

Founded in 1993 as Civil construction and industry company, then, in 2000, ANV decided to invest in expanding its business scope to seafood processing, specialized in processing and exporting frozen pangasius.

INVESTMENT SUMMARY

We issue a **buy** recommendation on ANV with a **target price of 35,528 VND**, presenting **33.6% upside** potential on the closing price of 26,600 on April 19th. Our valuation is based on a **60%/ 40 % blend** of a **Discounted Free Cash Flow to Equity model** and a **PE model**. Our recommendation is founded on the following key pillars: (1) ANV **benefit** from the **increasing demand** of **main market-China** where ANV built target **vertical-integrated distribution channels** (2) ANV is a pioneer in the pangasius export industry which **consolidates and expands Integrated Full Value Chain** with **Binh Phú project** (3) ANV's **consolidating liquidity position and stellar capital utilization**.

(1) **ANV benefit from the increasing demand of main market-China where ANV built target vertical-integrated distribution channel.** All the main importers coming from Americas (36%), Asia (34%), and the Middle East (4%) are increasing their Vietnamese pangasius consumption year on year. In which, **China appear to have the strongest growth rate, from being the fourth to the highest pangasius importer** with the CAGR from 2012-2017 reaching **66.24%**. Simultaneously, ANV cooperates closely to wholesales Fenglei Int. to achieve high efficiency in distribution process while our direct competitors such as VHC and IDI focus on distributing through main retails which do not benefit from deep understanding about local business culture as good as wholesale.

(2) **ANV is a pioneer in the pangasius export industry which consolidate and expand Integrated Full Value Chain with Binh Phú project.** The project will make ANV own the largest hatchery and farming area which includes **150ha zone devoted to high-quality fingerlings, ensure 100% supply of high-quality brood stock** for farming and export, maximizing economies of scale

(3) **Wise changes in the capital structure**, shifting to short-term debt to reduce interest expense, along with excellent capital management set Nam Viet in good position to expand market, while still be able to **maintain a low and controllable input cost**.

BUSINESS DESCRIPTION

Nam Viet Corporation (HOSE: ANV) is a **global leading pangasius exporter** and amongst the **top-performance joint stock companies in Vietnam** with its headquarter in An Giang Province, Vietnam. Before its IPO on Ho Chi Minh Stock Exchange (HOSE) in 2007, ANV is privately held since its foundation in 1993. In the market, ANV is famous for its second-highest market share and **close-chain system** in the pangasius industry, from feed-farming to end-product, all is operated and manufactured internally. As of Q4 2018, Navico employs 4634 employees with 812 new hires over the last year.

Revenue breakdown and network

The business structure of ANV is composed of three segments: the majority of the sales are generated in the Pangasius export segments (products related to pangasius procession such as fillet frozen fish, whole round frozen fish, etc) which accounts for 80.3% of total revenue, followed by the sale of Fish feed which are left after internal usage (10.7%), by-products (3.3%) and raw material sales (1.1%). (Source: ANV)

RECOMMENDATION

BUY

Target price	VND 40,565
Share price (19/04)	VND 26,750
Upside	52.5%

KEY FIGURES

Dividend yield	4.21%
Shares outstanding	127,144,875
Beta	0.7
ROA	22.5%
ROE	37%
PE	5.53
PB	1.79

Figure 1. Source: VnDirect

ANV stock price since April 18 2018



ANV Net Income

Figure 2. Source: ANV, Team Assessment
Revenue breakdown by activities

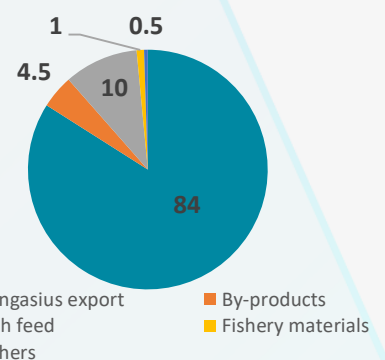


Figure 3. Source: ANV

Network

In total, ANV participates in the export market of approximately 100 countries globally (2018), in which China, although has just been targeted recently in 2018, is the largest consumer (20%) thanks to the golden partnership established between ANV and Fenglei, followed by Brazil (17%), Thailand (14%) and Colombia (10%). In terms of continents, Americas is the largest geographical market of ANV (36%), followed by Asia (34%), EU (13%) and the Middle East (4%). With such market diversification, Navico can **reduce significantly their market risks** and maintain a sustainable growth rate in the future. Additionally, all of the sale contracts of Navico is underlied by USD (even in China) - a very strong currency - which can **minimize exchange rate risk for the corporation**.

Infrastructure

In the past 5 years, ANV continuously investing in its production infrastructure. Since 2017, Navico is famous for its integrated value-chain system from feed to end-product which give the them a huge price advantage in this competitive and cyclical pangasius industry. Currently, they have 24 fish farming areas (total 300ha) which can generate up to 120,000 tons of fish materials and 80,000 tons of fish per year. Furthermore, the company is investing in its "Nam Viet Binh Phu Aquaculture" project - a breakthrough 600ha high-tech fishery farming project- which is expected to, by its finish in Q4 2019, complete the close-chain system of Navico by giving them **100% ownership in fingerling supplies**- double the revenue of Navico while maintaining a stably competitive price.

Strategies

Apply modern technology into productions: continue to invest and upgrade its close-chain system. By finishing Binh Phu, the company can put all the factories into use and, if run in full capacity, can triple the amount of pangasius production in a year and account for 50% of the total revenue in the years to come

Maintain the relationship with current customers and raise more partners to foster growth and market share. ANV currently is having strong relationship with big distributors in the export markets, which can help them generate a sustainable income year on year. Moreover, they also spending huge effort in expanding the number of partner and this will help them benefit from the increase in production from Binh Phu

Streamline the ineffective management structure and continue to divest the ineffective and non-core investment. ANV had a lot of investing activities that are not effective in the past such as DAP 2, but they are divesting those projects and is currently shifting investments to its core business, which help them significantly their profitability.

CORPORATE GOVERNANCE

Corporate structure:

ANV, with its headquarter in An Giang Province, is comprised of the holding company (Nam Viet Corporation) and 2 domestic subsidiaries (as of FY18). VAT's subsidiaries are An Do Duong Limited Liability Company (fish production) and Nam Viet Binh Phu Farming (fishery farming). Both are owned 100% by Navico.

Revenue breakdown by market

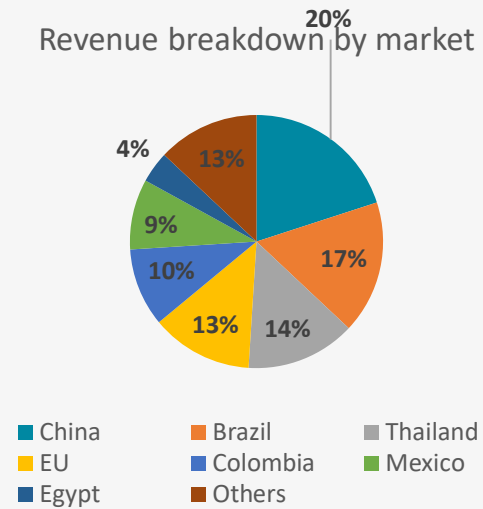
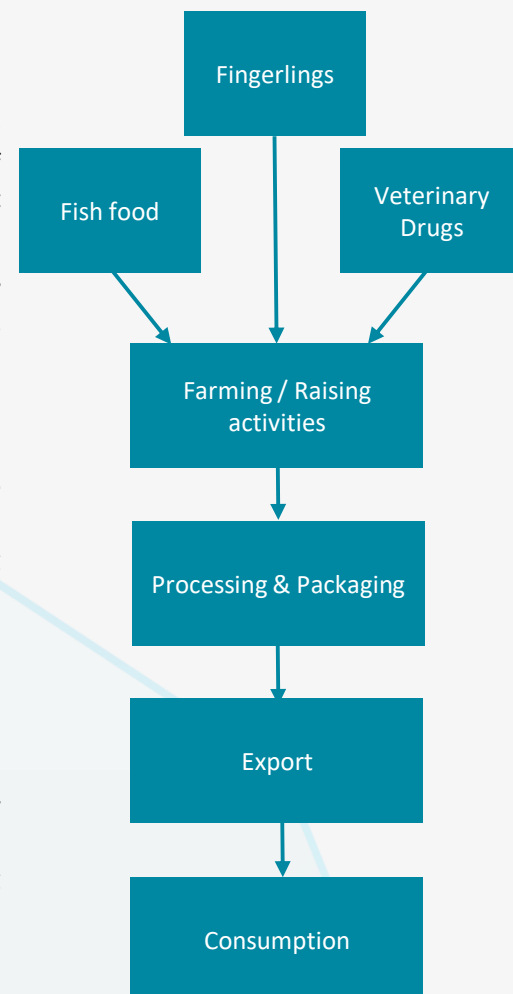


Figure 4. Source: ANV

Aquaculture value chain



Board of Management (BoM)

ANV's Board of Management is composed of 8 members leading by the CEO (Mr. Doan Toi). Overall, the BoM has the average of 14 years spent working for Nam Viet Corporation and is elected to the current position averagely 8.4 years, in which the CEO has 18 and 13 years respectively. These figures imply a very close-knit team with a profound and in-depth experience in the industry of the company, especially after the company has recovered and learned from a lot of bad investment decisions in the past. There are also **concern about the flexibility of the BoM** in the rapid-changing world; however, the outstanding financial result of Navico recently has lessened these concerns. (Apx

Board of Directors:

ANV's Board of Directors consist of 6 members leading by the Chairman - Mr. Doan Toi. It can be easily seen that the structure of BoD and BoM pose a **huge concern on the independence of the boards**. Specifically, all the 6 members of the BoM are also members of the BoD, and 3 members of the Doan family are in both the Boards. This concern was very severe in the past as Navico had a lot of bad investments; nevertheless, the recent achievements of ANV make these concerns wiped out.

Environmental sustainability and social responsibility.

Nam Viet aims to link the development of the company with the development of the local economy and the country such as investment in facilities, infrastructure, job creation for employees and the implementation of health care programs. In addition to health insurance followed by the law, workers are also provided with comprehensive health insurance packages, accident insurance.

Shareholder structure.

The company has 127,144,875 shares outstanding. During 2018, the company has issued 2,495,000 ESOP share, which raised the shareholder's equity to 1,275,396,250,000 VND. The main shareholder of Nam Viet Corporation is the Doan family- Mr. Doan Toi, Mr. Doan Chi Thien and Mr. Doan Chi Thanh- totaling up to 74.23%, leading is the CEO, also the Chairman, Mr. Doan Toi with 47.75% which equal to 60 million shares. In the future, the company is planning to issue additional 30 million new shares at the end of 2019 to fund for Nam Binh Phu project; the plan is to raise the maximum of 1500 billion VND.

Shareholder Structure

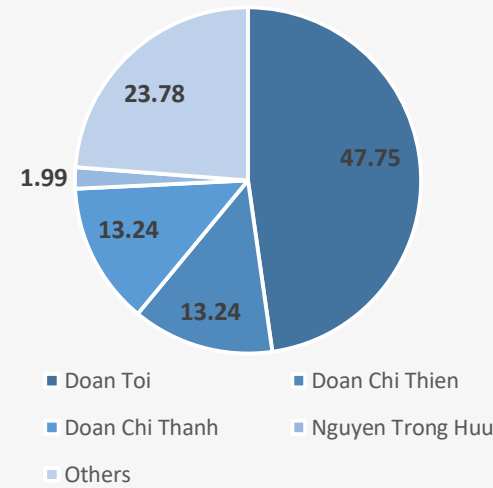


Figure 5. Source: CafeF

INDUSTRY OVERVIEW

Vietnam is the most dominant pangasius exporting country in the world, accounting for 91% of world's pangasius export in 2018 (Fig.7)(Appx.3), with its 4 main types of products being Harmonized System (HS) Code 030272, 030324, 030432, 030462 (Fig. 6). Vietnam's exporting values of these 4 products recognize a 6.8% CAGR in the period of 2012-2018. We have a firm belief in the future prospects of the pangasius exporting sector in Vietnam, with the key drivers being: **(1) increasing world population, (2) Vietnamese pangasius aquaculture holds a huge advantages over other countries', particularly in terms of suitability and fish quality, (3) the synchronization of various social economics factors** such as facilitated global trade, change in consumer behaviours, all of which constitute a promising demand of pangasius in the future.

Fisheries is a sector that has always been achieving a gradual growth throughout the years. According to FAO, since 1961, the global apparent food fish consumption has been increasing at an average rate of 3.2%, relatively higher than the growth rate of consumption of meat from all terrestrial animal, combined (2.8%) and individually (bovine, ovine, pig, etc) except poultry (4.9%). In per capita terms, food fish consumption has grown from 9 kg in 1961 to 20.2 kg in 2015, at an average rate of about 1.5% per year, estimated figures for 2016 and 2017 indicate further growth to approximately 20.3 kg and 20.5 kg, respectively (Fig.8a).

With pangasius being a staple goods, the increase in population will generally lead to demand for pangasius. Vietnamese Pangasius are highly appreciated by local and international consumers, not only for its high nutritious value, white muscle, without horizontal bones, without smell of sediment and seaweed a little of taste lipid content, but also for its safety to all consumers in all age groups. Since 1961, the global apparent food fish consumption has been **increasing at an average rate of 3.2%, doubling the population growth rate (1.6%)** (FAO).

The Mekong Delta region has favorable ecological conditions for large-scale catfish farming. Besides, Vietnam's advanced farming technology for white meat catfish products is a favorite choice of international consumers. Other countries like India, Bangladesh, Thailand and Indonesia are also producing low value yellow catfish and the volume is only enough to meet domestic demand.. Freshwater species, such as carp, catfish (including Pangasius spp.) and tilapia, are **expected to represent about 62% of total world aquaculture production in 2030, as of 58% in 2016**. Vietnam is also expanding its farming area and quantity output, investing in new technology to secure better broodstock (e.g the 3-tier cooperation plan for production of high-quality pangasius breeds initiated by the Agriculture Ministry) to meet increasing international demand, both in quantity and quality, as well as to mitigate the problem of shortage in fingerlings, which has caused large fluctuation in the price of fingerlings (Fig.8b).

The expansion in consumption has been driven not only by increased demand, but also by a combination of many other factors, including reduced wastage, better utilization, improved distribution channels and growing demand, linked with population growth and urbanization. Urbanization has also shaped the nature and extent of fish consumption in many countries, urban inhabitants typically have more disposable income to spend on animal proteins such as fish and eat away from home more often. The physical infrastructure and increased population density that are characteristic of urban area allow for more efficient storage and distribution of fish and fish products. Hypermarkets and supermarkets are becoming more numerous, particularly throughout Latin America and Asia, through which channels fish products are increasingly being sold in lieu of traditional fishmongers and fish markets.

Description	HS Code
Fresh or chilled catfish	HS030272
Frozen catfish	HS030324
Fresh or chilled fillets of catfish	HS030432
Frozen fillets of catfish	HS030462

Figure 6. Source: International Trade Center

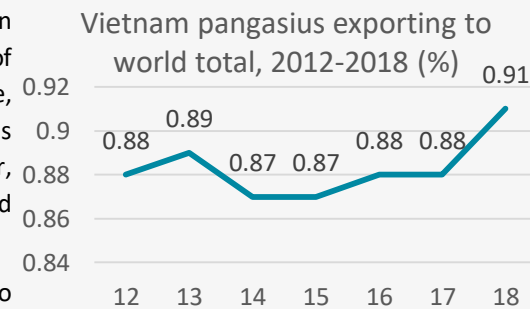


Figure 7. Source: International Trade Center

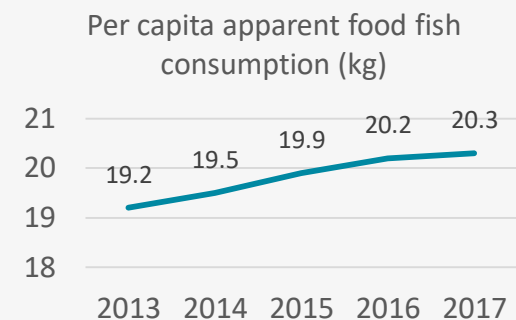
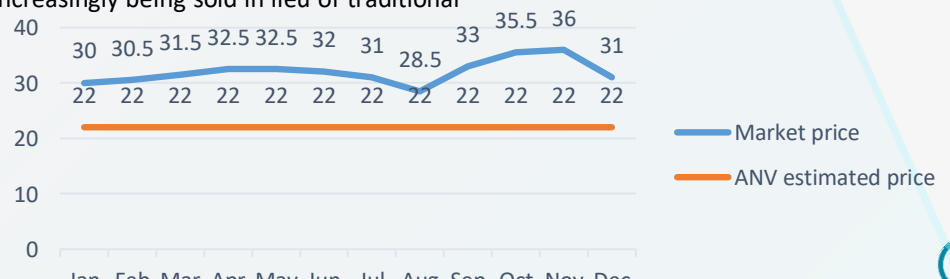


Figure 8a Source : FAO

Market price and ANV real cost of fingerlings input from Jan 2018 to Dec 2018 (unit: thousand /kilogram)

Figure 8b. Source: ANV, VASEP



COMPETITIVE POSITIONING

ANV has the second largest market share with 11% in 2017 and 13% in the first 2 months of 2019 and has the fastest revenue growth in pangasius export industry. In 2018, revenue growth of ANV was 36.68% in comparison with that of 2017 and 1.24 times higher than revenue growth of our peers (VHC, IDI, HVG) of 29,59%. By the end of 2018, there were more than 200 pangasius exporting enterprises in the whole country and HHI index of the whole industry was only about 300, which proves the fierce competition among pangasius export processing companies in finding seeking markets and increasing market share. With this growth rate, we expect ANV 's net sale will increase 40% in 2019 and 20% in each subsequent which is based on (1) close relationship of ANV with key distributors and (2) Integrated Full Value Chain of the company. (3) ANV is going to carry out "Nam Viet Binh Phu Aquaculture" project which will make ANV become the company owning the largest hatchery and farming area and (4) optimized production efficiency of ANV. Furthermore, (5) diversification in the export market structure helps ANV reduce the risk of market fluctuations

(1) ANV has close relationship with key distributors. NAVICO Increase distribution efficiency by using target vertical-integrated distribution channel. The company has one strategic partner in each market, which will distribute the products of ANV to end-customers. Concerning our main market-China, ANV cooperates closely to Fenglei Int. to achieve high efficiency in distribution process. Local wholesaler in China with large distribution channel from warehouse and transportation and retailer system (more than 30 stores) helping instant delivery to customers. ANV also has other strategic distributors such as Makro in Thailand, Dayseaday in Netherlands, Inlet in Spanish, Opergel in Brazil, El Nasser Star in Egypt,...Whereas our direct competitors focus on distributing through main retails, for example in Brazil, VHC distributes their products directly to the chain of restaurants Pão de Açúcar and supermarkets in the USA market, VHC distributes via retail channels such as Walmart, Target, Trader Joe, and Kroger, ect. IDI is also able to distribute to large chains of restaurants and retailers in China instead of big wholesale partners. ANV takes advantage of these wholesalers which have a deep understanding about local business culture which support good PR activities combined with market analysis and help to prepare inventory for future orders

(2) Navico is well positioned as one of two companies in the industry that has the ability to entirely lock-in both supply and demand, thanks to Integrated Full Value Chain which ensure 100% supply of high-quality broodstock for farming and export, while market leader, VHC is able to control only 65% of input materials. This helps ANV avoid the the fluctuation of materials price which increased 26.3% from August 2018 to November 2018 (Fig.8b). Cost of ANV 's end product is approximate 22.000 VND per kilogram while that of competitors without input material is from 28.000 to 33.000 VND per kilogram (Fig.8b)

(3) To consolidate and expand Integrated Full Value Chain, Navico has broken ground on its high-tech "Nam Viet Binh Phu Aquaculture" project. Currently, ANV owns the third largest fingerlings and farming among the top 3 biggest pangasius exporters, which is only lower than that of VHC and HVG. The project will make ANV own the largest hatchery and farming area which includes 150ha zone devoted to high-quality fingerlings, ensure 100% supply of high-quality broodstock for farming and export, maximizing economies of scale

(4) ANV production scale is large and efficient compared to the main competitors in the industry. Specifically, ANV owns 4 fish processing plants and the maximum capacity is up to 1300 tons per day (Appendix 1). Currently, ANV only needs 2 plants to operate with a capacity of 450 tons / day which is enough to meet the current demand. If "Nam Viet Phu Aquaculture" project is implemented, 4 processing plants operating at full capacity are able to meet the increased production of pangasius without building new factories. Self-control of fish feed, in comparison with peers, supports ANV to meet the net margin increase of about

Top 4 Vietnamese pangasius exporters

Source: VASEP

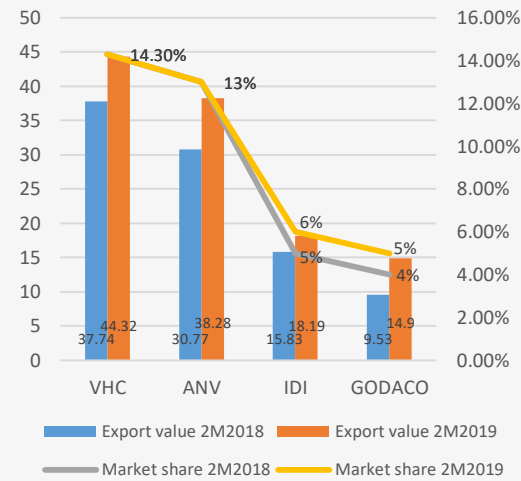


Figure 9. Source: International Trade Center

Ratio self-raised fingerlings to total input fingerlings

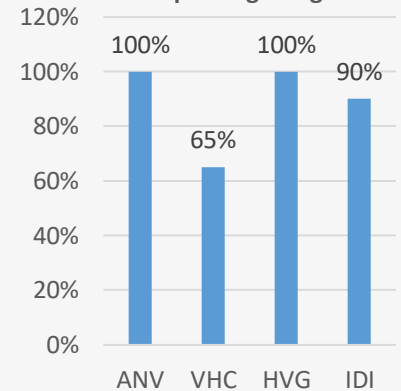


Figure 10. Source: ANV, VHC, HVG, IDI

Acreege of hatchery and farming area of ANV, HVG, VHC, IDI, before and after expansion projects

Unit: ha Source: annual report of ANV, HVG, VHC, IDI

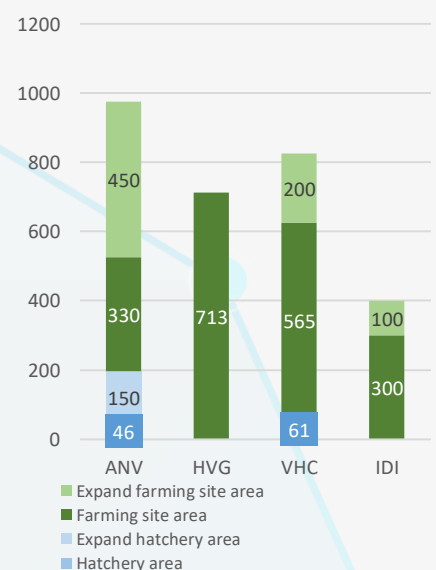


Figure 11. Source: ANV, VHC, HVG, IDI

10% - 15%, at the same time, all materials input has fixed contract in 6 months helps lock-in the lowest supply cost, guarantee quantity and quality. With **the advantage of owning the second largest food processing factory compared to peers**, which is only lower than HVG, the enterprise focuses on developing food development for fish, NAV can control nutritious and floating grain-based diet which produced onsite helps optimize our fish health and development

(5) **The diversification in the exporting market helps ANV reduce the risk of market volatility.** In the 2018 export structure, China is ANV's largest export market with 20%. Meanwhile, VHC and HVG export to the main market, USA with 57% and 32% respectively (**Appendix 2**). Changes in anti-dumping rates (CBPGs) and changes in import standards will cause significant fluctuation in revenue. IDI is exposed to risks from China market when the export structure into China accounts for 46.7% while China's economy falls into an instability in the last months of 2018, China's production and export activities began to suffer.

FINANCIAL ANALYSIS

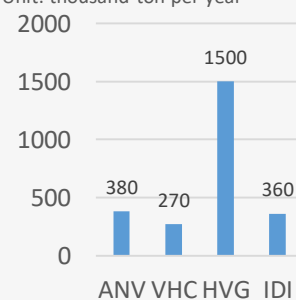
High historical revenue growth and positive outlook of core operating activities. Nam Viet achieved a record high revenue and profit in 2018, with revenue of 4,136 billions VND, a 39.6% increase yoy and profit of 600 billions VND, a 321% increase yoy. **Nam Viet's profit is of high quality**, with the exception of the financial income (to reduce liquidity risk, which will be discussed later) accounting 2% of total revenue, Other income and Other expense only account for 0.04% and 0.03% of total revenue, respectively, indicate that profits are generated mainly from core operating activity. Since 2015, Nam Viet began withdrawing all of its non-core investment, and Mr. Doan Toi has also committed to only focus on Nam Viet's core operating activity, making the future prospects of core operating activity even more attractive. With the increasing demand of Nam Viet's primary exporting market and the overall global demand, **we expect revenue will reach 11,954 billions VND in 2023, achieving a 190% increase compared to 2018.** With the Binh Phu expansion, we also expect the interest expense (expected 2,000 billions VND) and depreciation expense from the project to decrease net income in the short run until 2021, and will **reach 941 billions VND as of 2023.**

Efficient finished goods cost control by completing the value chain. Broodstock costs and feed costs for fry fish are primary cost for the production of Pangasius fingerlings (Fig.12). Nam Viet has to only outsource the input materials for fish food (soybean, cassava, rice bran), whose price have a acceptable fluctuations, and Nam Viet have also utilized its economy of scale to receive a 3% - 5% discount from suppliers of such materials. With Binh Phu Project completed, Nam Viet will possess a large hatching area of 196 ha, enabled to secure high-quality fingerlings with low mortality rate (Appx.10), and a farming area of 780 ha will allow mass production to meet increasing demand in the future, without the need to outsource for fingerlings. Figure 13, dividing the cost of finished good by revenue, reflects the effectiveness of completing the value chain, being less and less dependent on outsource for materials and fingerlings make production very cost-efficient. We have a firm belief **Nam Viet will be able to keep its costs under control, with the cost of finished goods margin remains stable at 79% in the next 5 years.**

Impressive change in capital structure to consolidate liquidity position (Appx.9). In 2018, Nam Viet has **entirely retire all of its long-term debt from banks and other creditors**, with the remaining long-term debt only consists of capital lease. The industry is known to require a high short-term capital to suffice operating activities, and companies have to cycle (borrowing and retiring) debt that is even more than their total asset (Fig.14) in a short time span (mostly less than 1 year). Being able to retire all of its long-term debt greatly alleviate pressure of interest expense, shown by the decrease in interest expense. Additionally, Nam Viet since 2016 has started to put cash in deposit accounts, to have financial incomes as well as to aid in consolidating its liquidity position, and the deposits account have been increasing ever since. We deem this to be a good move, to remove long-term debt and put more cash in deposit accounts, and expect **Nam Viet's liquidity position to remain solid in the future**, with current ratio always remain above 1.

Capacity of Fish Feed Factories of ANV, HVG, VHC, IDI

Unit: thousand ton per year



Pangasius production cost breakdown. Source: An Giang Aquacultural Research and Hatchery production center

	%
Total variable cost of which:	100
Broodstock costs	41.9
Feed costs for broodstock	1.5
Feed costs for fry	40.5
Veterinary drugs	7.4
Fuels and electricity	2.3
Oxygen and packaging	0.8
Annual equipment items	1.2
Transportation	0.6
Miscellaneous	3.84

Figure 12. Source: above

ANV's Finished good to COGS (%)

Unit: billion VND

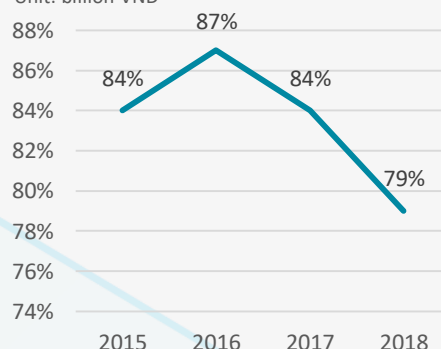


Figure 13. Source: ANV

Short-term debt utilization vs Total Assets (billions VND)

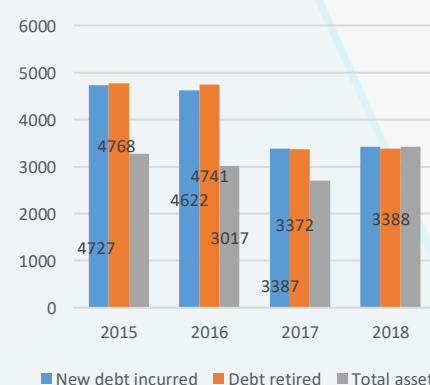


Figure 14. Source: ANV

Stellar improvement in capital utilization and operating efficiency, we conduct an alternative analysis method to analyze Return on Common Equity (ROCE analysis) (Appx.8 for detailed explanations), ANV achieved a ROCE of 26.81% 2018 compared to a mere 4.97% in 2015, indications that the company is becoming less reliant on debt to generate return were also found, with the Return on Net Operating Asset (RNOA) account for 90% of ROCE. The year 2018 also marks an astounding improvement in its trade cycle (Appx.9), being 135 days in 2018, lower than 2017 of 59 days and lower than average peers which is 219 days, this is due to the high growth of revenue, increasing sales by 39% while still being able to keep Account Receivables and Inventory in check, leading to a big improvement in trade cycle.

VALUATION

We issue a BUY recommendation on the share of Nam Viet Corporation (ANV) with a target price of 35,528 VND, representing a 33.6% upside from the closing price of 26,600 VND per share of April 19th, 2017. Our target price calculation is based on a mix of the Discounted Cash Flow (DCF) to Firm model with a target price of 33,991 VND and P/E/G multiple with a target price of 37,834 VND. We respectively attributed weights of 60% and 40% to each methodology. The choice of attributing less weight to multiples methodology is driven by the lack of comparable companies to ANV in the pangasius export industry. Moreover, the main shareholders of ANV is individuals, therefore it would be fair to place more emphasis on DCF model.

Sales higher than consensus expectations. In the preceding financial year 2018, ANV has achieved a total revenue growth rate above 39.63%, outperforming the management target of 25%. We believe the outperformance will be sustained in the short term and expect a total sales growth of 40% in FY19 thanks to the completion of Binh Phu project.

The revenue growth rate is based on both the significant **rise in supply** (the finish of Binh Phu will raise the production ability of Nam Viet) and the constant **rise in demand** of the main importers of ANV. Except for EU, all the main importers are increasing their Vietnamese pangasius consumption year on year. In which, China appear to have the strongest growth rate, from being the fourth to the highest pangasius importer with the CAGR from 2012-2017 reaching 66.24%. Followed by countries from the Americas - Brazil, Mexico and Colombia - which represent a stable growth (CAGR 6%,1%,1% respectively) and a huge consumption. Thailand is also a strong growth market with the CAGR 2012-2017 of 20% ranked fifth in the largest pangasius importers and for EU, represent 14% revenue of ANV, the CAGR is -4.77%. The huge consumption of those countries has been stable for the last 5 years, therefore we believe these strong growth rate will remain stable in the future and represent for the revenue growth rate of Navico: China market grow 50%, Brazil 6%, Mexico 1%, Colombia 1%, Thailand 20% and EU remain constant. China will experience the highest rise as Nam Viet has just entered this market 1 year ago but did achieve a desirable result, therefore the company will put more effort in this market. After weighting for the revenue contributions among countries, the minimum growth rate of ANV for 2019 would be 20% after adding for the rise in the world population.

Revenue breakdown by markets

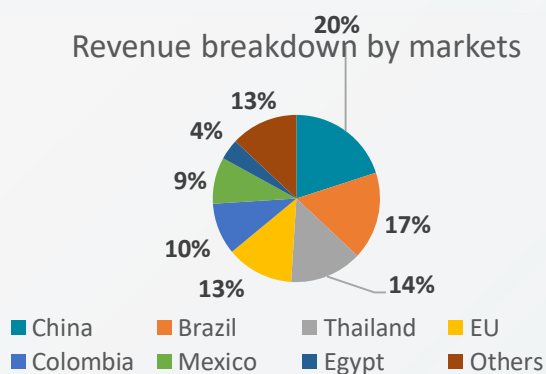


Figure 16. Source: International Trade Center

Revenue & Profit

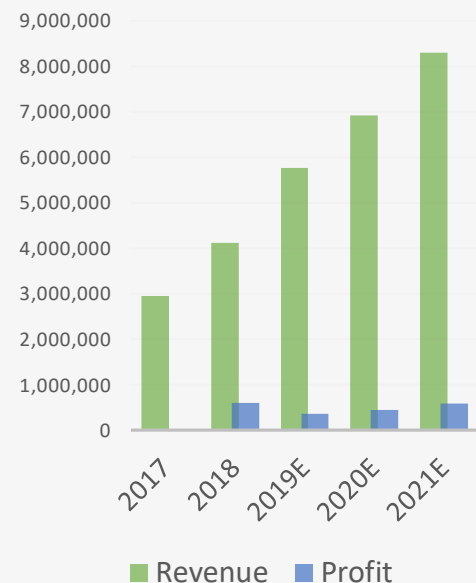


Figure 14. Source: ANV, Team Assessment

Pangasius Importers of Vietnam

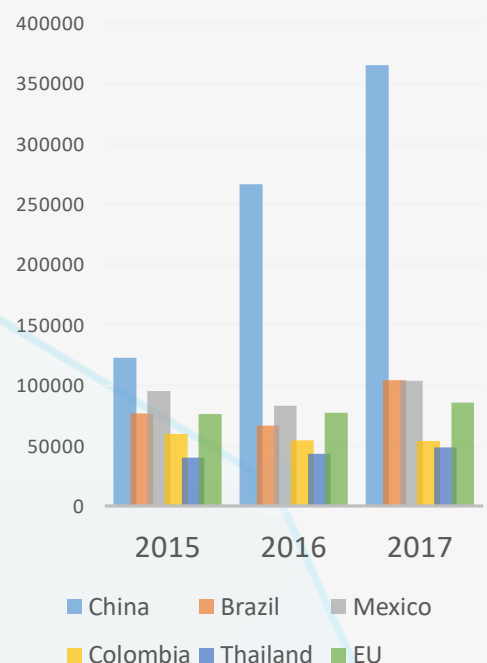


Figure 15. Source: International Trade Center

Therefore, we believe that ANV is able to achieve its revenue growth rate target of 50% in 2019. However, due to the revenue of ANV in 2018 is exceptionally high (39.63% while the highest growth rate of ANV in the last 5 years is only 13.23%), along with an expected downfall in the price of pangasius export in the middle of 2019 due to the rise in competition (China is also increasing its pangasius production), we eventually use the growth rate assumption of 40% in 2019 (to be more realistic) and the growth rate from 2020 will be a constant 20% year on year.

Gross profit margin remain at competitive level 21%: Thanks to the close-chain value system, Navico does not have to suffer much from the short term fluctuation in the price of pangasius materials. Moreover, by finishing Nam Viet Binh Phu, the company will have 100% control over the supply of fingerlings (the main cause of price fluctuation) and, therefore, remain the CoGS/revenue of 79%

Estimating the Beta: We run the regression using CAPM model. Using the % weekly change in VN index in 1 year represent for market risk premium, the risk free rate using the Vietnamese government bond interest rate matured in 5 years, and the % weekly change in ANV closing price within 1 year (represent for expected return). Eventually, our **Beta result is 0.7**

Cost of equity: was calculated through the Capital Asset Pricing Model adjusted to country risk premium. The 5-years Vietnamese Government bond rate was used as risk-free rate, estimated at 4%. The expected market risk premium was defined to be 10.63%, which lead us to a **11.44% final cost of equity**.

Optimistic views on terminal growth. To calculate the terminal growth rate, we weighted long-term GDP growth projections of ANV's main geographical markets by the current geographical revenue composition. This approach results in a positive terminal growth rate of 3%. We believe that this rate also reflects the rapid technological advances, increasing returns on R&D and a maturing market return with moderate volume growth and technological innovations like pangasius industry.

Intrinsic valuation: free cash flow to the equity. The FCFE model was selected because ANV has a stable Free Cash Flow to Equity, which is represent the fundamentals of the company. The reason we use the FCFE instead of FCFF is because of our suspicion that ANV might issue a large amount of debt to fund for Nam Viet Binh Phu project (the project cost 4000 billion VND, ANV paid 540 billion, equity finance only 1500 billion). With such large increase in debt, using FCFF model might be to optimistic about the future cash flow of firm.

Valuation Method	Value	Weight
DCF	33,991	60%
Multiple	37,834	40%
Final Price	35,528	

Figure 16. Valuation, Team Assessment

Assumption	
Cost of Equity	11.44%
- (Rm - Rf)	10.63%
- Rf	4.00%
- Beta	0.70
Perpetuity growth rate	3.00%

Figure 17. Valuation, Team Assessment

INVESTMENT RISK

Strategic and regulatory Risks.

Dependency on key strategic distributors: In each market, ANV 's revenues come from few strategic wholesale distributors only. Losing one of these distributors would have significantly drop ANV's revenues.

Risk of increasing foreign competitors: Pangasius is one of distinct advantages of Vietnam but now it is fiercely competitive because of the increasing supply from Bangladesh, India and Indonesia. Pangasius supply from India have a significant increase from 2016 to 2018

Changes in technical and commercial barriers in major markets: tax regulations, anti-dumping tax, food hygiene and sustainable farming requirements becoming more complex and frequently changing can lead to costs and slowdowns consuming

Product risk

Competition from substitute products: Pangasius is facing competition from other fish having similar taste to cod, pollock (US market) and tilapia (mostly from Chinese). If the price continues to increase (due to lack of raw materials), pangasius might lose its share to other product.

Financial Risks

Accounting/Taxation: Changes in accounting guidance, applicable tax rulings, and taxation requirements could affect ANV's financial results. ANV's accounting and reporting systems and internal controls may not be as advanced as other public company systems and procedures.

Foreign Exchange Risks: Exporting is the main business direction of the company and the amount of foreign currency collected is mainly USD, the exchange rate fluctuations will also be a concern for the management.

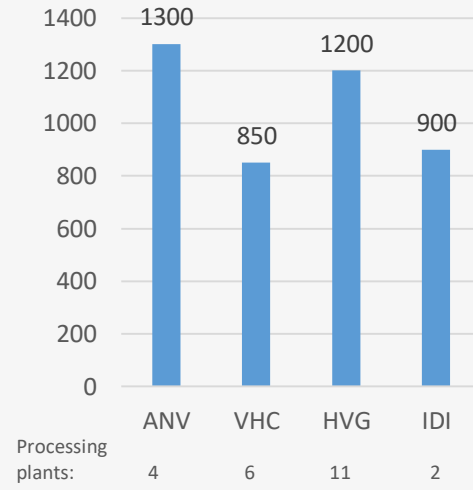
Environmental Risk

Risks of epidemics and environmental pollution: In recent years, the climate change has been quite negative, sea level rise has caused salt water to penetrate deeply into the fields seawater, directly impacting Pangasius hatchery area and farming area.

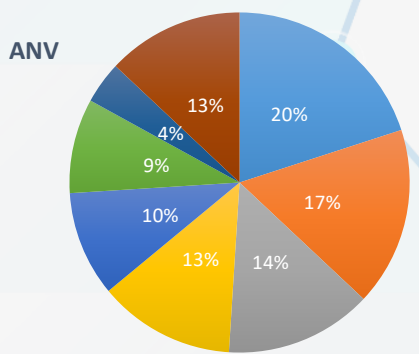
APPENDIX 1: Maximum capacity of processing plants of ANV, VHC, IDI, HVG

Maximum capacity of processing plants of ANV, HVG, VHC, IDI

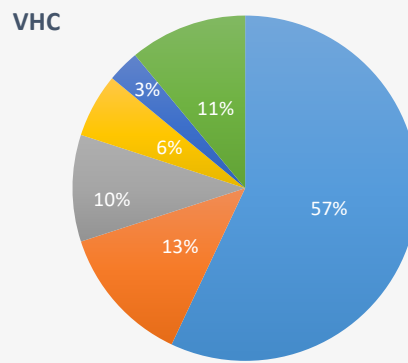
Unit: thousand ton per day.



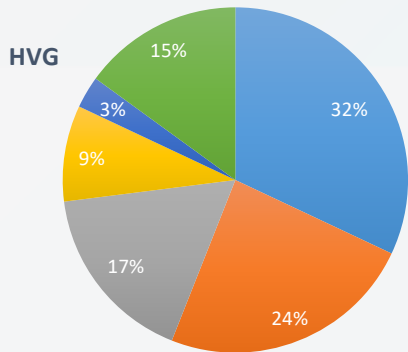
APPENDIX 2: Revenue contribution by countries of ANV, VHC, IDI, HVG



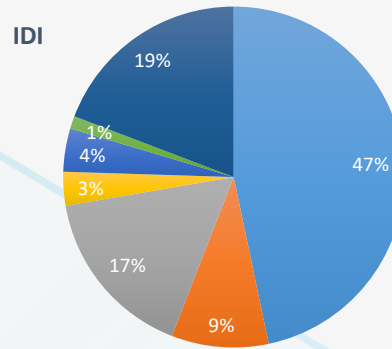
China Brazil Thailand EU
Colombia Mexico Egypt Others



USA EU China Canada Mexico Others



USA China Europe Russia Asia Others



China Hongkong Mexico Colombia EU Thailand Others

APPENDIX 3 Vietnam pangasius export and world pangasius import value, 2012-2017

World Import	1293091	1376937	1447144	1364404	1384526	1491410	1848452
VN Export	1134538	1229596	1265588	1185456	1217315	1307424	1683481
%	87.74%	89.30%	87.45%	86.88%	87.92%	87.66%	91.08%

APPENDIX 4 Vietnam pangasius export and world pangasius import value, 2012-2017

Code	Specification	2012	2013	2014	2015	2016	2017	2018
HS030272	Fresh or chilled catfish "Pangasius spp."	World import						
		25.383	10.354	9.656	10.578	12.697	12.095	14.862
		Vietnam export						
		487	152	213	1.521	4.482	2.074	921
HS030324	Frozen catfish "Pangasius spp."	World import						
		28.101	49.331	75.819	95.78	88.803	121.037	125.245
		Vietnam export						
		14.662	31.308	45.158	49.041	53.27	67.888	90.352
HS030432	Fresh or chilled fillets of catfish "Pangasius spp."	World import						
		110.642	92.892	60.787	48.137	49.223	56.007	40.557
		Vietnam export						
		72.264	54.381	29.799	23.987	26.464	30.188	13.762
HS030462	Frozen fillets of catfish "Pangasius spp."	World import						
		1,128,965	1,224,360	1,300,882	1,206,909	1,233,803	1,302,271	1,667,788
		Vietnam export						
		1,047,125	1,143,755	1,190,418	1,110,907	1,133,099	1,207,274	1,578,446

APPENDIX 5 Vietnam pangasius Importer by value (millions USD)

		2014	2015	2016	2017	CAGR
China	30272	0	0	0	185	
	30324	2.144	14.942	57.371	80.898	
	30432	0	4.216	432	13.162	
	30462	66.692	103.66	209.103	270.977	
Sum		68836	122818	266906	365222	66.24%
Brazil	30272					
	30324	1.44	633	252	652	
	30432	0	0	0	0	
	30462	121.145	76.364	66.591	103.662	
Sum		121289	76997	66843	104314	6%
Mexico	30272					
	30324	1.702	1.878	2.229	3.573	
	30432	0	0	17	0	
	30462	112.209	93.405	80.868	100.369	
Sum		113911	95283	83114	103942	1%
Colombia	30272					
	30324	35.7	35.445	30.442	35.347	
	30432	0	0	0	0	
	30462	33.044	24.261	23.769	18.83	
Sum		68744	59706	54211	54177	1%

APPENDIX 6 Vietnam pangasius Importer by value (millions USD) (cont.d)

		2014	2015	2016	2017	CAGR
Thailand	30272	0	36	0	3	
	30324	65	0	202	7	
	30432	0	0	0	0	
	30462	37.228	39.865	42.963	48.691	
Sum		37263	39901	43165	48701	
EU	30272	2.462	1.305	1.774	1.861	
	30324	5.06	4.454	4.946	4.937	
	30432	25.2	21.995	21.041	24.936	
	30462	60.851	48.633	49.461	54.22	
Sum		94573	76417	77222	85954	-4.77%

APPENDIX 7 Return on Common Equity (ROCE) Analysis (millions VNĐ)

ROCE = RNOA + LEV*NFR

	2014	2015	2016	2017	2018
NOA	2,711,275,783	2,597,362,466	2,443,002,209	2,409,857,744	2,609,109,306
NFO	1,358,457,528	1,302,065,074	1,128,462,205	1,011,995,903	761,126,605
NOPAT	56,217,938	-787,684	14,183,279.59	141,980,932	603,678,757.75
RNOA		-0.03%	0.56%	5.85%	24.06%
SE	1,352,818,255	1,295,297,392	1,314,540,004	1,397,861,841	1,847,982,701.00
LEV		1	0.93	0.79	0.55
NFE	127,782,239	69,782,749.17	113,031,217.35	91,451,493	47,127,226.73
NFR		0.05	0.09	0.09	0.05
LEV*NFR		5.00%	8.37%	7.11%	2.75%
ROCE		4.97%	8.93%	12.96%	26.81%

APPENDIX 8 Return on Common Equity (ROCE) Analysis (millions VNĐ)

Return on Common Equity Analysis is a method used to calculate the contribution of operating activities and financing activities to the total return on equity. Its formula is $ROCE = RNOA + LEV * NFR$, in which RNOA is return on net operating Asset – return from operating activities – and the $LEV * NFR$ is return on financing activities (sources: Financial Statement Analysis 10th edition, by Subramanyam).

As clearly seen, $LEV * NFR$ of ANV was very high in the past, but it is decreasing significantly from 5% to only 2.75%. At the same time, the RNOA is increasing from only -0.03% to 24.06%. This indicate a much sustainable return from ANV as it is generating return mainly from its operating activities, and lessen from financing activities.

$$ROCE = RNOA + LEV * NFR$$

	2014	2015	2016	2017	2018
NOA	2,711,275,783	2,597,362,466	2,443,002,209	2,409,857,744	2,609,109,306
NFO	1,358,457,528	1,302,065,074	1,128,462,205	1,011,995,903	761,126,605
NOPAT	56,217,938	-787,684	14,183,279.59	141,980,932	603,678,757.75
RNOA		-0.03%	0.56%	5.85%	24.06%
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LEV		1	0.93	0.79	0.55
NFE	127,782,239	69,782,749.17	113,031,217.35	91,451,493	47,127,226.73
NFR		0.05	0.09	0.09	0.05
LEV*NFR		5.00%	8.37%	7.11%	2.75%
ROCE		4.97%	8.93%	12.96%	26.81%

Appendix 9: Various metrics versus competitors

Company Name	Asset Turnover	Pretax Margin	Pretax ROA	Leverage (Assets/Equity)	Pretax ROE	Tax Complement	ROE	Earnings Retention	Reinvestment Rate
Navico	1.34	16.80%	22.50%	1.85	42.50%	0.87	37.00%	0.76	28.20%
HVG	0.72	1.30%	0.90%	4.59	5.60%	0.01	0.10%	1	0.10%
IDI	1.03	11.30%	11.60%	2.6	30.90%	0.88	27.20%	1	27.20%
VHC	1.63	18.20%	29.80%	1.57	48.50%	0.85	41.50%	0.88	36.10%
Peers Average	1.13	0.1027	0.14	2.92	0.28	0.58	0.23	0.96	0.21

Leverage

Company Name	Assets/Equity	(Total Debt - Cash) / EBITDA	% LT Debt to Total Capital	Debt/Equity
Navico	1.85	1.17	0.30%	0.68
HVG	4.59	66.22	2.50%	1.75
IDI	2.6	2.66	9.20%	1.25
VHC	1.57	0.46	0.00%	0.32
Peers Average	2.92	23.11	0.04	1.1067

Liquidity

Company Name	Quick Ratio	Current Ratio	Times Interest Earned	Cash Cycle (Days)
Navico	0.72	1.33	15.2	135.1
HVG	0.76	1.06	-0.3	219.3
IDI	0.97	1.2	4.4	96.9
VHC	1.22	1.84	28.9	118.3
Peers Average	0.98	1.3667	11	144.83

Operating metrics

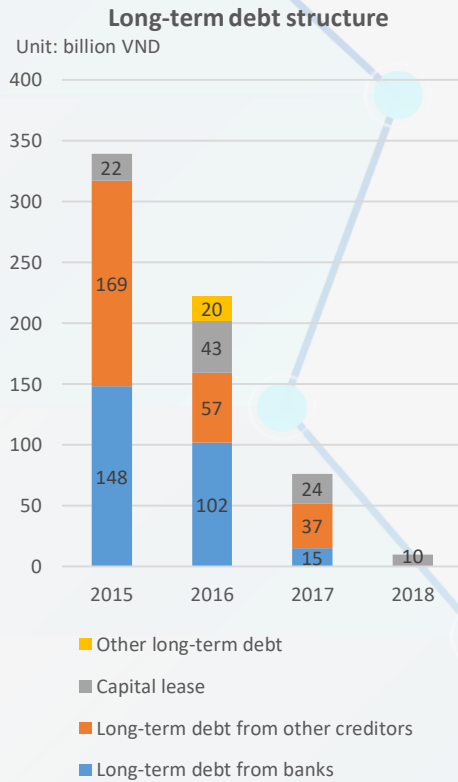
Company Name	A/R Turnover	Inv Turnover	Avg. Inventory Days	Fixed Asset Turnover	ROIC
Navico	8.3	3.5	103.2	8.35	36.30%
HVG	1.7	2.7	133.3	4.26	0.70%
IDI	4.7	8.1	45	6.27	22.20%
VHC	5.6	5.6	65.5	6.18	38.90%
Peers Average	4	5.4667	81.27	5.57	0.21

Profitability

Company Name	Gross Margin	EBITDA Margin	Operating Margin	Pretax Margin	Effective Tax Rate	Net Margin
Navico	20.90%	18.90%	16.70%	16.80%	12.50%	14.70%
HVG	5.10%	1.00%	-0.30%	1.30%	84.40%	0.20%
IDI	15.70%	13.10%	11.40%	11.30%	10.30%	10.20%
VHC	22.00%	19.10%	18.70%	18.20%	14.50%	15.60%
Peers Average	0.14	0.1107	0.1	0.1	0.36	0.09

APPENDIX 9 Long term debt structure

Source: ANV



APPENDIX 12 : FCFE Valuation

source: Team Assessment

FCFE	2019E	2020E	2021E	2022E	2023E
Net profit	371,969.9	454,247.0	588,049.1	748,611.6	941,286.6
(+) Depreciation	290,562.2	299,618.5	309,580.3	320,538.3	332,592.2
(-) Change in working capital	492,632.8	534,185.4	763,182.2	891,355.5	905,985.3
(-) Capital Expenditure	154,451.0	296,412.0	355,543.2	482,110.4	649,924.3
(+) Net Debt	500,452.4	350,316.7	420,380.0	504,456.0	605,347.2
FCFE	515,900.7	273,584.8	199,284.0	200,140.1	323,316.4

APPENDIX 10 : Mortality rate

Source: ANV

Mortality rate

NAVICO	15 – 25 %
Other farmers	25 – 35 %

APPENDIX 11 : Beta regression result

Source: Stata, Team Assessment

Source	SS	df	MS	Number of obs = 50		
Model	.023626316	1	.023626316	F(1, 48) =	7.32	
Residual	.154880491	48	.003226677	Prob > F =	0.0094	
Total	.178506807	49	.003642996	R-squared =	0.1324	
				Adj R-squared =	0.1143	
				Root MSE =	.0568	

rrf	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
rmrf	.7046701	.2604148	2.71	0.009	.1810712	1.228269
_cons	.0034374	.0080809	0.43	0.672	-.0128103	.0196851

APPENDIX 13: Board of Management

Source: ANV

Chức vụ	Họ và Tên	Thông tin
TỔNG GIÁM ĐỐC	(Ông) Doãn Tới (Được bổ nhiệm vào 10/2006)	- Cử nhân Luật - Có kinh nghiệm 18 năm làm việc ở CTCP Nam Việt - Từng là Sỹ quan cấp bậc Thượng tá, đã về hưu - Sở hữu 48.54% vốn điều lệ
PHÓ TỔNG GIÁM ĐỐC	(Ông) Đỗ Lập Nghiệp (Được bổ nhiệm 01/2011)	- Thạc sĩ Quản trị Kinh doanh - Kinh nghiệm 19 năm làm việc ở CTCP Nam Việt - Sở hữu 0.37% vốn điều lệ
PHÓ TỔNG GIÁM ĐỐC	(Ông) Nguyễn Duy Nhất (Được bổ nhiệm 12/2007)	- Thạc sĩ Kinh tế - Kinh nghiệm 15 năm làm việc ở CTCP Nam Việt - Từng có kinh nghiệm công tác trong ngành tài chính Nhà nước - Sở hữu 0.41% vốn điều lệ
TRỢ LÝ TỔNG GIÁM ĐỐC	(Ông) Doãn Chí Thiên (Được bổ nhiệm 2012)	- Cử nhân kinh tế - Kinh nghiệm 7 năm làm việc ở CTCP Nam Việt - Sở hữu 13.45% vốn điều lệ
GIÁM ĐỐC KINH DOANH	(Ông) Doãn Chí Thanh (Được bổ nhiệm 01/02/2018)	- Cử nhân Tin học - Kinh nghiệm 11 năm làm việc ở CTCP Nam Việt - Sở hữu 13.45% vốn điều lệ
GIÁM ĐỐC TÀI CHÍNH	(Ông) Trần Minh Cảnh (Được bổ nhiệm 2008)	- Cử nhân Kinh tế - Kinh nghiệm 11 năm làm việc ở CTCP Nam Việt - Sở hữu 0.016% vốn điều lệ
GIÁM ĐỐC KHỐI NUÔI TRỒNG THỦY SẢN	(Ông) Nguyễn Văn Vỹ	- Thạc sĩ Quản trị Kinh doanh - Kinh nghiệm 19 năm làm việc ở CTCP Nam Việt - Sở hữu 0.75% vốn điều lệ
KẾ TOÁN TRƯỞNG	(Bà) Huỳnh Thị Kim Thoa (Được bổ nhiệm 2012)	- Cử nhân Kinh tế - Kinh nghiệm 12 năm làm việc ở CTCP Nam Việt - Sở hữu 0.016% vốn điều lệ

APPENDIX 14: Board of Director

Source: ANV

Họ và tên	Chức vụ	Tỉ lệ sở hữu CP biểu quyết	Thông tin khác
(Ông) Doãn Tới	Chủ tịch HĐQT	48.54%	Tổng Giám Đốc công ty Nam Việt
(Ông) Nguyễn Duy Nhất	Phó Chủ tịch HĐQT	0.41%	Phó Tổng Giám Đốc công ty Nam Việt
(Ông) Doãn Chí Thanh	Thành viên HĐQT	13.45%	Giám Đốc Kinh Doanh công ty Nam Việt
(Ông) Đỗ Lập Nghiệp	Thành viên HĐQT	0.37%	Phó Tổng Giám đốc công ty Nam Việt
(Ông) Trần Minh Cảnh	Thành viên HĐQT	0%	Giám Đốc Tài chính công ty Nam Việt
(Ông) Doãn Chí Thiên	Thành viên HĐQT	13.45%	Trợ lý Tổng Giám Đốc