ERP to enhance inventory tracking and analysis aslo assisted PNJ’s inventory turnover. This reflects PNJ’s selling and delivering products to customers speed have been improved. However, in FY23, inventory turnover ratio declined to 2.5 due to high recorded inventories of VND10,940,000mm, up 4.1% from FY22 (Giang 2024).

Accounts Receivable Turnover Ratio

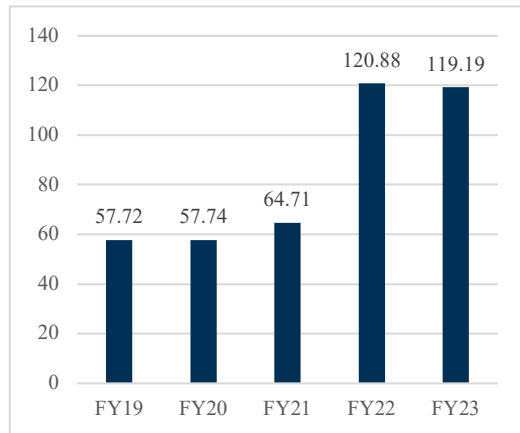
PNJ’s accounts receivable turnover ratio decreased (FY2020-FY2023) after COVID-19 impacted the firm in 2020 (Figure 14). This reflects more cash entered PNJ from customers paying off their credit accounts. However, the number of receivables declined most of quarters of the years, except for Q4 in 2019 and 2020 (FY2019-FY2022). FY2023 underwent Q1 and Q4 increment in account receivables. PNJ's customers payment collection process averagely increased from 1.8 in FY2022 to 2.4 days in FY2023. Customers tended to delay their credit payment in Q1 and Q4 due to event-driven demand and be timely paying credit to company in the 2 mid quarters (BVSC 2023). This explains a rise in average days of account receivables.

Figure 14: Accounts Receivable Turnover Ratio



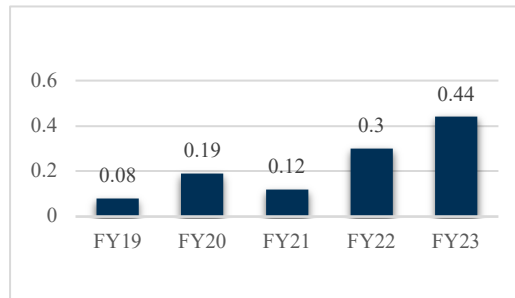
Source: Company fillings

Figure 15: Fixed Asset Turnover Ratio



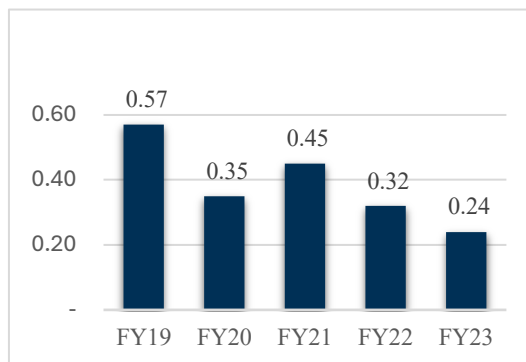
Source: Company fillings

Figure 16: Quick Ratio



Source: Company fillings

Figure 17: Debt to Equity Ratio



Source: Company fillings

Fixed Asset Turnover Ratio

PNJ had high fixed asset turnover ratio in FY22-FY23 since its factories had to expand capacity by 1.5 times to manufacture 2 more product lines to generate sales (Chan 2022). This reflects PNJ's efficiency in utilizing fixed assets to bring about revenues.

Liquidity

Short-term Liquidity

Quick Ratio

PNJ's quick ratio underwent upward trend (FY19-FY23) (Figure 16). This reflects PNJ's easily accessible cash to quickly fulfill company short-term financial obligations about three months, for example, seasonal sales which was event-driven demand that required high quantity of inventories piled up.

Long-term Liquidity

Long-term Debt to Equity

PNJ reduced its dependence on long-term debt to 0.001 after FY19. By FY20, they held no long-term debt. This was due to PNJ's restructuring existing debt and preferring short-term loans to fund short-term needs like seasonal inventory and sales.

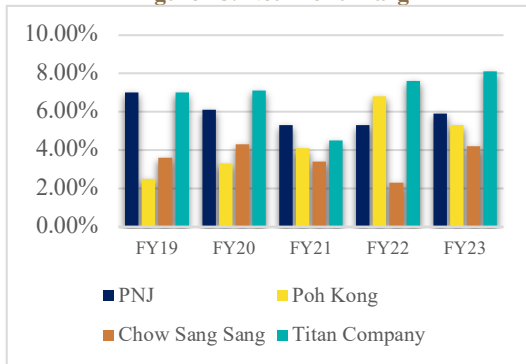
Debt to Equity

PNJ's debt to equity ratio involved totally short-term debt to mitigate debt burden (Figure 17). Its short-term debt decreased from 0.57 in FY19 to 0.24 in FY23, evident by PNJ's efforts to less depend on debt to finance operations.

DUPONT ANALYSIS - PEERS SELECTION

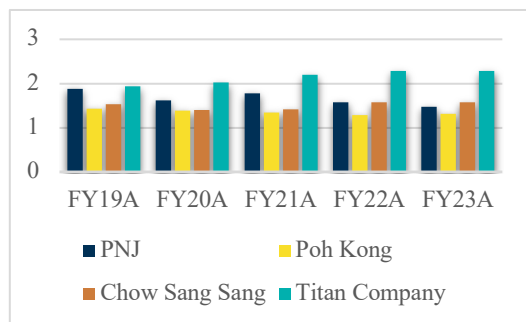
Stock Identifier	Company Name	Short	Country	Market Capitalization (VND million)	Business Activities
PNJ.VN	Phu Nhuan Jewelry JSC	PNJ	Vietnam	30,996,935	Produces and trades jewelry, fashion accessories, watches, gold bars.
8114.T	Poh Kong Jewellers Sdn Bhd	POHK.KL	Malaysia	7,350,050	Retails and produces gold jewelry and bars.
00116: XHKG	Chow Sang Sang Holdings International Limited	0116.HK	Hong Kong	1,796,960	Produces and retails jewelry, watches, wholesale precious metals.
002003.SZ	TITAN Company LTD	TITN.NS	India	97,071,350	Sells jewelry, watches, wearables, eyecare, fragrances, fashion accessories, Indian dress wear.

Figure 18: Net Profit Margin



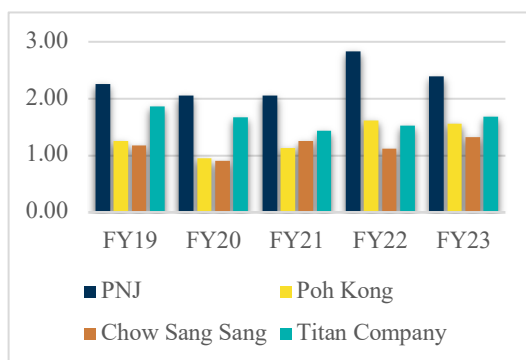
Source: Company fillings

Figure 19: Asset Turnover ratio



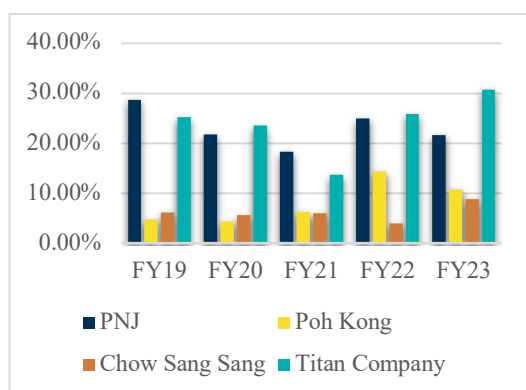
Source: Company fillings

Figure 20: Financial Leverage



Source: Company fillings

Figure 21: Return on Equity



Source: Company fillings

Poh Kong Jewellers Sdn Bhd (Malaysia), Chow Sang Sang Holdings International Limited (HongKong), TITAN Company LTD (India) are chosen to conduct DuPont valuation. PNJ aims to be leading in Asia, so such top peers of those Asian countries with similar business activities (manufactures and retails jewelry, precious metals, accessories) are selected to demonstrate the potential of PNJ in Asia. However, those companies are not located in similar geographical region and have identical population; thus, company's real characteristics and its competitive advantages or disadvantages evaluation can be deviated from optimal accuracy.

PNJ's net profit margin rebounded to 5.90% in FY23 thanks to operational optimisation helping ratio of operating expenses to gross profits down to 58.3% from 59.1% (VNS 2024), after declining from 7% to 5.3% in FY19-FY22 because of COVID-19 impact (Figure 18). PNJ could maintain its net profit margin thanks to high 24k gold price and high demand for inflationary pressures hedge. Yet, PNJ found challenges at cutting cost of goods sold because Vietnam had been restricted to import gold materials. Prioritizing foreign currency for trade, reserves, and payments could translate more value than gold (Lan 2023). So, PNJ could only source gold from domestic retailers, resellers, and dealers to produce jewelry (Cao 2024). PNJ managed to mitigate capital costs thanks to operation optimization to ensure net profit margin (Linh 2024). Also, PNJ is investing in 3D printing technology with training starting in August 2023 to enhance design quality (MesLab 2023). This explains minimal net profit margin of 0.6% in FY23, but not rebounding to pre-COVID-19 level.

PNJ had the highest asset turnover compared to remaning companies in FY19-FY23 (Figure 19). In FY22, it surged to 2.83 in FY22 then decreased 2.39 in FY23. PNJ's high asset turnover can be explained by PNJ's efficient asset utilization to generate revenue. PNJ adopted 'slow but sure' strategy where it would push total efficiency of every store it opened. Titan has too many physical stores worldwide, so it may miss some potential and require time to centralize database and system and strategy.

PNJ's financial leverage tended to decrease from 1.88 to 1.47 in FY19-FY23, similar to Poh Kong's downward trend from 1.43 to 1.31 (Figure 20). Chow Sang Sang fluctuated in 1.40-1.57 range. TITAN Company's financial leverage increased from 1.93 to 2.28. PNJ only used short-term loans using nothing or inventory as collateral to finance 3D printing training and adoption, marketing expenses for campaigns (MesLab 2023). PNJ also had abundant cash and cash equivalents to negotitate good interest rates of 4% in 2023 admists banks having excess of cash and struggling to find reliable companies for disbursement (Lam 2023). Decreasing debt-to-equity ratio reflected PNJ's lower financial leverage as company focused on debt repayments to ensure its reliability (Figure 17; Phu and Hue 2023; Anh 2024). This reflects PNJ's financially responsible business with a robust revenue stream.

PNJ's ROE decreased from 28.70% to 21.60% in FY19-FY23 despite a hike of 25.00% in FY22. Poh Kong and TITAN Company both increased because Titan used a high amount of debt to increase returns (Titan 2024). PNJ is losing

its efficiency despite small usage of debt for profit creation (Figure 21).

VALUATION

Risk & Required Rate of Return – CAPM Model

CAPM is employed to unveil the link between systematic risk and expected return for PNJ’s stocks. Regarding risk-free rate for PNJ's CAPM method, current yield of Vietnam's 10-year government bond as of April 12, 2024 from Refinitiv is 2.861% (Refinitiv 2024). Expected return on market is 11.20% (BrandsVietnam 2024).

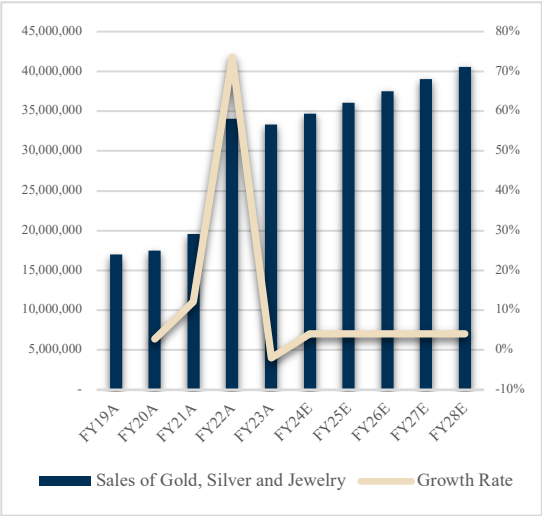
Beta (Bi).

Beta reveals a stock's riskiness compared to the whole market. Regression model is built using VN-Index and PNJ monthly returns from 31 March, 2014 to 29 February, 2024: VNI-Index returns is independent and PNJ is dependent variable. It results in coefficient of 0.296, being raw beta. Adjusted beta becomes 0.53 after adopting adjusted beta formula. Using adjusted beta is including possible impact on company’s risk like business scenarios, market fluctuations (Terraza and Mestre 2021).

CAPM Model	
Beta	0.296
Adjusted Beta (Bi)	0.531
Risk-free Rate (Rf)	2.861%
Expected Return on Market E(Rm)	11.20%
Market Risk Premium (E(Rm)-Rf)	8.34%
Expected Return	7.286%

Expected return of PNJ’s stocks equates 7.286% to offset investors’ risk, which is then leveraged for latter analysis.

Figure 22: Sales of gold, jewelry and silver



Source: Company fillings

DISCOUNTED CASH FLOW

Revenue Forecast

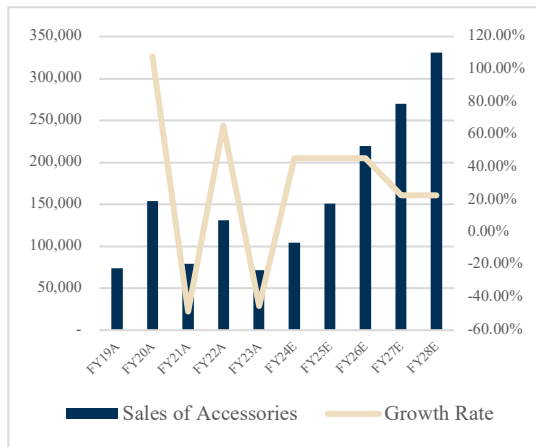
Sales of gold, jewelry and silver

PNJ’s sales of gold, jewelry and silver decreased by 1.98% in FY23 (Figure 21). PNJ will re-increase these sales in FY24 and to FY28 because (1) PNJ 10% yoy pace of opening stores and investment in online retail channels can help reach more customers, similar to FY23 success rollout, increasing sales by 25% (VNS 2024); (2) silver jewelry expansion to easily sell on e-commerces can approach even more young girls with low income nationwide (Diep 2023). Sales of silver jewelry cannot offset expected decrease in gold due to hike price along with rising demand for inflationary pressure hedge to protect money value. PNJ will be expected to re-increase this sales by 4% in FY24 and upcoming years to FY28, doubling from the growth PNJ lost in FY23.

Sales of accessories

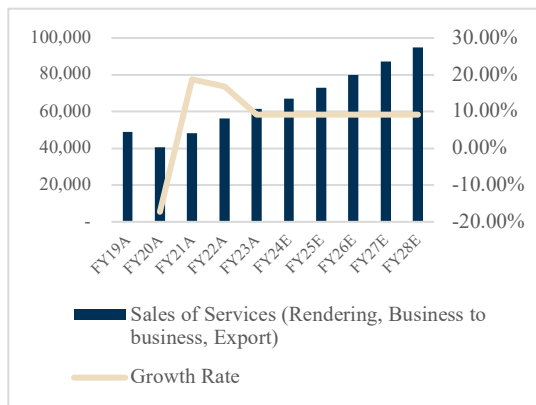
Sales of accessories witnessed -45.37% growth in FY23 (Figure 22). PNJ is good at capturing customers insights and its rapid adjustment and adaptation (Van 2024). Thus, PNJ is expected to import smart watches from luxury brands and anime and disney-themed watches and glasses to fulfill rising demand for being tech-driven and animation collection. In other words, PNJ will target more potential customers in this category besides mid- to high-income only.

Figure 23: Sales of accessories



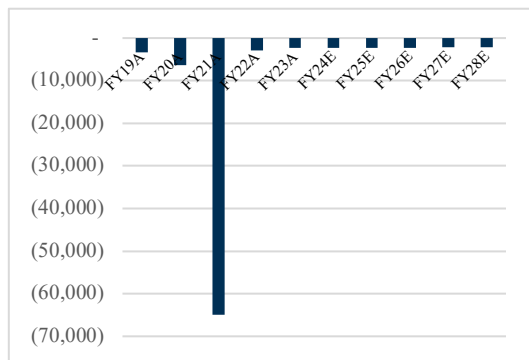
Source: Company fillings

Figure 24: Sales of services



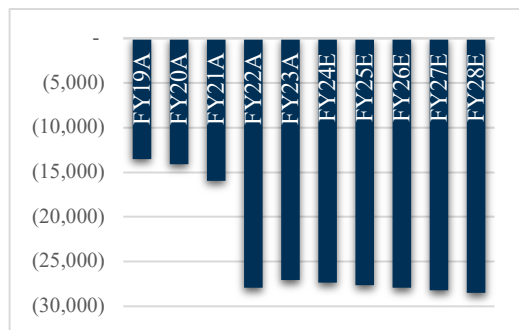
Source: Company fillings

Figure 25: Allowances and Provisions



Source: Company fillings

Figure 26: COGSs



Source: Company fillings

This strategy can be successful as PNJ has succeeded at doing likewise in silver jewelry to acquire young girl customers. So, PNJ can rebound its sales growth by 45.37% in FY24-FY26 and sustain growth rate of 22.69% afterwards in FY27-FY28, re-gaining similar decrease growth (-45.37%) company encountered in FY22.

Sales of services (rendering, B2B, exports)

High domestic gold prices due to Vietnamese people's gold hoarding mentality makes their products less competitive globally in upcoming years. However, PNJ can shield this by expanding exports beyond 14 current countries and focusing on B2B services and rendering services (Original Equipment Manufacturing and Original Design Manufacturing) using new advanced technologies to offset potential slowdowns in finished product sales. Thus, services sales will sustain a consistent growth of 9.11% onwards, regarding FY23 9.11% yoy growth (Figure 24).

Allowances and Provisions

Allowances and provisions is the money company setting aside to cover expected future losses, which decreased by 17.20% in FY23, from VND2,868mm to VND2,374mm. PNJ tried to enhance products manufactured quality to improve revenue, being expected to maintain this gradual minimal decrease, by annual 1.72% in FY24-FY28, equal 1/10 of FY23 fall level of 17.20% (Figure 25).

Expenses Forecast

Selling, General, Administrative Expenses (SG&As)

PNJ's store expansion in lower-tier cities (Tier 2 & 3) will rise SG&A expenses by 11%, requiring more frequent promotions (at least 4 annually) to stimulate sales. Promotions on e-commerce platforms like TikTok and Shopee cost rises, along with stricter advertising requirements. PNJ's planned investments in AI and Blockchain for cost optimization will demand initial recruitment or expertise outsourcing, pushing administrative expenses. This 11% rise aligns with similar expenses incurred during FY22, when PNJ successfully recovered from pandemic and invested much money to regain customers via many campaigns. While FY24 may not mirror COVID-19 severity, ongoing global wars and potential recession make SG&A expenses assumed to rise by 11%.

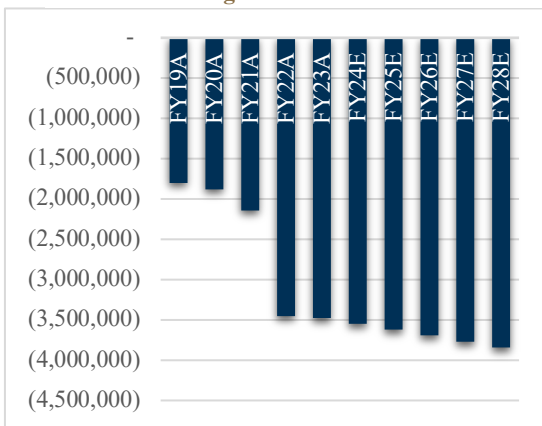
Cost of Goods Sold (COGSs)

Cost prices will vary according to raw material prices which comprise +50% of PNJ's COGSs (Tuc 2024). Raw material gold prices can be pushed to very high due to tighter regulations on gold purchase and SBV having not licensed gold imports (Hong 2024). Thanks to cloud-based system, costs could be saved up as aforementioned, which would compensate for surge cost to buy raw materials. Therefore, COGSs will inflate by 1.04% annually onwards in FY24-FY28, a half of 3.12 decrease level in FY23.

Selling, General and Administration Expenses (SG&As)

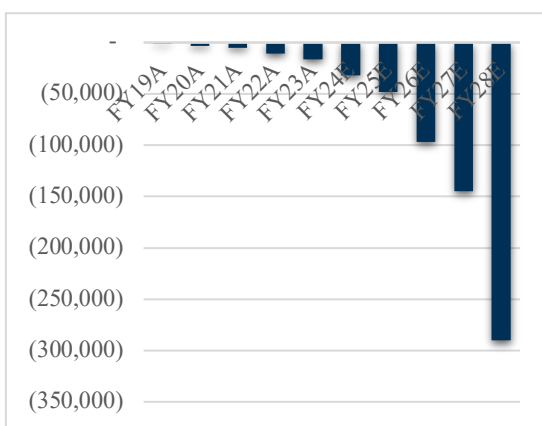
PNJ's SG&As include advertisement and promotion and distribution expenses, rental fees, wages and salaries. PNJ organized at least 4 campaigns per year with many promotions (PNJ 2024). This will improve market share, so PNJ is expected to improve by 2.05% annually in FY24-FY28, which is threefold increase from FY23 growth rate 0.68%.

Figure 27: SG&As



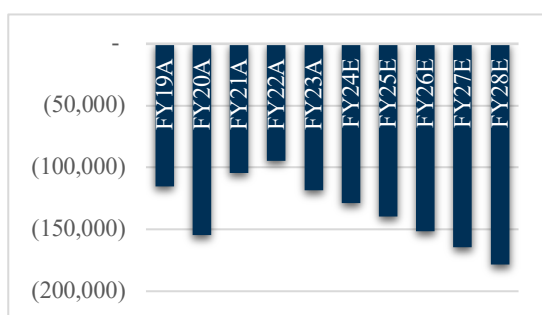
Source: Company fillings

Figure 28: Other Operating Expenses



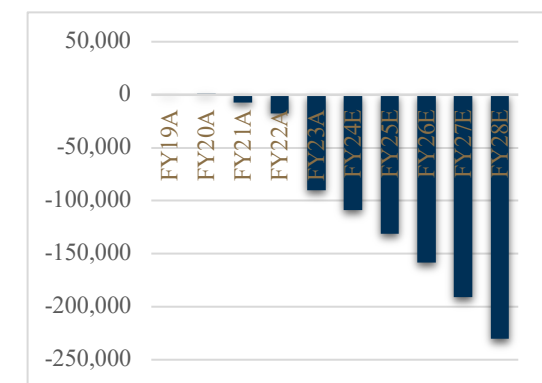
Source: Company fillings

Figure 29: Interest Expenses



Source: Company fillings

Figure 30: Interest/Investment Income



Source: Company fillings

Other Operating Expenses

Similar to FY19-FY23 trend, PNJ's operating expenses are expected a cycle of doubling (100% increment) in even years and followed by a 50% rise in odd years in FY24-FY28. This is based on historical data trend as specific breakdown of these expenses is not revealed by PNJ.

Interest Expenses

In FY22, 6 out of 8 banks offered PNJ rates +6% and asked for secured loans using inventory collateral (PNJ 2023). In FY23, company could take unsecured loans with a low 4% interest rates from 4 Vietnamese and 1 Chinese bank (Quang 2024), and 5 Vietnamese banks that lend to PNJ using inventory as collateral in FY23 (Quang 2024). With such good rates, PNJ increased short-term debts to finance its new adoption of advanced technology, centralized database, digitalization via Big Data and AI to improve CRM (Minh 2024), explaining PNJ's interest expenses growth despite lower interest rates. PNJ is believed to continue investing more in technologies like Blockchain to optimize logistics costs as they are deploying test project (Minh 2024), reflecting PNJ will still leverage such low lending rates to renovate business system. Thus, interest expenses will continue increasing by 8.52%, equating one third of increase growth of 25.57% in FY23, and sustain 8.52% in FY24-FY28.

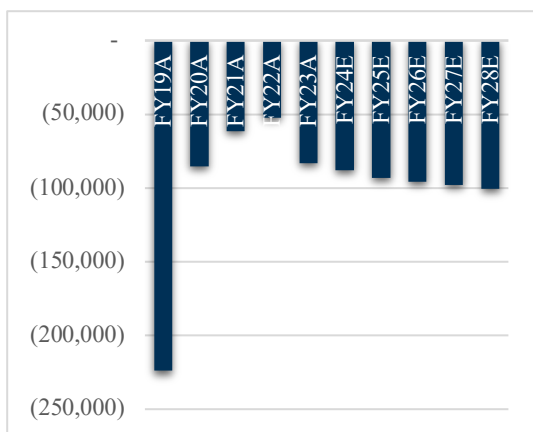
Interest/Investment Income

PNJ lent loans to the Golden Friend Joint Stock Company with interest rate of 8.5%: as of December 31, 2023, PNJ recorded VND90,000mm in receivables from short-term loans with Golden Friend Company, declining from VND140,000mm at end/2022 (Quang 2024). PNJ has 38.5 million DongA Bank shares (equal ownership and voting ratio of 7.69%) which are under special SBV's surveillance and disallowed to be transferred. Yet, DongA Bank underwent an accumulated loss of VND12,465bn, causing negative equity of VND6,855bn. Thus, PNJ's investment income became negative since FY21. PNJ has to utilize interest income from deposits 5 Vietnamese banks generating 3.4% to 7.1% interest rates with mature within 1 year to offset investment income (Quang 2024; PNJ 2024). PNJ's investment income is expected to drop by 21% due to issues with DongA Bank (frozen shares) and Golden Friend Company (unavoidable partnership). This annual decrease is 21% in FY24-FY28 (equating 1/20 of FY23 414% decline), as PNJ is projected to seek alternative investments to minimize the impact.

Capital Expenditures (CAPEX)

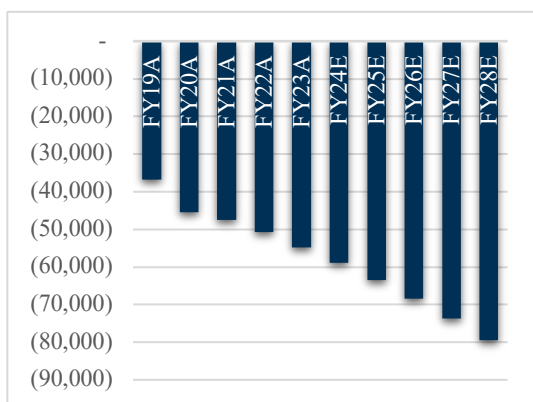
PNJ aims to open more 10% yoy of total stores in Tier 2 and Tier 3 cities, upgrade at least 15% yoy of total stores and partner with 20-25 branches to diversify product portfolio upcoming annually since FY22 (VITIC 2023; Chau 2024). Company also imports advanced production machinery and equipment to improve jewelry quality and design uniqueness in FY23 (Cao 2023). Although PNJ's one of 2 factories has attained its full production capacity, no immediate initiatives have been conducted to construct new manufacturing facilities (Le 2024). It may demand at least VND200bn in FY24 since PNJ's investment in factory construction in FY12 was already VND120bn and its

Figure 31: CAPEX



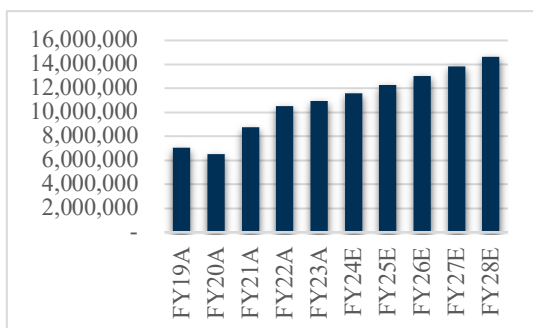
Source: Company fillings

Figure 32: Depreciation and Amortisation



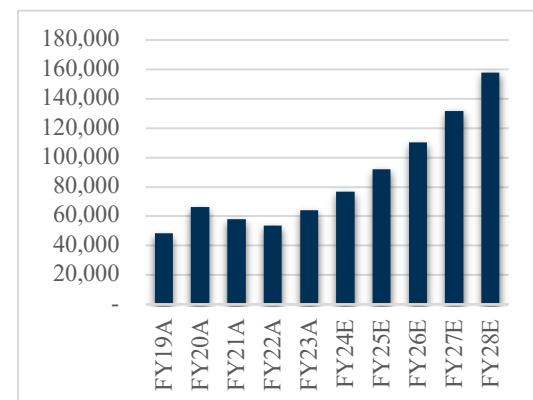
Source: Company fillings

Figure 33: Inventories



Source: Company fillings

Figure 34: Accounts Receivable



Source: Company fillings

average depreciation is VND5,412mm per year in 12 years (PNJ 2024; WorldData 2024). When current Board of Directors is replaced by Gen Z leaders, new factory will be built, waiting at least 10 years when PNJ's 2022-2032 development plan finishes (Abril 2024; Le 2024). Thus, CAPEX in FY24-FY25 is assumed to annually undergo increment by 6.02%, from VND83,115mm in FY23 to VND88,115mm with VND5,000mm difference. When recession is expected to loosen in FY26, Capex in FY26-FY28 onwards will experience 2,500mm annual increase thanks to PNJ's technologies and machinery stabilization and improved railways and airport infrastructure (Tuan 2024).

Depreciation and Amortisation (D&A)

PNJ will expand both physical and digital platforms in which tangible assets will depreciate as they wear down quite similarly annually. Thus, D&A is expected to sustain its 7.75% rise rate in FY24-FY28, basing on FY23's growth rate.

Tax Rate

PNJ's income tax is 20%, being assumed to remain similarly onwards (MOF 2024).

Change In Working Capital

Inventories

PNJ's inventory is expected to grow at constant 6% in FY24-FY28 similar to FY23, basing on FY23 4.14% growth rate with supplementation of 1.86% to round at 6%. The 1.86% addition is since PNJ is anticipated to import also jewelry and accessories from new global brands by new collaboration, which will contribute to company total inventories. Also, PNJ's 2 factories are about to both reach its full capacity. Given no new factory is going to be built in FY24-FY28 and gold materials procurement also sees many challenges as aforementioned, PNJ cannot produce many more inventories.

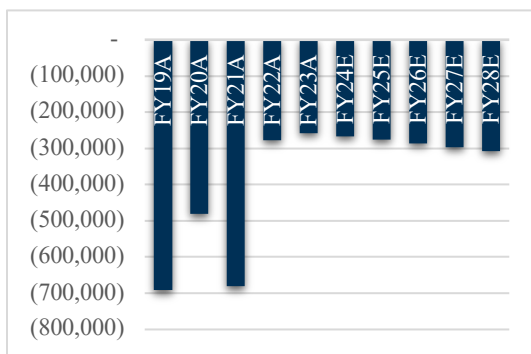
Accounts Receivable

PNJ's attractive credit options will stimulate more customers to buy on credit, raising money owed to PNJ. Growing trend of buying wedding jewelry through installments enables customers to distribute cost of high-priced purchases. This corresponds with Vietnamese consumers' trend favoring installments, especially for luxury items like jewelry, to manage their finances and embody elegance and aristocracy. Thus, PNJ projects identical 19.67% growth in accounts receivable throughout FY24-FY28, similar to FY23 growth rate.

Accounts Payable

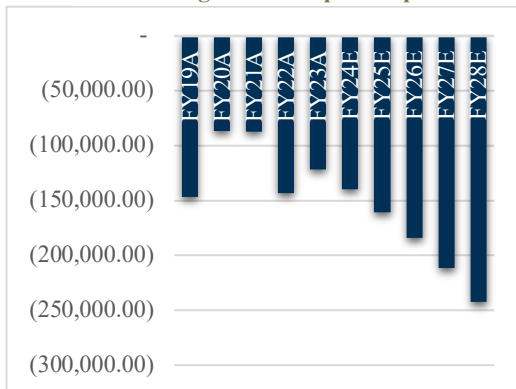
PNJ has been paying down debts to suppliers, inducing a decline in accounts payable. However, with potential store expansion in Tier 2 and 3 cities, PNJ is expected to increase in accounts payable in FY24 of 3.59% and maintain this rate in FY25-FY28, rebounding by 3.59%, half of negative growth 7.18% in FY23.

Figure 35: Accounts Payable



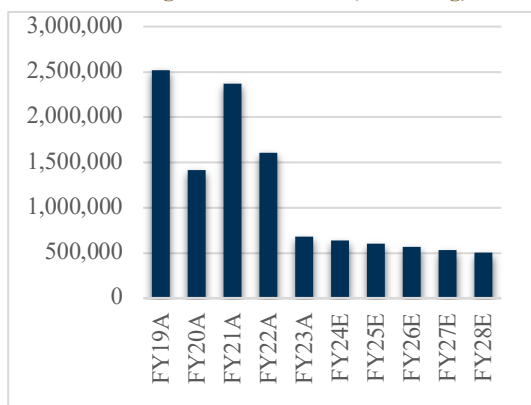
Source: Company fillings

Figure 36: Prepaid Expenses



Source: Company fillings

Figure 37: Net Debt (Financing)



Source: Company fillings

Prepaid Expenses

PNJ has short-term and long-term prepaid expenses. Short-term prepaid expenses revolve around operating leases, information technology expenses, repairs and maintenances, tools and instruments and others. Long-terms one include tools and instruments, office and store renovation expenses, operating leases payments and others. Company prepaid expenses decreased from VND142,910mm in FY22 to VND121,827mm in FY23 because PNJ used to conducting new technologies like AI, Big Data which helped reduce information technology expenses (Van 2023). Because of ongoing demand for unique designs and personalized customer experience, PNJ will to incur more cost weighed on information technology and import advanced tools from developed countries to improve design and quality and fulfill such demand. Thus, prepaid expenses are assumed to rebound by 14.75% in FY24 and constantly annually maintain this growth onwards to FY28 depending on negative growth in FY22 (-14.75%). This is because a year having recession like 2024 will provoke PNJ to come up with plans adapted to digital technologies amidst overwhelmed invasion of e-commerces and short-video platform in FY20-FY22.

Debt Financing (Net Borrowings)

PNJ's net debt decreased from VND1,603,498mm to VND678,040mm thanks to more cash and cash equivalents available to pay off its short- and long-term debts and to remain (Figure 37). Debt-to-equity also decreased from 0.32 in FY22 to 0.24 in FY23. Thus, net debt is assumed to decrease by 5.77% annually in FY24-FY28, equating 1/10 of decrease rate of -58% in FY23.

Terminal Growth Rate

In FY24-FY28, jewelry market is expected to grow modestly as branded jewelries are not cheap. Vietnam's middle class currently comprises 13% of population (97 million) and is projected to become twofold by 26 (Ngo 2023), which is PNJ's main target customer. Their favorite products, including gold jewelry as silver will lose value over times, are still not very cheap, costing at least over VND2mm. Thus, I expect that PNJ's terminal growth rate stay at 3%, being the average of non-luxury and luxury growth rate with some subtractions (Statista 2023).

Currently, as of April 26, 2024, PNJ issued more than 334,559,621 outstanding shares, planning to pay dividend with a ratio of 1:3 (KBSV 2024). A total of 334,559,621 outstanding shares will be leveraged to compute value per share of FCFE and P/E model.

DCF-FCFE model

Detailed predictions for gross revenue, net income, change in working capital, and net capital expenditures are demonstrated in the appendix 1, 2, 3, 4. PNJ's high level of inventory has been likely increased because holding precious metals and jewelry can retain value. These means cash outflow to pile up inventories. While this strategy avoids holding cash (that does not generate interest), it makes working capital positively hugely, resulting in negative Free Cash Flow to Equity (FCFE). Study from Lorenc and Kustra (2019) also had similar result where negative FCFE was due to an increment in the demand for net working capital and high CAPEX, eating into firm's profitability. Negative FCFE induces

company intrinsic value as it sums all present value of FCFE. When intrinsic value is divided by number of total outstanding shares - 334,559,621, the estimated value per share is -VND89,930.07, which is much different from current share price of VND94,200 on April 26, 2024.

P/E ratio	
Poh Kong	5.060
Chow Sang Sang	5.390
Titan Company	92.11
Mean	34.1866667

Net Income (2024F, VND Million)	1971099
Total Outstanding Shares (Million)	334.560
Forward Earnings per share (VND/share)	5891.623
Forecast P/E ratio using Mean ratio	34.19
Target Price (VND) using Mean ratio	201,415

PNJ’s forecast P/E ratio is by adopting the mean of 3 selected peers companies’ P/E ratio. TITAN Company has quite high P/E compared to remaining firms; thus, mean is chosen instead of median to capture the representative of it in the ratio while median will neglect TITAN Company’s data. Then, it gives PNJ’s the forecast P/E ratio of 34.19. When PNJ’s net income is divided by number of total outstanding shares - 334,559,621, it brings about forward earning per share of VND5,891.62. Target price is then attained at VND201,414.94, which deviates a lot from current price – VND94,200. This high P/E can arise from a bearish business performance rather than a bullish market discernment when the curtailment in earnings is not evident in the current stock price (Kulwizira Lukanima 2023). This method relies itself on mean ratio of the peers and neglects underlying business performance, explaining why it is much different from share price of VND94,200 on April 26, 2024.

Conclusively, discounted FCFE derives assumption of value growth every year (Pelu et al. 2020). Thus, when negative growth occurs in the first year, it will result in similar negative growth upcoming years. It adopts a discount rate to convert these future cash flows into their present value, demonstrating the time value of money. In other words, it bases historical data to make future years’ projections. Meanwhile, P/E compares the company's stock price to its current earnings, showing reliance on market efficiency and future growth assumptions embedded within stable earnings growth. Different data reliance and assumption justifies the result difference between FCFE and P/E models.

Because both methods lack some important information, both of them should be utilized together to compensate for each other’s limitation. I will evenly divide the accuracy of each method by 50% to consider the extremely ‘undervalued’ of FCFE result and the overly ‘overvalued’ of P/E methods to find the average target price of VND55,742.43, downside from closing price of VND94,200 by 41% on April 26, 2024. This means PNJ’ stocks are overvalued. If holding it, investors can undergo a severe loss. Thus, I suggest a SELL for PNJ.

FCFE Model				
	Target Price	Weight	Final Target Price	Downside
P/E Model	-89,930.07	50%	55,742.43	41%
Final Target Price	201,414.935	50%		

APPENDICES

VND million	FY19A	FY20A	FY21A	FY22A	FY23A	FY24E	FY25E	FY26E	<u>FY27E</u>	FY28E
Sales of Gold, Silver and Jewelry	17,021,087	17,487,379	19,608,294	34,023,892	33,348,659	34,682,605.59	36,069,909.82	37,512,706.21	39,013,214.46	40,573,743.04
% of Revenue		98.90%	99.35%	99.45%	99.60%	99.51%	99.38%	99.21%	99.09%	98.96%
Growth Rate		2.74%	12.13%	73.52%	-1.98%	4.00%	4.00%	4.00%	4.00%	4.00%
Sales of Accessories	74,095	153,938	79,150	130,958	71,543	104,002.36	151,188.23	219,782.33	269,650.94	330,834.74
% of Revenue		0.87%	0.40%	0.38%	0.21%	0.30%	0.42%	0.58%	0.68%	0.81%
Growth Rate		107.76%	-48.58%	65.46%	-45.37%	45.37%	45.37%	45.37%	22.69%	22.69%
Sales of Services (Rendering, Business to business, Export)	49,070	40,596	48,202	56,279	61,407	67,002	73,106	79,767	87,035	94,965
% of Revenue		0.23%	0.24%	0.16%	0.18%	0.19%	0.20%	0.21%	0.22%	0.23%
Growth Rate		-17.27%	18.74%	16.76%	9.11%	9.11%	9.11%	9.11%	9.11%	9.11%
Gross Revenue	17,144,251	17,681,913	19,735,646	34,211,129	33,481,609	34,853,609.46	36,294,204.32	37,812,255.81	39,369,900.57	40,999,543.06
Growth Rate		3.14%	11.61%	73.35%	-2.13%	4.10%	4.13%	4.18%	4.12%	4.14%

Appendix 1. Revenue forecast FY24-FY28

VND million	FY19A	FY20A	FY21A	FY22A	FY23A	FY24E	FY25E	FY26E	FY27E	FY28E
Gross Revenue	17,144,251	17,681,913	19,735,646	34,211,129	33,481,609	34,920,610.97	36,367,310.60	37,892,023.08	39,456,935.74	41,094,508.34
Allowances and Provisions	(3,415)	(6,392)	(64,942)	(2,868)	(2,375)	(2,334)	(2,294)	(2,254)	(2,216)	(2,177)
Revenue	17,140,837	17,675,521	19,670,704	34,208,261	33,479,234	34,918,277	36,365,017	37,889,769	39,454,720	41,092,331
Cost of Goods Sold	(13,540)	(14,076)	(15,949)	(27,950)	(27,078)	(27,359.72)	(27,644.03)	(27,931.30)	(28,221.55)	(28,514.82)
Gross Profit	17,127,297	17,661,445	19,654,755	34,180,311	33,452,156	34,890,917	36,337,373	37,861,837	39,426,499	41,063,816
Selling/General/ Admin. Expenses, Total	(1,800,831)	(1,880,961)	(2,141,966)	(3,451,420)	(3,474,982)	(3,546,151)	(3,618,777)	(3,692,890)	(3,768,522)	(3,845,702)
Depreciation/A mortisation	(36,808)	(45,467)	(47,508)	(50,786)	(54,723)	(58,964)	(63,534)	(68,458)	(73,763)	(79,480)
Interest Expense, Net - Operating	(115,368)	(154,417)	(104,380)	(94,421)	(118,569)	(128,677)	(139,647)	(151,551)	(164,471)	(178,492)
Interest/Investment Income - Operating	324	1,319	(7,661)	(17,487)	(89,920)	(108,543)	(131,023)	(158,158)	(190,914)	(230,453)
Other Operating Expenses	(1,167)	(3,437)	(5,208)	(10,500)	(16,106)	(32,212)	(48,318)	(96,636)	(144,954)	(289,908)
Total Operating Expenses	(15,494,465)	(16,161,656)	(18,240,161)	(31,539,300)	(30,652,798)	(31,514,142)	(32,399,689)	(33,310,120)	(34,246,135)	(35,208,451)
Net Operating Income	1,646,372	1,513,865	1,430,543	2,668,961	2,826,436	3,404,135	3,965,328	4,579,648	5,208,586	5,883,880
Other Expenses	496	-3152	-27667	-25139	4629	4860.45	5103.47	5358.65	5626.58	5907.91
Earnings before Tax	1,646,868	1,510,713	1,402,876	2,643,822	2,831,065	3,408,996	3,970,431	4,585,007	5,214,212	5,889,788
Provision for Income Taxes	(312,787)	(276,670)	(250,188)	(501,636)	(517,661)	(534,174)	(551,215)	(568,798)	(586,943)	(605,666)
Taxes	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Net Profit after Taxes	1,067,265	987,235	922,151	1,713,749	1,850,723	2,299,857	2,735,373	3,212,967	4,627,269	5,284,121
Net Profit Margin	6.23%	5.58%	4.67%	5.01%	5.53%	6.59%	7.52%	8.48%	11.73%	12.86%

Appendix 2. Income Statement forecast FY24-FY28

VND million	FY19A	FY20A	FY21A	FY22A	FY23A	FY24E	FY25E	FY26E	FY27E	FY28E
Accounts Receivable	48,293	66,389	57,926	53,670	64,228	76,861.65	91,980.33	110,072.87	131,724.20	157,634.35
Inventories	7,030,420	6,545,906	8,754,742	10,506,055	10,940,938	11,597,394.28	12,293,237.94	13,030,832.21	13,812,682.15	14,641,443.07
Prepaid Expenses	(146,501.00)	(86,332.00)	(87,376.00)	(142,910.00)	(121,827.00)	(139,796.48)	(160,416.46)	(184,077.89)	(211,229.38)	(242,385.71)
Accounts Payable	(690,808)	(481,588)	(680,447)	(277,213)	(257,305)	(266,542)	(276,111)	(286,024)	(296,292)	(306,929)
Other Operating Cash Flow	(425,882)	(443,170)	(382,429)	(570,512)	(693,356)	(768,004)	(850,718)	(942,340)	(1,043,830)	(1,156,250)
Changes in Working Capital	5,815,522	5,601,205	7,662,416	9,569,090	9,932,678	10,499,914	11,097,973	11,728,464	12,393,055	13,093,513

Appendix 3. Change in working capital forecast FY24-FY28

VND million	FY19A	FY20A	FY21A	FY22A	FY23A	FY24E	FY25E	FY26E	FY27E	FY28E
Capital Expenditure (CAPEX)	(223,766)	(85,434)	(61,304)	(52,385)	(83,115)	(88,115)	(93,115)	(95,615)	(98,115)	(100,615)
Depreciation/Depletion	(61,066)	(72,155)	(75,118)	(79,516)	(81,257)	(83,037)	(84,855)	(86,713)	(88,612)	(90,553)
Net CAPEX	(284,832)	(157,589)	(136,422)	(131,901)	(164,372)	(171,152)	(177,970)	(182,328)	(186,727)	(191,168)

Appendix 4. Net capital expenditure forecast FY24-FY28

	FY23A	FY24E	FY25E	FY26E	FY27E	FY28E
No. Year	0	1	2	3	4	5
Revenue Growth	-2.13%	4.10%	4.13%	4.18%	4.12%	4.14%
Net Profit Margin	5.53%	6.59%	7.52%	8.48%	11.73%	12.86%
Gross Revenue	33,481,609	34,920,611	36,367,311	37,892,023	39,456,936	41,094,508
Net Profit	1,850,723	2,299,857	2,735,373	3,212,967	4,627,269	5,284,121
Net CAPEX = CAPEX - Depreciation	(164,372)	(171,152)	(177,970)	(182,328)	(186,727)	(191,168)
Change in Working Capital	9,932,678	10,499,914	11,097,973	11,728,464	12,393,055	13,093,513
Debt Financing (Debt Issuance - Debt Repayment)	678,040	638,907	602,032	567,286	534,545	503,694
FCFE = Net Profit - (Net CAPEX + Change in Working Capital) + Debt Financing	(7,239,543)	(7,389,998)	(7,582,597)	(7,765,882)	(7,044,514)	(7,114,529)
PV5 (Terminal Value)						(226,145,246)
PV of FCFE @ 7.286%	(6,888,128.92)	(6,587,670.73)	(6,288,711.05)	(5,317,148.56)	(5,005,309.21)	
Total intrinsic value of the company (Million VND)	(30,086,968.47)					
Estimated Value Per Share (Million VND)	(0.09)					
Estimated Value Per Share (VND)	(89,930.07)					

Appendix 5. DCF-FCFE Model