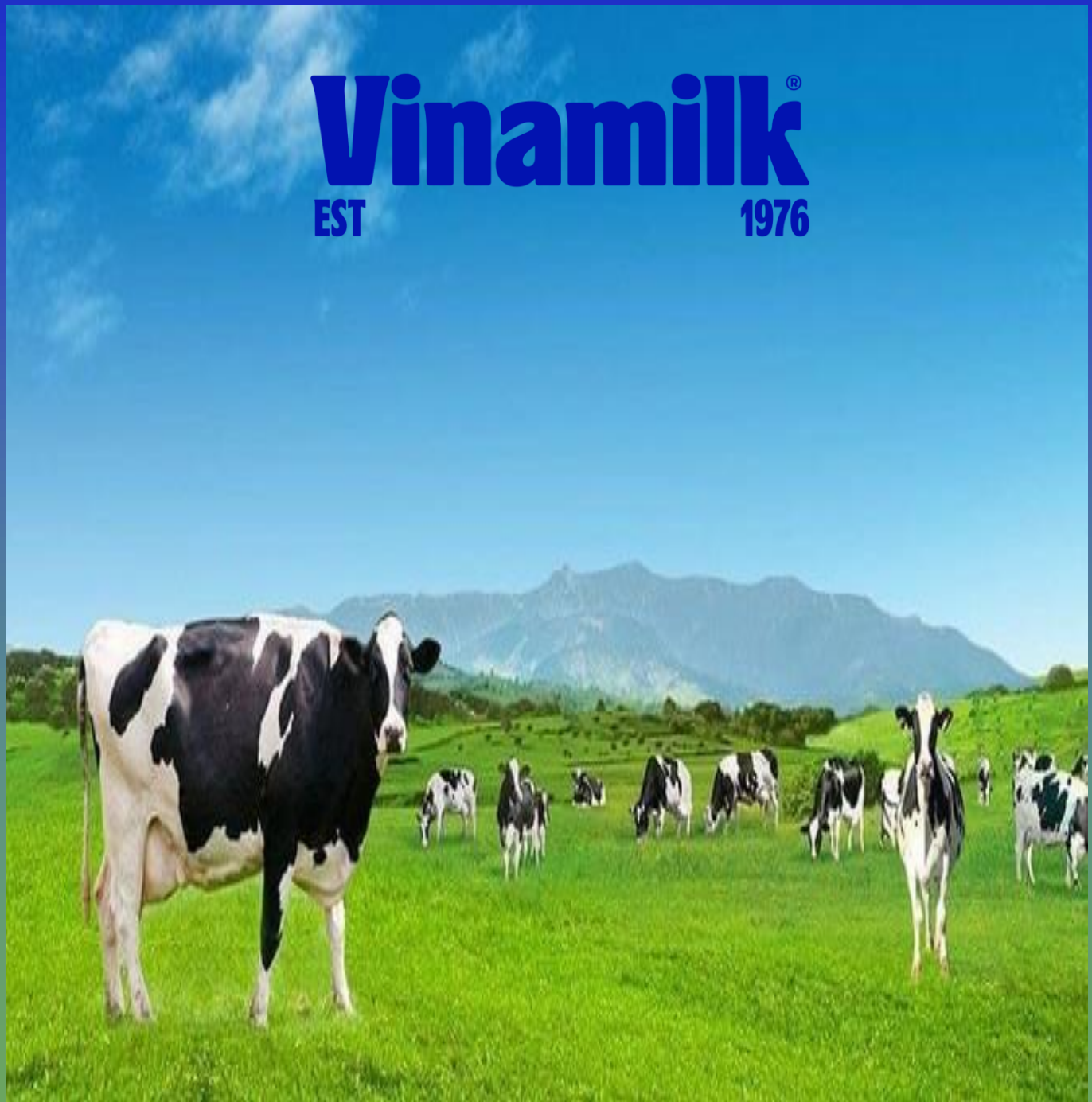


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# COMPANY EVALUATION



**COURSE: EQUITY INVESTMENT AND PORTFOLIO MANAGEMENT**  
**CODE: BAFI3184**  
**NAME: NGUYEN CAO MINH**  
**ID: S3918855**  
**LECTURER: PHAM DUY MAN**

---

Date: 15<sup>th</sup> December

Ticker: HSX: VNM (Ho Chi Minh Stock Exchange)

LAST CLOSE: VND 70,000

RECOMMENDATION: HOLD (UPSIDE 11.30%)  
TARGET PRICE: 77,908

Source: Euromonitor (2023)  
70,000

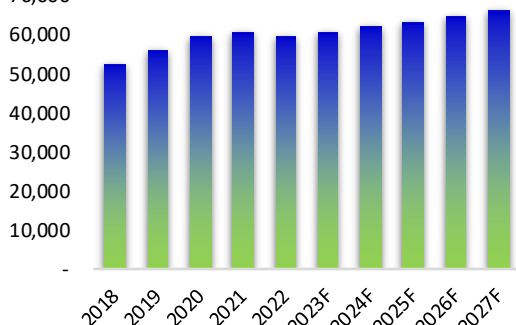


Exhibit 1: Revenue growth of Vinamilk 2018-2027F

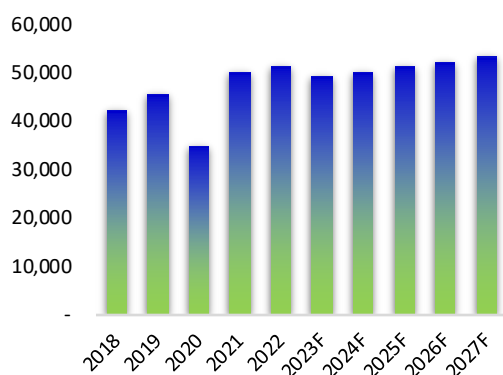


Exhibit 2: Total cost of Vinamilk 2018-2027F

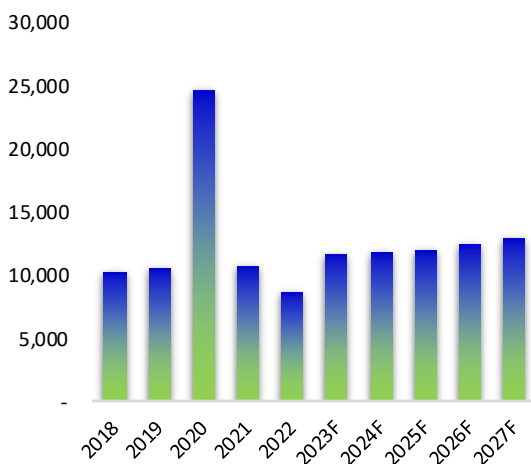


Exhibit 3: Net income of Vinamilk 2018-2027F

## INVESTMENT SUMMARY

**HOLD** recommendation is issued with the targeting price of **VND 77,908** by combining 70% of Discounted Free Cash Flow to Equity model and 30% of relative P/E model. Consequently 11.30% upside is offered from the current price of VNM on December 11.

## INDUSTRY SATURATION WITH MATURITY PUTS PRESSURE ON COMPETITIVENESS

Vinamilk revenue is expected to improve **2.05% YoY** in 2023-2027 based on the projected fluctuations in 5 main sectors, including liquid milk, baby food, yogurt and sour milk, condensed milk, and plant-based dairy and others (**Exhibit 1**). Slow growth compared to the previous period comes from the loss of competitiveness in market share, consumer tastes changes, the pandemic's effects, and expansion strategy. The consumer trend of powdered milk is gradually shifting to liquid milk and yogurt due to COVID effects with expected 1.55% and 4.96% YoY growth for improvement in awareness of supplementing resistance and immunity substances along with the fresh milk preference. While the condensed milk segment with its dominant size and brand value keeps maintaining its position with an expected 6.3% YoY growth, the subsidiary segment sustains 7.3% of revenue in the coming period with the compensation of Angkor Milk and Driftwood.

## COST RELIEF WITH EFFORT TO IMPROVED PRODUCTIVITY FOR DEMAND FIT

With slow revenue growth, NPM is expected to grow 9.34% YoY when **SMP and WMP** input material prices have decreased since Q1/2022 and are expected to continue stagnating in a low range when massive dairy import from China was suspended and replaced with a plan to focus on domestic milk production in 2023-2027 (VCBS 2023). However, growth is also constrained by transportation costs due to **war** along with **interest rate** pressure until 2024, reducing purchasing power (Anstey et al. 2023). Besides, productivity is expected to increase by 3.87% YoY in efforts to increase **fresh milk** production, which fits trendy consumer tastes for preserved nutrients not lost through the process by increasing the proportion of self-managed farms instead of cooperating farmers with farmers. more 16-18% cost (FPTS 2023).

## OPPORTUNISTIC SUMMARY

VNM's growth potential depends mainly on its ability to compete with competitors in dominant fields and **expansion strategies, M&A, and joint ventures**. With competitiveness weakening due to maturity, VNM performance still has potential for sustainability due to efforts to maintain dominance and innovation.

	2020	2021	2022	2023F	2024F	2025F	2026F	2027F
<b>NPM</b>	18.80%	17.53%	14.35%	19.13%	19.14%	18.89%	19.23%	19.61%
<b>CAPEX</b>	(1,068.00)	(1,142.00)	(2,673.00)	(3,186.00)	(2,158.00)	(1,265.00)	(1,531.00)	(1,457.00)
<b>NWC</b>	(1,265.00)	(1,531.00)	(1,457.00)	(1,932.76)	(2,200.37)	(2,319.31)	(2,557.18)	(2,557.18)

Source: Euromonitor (2023)

## BUSINESS DESCRIPTION

The largest dairy company in Vietnam, Vinamilk, was founded in 1976 and has grown to hold a **42.3%** market share overall (Euromonitor 2023) (**Exhibit 4**). The company produces and distributes dairy products, primarily including liquid milk, powder milk, yoghurt, sour milk, condensed milk and plant-based products.

## REVENUE BREAKDOWN

Overall, nearly half of VNM's revenue came from drinking milk products (47.50%), followed by yogurts and sour milk (24.73%), condensed milk (13.56%), and baby food (11.23%). Besides, plant-based and other dairy are insignificant (2.98%). During the recent 3 years, while liquid milk remained, contributions from yogurt and condensed milk increased slightly. Besides, the opposite was true for baby food alongside the stillness of others. Overall, the dairy industry must face more cost pressure with poor economic conditions with the new wave of COVID come to New Zealand (Solomon 2023), our main partners, dampening production with rising cost; at the same time, India faces lumpy skin disease and the double-whammy of the second one, the US with feed scarcity, caused by cereals cost's surge from UK war (Aripaka 2023).

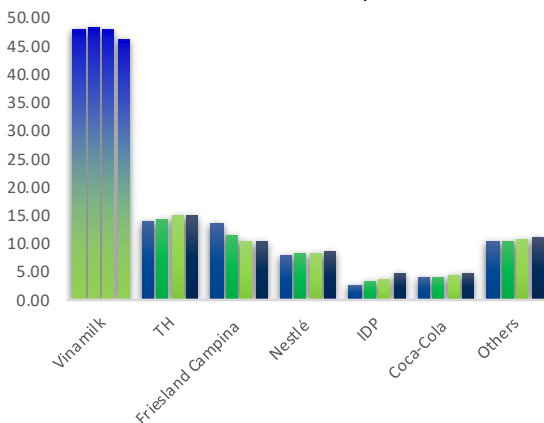
### DRINKING MILK PRODUCT

VNM was stably dominant in the liquid-milk market over time around **45%** (**Exhibit 5**). Despite a slight decline in market share, VNM's revenue still grew with adaptation to current consumption trends under the influence of COVID, specifically the sterilized milk model for Vinamilk brand with 13.5% growth in 2019-2022, making it the key revenue source of this segment with VND 23,176 billion, compared to Dielac and Moc Chau (**Exhibit 6**). Besides, market competition also has a significant impact on the growing market share of TH, IDP, and Nestle (Euromonitor 2023). To maintain its dominance, Vinamilk is forced to hugely invest in improving products with fierce competition and improve the **Moc Chau** deal (Dat 2019). However, this source of revenue is also strongly promoted with the well-adapted era of 4.0 through online sales channels and the "Giac mo sua Viet" store chain. VNM's main customers in this channel are schools, restaurants, hospitals, and factories, whose growth of 10% YoY (FPTS 2023).

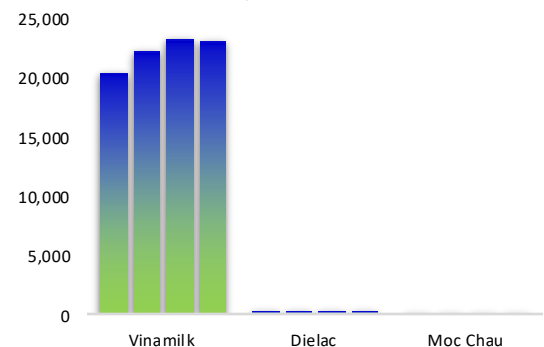
### BABY FOOD

Once the leader in the powdered milk segment, VNM's market share has gradually decreased with tough competition from significant **competitors**, including Abbot and Nestle (**Exhibit 7**), especially the "million-dollar deal" for the exclusive use of ColosIgG 24h colostrum in Vietnam of Vita Dairy, proven effectively improving immunity, respiration, and digestion, outperforming sector with 40% growth compared to the negative index of others, hugely pulling VNM revenue down (Vita Dairy 2023). Moreover, due to **cost inflation and COVID's long-lasting effects** on supplementary awareness, cost pressure was put on VNM production capacity, worsening performance. Regarding cost, powdered milk, mainly relying on **SMP and WMP** for production, whose cost skyrocketed of approximately 33% due to huge import demand from China for dealing with Zero-Covid policy and domestic dairy production preparation; however falling since Q2.2022 (VNDS 2022). Besides **changed consumer taste** to liquid and yogurt for resistance and immunity, Vinamilk revenue was also affected by the down of 5.4% in the Vietnamese **birth rate** with only 16.22 children per 1000 residences during 2018-2022, compared to the 2013 – 2017 period (FPTS 2023). It is serious as baby is the main sector's revenue source. As a result, the key brand

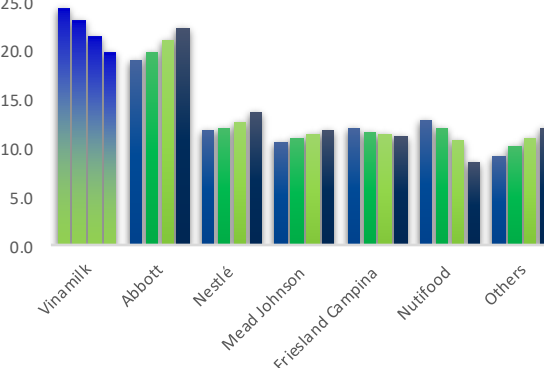
**Exhibit 4: Revenue contribution by sector 2019-2022**



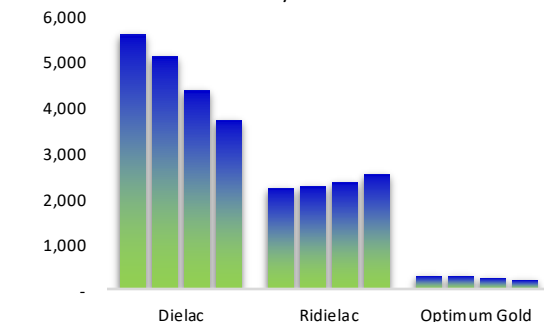
**Exhibit 5: Vinamilk's liquid milk market share 2019-2022**



**Exhibit 6: Vinamilk's liquid milk revenue by brand 2019-2022**



**Exhibit 7: Vinamilk's baby food market share 2019-2022**



**Exhibit 8: Baby food revenue by brand 2019-2022**

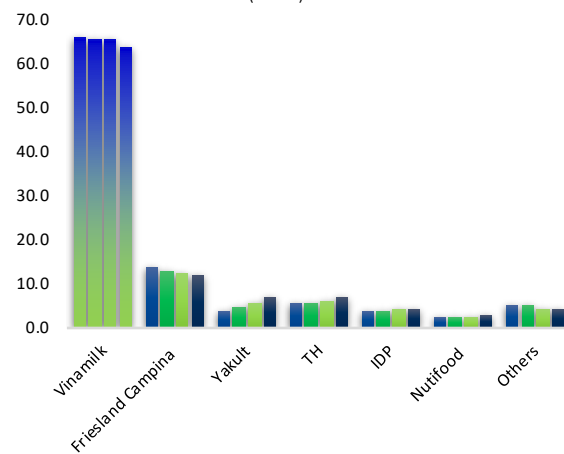


Exhibit 9: Yoghurt market share 2019-2022

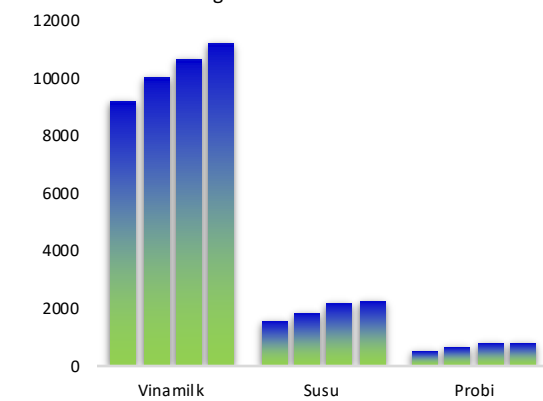


Exhibit 10: Yoghurt sour milk revenue by brand 2019-2022

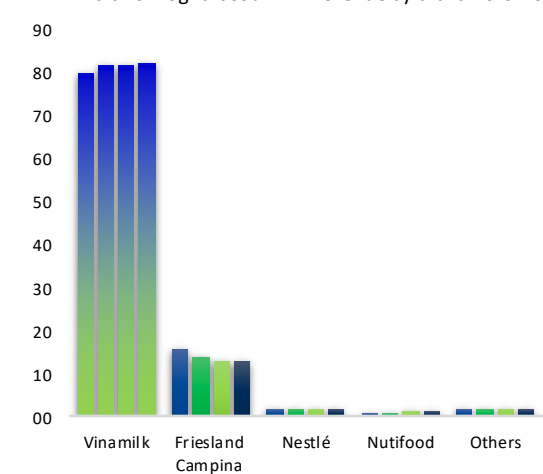


Exhibit 11: Vinamilk's condensed milk share 2019-2022

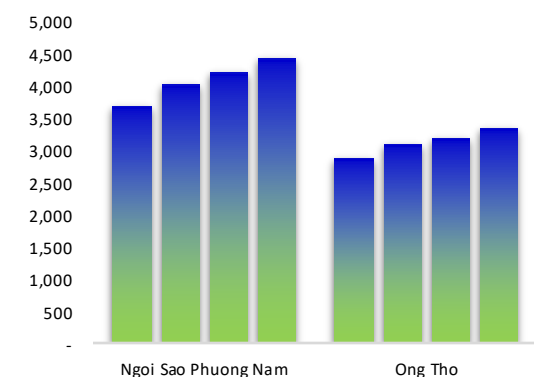


Exhibit 12: Vinamilk's condensed milk revenue by brand 2019-2022

Dielac's revenue decreased by 27.35% with insignificant changes in Ridielac's and Optimum Gold's (Exhibit 8).

### YOGHURT AND SOUR MILK PRODUCT

Leading market with about 64%, Vinamilk has made continuous efforts to improve products to keep up with trends. With the potential demand for immune and digestive system supplements, VNM's efforts are showing up with revenue growth significantly, however facing competitiveness with the emergence of prominent competitors Yakult and TH yogurt with the growth by 56.82% and 21.43%, respectively. Vinamilk's rise was mainly from the effective investment in the **Vinamilk Green farm model** with the sustainable target, catching huge media attention and customer value, showing a remarkable increase of 22.37% while yogurt lines including Susu and Probi were only stable with a slight decrease of 5 (Exhibit 10) (Euromonitor 2023).

### CONDENSED MILK

VNM dominantly occupies the entire condensed milk market with an **80%** market share, which keeps rising overtime, built from customer loyalty and high brand recognition, which remains stable over the period (Euromonitor 2023). With continuous improvement to regain market share, VNM's products develop sustainably with demand from the beverage mixing and food processing industries. Thanks to the advantage of the long-standing brand value of **Ong Tho milk and Southern Star** and continuous product and packaging improvements, the two products recorded revenue growth of 21.72% and 25.06%, respectively, with more contribution from Ong Tho. Furthermore, Vinamilk makes huge effort to raise customer awareness of the advantages of brand value, specifically through above and below the line, meaning the flexibility usage for both hot and cold, age brackets alongside constant improvement with diversified size offering 1,284g, 380g and 165g down to 40g packs (Euromonitor 2023). Despite facing rising health awareness for non-preferred coffee, key driver of this sector due to COVID, the necessary and cultural characteristics of Vietnamese consumers will keep maintaining in long-term (Grant 2023).

### PLANT-BASED DAIRY AND OTHERS

Vinamilk's Plant-based dairy is a grain milk product; which did not fit consumer preference, mainly soy milk only account for approximately 15% market share. The field is dominated by Vina Soy Milk, creating an extremely large barrier for other businesses to compete with the unique characteristics of soybeans (Euromonitor 2023). With negligible contribution, Vinamilk products revenue rose slightly of nearly 2% in 2019-2022.

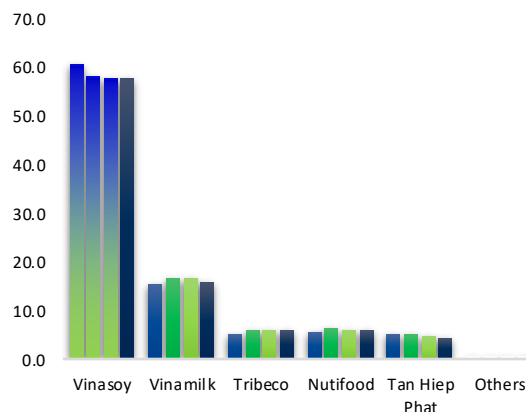


Exhibit 13: Vinamilk's plant-based share 2019-2022

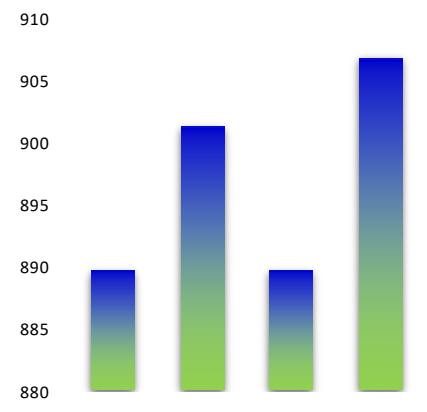


Exhibit 14: Vinamilk nut milk revenue 2019-2022



## FINANCIAL PERFORMANCE

## COST INFLATION DAMAGED PERFORMANCE

Cost inflation is the main influencing factor on VNM in the recent period. In 2020-2022, under the impact of the Russia-Ukraine war, the cost of dairy farming, including feed and labor, skyrocketed because Ukraine accounts for **16% of global corn feeds** along with large amounts of fertilizer (Mamonova et al. 2023). Indeed, **corn, soybean, and wheat prices** increased significantly of 46.7%, 29.1%, and 87.5% respectively during 2019-2022 (**Exhibit 15**), which also severely affected VNM since having 40,000 directly managed cows and 100,000 cooperative cows with milk supply (FPTS 2023). The subsidy mainly comes from farmer-farms, which is further costly-boosted under the impact of high input costs due to farmers' inability to pay.

Besides, Vinamilk raw materials depends half on raw milk, of which **65%** is from imported powdered milk ingredients. Under pressure to push up livestock prices, VNM's main raw materials including WMP and SMP increased sharply by 40% to 4,100 USD/ton to Q2/2022 then gradually decreasing. Besides, excessive dairy demand from **China** for raw materials with domestic production aim is also a factor that increases production costs. To cope with the pandemic, specifically the implementation of the Zero-covid policy, China's need to stockpile essential goods increased sharply (Wang et al. 2022). Besides, with the significant increase of 30-40%, and 20% in material feeds and freight cost, respectively due to huge-pulling demand of China for lockdown preparation along with large amount of imported cows from the US of VNM, specifically 2100 and 2500 cows in 2021 and 2022 (VNDS 2022), its performance is severely affected when US is facing **cattle feed scarcity**, boosting even more Vinamilk expenses (Hampton 2022). With negligible revenue growth (0.5%), the cost burden caused **GPM** and **OPM** to decrease by 5.5% and 5.2% (**Exhibit 16,17**), respectively skyrocketing COGS of 12.79%. However, despite the gradual decline, VNM's ratios still higher than the industry of 15% and 6.5%.

## LARGE HERDS OF FARMER-COOPERATIVE FARM ALONGSIDE EXPANSION EFFORT

Although the size of VNM's dairy herd is large, the productivity is not effective with **71.43% coming from farmer-cooperative farms**, significantly higher than the owned VNM's. With the continuous improvement of livestock technology, which boosts machinery cost shown by the increased efficiency of VNM farms over time, milk output from owned-farms is always larger despite the smaller scale (**Exhibit 18**). Moreover, pressure on animal feed scarcity has boosted costs for farmer cooperative farms to ensure output. Besides, VNM is in the process of **expanding** more farms. Indeed, In 2019-2022, new barracks with more than 1300 cows, were completed and upgraded with Di Linh, Thong Nhat Thanh Hoa, Quang Ngai, Moc Chau upgraded and Phase 1 Xieng Khoang dairy farms (VNM 2022). However, with a **huge amount of cash**, financial health is not affected but only increases maintenance costs. With rising labor, and maintaining costs, despite efforts to reduce marketing costs to cope with cost inflation, operating expenses still increase more, dampening **OPM** (**Exhibit 17**). Besides, interest decreased and increased in 2021 and 2022 due to the movement in interest rates, especially more dramatic in emerging market like Vietnam (Arteta et al. 2022). However, with significant profits compared to the market, the slight decline is not significant, which is also supported by **overseas subsidiaries**, including Driftwood, and Angkormilk with 31% and 13% revenue growth YoY alongside the popularity of Del Monte in the 3 largest Philippines islands (Vinamilk 2022).

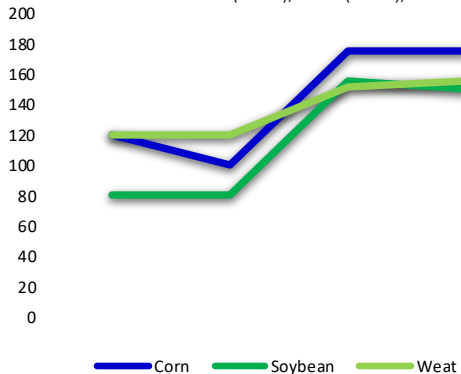


Exhibit 15: Cost for animal feeds 2019-2022

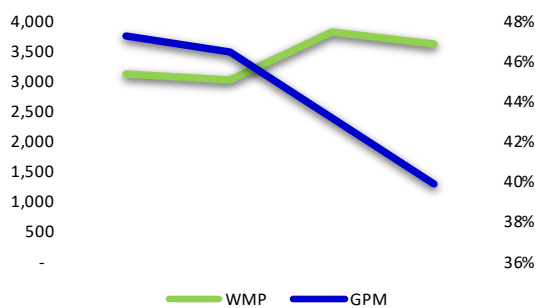


Exhibit 16: WMP price vs Net Profit Margin 2019-2022

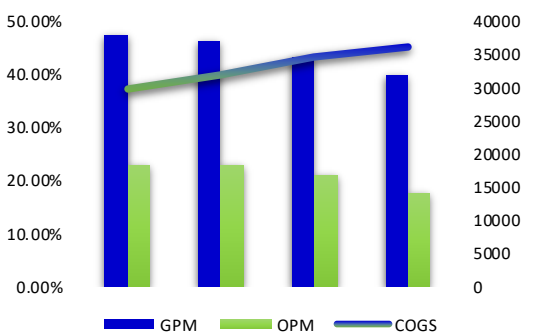


Exhibit 17: OPM and GPM vs COGS Vinamilk 2019-2022

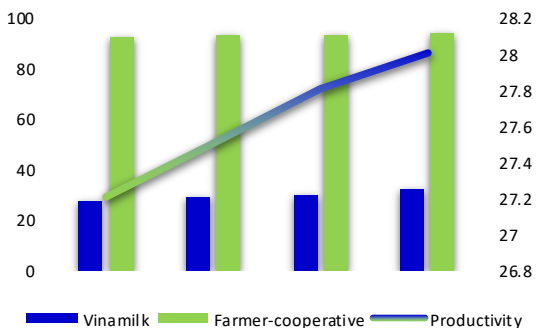


Exhibit 18: Farm distribution with milk production 2019-2022

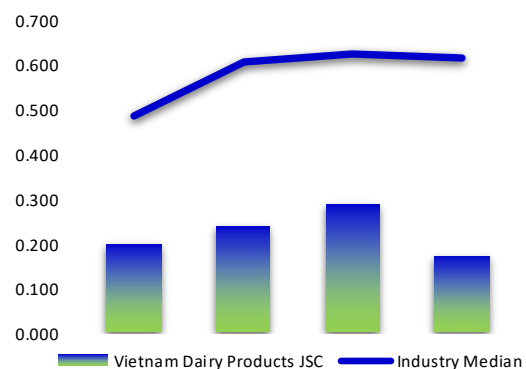


Exhibit 19: D/E ratio 2018-2022

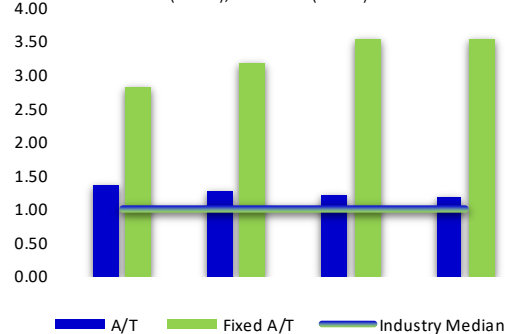


Exhibit 20: A/T and Fixed A/T with industry 2019-2022

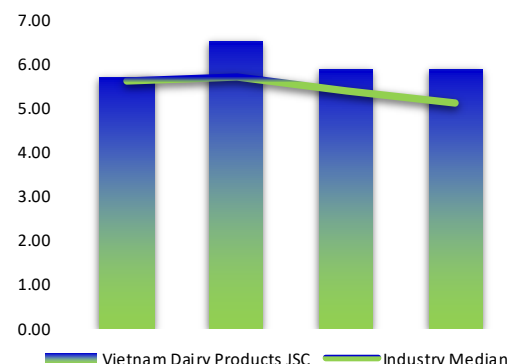


Exhibit 21: Inventory turnover

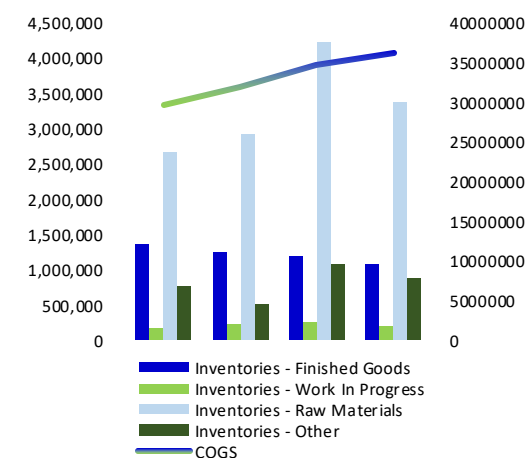


Exhibit 22: Inventories components vs COGS 2019-2022

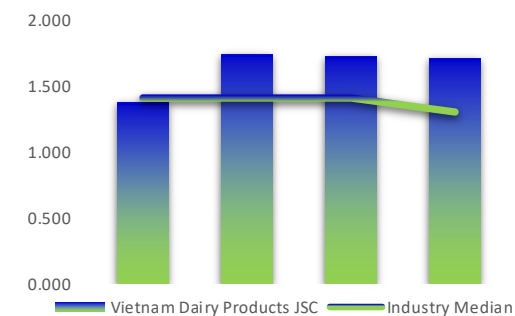


Exhibit 23: Quick ratio 2019-2022

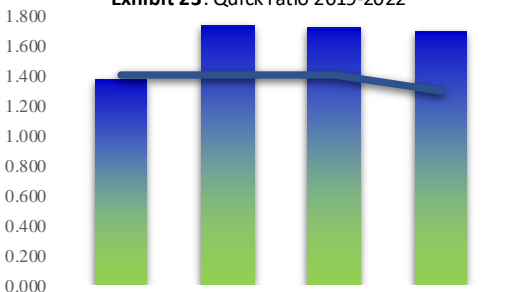


Exhibit 24: Current ratio 2018-2022

## M&A AND JOINT VENTURES WITH STRONG FINANCIAL HEALTH

With business saturation, VNM has no room to regain market share from competitors. However, it has the advantage of huge cash, which is mainly from **short-term investments** (Vinamilk 2022). With abundant cash thanks to bank deposits as well as taking advantage of rocket interest rates, the company has the ability to continuously carry out mergers and foreign joint ventures with extremely stable potential **D/E** (Exhibit 19), fluctuating around only 20%, showing strong financial health. Specifically, the **acquisition** of Khanh Hoa Sugar was carried out in 2017 with 65% interest while 1 year later 51% of Lao-Jagro shares were occupied by VNM for high-tech dairy farming (Vinamilk 2022). However, the notable deal comes from owning 100% and 75% shares of Driftwood and GTN Food respectively (Vinamilk 2022). Besides, the complete acquisition of Moc Chau Dairy in 2021 has positively contributed to the VNM dairy ecosystem. Therefore, although revenue sources are strongly affected by domestic competition, strong financing activities contribute to sustaining VNM's profitability. Overall, the M&A, joint venture, and expansion seem efficient when looking at the **Fixed Asset Turnover**, gradually increasing over time with productivity in turning these fixed assets into amounts sales. However, with the massive cash and short-term investment, the **A/T** decreased over time but not showing poor productivity (Exhibit 20).

## MATERIALS STORAGE WITH TENDENCY ADAPTION

Monitoring the movement of material prices, specifically the skyrocket in 2021 and early 2022, VNM quickly increased the purchase of raw fresh milk for production through **buying at fixed prices to January 2024** to prevent price crises; however, prices decreased (KBS 2023). Reserving raw materials is reasonable for VNM farm expansion purposes, helping to guarantee costs with 80 fresh milk stations. Consequently, COGS increased significantly with inventory also due to storage and fixed deals; the **inventory turnover** decreased slightly (Exhibit 21); however, the increase in inventory mainly **came from raw materials, not finished goods**, which decreased the most in 2020 with large demand from COVID; however, it remains stable and gradually decreases in 2022, showing effective business and fit with the storage and hedging for expansion target of VNM. As a result, Inventory turnover did not change significantly, and remains above industry levels but not significantly positive because of consumer preference changes, forcing constant adaptation with new product lines, then the outdated was left, and slowly sold, as shown in the increasing sales of new product lines in liquid milk and yoghurt milk, as opposed to the old ones.

## GAINING EVEN MORE WITH DEPOSITS

With massive cash and insignificant liabilities, VNM is more capable of paying short-term obligations with strong financial health with the **current ratio** higher than both 1 and industry (Exhibit 24), which gradually increases over time. With interest, short-term investment is held steady for significant increases over time, while current liabilities mainly come from short-term borrowings which are used for **capital expenditure with constant expansion** (Vinamilk 2022). Moreover, sustainability is also related to interest rates. The number of short-term borrowings skyrocketed in 2021 with low-interest rates; however, for the reversal in 2022, VNM has resolved debts quickly with nearly **48.12%** from 9,382 to 4,867 billion to prevent additional costs, helping to maintain a stable current ratio (Vinamilk 2022). The strategy of keeping cash for short-term deposits combined with good management of short-term liabilities and reasonable adjustment according to interest rates, is also what causes the **quick ratio** to increase and be significantly higher than the market (Exhibit 23). Moreover, the difference between quick and current ratios shows that the contribution of inventory in current assets is insignificant, not showing any considerable gap

Companies	Market Cap
Vinamilk	5,860,201,408.32
Bright	1,783,193,659.82
Feihe	5,103,019,709.29
Yakult	6,954,425,957.61
Hatsun	2,888,688,638.73
Morinaga	1,637,126,489.16

Exhibit 25: Peer selection

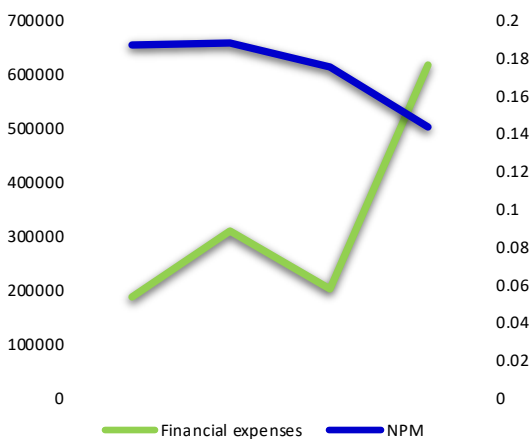


Exhibit 26: Financial expenses vs NPM 2019-2022

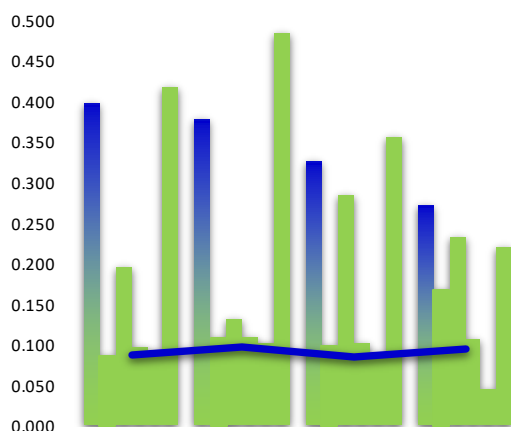


Exhibit 27: Relative ROE in 2019-2022

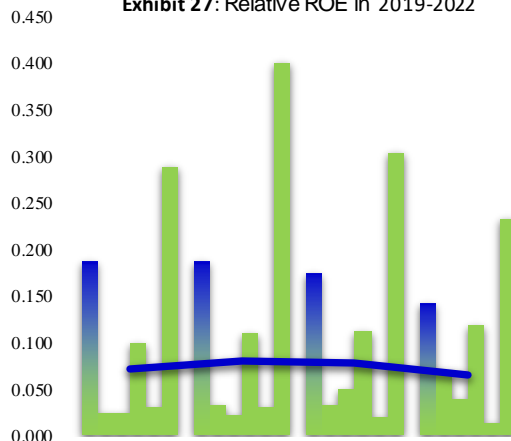


Exhibit 28: Relative NPM in 2019-2022

between short and long term financial health (Sari et al. 2022). Specifically, for the long-term, financial health is still well-guaranteed when the **D/E** has good performance over time with a decline in both long-term and short-term borrowings, which are extremely small compared to equity, only around 20%, showing low financial risk (**Exhibit 19**).

## ROE DUPONT ANALYSIS

### PEER SELECTION

For relative financial ratio comparison, peers are selected in foreign markets for 3 reasons **(1)** Domestic businesses in the same industry are not IPOs with significant size and scale differences **(2)** Overall target customers are significantly different causing biased comparison. Hence, foreign businesses, including Feihe, Yakult, Bright, Morinaga, and Hatsun, all in the dairy industry are selected based on three criteria **(1)** Small and mid-market capitalization (under \$10 billion), **(2)** Asian Pacific area with similar dairy preferences, more sweet dairy compared to the EU's with blander flavor (Naomi et al. 2017)

### ROE BREAKDOWN

Overall, VNM's ROE is still significantly higher than the industry, recording the second highest one initially, but has decreased sharply by 31.47% over time to the most return for equity company in 2022. With the widely-fluctuated market, VNM earnings have been done quite well but facing tough competitiveness. Regarding **profitability**, with price pressure along with fierce market share competition, the decline in gross margin and operating margin of 14.74% and 22.57%, respectively has contributed to a significant decline, explained by the market share loss from domestic competitors. Moreover, although revenue increases steadily, overall profits gradually weaken with the increasing cost of materials, causing a fall of 23.53% during the period. Especially, in 2022, it declined more sharply with FX risk with currency value fluctuations, causing huge losses from financial expenses, which tripled to VND 618 billion with losses from FX, compared to 2021, causing a more serious slump in **NPM** (Vinamilk 2023) (**Exhibit 28**). Regarding **efficiency**, the **A/T** decreased by 23.53%, however, this decrease came mainly from the huge amount of assets from cash and short-term deposits, not from the fixed asset, whose turnover ratio rises overtime, showing efficiency in using PP&E, which is expanded constantly for improvement. Moreover, it is still good with the third highest position compared to peers. Besides, the leverage of VNM is very low and stable over time (**Exhibit 30**), which is shown in the standard **D/E** index, **current ratio**, and **quick ratio** with a small amount of debt and very high liquidity ability. Despite significant market cap compared to the smaller ones, financial strength is less leveraged with the third lowest ratio. As a result, **the decline in ROE mainly comes from profitability**, which is facing many difficulties due to fierce competition and cost issues. However, NPM is expected to be positive as material prices have gradually decreased since March 2022, opening up the expected potential profitability (**Exhibit 27**).

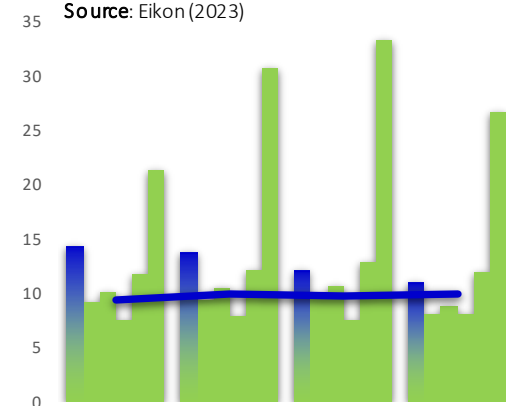


Exhibit 29: Relative A/T in 2019-2022

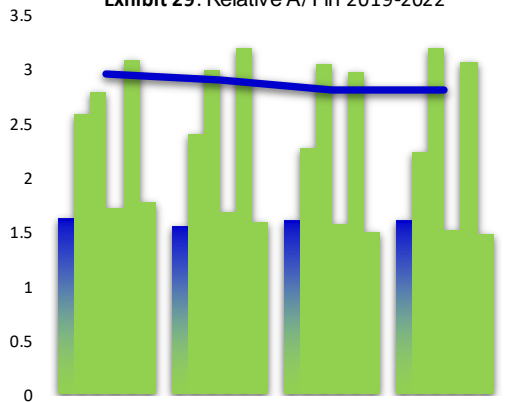


Exhibit 30: Relative Leverage in 2019-2022

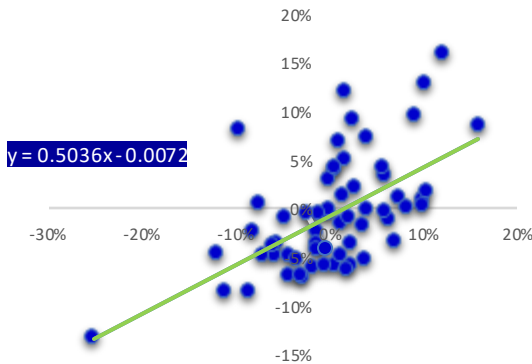


Exhibit 31: Beta regression analysis

Component	Value
Risk-free rate	3.29%
Raw Beta	0.50
Adjusted Beta	0.67
Risk Premium	9.57%

Exhibit 32: Components for CAPM model

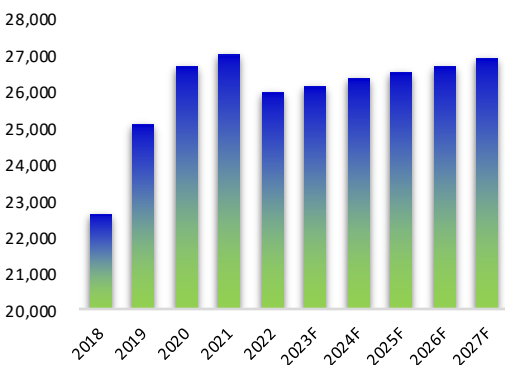


Exhibit 33: Forecasted drinking milk revenue

## VALUATION

### COST OF EQUITY

CAPM, a mathematical model, determines the correlation between expected return and systematic risk of individual stock investment, used for calculating cost of equity. With monthly 5-years regression for returns of VNM and VNINDEX, which both minus risk-free rate, adjusted from the annualized one, the raw beta, relative volatility to market, is 0.53 (Investing 2023). However, for forward-looking approach, it is adjusted by Bloomberg method to 0.67 (Berens 2023). Risk-free rate is determined by averaging the annualized monthly 10-year Vietnamese government bond rate in 5 years while risk premium taken from Damodaran (2023). Then, from an aggressive view, the result is **9.7%**, which is supported by forecasted outpace of Vietnam over Asia Pacific in next years, whose ranges are only 3.9%-4.6%. (Swallow and Srinivasan 2023).

### DCF: FREE CASH FLOW TO EQUITY MODEL

#### Revenue

VNM revenue is forecast based on identified segments, including Liquid Milk, Baby Food, Yoghurt and Sour Milk, Condensed Milk, and Plant-based dairy and others alongside Export and Subsidiaries. With an extremely strong correlation with more than 80% explanation, revenue projection mainly relies on sector movement with competitiveness, core cause of VNM's revenue changes.

#### Drinking Milk Product

Liquid milk is an essential food for the people, whose demand is always abundant each year with a CAGR of 5.27% while VNM's is only 2.17% due to the gradually losing market share from new-trendy brands, especially TH true milk. With the fresh milk preference, slow growth is reasonable as TH True Milk and Nuti Foods own 100% owned-milk with higher and more economical than farmer-cooperative one, which is a clear source of raw fresh milk with quality assurance while 70% of VNM is an agricultural cooperative farm (FPTS 2023). Hence, VNM is making efforts to improve efficiency by importing **high-yield cattle**, improving livestock technology, and looking for farm expansion projects, evidently increasing capacity by **3.6%** in 2023 (FPTS 2023).

However, despite being boosted more strongly after the epidemic when awareness of dietary supplements gradually improved, revenue still encountered the barrier of weakening purchasing power that needed time to recover from the gloomy macro situation from pandemic, forcing VNM to actively transform such as changing its brand identity with positive changes and an increase of 5.6% and 15.6% over the same period and the previous quarter in Q3/2023 (VCBS 2023). Therefore, liquid milk is expected to grow steadily at about **1.57%** alongside 43%-44% total revenue.

#### Baby food

With the trend of switching from liquid milk and yogurt stemming from high awareness of the value of resistant food supplements, the powdered milk industry has not had any outstanding changes with a CAGR of -0.5% while VNM's is -5.5%. Compared to the period 2013-2017, the **birth rate** in 2018-2022 decreased by 5.4%, the main demand for baby food (FPTS 2023). Moreover, a significant barrier comes from **the state's stricter regulations in 2015 and 2021** prohibiting the promotion of breast milk substitutes for children under 2 years old and the requirement to ensure "Breast milk is best for comprehensive development of children" in advertising (Ha 2015) (Minh



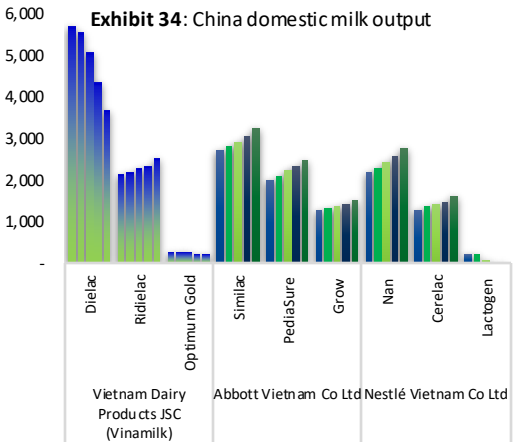
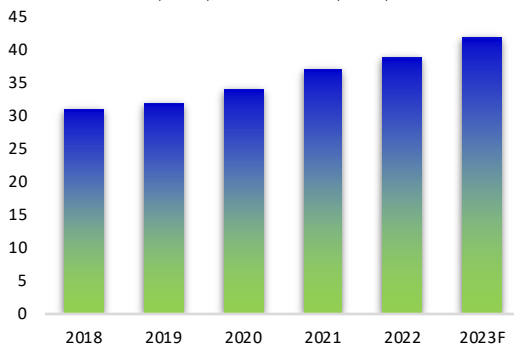


Exhibit 35: Baby food revenue by brand 2018-2022

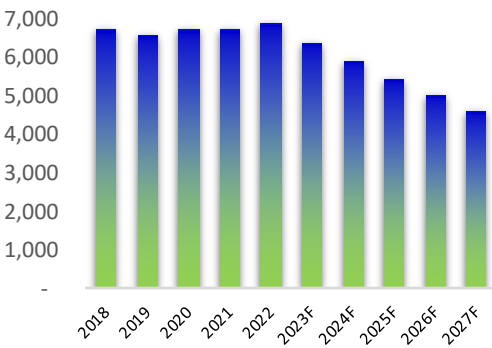


Exhibit 36: Forecasted baby food revenue

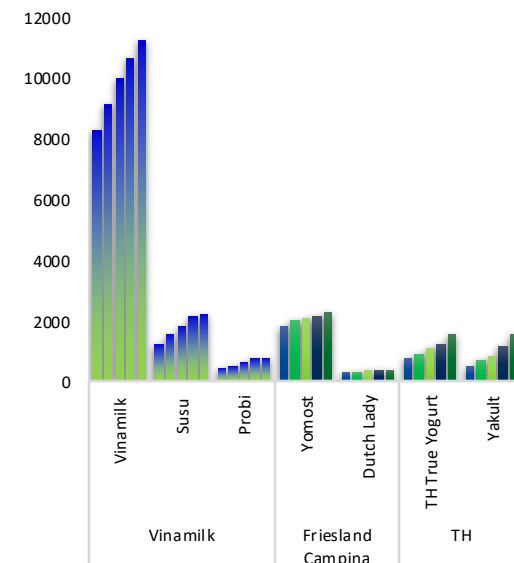


Exhibit 37: Yoghurt and sour milk revenue by brand 2018-2022

2021), slows down the development of this sector. Besides, production capacity is limited due to pressure from high costs coming from main raw materials, including SMP and WMP, whose costs skyrocketed as mentioned. However, it has gradually decreased and created more favorable conditions for development since March 2022, which is expected to be maintained according to China's goal of domestic milk supply independence in the next 5 years after overstocking with rising domestic production (DSC 2023) (**Exhibit 34**). However, the main cause of the decline was unfavorable products without innovation, causing significant revenue decline, as opposed to Nestle and Abbot. Overall, it is expected to decrease **7-8%** annually.

### Yoghurt and sour milk

Despite the stagnation of the dairy industry, yogurt is VNM's growth driver by maintaining a dominance of approximately 70% of the domestic market. With the warm reception of sterilized and aseptic lines from sustainable models suitable for post-epidemic nutritional needs, specifically awareness of the trend of protecting health with the functionality of **aiding digestion and boosting the immune system**, it is predicted to grow strongly by 8.37% by Statista (Euromonitor 2023) (KBS 2023); however, with competition, the expected is strongly at a rate of 8.35% in the period 2023-2027. In particular, VNM has been extremely successful in actively investing in Vinamilk Green Farm, consequently, the index is expected to increase by approximately **5%** per year with sector and market share base.

### Condensed milk

Vinamilk completely dominates the condensed milk industry with the product lines Sua Ong Tho and Ngoi Sao Phuong Nam, which are reasonably improved in size to suit needs. However, it is also driven mainly by Vietnam's coffee drinking culture, which is long-lasting, so revenue is expected to continue to maintain and grow **6.3%** annually (Euromonitor 2023).

### Plant-based and other dairy

Accounting for only about 2.7% of revenue, the industry is expected to remain stable with a decrease of **0.57%** each year due to the slow development of the industry and competition from Tribeco, Vinasoy, and Nutifood.

### Export and Subsidiaries

The category is expected to grow stably with the recovery of Angkor Milk and poor Driftwood performance. While Angkor maintains growth of over 10%, especially in Q3/2023, Driftwood slightly increased over the same period (Vinamilk 2022). In addition, VNM has signed a cooperation agreement with two leading dairy and agricultural product distributors in China: Quang Chau Giang Nam Vegetable Wholesale Market and Changsa Yiyan to bring products to the market, facilitating and boosting export segment; therefore, exports and subsidiaries are expected to remain stable by **3.7%** contribution to revenue annually (Vinamilk 2022) (VNDS 2023).

### COST BREAKDOWN

#### COGS (Exhibit 42)

VNM's COGS increased continuously with an average of 6.59%, it is driven mainly by finished and merchandised goods sold, accounting for more than 90%, showing a strong relationship with revenue. Besides, as mentioned, it is driven by an increase in raw material prices but gradually decreasing until the next 5 years due to China as mentioned, COGS is expected to remain stable at

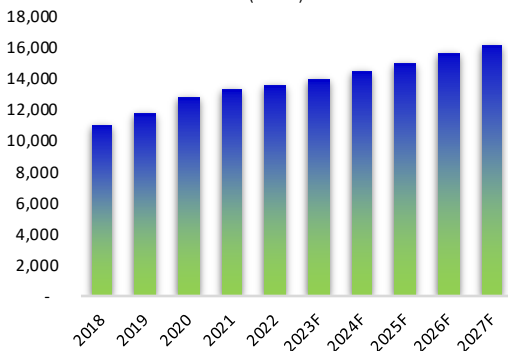


Exhibit 38: Forecasted yoghurt and sour milk revenue

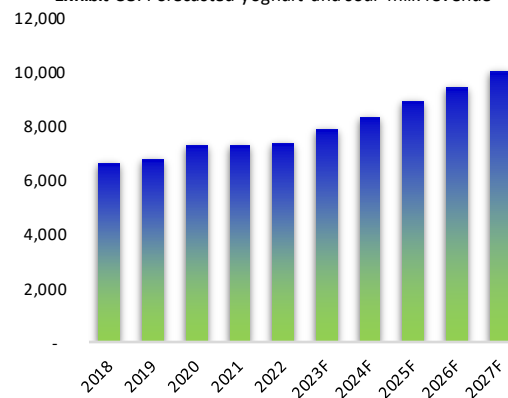


Exhibit 39: Forecasted condensed milk revenue

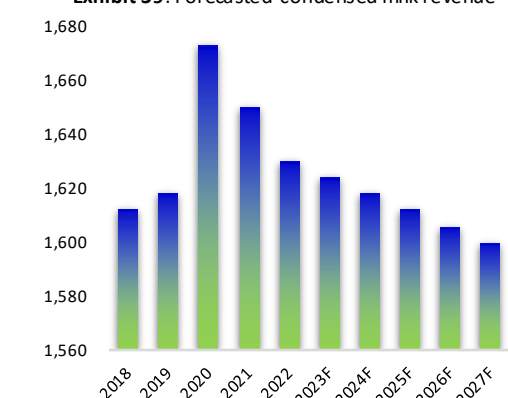


Exhibit 40: Forecasted plant-based other dairy revenue

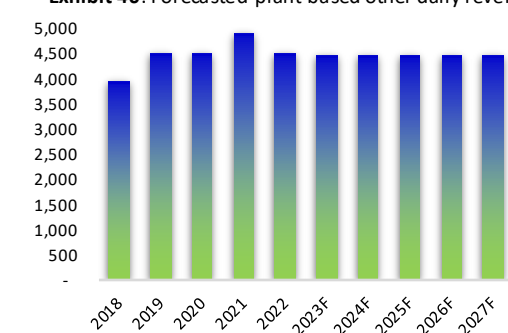


Exhibit 41: Forecast export and subsidiaries revenue

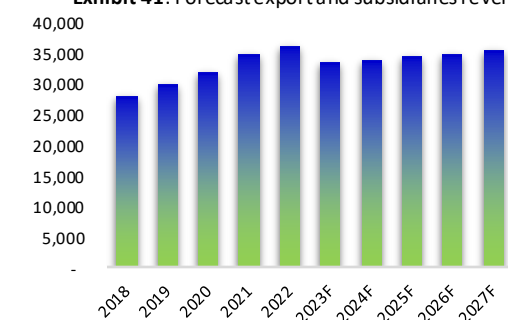


Exhibit 42: Forecasted COGS

**55.32% of annual revenue** with a slight decrease in the initial period. but gradually increase from 2025 due to efforts to reduce costs with **self-managed barracks**, which **cost 16-18%** less than the farmer cooperative one and low Chinese demand (FPTS 2023); However, it is gradually adjusted by increased projected revenue.

#### Financial income/expenses (Exhibit 43)

Financial income and expenses are mainly based on fluctuations in the **Fed's interest rate**. Specifically, the Fed's increasing actions have doubled financial expenses in 2022 while interest income from deposits increased by 8.65% (Vinamilk 2022). Besides, the two indexes also depend on performance in the foreign exchange market when financial expenses are driven mainly in 2022 due to **FX losses (40%)**. Exchange rate pressure will continue to increase as exchange rates will continue to increase or maintain until mid-2024 based on Vanguard (2023). Hence, financial expenses are predicted to increase by **2%** in the first two years and gradually decrease from mid-2024 with borrowings, deposit interest, and FX expenses, while the opposite movement is true for financial income.

#### SG&A (Exhibit 44)

Due to pressure from input prices, SG&A costs have been cut; However, with a decreasing trend and plans to **expand and improve products**, forcing to increase sales/marketing for new product lines alongside management, SG&A costs will grow 1.9% per year, accounting for **23.6%** revenue (Vinamilk 2023).

#### Other income/expenses/Income tax

With insignificant changes among 5-year, the other expenses and other income are expected to increase steadily by 2% per year while income tax will gradually increase **by 1.8%** per year.

#### CAPEX (Exhibit 46, 47)

Capital expenditure, used for acquiring, maintaining, upgrading physical asset, specifically factory, farm, and equipment of Vinamilk, mainly relies on the strategy and future direction of the company. Specifically, **4 projects** are expected to be implemented within the next 5 years including **3 farms** with additional upgrading and construction, and **1 factory farm complex**. First, the Hi-tech dairy cow farm **Moc Chau** with a scale of 4,000 cattle with an investment capital of VND 100 billion for phase 1 is expected in 2024 (VCBS 2023) (Thanh 2023). Besides, **Tay Ninh** dairy farm No.2 is a project targeted to be carried out in 2 periods: 2023 and 2025 with 4000 cattle respectively with the goal of expanding fresh milk supply and cutting-edge equipment with total investment capital of VND 1,500 billion (Giang 2023). **Lao Jargo** farm has been supplemented with 7,000 cows by 2023, increasing productivity by 100 tons of milk/day while the **Villaco** phase 1 project has also been implemented with VND 1,670 billion with the goal of 5,000 cows by 2024 (Hoang 2023). With information about the project with expenditure scale and amount of livestock and machinery from 2013 with corresponding CAPEX, CAPEX for 2023-2027 is adjusted according to the same nature in the specifically determined years of each project, giving increases of **32.65%, 13.84%, 5.4%, and 10.26% respective**

#### D/A

While depreciation is expected to gradually increase by **6.98%** per year with conversions into assets and increased construction in progress, explained in CAPEX, the amortization remains unchanged

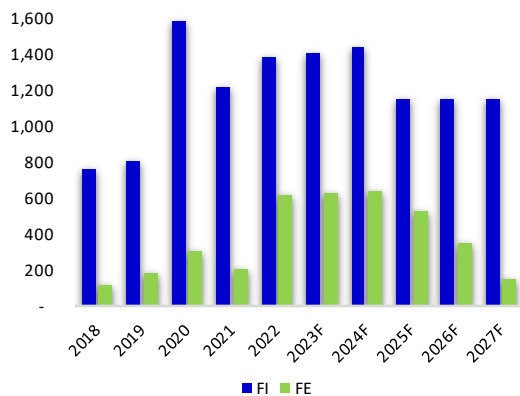


Exhibit 43: Forecasted FI/FE

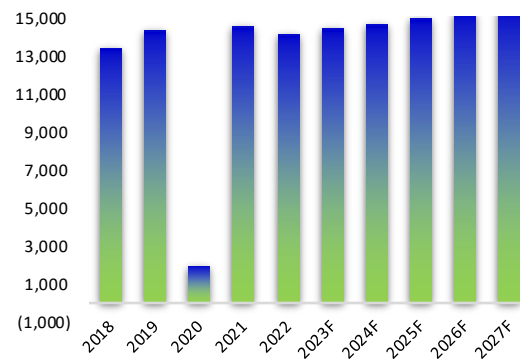


Exhibit 44: Forecasted SG&amp;A

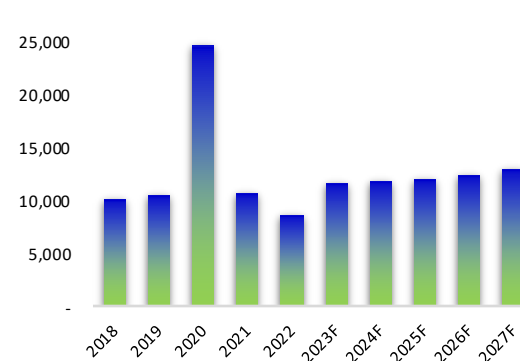


Exhibit 45: Forecasted net income

Projects	Year
Tay Ninh Phase 1	2023
Moc chau	2023
Lao Jargo	2023
Villaco	2024
Tay Ninh Phase 2	2025

Exhibit 46: Expected projects in 2023F-2027F

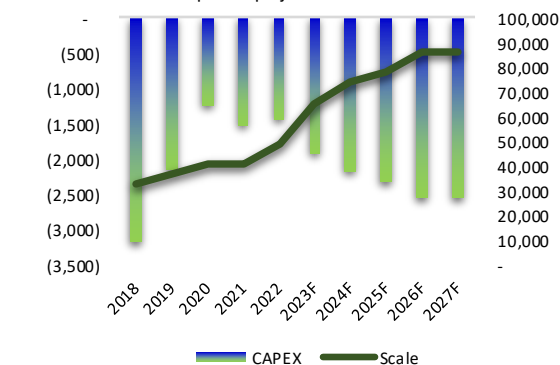


Exhibit 47: Forecasted CAPEX with projects scale adjustment

### Net working capital (Exhibit 51, 52 , 53)

NWC is projected based on changes in account receivable, inventory, and account payable. Regarding account receivables, the amount of money of Vinamilk mainly comes from customers, which has gradually increased over time at a higher rate since the **epidemic** with weaker financial capacity alongside fluctuating interest rates (FPTS 2023). With the mentioned projected interest rate, account receivable will continue to increase until 2024 and gradually decrease at 4.92% per year adjusted to **financial performance**. Besides, the account payable of VNM mainly comes from **APIS and Miraka** (Vinamilk 2022). The amount of money for **APIS** increases over time with the demand for raw materials along with the reservation to protect against rising fuel prices, which has and will cool down in the near future as proven. Moreover, the reduction is also supported by **Miraka**, the main supplier, which is facing the wave of epidemic again in **New Zealand** (Solomon 2023), causing urgently needing money, leading to annual decrease of 6.7%. Besides, because the price is fixed by Vinamilk until **2024** with enough stored inventory amount, it will not continue to increase until 2024 with 9.79% and gradually decrease by 4% each year until the end of the cycle. Consequently, the NWC increases or decreases based on three factors with an average fluctuation of -3.2% with highlighted milestones.

### Net borrowings (Exhibit 54)

Net borrowings are projected with changes in total debt. While long term borrowings are insignificant at only 1-2% total debt, short-term borrowings increase overtime with revenue correlation due to gaining more from expansion because VNM use this borrowings for purchasing new equipment, raw material, upgrading and maintaining facilities, which experienced gradual rise over time. Hence, it is projected to increase over time with contribution of 9.69% projected revenue (Vinamilk 2022).

### Terminal growth rate (Exhibit 53)

Terminal growth rate is determined by the average forecasted growth rate of Vietnamese market from Statista (2023) and adjusted CAGR of VNM compared to Vietnam Dairy market in 2018-2022 period while Vietnamese Dairy market growth with 5.37% in 2018-2022, that of VNM only 2.17%. Moreover, with mature position, VNM is expected to underperform market with determined terminal growth of 2.65%.

### RELATIVE P/E MODEL

The forward P/E of peers with similar market capitalization, industry and preferences of Asia Pacific, determined for deriving the industry median of 14.40, which is lower than the Vinamilk's of 15.88, showing the overvaluation. Moreover, with the projected EPS of 5,583 VND with 2.09 billion

Comparable firms	Forward P/E
Morinaga Milk Industry Co Ltd	7.94
Hatsun Agro Product Ltd	21.63
Yakult Honsha Co Ltd	17.43
Bright Dairy & Food Co Ltd	17.74
China Feihe Ltd	7.27
Industry Median	14.40
Net income	11,460.36
Shares	2.09
EPS	5,483.43
Price	78,972.32

Exhibit 48: Relative P/E model summary

Year	2023F	2024F	2025F	2026F	2027F
Net income	11,668.50	11,901.68	11,987.14	12,467.55	13,012.96
CAPEX	(1,932.76)	(2,200.37)	(2,319.31)	(2,557.18)	(2,557.18)
D/A	2,486.22	2,642.65	2,810.00	2,989.02	3,180.55
NWC	(2,108.96)	(1,903.36)	(1,045.02)	(1,050.14)	(1,055.39)
Net borrowings	977.25	114.21	124.31	134.68	145.39
FCFE	11,090.26	10,554.82	11,557.12	11,983.94	12,726.32
Cost of equity			9.70%		
Terminal growth			2.65%		
Terminal value			185,301.11		
Total			11,090.26		
Equity value			160,590.84		
Outstanding shares			2.09		
Share Price			76,837.72		

Exhibit 49: DCF–FCFE model summary

## EVALUATION FIRM VALUE

### WHY THE VALUE OF THE COMPANY DIFFERS FROM THE CURRENT/RECENT SHARE PRICE?

There is the mismatch between the value of company and the current share price based on several factors including the nature of evaluation and the nature of the market. With the current share price of 70,000 VND on December 11, which is the **willing-to-buy** price of investors, the market's assessment of VNM is expressed with supply and demand, biased by market sentiment (Putra et al. 2019). Furthermore, the market is **not perfectly efficient** that there are non-public information, explained through price. At the same time, the intrinsic value reflects true worth of VNM based on fundamentals through eliminating discounted forward cash flow, financial performance and promising growth. When intrinsic value is higher than market value, stock is undervalued with buy recommendation and vice versa.

### WHY THE VALUE OF THE COMPANY DIFFERS ACROSS DIFFERENT VALUATION MODELS?

FCFE emphasizes cash flow availability or ability to generate case for equity shareholders through projected profit margin, CAPEX, working capital, borrowings; therefore, having limitations about false assumptions; which is minimized by focusing on VNM strategy with industry, sector and macroeconomics performance (Wijaya and Sumirat 2020). On the other hand, P/E model is based on VNM value from a market perspective, compared to Asian comparable business model with similar characteristics with concept of investment value is present value of future earnings, considering relative division payout ratio and return-required rate (Yi 2019). Those different emphasize metrics cause dissimilarities.

### WHICH MODEL IS THE MOST APPROPRIATE AND WHY?

VNM's intrinsic value is determined with long-term performance and growth prospects. Although facing risk of estimated components, it is applicable for VNM, a mature enterprise with stable growth patterns. Besides, with large scale and strong financial performance, it is less sensitive to economic volatility alongside regular dividend payments, improving assumptions accuracy. Hence, the risk is minimized with potentially predictable free cash flow. On the other hand, the P/E face is hardly-minimized risk that its fluctuated widely to economic events, specifically, pandemic, Ukraine war, Fed interest rate, and Israel war. Besides, the comparable firms may have different strategies, market characteristics like Japan, which although in Asia but determined as developed market. Hence, the weighted allocation for combining FCFE and P/E models is 70% and 30%, respectively for risk minimization.

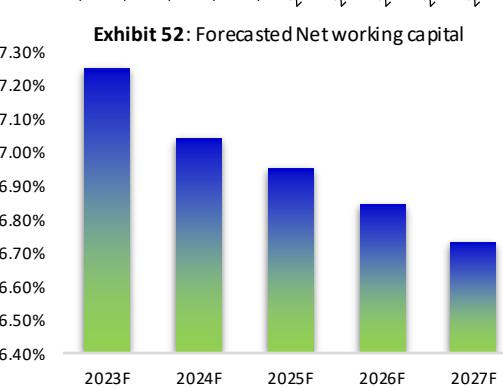
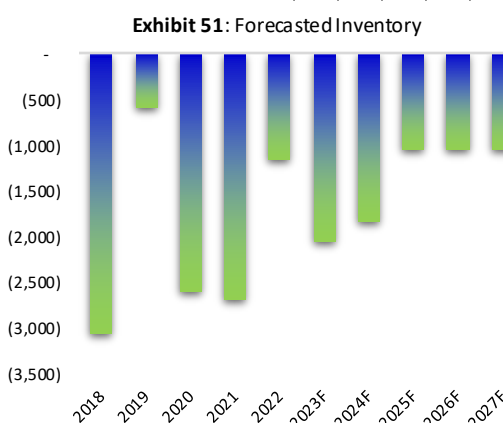
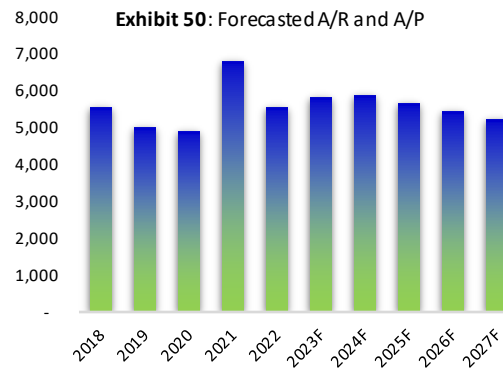
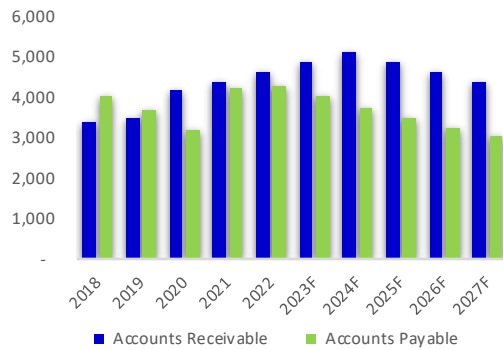


Exhibit 53: Forecasted GDP growth

REQUIRED RATE OF RETURN						
TERMINAL GROWTH RATE		7.70%	8.70%	9.70%	10.70%	11.70%
	1.65%	92,795	79,450	69,427	61,624	55,379
	2.15%	99,537	84,174	72,887	64,245	57,418
	2.65%	107,613	89,679	76,838	67,192	59,681
	3.15%	117,465	96,175	74,596	70,528	62,209
	3.65%	129,749	103,959	79,410	74,338	65,052

Source: Eikon (2023)

Exhibit 54: Sensitivity Analysis

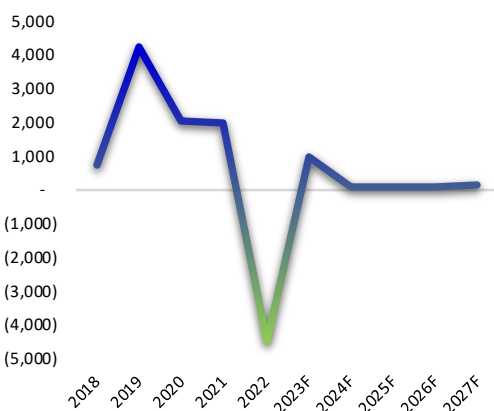


Exhibit 55: Forecasted net borrowings

### SENSITIVITY ANALYSIS

Required rate of return and Terminal growth rate were adjusted to ranges of 7.70%–11.70% and 1.65%–3.65%, respectively. Based on our findings, targeting price for Vinamilk determined by the FCFE model is highly vulnerable to changes in ROR and TGR between VND 55,379 and VND 129,749. A negative correlation is present between RoR and the desired price, with a 1% change in RoR leading to 16.71% increase or 12.55% decrease. On the other hand, TGR influences estimated price positively, rising or falling by 0.5% in TGR, lead to projected price growth of 2.19%/-5.14%.

### FINAL TARGET PRICE AND RATING/ RECOMMENDATION

From the mentioned combination of FCFE and P/E model with 70% and 30% allocation, the targeting price is 77,908 VND - 11.30% upside from market view. Despite fierce competition and macroeconomic risk, VNM is still expected moderate room for slight growth with mature characteristics. Hence, **HOLD** position is recommended.



## Appendix 1: Forecasting Net Income

YND billion	HISTORICAL					FORECAST				
Year	2018	2019	2020	2021	2022	2023F	2024F	2025F	2026F	2027F
Total revenue	52,561.95	56,318.12	59,636.29	60,919.17	59,956.25	60,528.35	61,223.43	62,003.40	62,869.37	63,823.01
Drinking Milk Products										
Revenue	22,610	25,079	26,708	27,015	25,975	26,157	26,339	26,521	26,702	26,884
Growth		10.32%	6.50%	1.15%	-3.85%	0.70%	0.69%	0.69%	0.69%	0.68%
Market share Growth	22%	93%	73%	20%	-106%					
Sector growth		5.96%	0.62%	-0.83%	-3.76%	-3.78%	-3.80%	-3.81%	-3.83%	-3.85%
% Total Revenue	43.02%	44.53%	44.79%	44.35%	43.32%	43.21%	43.02%	42.77%	42.47%	42.12%
Baby Food										
Revenue	6,721	6,561	6,721	6,757	6,912	6,391	5,901	5,441	5,007	4,599
Growth		-2.39%	2.45%	0.53%	2.30%	-7.54%	-7.66%	-7.80%	-7.97%	-8.15%
Market share Growth		-0.41%	-4.32%	-7.33%	-7.44%	-7.07%	-6.71%	-6.38%	-6.06%	-5.75%
Sector growth		-0.20%	0.03%	-1.81%	-0.05%	-0.51%	-1.02%	-1.53%	-2.04%	-2.54%
% Total Revenue	12.79%	11.65%	11.27%	11.09%	11.53%	10.56%	9.64%	8.77%	7.96%	7.21%
Yoghurt and Sour Milk Products										
Revenue	11,034	11,733	12,763	13,329	13,525	14,014	14,527	15,064	15,626	16,214
Growth		6.33%	8.78%	4.43%	1.47%	3.62%	3.66%	3.69%	3.73%	3.77%
Market share Growth	47%	43%	76%	51%	18%					
Sector growth		-3.41%	-2.04%	-2.09%	-2.91%	-2.83%	-2.76%	-2.69%	-2.61%	-2.55%
% Total Revenue	20.99%	20.83%	21.40%	21.88%	22.56%	23.15%	23.73%	24.30%	24.85%	25.41%

Condensed milk										
Revenue	6,642	6,823	7,298	7,295	7,417	7,884	8,381	8,909	9,470	10,067
Growth		2.72%	6.97%	-0.05%	1.68%	6.30%	6.30%	6.30%	6.30%	6.31%
Market share Growth		0.63%	2.26%	0.49%	0.24%	0.246%	0.248%	0.251%	0.253%	0.255%
Sector growth		8.95%	6.38%	3.01%	5.20%	6.03%	6.03%	6.03%	6.03%	6.03%
% Total Revenue	12.64%	12.11%	12.24%	11.97%	12.37%	13.03%	13.69%	14.37%	15.06%	15.77%
Plant-based and other dairy										
Revenue	1,612	1,618	1,673	1,650	1,630	1,624	1,618	1,612	1,606	1,600
% Total Revenue	3.07%	2.87%	2.80%	2.71%	2.72%	2.68%	2.64%	2.60%	2.55%	2.51%
Subsidiaries										
Revenue	3,942	4,505	4,473	4,874	4,497	4,458	4,458	4,458	4,458	4,458
Growth		14.29%	-0.73%	8.96%	-7.73%	3.70%	3.70%	3.70%	3.70%	3.70%
% Total Revenue	7.50%	8.00%	7.50%	8.00%	7.50%	7.37%	7.28%	7.19%	7.09%	6.99%
Total						0.073653321				
Revenue										
Growth	0.292946055	0.46767245	0.388372632	0.228142929	0.165164464	0.130161814	0.138340164	0.139919898	0.141435857	0.142888366
COGS (including D&A)		10403882.13	15039306	17484830	19765793.68	22668451.13	25772649.27	29223366.78	33138954.45	37782902.64
Gross profit (including D&A)		5173657	6588123	9076744	11182808.45	12308477.2	14042993.07	16163276.17	18606387.25	21425505.41
Gross margin % (including D&A)		0.33212287	0.305	0.341724628	0.361334848	0.351902748	0.352700402	0.356124074	0.35916705	0.361865926
COGS's D&A		229178.6323	337800.5511	448558.6116	698603.288	934201.63	934447.9218	934447.9218	934447.9218	934447.9218
Gross margin % (excluding D&A)		0.346834994	0.320237951	0.358612123	0.383907864	0.378611831	0.376169763	0.376712684	0.377204516	0.377648278

## Appendix 2: Forecasting Net Income

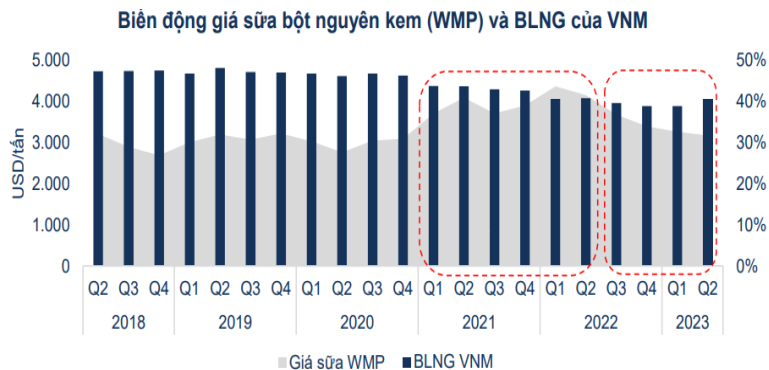
	2018	2019	2020	2021	2022	2023F	2024F	2025F	2026F	2027F
COST BREAKDOWN	42,378.75	45,758.07	34,956.34	50,241.58	51,354.20	49,067.99	49,745.94	50,665.15	51,284.80	51,937.32
	HISTORICAL					FORECAST				
COGS										
COGS	27,951	29,746	31,968	34,641	36,059	33,485	33,869	34,301	34,780	35,307
Growth	6.53%	6.42%	7.47%	8.36%	4.03%	-14.51%	-8.33%	5.77%	3.17%	3.17%
%Revenue growth		-0.67%	1.43%	6.08%	5.77%	3.17%	3.17%	3.17%	3.17%	3.17%
% Revenue	53.18%	52.82%	53.60%	56.86%	60.14%	55.32%	55.32%	55.32%	55.32%	55.32%
SMP		1.879	2.492	2.092	3.326	2.756	2.447	2.509	2.509	2.509
SMP growth		8.23%	32.62%	-16.05%	58.33%	-17.14%	-11.20%	2.52%	0.00%	0.00%
Financial income										
FI	760	807	1,581	1,215	1,380	1,408	1,436	1,143	1,143	1,143
Growth		6%	36%	-23%	14%	2%	2%	-20%	0%	0%
Financial income	759,917,391,001	807,316,707,483	1,581,092,655,317	1,214,683,819,394	1,379,904,407,740					
Financial expenses										
FE	118	187	309	202	618	630	642	528	348	146
	118,007,001,674	186,969,681,828	308,569,328,925	202,339,232,232	617,537,182,995					
Growth		58.4%	65.0%	-34.4%	205.2%	0%	0%	-18%	-34%	-58%
On borrowings	51.37	108.82	143.82	88.80	166.04					
		111.86%	32.16%	-38.26%	86.38%	35.25%	35.25%	22.82%	17.62%	14.51%
On deposit received	1.31	0.21	0.21	0.22	0.84					
		-84.03%	1.17%	4.23%	281.51%	-26.13%	-26.13%	-33.05%	-43.37%	-63.31%
SG&A										
SG&A	13,399	14,390	1,958	14,518	14,144	14,413	14,687	14,967	15,252	15,542
		7.4%	-86.4%	641.4%	-2.6%					
G&A	1,133,300,231,790	1,396,302,416,955	1,958,155,456,285	1,567,312,426,985	1,595,845,681,078					
Selling	12,265,936,906,433	12,993,454,552,852	13,447,492,622,165.1	12,950,670,402,404	12,548,212,246,871					
Logistics	13,399	14,390	14,517.38	14,144.06	AVERAGE					
		7.4%	0.3%	-2.6%	1.3%	0.23812256	0.239898237	0.241387388	0.2425319	0.243513744
Other income										
OI	450	243	212	423	289	295	301	307	313	319
		-44.60%	-14.86%	99.08%	-31.64%	2.00%	2.00%	2.00%	2.00%	2.00%
	450,247,329,980	249,446,259,179	212,386,195,135	422,823,192,290	289,021,799,127					
Other expense										
OE	275	251	233	228	285	283	294	293	304	309
		-8.81%	-7.02%	-2.15%	24.63%	1.68%	1.68%	1.68%	1.68%	1.68%
	275,064,504,609	250,826,735,994	233,230,932,527	228,207,525,562	284,551,949,482					
Income tax										
IT	1,846	2,241	2,283	2,290	1,918	1,953	1,989	2,025	2,062	2,100
		21.4%	1.8%	0.3%	-16.2%	1.8%	1.8%	1.8%	1.8%	1.8%
	1,846,066,554,884	2,241,377,757,666	2,282,803,852,899	2,289,699,514,441	1,917,959,357,037					

## Appendix 3: Forecasting D/A NWC and CAPEX

Depreciation										
	1,627	1,948	2,203	2,121	2,095	2,241	2,398	2,565	2,744	2,936
Growth		19.73%	13.40%	-3.98%	-1.23%					
Amortization										
	57	68	608	246	246	245	245	245	245	245
Accounts Receivable - Trade, Net	3,349	3,458	4,157	4,356	4,620	4,847.90	5,086.50	4,836.16	4,598.14	4,371.83
	6.41%	6.14%	6.97%	7.15%	7.71%	484790.23%	6.88%	6.88%	6.88%	6.88%
		-4.21%	13.54%	2.57%	7.73%					
Total Inventory	5,526	4,983	4,905	6,773	5,538	5,803.48	5,870.12	5,635.32	5,403.90	5,193.51
	10.51%	8.85%	8.22%	11.12%	9.24%	9.59%	9.59%	4.00%	4.00%	4.00%
Accounts Payable	3,991	3,648	3,193	4,214	4,284	3,997.13	3,729.34	3,479.48	3,246.37	3,028.87
	7.53%	6.48%	5.36%	6.32%	7.15%	6.70%	6.70%	6.70%	6.70%	6.70%
		-14.68%	-17.19%	28.94%	3.30%					
Changes A/R					(264.99)	(227.41)	(238.60)	250.34	238.02	226.31
Changes Inventory						(265.91)	(66.64)	234.80	225.41	216.40
Changes A/P					70.27	(287.03)	(267.80)	(249.85)	(233.11)	(217.50)
Other Assets	69	16	24	-	(73)	7	7	7	7	7
Prepaid Expenses	--	(4)	-	-		(1)	(1)	(1)	(1)	(1)
Other OCF	(1,334)	(933)	(1,453)	(1,407)	(1,262)	(1,290)	(1,290)	(1,290)	(1,290)	(1,290)
	69	16	24	0	(73)					
	--	(4)	0	0	--					
NET WORKING CAPITAL					(1,530)	(2,064)	(1,857)	(1,049)	(1,054)	(1,059)

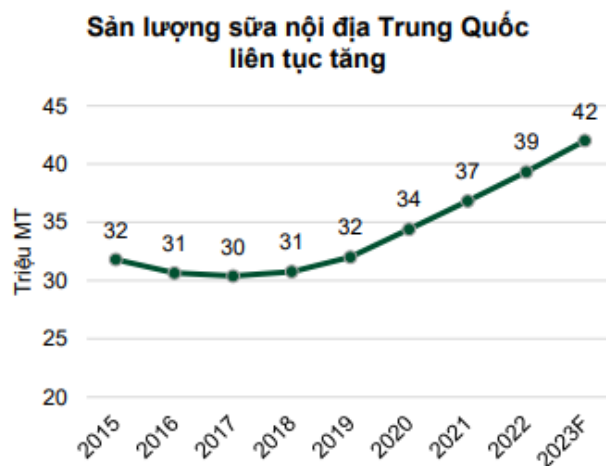
2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
(3,186)	(2,158)	(1,265)	(1,531)	(1,457)	(1,933)	(2,200)	(2,319)	(2,557)	(2,557)
19.19%	-32.27%	-41.38%	21.00%	-4.83%	-1932.755				
32,700	37,000	41,000	41,000	49,000	65,000	74,000	78,000	86,000	86,000
28000	4300	4000	0	8000	16000	9000	4000	8000	
2522.897	1360.141	804.6875	699.233714	1306.831084	tay ninh	song hau	tay ninh		song hau
2.52E+12	1.36E+12	8.05E+11	#####	#####	hnien.vn/tra		hnien.vn/tra		
3.50%	-46.09%	-40.84%	-13.10%	86.89%	ng-trai-bo-		ng-trai-bo-		
				20.62%	5000 từ viliaco		https://vietn	5000 từ viliaco	
	13.15%	10.81%	0.00%	19.51%		2000 từ moo chau			
					32.65%	13.85%	5.41%	10.26%	0.00%
					0.3265306	0.1384615	0.0540541	0.1025641	0
						2000		2000	3000

## Appendix 4: WMP rise input cost

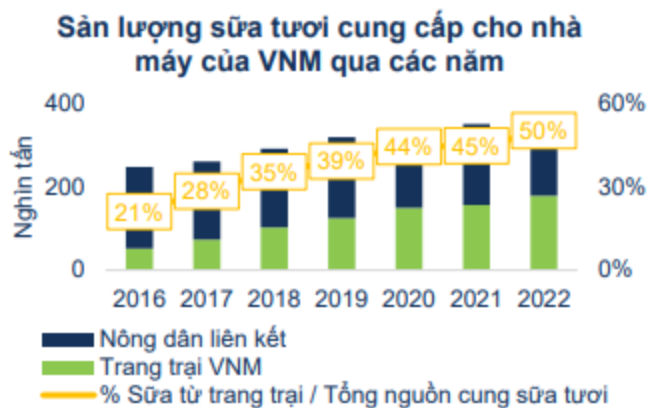


Nguồn: Global Dairy Trade, VNM, FPTs tổng hợp và ước tính

## Appendix 5: Dairy domestic capacity in China



## Appendix 6: Vinamilk production capacity farm distribution



Nguồn: VNM, FPTs tổng hợp và ước tính

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