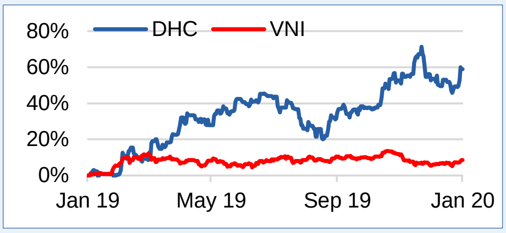
VIET CAPITAL SECURITIES

Dong Hai Ben Tre (DHC) [BUY +23.8%] — Initiation

			2018	2019F	2020F	2021F
Industry:	**Packaging paper**					
Report Date:	**January 20, 2020**	Rev Growth	14.4%	59.6%	56.1%	19.9%
Current Price:	VND39,350	EPS Growth*	56.9%	20.3%	50.3%	30.1%
Target Price:	VND47,700	GPM	22.1%	20.5%	18.5%	18.4%
		NPM	14.5%	11.3%	11.3%	12.3%
Upside to TP:	+21.2%	EV/EBITDA	14.8x	9.8x	6.5x	5.5x
Dividend Yield:	2.5%	P/OCF	-50.5x	8.0x	7.9x	3.4x
TSR:	+23.8%	P/E	15.5x	12.9x	8.6x	6.6x



			DHC	Peers	VNI
Market Cap:	USD95.1mn				
Foreign Room:	USD11.5mn	P/E (ttm)	21.0x	9.7x	16.1x
ADTV30D:	USD0.3mn	P/B (ttm)	2.3x	1.0x	2.3x
State Ownership:	0%	Net D/E	0.8x	0.8x	NA
Outstanding Shares:	56.0mn	ROE	12.0%	9.4%	14.7%
Fully Diluted Shares:	56.0mn	ROA	5.6%	4.2%	2.4%
3-yr PEG	0.4				

*EPS was diluted by a 10:1 rights issue in 2018

Company Overview
Dong Hai Ben Tre (Dohaco) is a medium-sized packaging paper company in Vietnam with a 2018 market share of ~2%, per our estimate. DHC owns two recycled paper mills and a packaging factory in Ben Tre Province in southern Vietnam. DHC's main products include packaging papers and corrugated carton boxes.

Ha Dao, CFA
Analyst
ha.dao@vcsc.com.vn
+848 3914 3588 ext. 194

Phap Dang, CFA
Associate Director
phap.dang@vcsc.com.vn
+848 3914 3588 ext. 143

Earnings to take off on new capacity

- We initiate on DHC with a BUY rating and a projected total stock return of 23.8%. DHC is a medium-sized packaging paper company with a market share of ~2% in 2018, per our estimate.
- DHC is well-positioned to capture paper consumption growth in Vietnam (12% CAGR over 2019F-2022F, per our estimate) thanks to its recent 4.5x capacity expansion. Compared to other packaging paper mills invested/to be invested in Vietnam during 2017-2020, DHC's new factory (Giao Long 2) boasts lower investment costs while its core German technology ensures quality.
- We project DHC to register revenue and NPAT-MI CAGRs of 27% and 33%, respectively, over 2019F-2022F, which is premised on capacity expansion, tax incentives and strong free cash flow.
- DHC looks attractive as it is trading at a 2020F PER of 8.6x, per our forecasts, against a five-year peer median of ~11x and a three-year PEG of 0.4.
- Upside catalysts: favorable old corrugated container (OCC) costs thanks to lower Chinese imports.
- Risks to our positive outlook: softer paper selling prices due to economic slowdown in China; unexpected domestic supply expansion; unexpected changes in environmental regulations.

Robust domestic consumption and manufacturing activity buoy paper demand in Vietnam. Paper demand tends to correlate with consumption and has lower cyclicality than other commodities. Per the UN's Food and Agriculture Organization and the Vietnam Pulp and Paper Association (VPPA), Vietnam's paper consumption per capita was 52 kg in 2018, well below China's 80 kg and the US's 212 kg. We expect Vietnam to record high-single-digit annual growth for real retail sales and industrial production in the next three years, which bodes well for paper consumption.

Capacity expansion and projected product mix improvement to elevate sales. The Giao Long 2 factory commenced commercial operation in September 2019 and operated at full capacity in Q4 2019. In addition, DHC plans to raise its packaging capacity by 130% in 2021 while it plans to start producing kraftliner paper (~40%-50% premium vs DHC's current products) in 2020.

Falling packaging paper prices – caused by softer Chinese demand – are key near-term headwind. We estimate that packaging paper prices slumped 15%-20% YoY in 2019. Per market research organization RISI, China's paper demand will continue to wane in 2020 before rebounding in 2021; thus, we assume DHC's paper ASP will dip 10% YoY in 2020 as we expect some domestic factories – whose output is mainly intended for China – will intensify their sales efforts in Vietnam.

However, China's plan to phase out OCC imports by 2021, if implemented, could cushion profit margins of packaging paper companies such as DHC. If this plan is implemented, we think it will weigh on prices of OCC – the key input for packaging paper producers in Vietnam.

Table of Contents

Company overview

Originating from a State-owned company

DHC was established in the 1990s as a subsidiary of State-owned company, Ben Tre Aquaculture Export Ltd (Ben Tre Aquatex). In 2002-2003, DHC was spun off and privatized as an independent company with two businesses, paper and packaging (Dohaco) and aquaculture (Beasemex). In 2009, DHC listed on the Ho Chi Minh Stock Exchange (HOSE/HSX).

In 2012, DHC underwent a major shareholder and management change. In 2012, DHC's current Chairman cum CEO, who joined DHC's former parent company in the 1980s and DHC in the 2000s, became its major shareholder and took control of the company. Prior to this, he was the Vice-Chairman of DHC from 2004. He orchestrated DHC's divestment from its inefficient aquaculture business in 2012-2013 so that the company would solely focus on the paper and packaging business.

DHC has a diversified shareholder structure. As of December 2019, there is no single shareholder who holds a controlling stake in DHC. Instead, DHC's ownership is split by its CEO-led management team and financial investors.

Figure 1: DHC's Board of Directors

	Background
Mr. Le Ba Phuong Chairman cum CEO	Joined Ben Tre Aquatex - DHC's former parent company - in 1987 and held the vice-chairman position in Ben Tre Aquatex between 2004-2012. Acted as Deputy CEO and board member of DHC from 2012 before assuming the Chairman cum CEO position in 2014.
Mr. Luong Van Thanh Vice-Chairman cum Deputy CEO	Joined DHC in 2012 as Deputy CEO. Prior to joining DHC, Mr. Thanh held various roles at House Management and Development District 2 HCMC Ltd.
Mr. Nguyen Thanh Nghia	Joined DHC's Board of Directors in 2012. Chairman cum CEO of Dai Thien Loc Steel (HSX: DTL).
Mr. Le Quang Hiep	Joined DHC's Board of Directors in 2014. Chairman cum CEO of Do Thanh Technology (HSX: DTT).
Mr. Nguyen Phan Dung	Joined DHC's Board of Directors in 2012 on behalf of SSI AM – a significant shareholder of DHC. Deputy CEO of SSI AM.
Mr. Tatsuyuki Ota	Joined DHC's Board of Directors in 2016 on behalf of DAIWA-SSIAM Vietnam Growth Fund II.

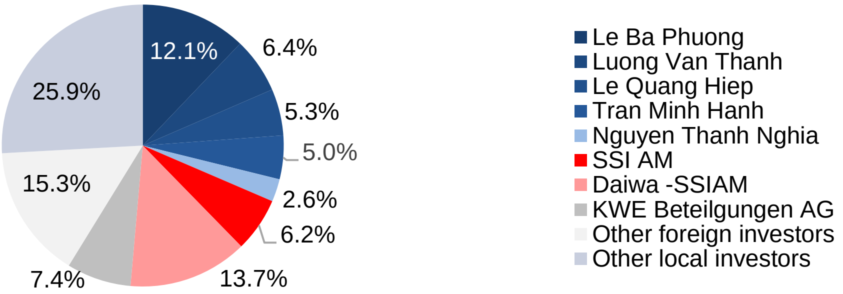
Source: DHC, VCSC compilation

Figure 2: DHC's management team

	Background
Mr. Le Ba Phuong Chairman cum CEO	As discussed in Figure 1.
Mr. Luong Van Thanh Vice-Chairman cum Deputy CEO	As discussed in Figure 1.
Ms. Ho Song Ngoc Deputy CEO	Joined DHC in 2005 and held various positions before being appointed to Head of Sales in 2010 and Deputy CEO in 2012.
Ms. Le Thi Hoang Hue Chief Accountant	Joined DHC in 2013 as Chief Accountant

Source: DHC, VCSC compilation

Figure 3: DHC's shareholder structure as of December 2019*

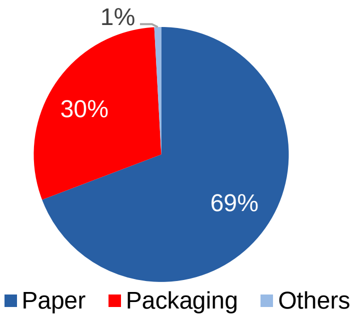


Source: HSX, DHC, VCSC (*including stakes held by family members)

Business focuses on packaging paper and carton boxes

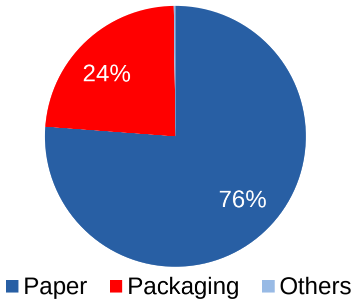
Paper (i.e., packaging paper) and packaging (e.g., carton boxes) accounted for nearly 100% of DHC's revenue and gross profit in 2018, per our estimate. In the paper segment, DHC produces two grades of packaging paper – testliner and medium – which are used in carton board and corrugated carton boxes (Figure 5).

Figure 4: Net revenue breakdown (2018)



Source: DHC, VCSC

Figure 5: Gross profit breakdown (2018)



Source: DHC, VCSC

Figure 6: DHC's main products

Paper segment		Packaging segment
Medium paper Used in fluted/corrugated layers of carton board; ~40% of DHC's paper sales volume in 2018	**Testliner paper** Used in outside layers of carton board; ~60% of DHC's paper sales volume in 2018	**Corrugated container** Used to pack products
		

Source: VCSC compilation

Figure 7: DHC's current factories

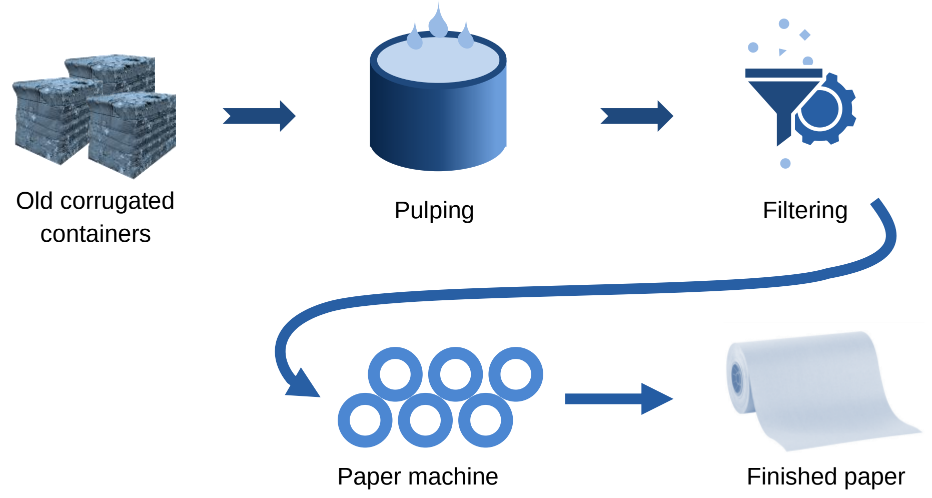
Factory	Segment	Annual capacity	Location	Operational year
Giao Long 1	Paper	~60,000 sqm	Ben Tre Province	2011
Giao Long 2	Paper	~200,000 sqm	Ben Tre Province	2019
Packaging 1	Packaging	~47 million boxes	Ben Tre Province	2006

Source: DHC, VCSC compilation

DHC's business centers on the domestic market and B2B customers. According to DHC, over 90% of its revenue in 2018 came from domestic customers. DHC's main paper customers are packaging manufacturers in Vietnam, including Box-Pak Vietnam, Nam An, Cat Phu and Vinh Xuan, while its container customers are primarily seafood, coconut milk, garment and pharmaceutical producers in the Mekong Delta.

DHC's paper segment uses recycled materials. DHC makes packaging paper from OCCs, which is waste carton paper collected in Vietnam and overseas. DHC typically sources 50% of its material needs locally and imports the remaining 50% from the US, EU and Japan. Compared to domestic OCCs, imported OCCs boast a higher fiber content, higher quality and lower prices. The major drawback of imported OCCs are their higher price volatility and regulatory risk as importing foreign waste materials could be politically and socially sensitive due to fears that Vietnam could be contaminated and polluted by foreign waste.

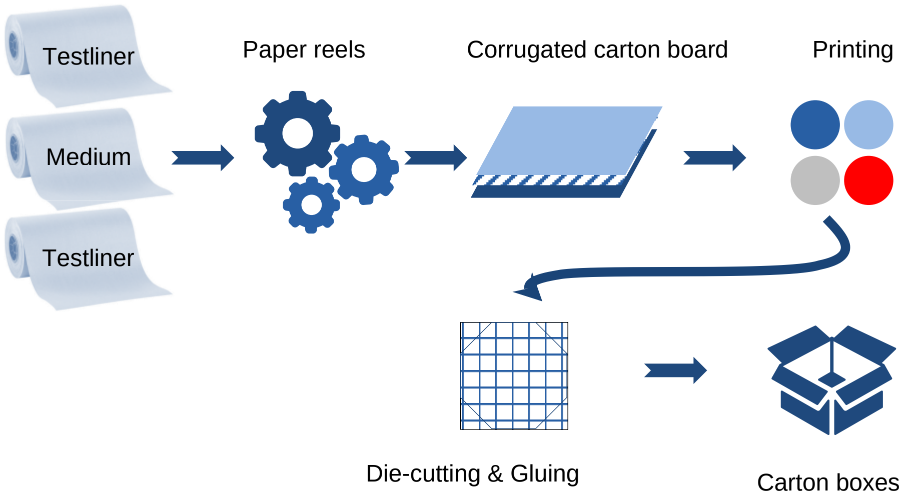
Figure 8: DHC's packaging paper production process



Source: DHC, VCSC

DHC's packaging segment is partly vertically integrated. We estimate that in 2018, DHC consumed 15% of its in-house paper volume for its packaging production. Nevertheless, depending on specific client needs, DHC still sources external paper grades, such as whitetop, to make corrugated carton boxes. Overall, 60% of input materials for the packaging business are in-house.

Figure 9: DHC's corrugated carton box production process



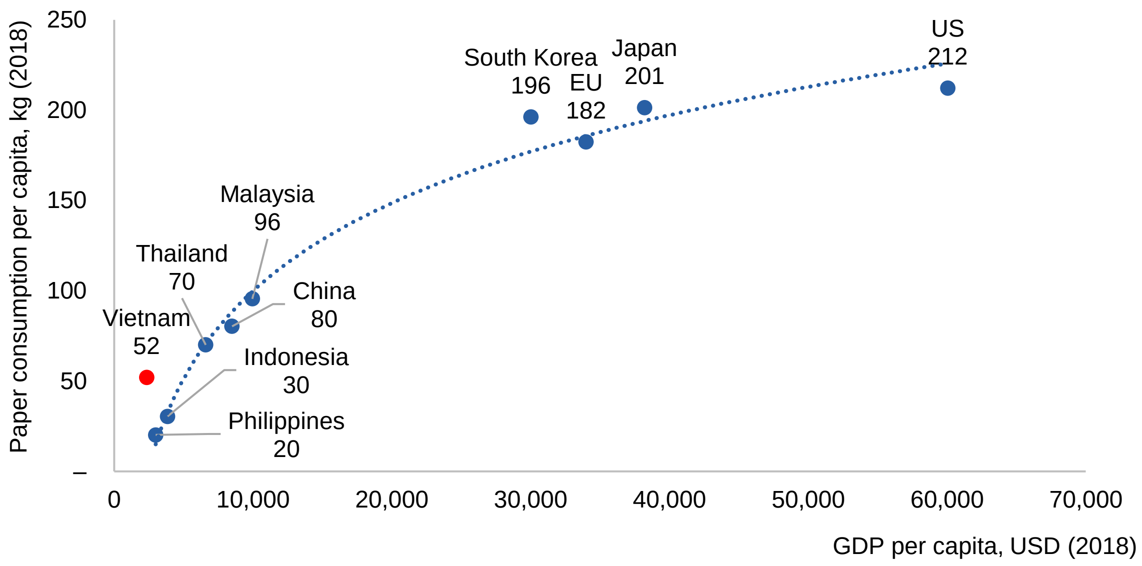
Source: DHC, VCSC

Industry outlook

Vibrant consumption and manufacturing activity bolster paper demand

Paper consumption in Vietnam still has large headroom for growth — in conjunction with the economy. We estimate Vietnam's paper consumption per capita amounted to 52 kg in 2018, trailing Thailand's 70 kg, China's 80 kg and the US's 212 kg, based on data from the Food and Agriculture Organization (FAO) of the United Nations.

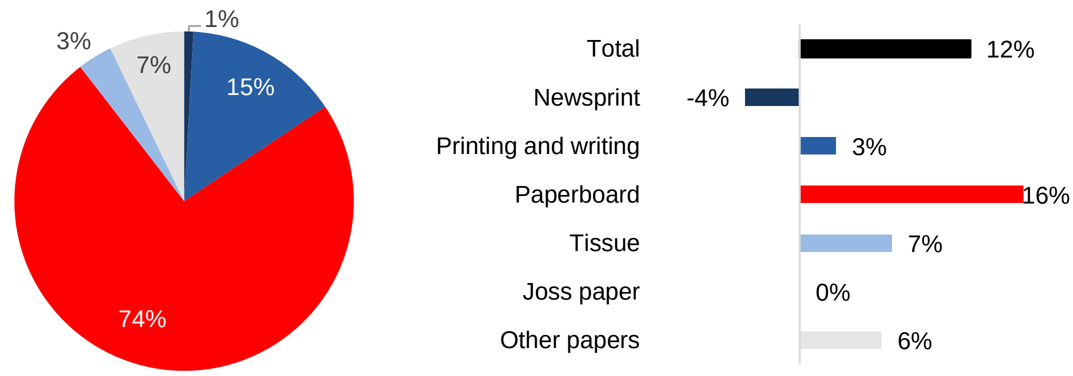
Figure 10: Paper consumption per capita of select countries



Source: FAO, VPPA, VCSC

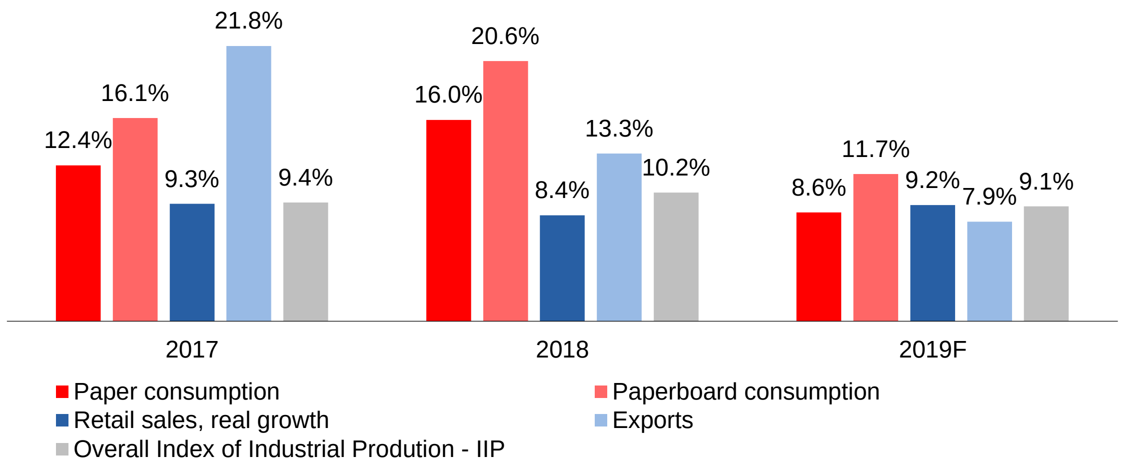
Packaging paper is the largest and fastest-growing segment of the broader paper sector, which is thanks to robust demand from Vietnam's consumer goods industries. According to the VPPA, packaging paper or paperboard recorded a 16% CAGR during 2016-2019E and contributed 74% to Vietnam's total paper consumption in 2018. Packaging paper is used to make carton boards, which are then used to make carton boxes. Carton boxes are used to pack and protect a wide range of products, including food and beverages, personal care products, home care products, garments, home appliances and furniture. In addition to these consumer goods industries, we expect e-commerce to be another growth driver for packaging paper consumption as an additional packaging layer is required in the delivery process.

Figure 11: Share of major paper segments (2019E) and their CAGRs during 2016-2019E



Source: VPPA, VCSC

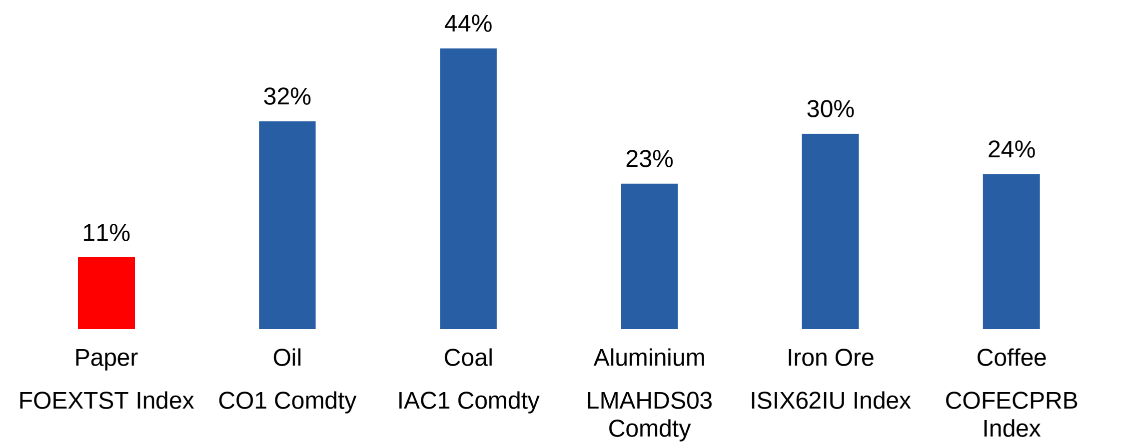
Figure 12: Vietnam's paper consumption growth vs real retail sales, export and Industrial Production Index growth (2017-2019F)



Source: VPPA, General Statistics Office of Vietnam, VCSC

Owing to its large exposure to consumer industries, paper features lower price cyclicality than other key commodities. Our analysis of historical prices of key commodities during 2004-2018 (Figure 13) suggests less price volatility for paper compared to other key commodities such as oil, coal, metal and coffee. We partly attribute paper's lower volatility to the fact that paper demand is more closely linked with consumption while its supply is less affected by geopolitical and weather risks.

Figure 13: Annualized weekly price volatility* of paper and other key commodities during 2004-2018



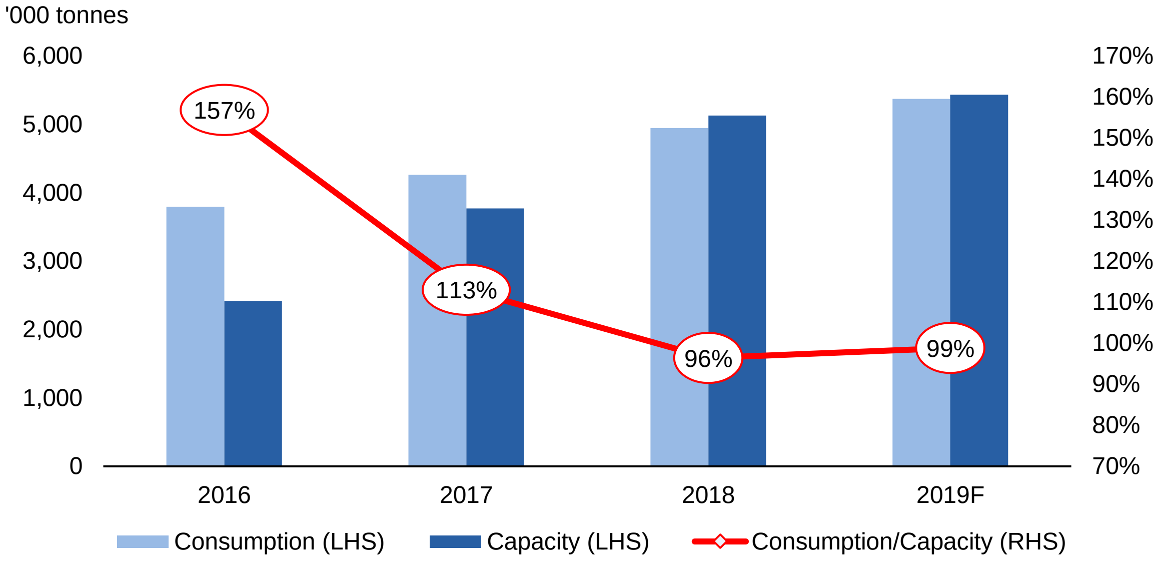
Source: Bloomberg, VCSC (*Standard deviation of weekly price changes)

We project packaging paper consumption in Vietnam will post a 12% CAGR over 2019F-2022F as the outlook of both domestic consumption and manufacturing activity stays positive. In our view, Vietnam will record high-single-digit annual growth for real retail sales and industrial production in the next three years. In addition, we believe that Vietnam's e-commerce transaction volume will deliver a greater than 30% CAGR in the next five years.

Supply and demand are relatively balanced in the overall paper industry; however, the packaging paper space sees a slight oversupply

Per the VPPA, the overall paper supply-demand balance was healthy in 2018 and 2019 despite substantial capacity additions during 2016-2019. Based on VPPA data, we estimate the industry's operating rate (domestic consumption divided by capacity) was around 96% in 2018 and 99% in 2019. We note that prior to 2018, Vietnam had to import paper to meet its domestic demand.

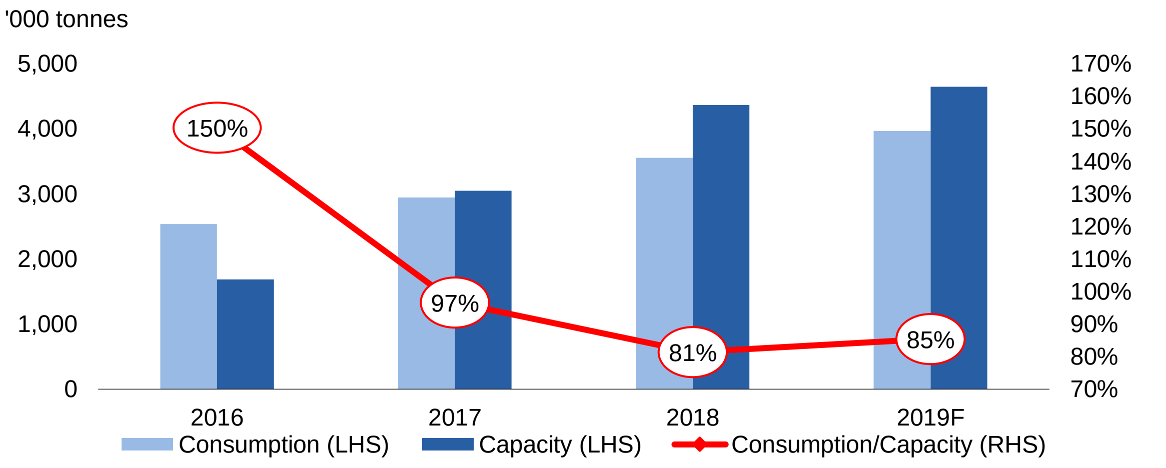
Figure 14: Vietnam's paper supply and demand during 2016-2019F



Source: VPPA, VCSC

However, within the packaging paper segment, we observed an oversupply in late 2018-early 2019, which eased in late 2019. Due to a rapid capacity expansion of FDI firms during 2016-2018, Vietnam's packaging paper industry went from a supply deficit to a supply surplus in late 2018. Based on the VPPA's data, we estimate that the packaging paper industry's operating rate dropped from 150% in 2016 to 81% in 2018. As most expansion projects were completed while demand remained solid in 2019, the industry operating rate stepped up to 85%, per our estimate that is based on VPPA data.

Figure 15: Vietnam's packaging paper supply and demand during 2016-2019F



Source: VPPA, VCSC

Based on the announced capacity expansion pipeline, we expect the packaging paper industry's operating rate will stay stable in the coming years. According to the VPPA, 5.9 million tonnes of new packaging paper capacity will come online during 2019-2026 vs the industry's current total capacity of 4.6 million tonnes. Based on this figure and our forecast of a 12% CAGR in packaging paper demand, we estimate that the industry's operating rate will edge up from 85% in 2019 to 86% in 2026.

The Government's environmental concerns could rein in capacity expansions, in our view. As we mentioned above, importing waste materials could be politically and socially sensitive in Vietnam. In 2018, the Government tightened its supervision of OCC imports as well as its approval of new paper factories in Vietnam. As a result, 2.3 million tonnes of new capacity (out of the 5.9 million tonnes mentioned above) planned for 2019-2026 have not been approved up to now — the majority of which belongs to Lee & Man and Nine Dragons (known as Chanh Duong in Vietnam). If these 2.3 million tonnes remain unapproved, then the packaging paper industry's operating rate would rise to 110% in 2026, per our estimate.

Figure 16: New packaging paper projects during 2019-2026

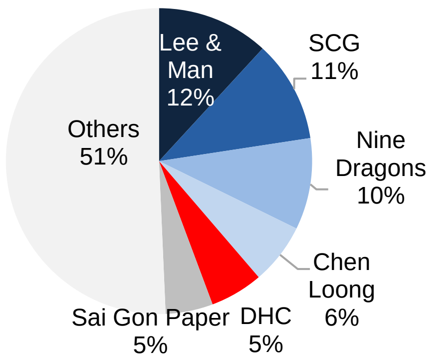
Company	Company type	Location	Capacity (tonnes)	Construction time	Operation time
Lee & Man*	FDI	Hau Giang	1,000,000	NA	NA
Cheng Loong	FDI	Binh Duong	700,000	NA	2021
Marubeni	FDI	Vung Tau	800,000	January 2019	Late 2020
Nine Dragons*	FDI	Hai Phong	1,200,000	NA	NA
An Viet Phat	Vietnam	Vung Tau	1,000,000	NA	NA
Rang Dong	Vietnam	Khanh Hoa	70,000	NA	NA
Miza	Vietnam	Thanh Hoa	100,000	NA	NA
Toan Cau	Vietnam	Hai Duong	70,000	NA	NA
Hoang Ha*	Vietnam	Hai Phong	100,000	NA	NA
Hung Ha	Vietnam	Hanoi	100,000	NA	NA
Tan Mai	Vietnam	Binh Duong	150,000	NA	2020
Khoi Nguyen	Vietnam	Binh Phuoc	100,000	2019	2021
Others	Vietnam	Others	400,000		
Total			**5,870,000**		
Approved capacity			3,570,000		
*Capacity still subject to approval			2,300,000		

Source: VPPA, VCSC

Vietnam's packaging paper market is fragmented with a strong FDI presence

We estimate that the current largest player in Vietnam's packaging paper market commands a capacity share of only 12% compared to China's 30% and the US's 31%. By origin, foreign-owned companies combined for 44% of total capacity in 2019, per our estimate. Notably, companies from Greater China such as Lee & Man (2314 HK), Nine Dragons (2689 HK) and Chen Loong (1904 TT) combined for a capacity share of 28% as of 2019, per our estimate.

Figure 17: Vietnam's packaging paper market share breakdown by capacity (2019)



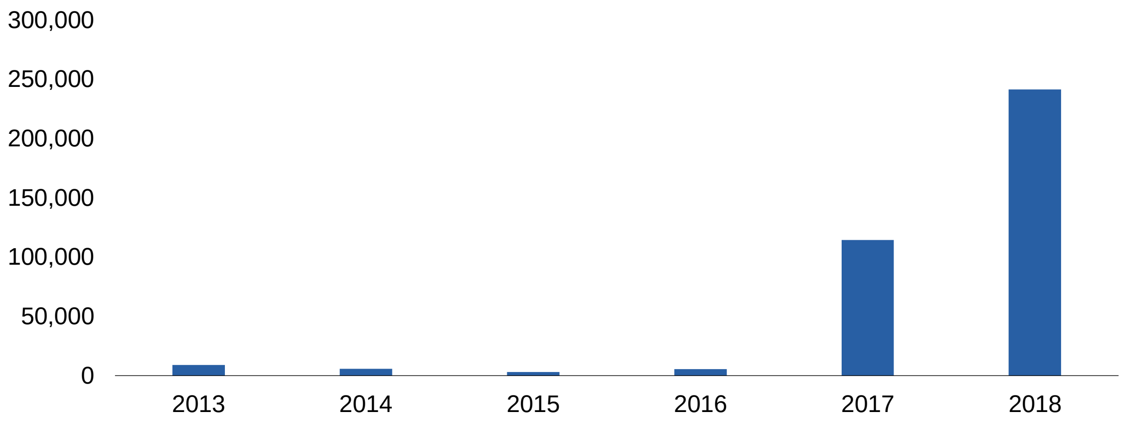
Company	Type	Capacity (tonnes)
Lee & Man	FDI	550,000
SCG	FDI	500,000
Nine Dragons	FDI	450,000
Chen Loong	FDI	300,000
DHC	**Vietnam**	**260,000**
Sai Gon Paper	FDI	232,440

Source: VPPA, VCSC compilation and estimate

We expect paper prices in Vietnam to dip in 2020 amid China's economic slowdown

Vietnam's paper market is partly linked with China's via trade — especially since 2017. In 2017, China started to restrict its OCC imports, which caused a paper shortage in China. To meet demand, paper companies in China started to import finished papers from other countries in Asia, including Vietnam. In 2016, Vietnam exported only 5,500 tonnes of paper to China; however, this amount surged to ~241,000 tonnes in 2018, per the International Trade Center (ITC).

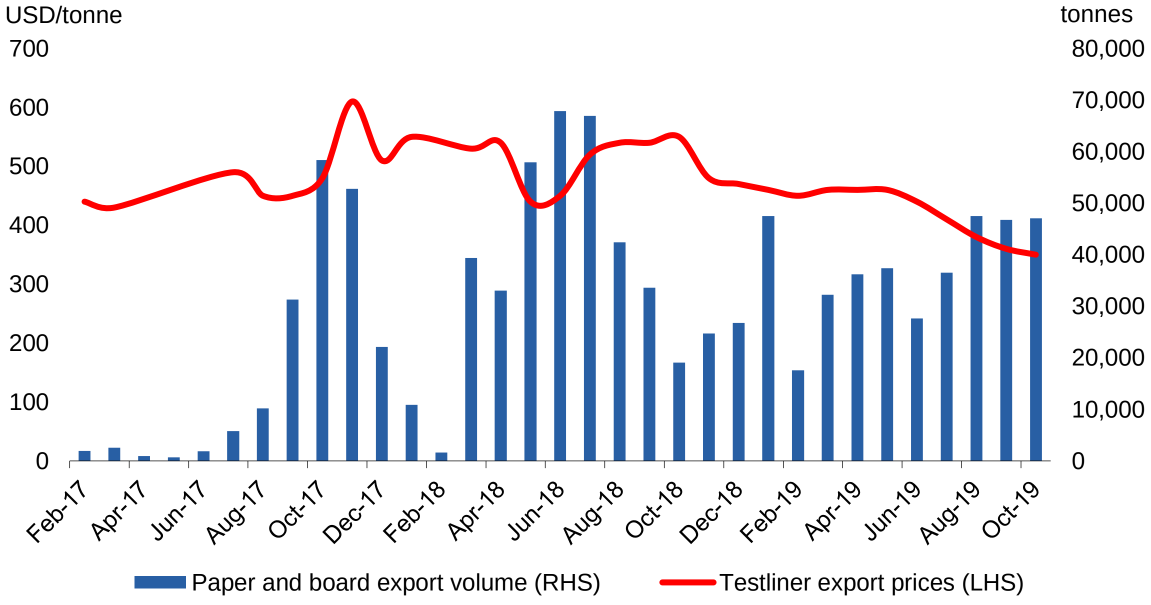
Figure 18: Vietnam's paper exports to China during 2013-2018 (tonnes)



Source: ITC

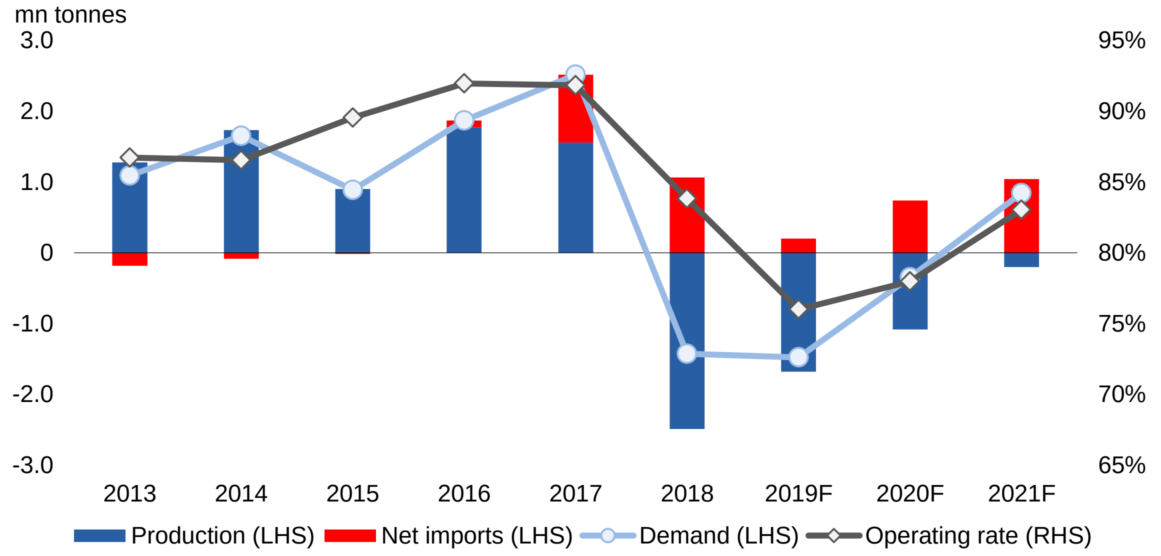
China's softening paper demand has weighed on Vietnam's packaging paper prices since late 2018. Per our estimate, Vietnam's average packaging paper prices plunged ~15%-20% YoY in 2019 as a result of falling paper prices in China. In 2019, Vietnam-based paper factories that have volumes intended for export to China ramped up their sales efforts in Vietnam amid weakening demand in China. Per RISI, China's packaging paper demand contracted by 1.4-1.5 million tonnes (or ~4% of China's total demand) per annum during 2018-2019, which caused the operating rate of China's packaging paper industry to slump from 84% in 2018 to 76% in 2019.

Figure 19: Vietnam's testliner export prices and paper export volume to China



Source: International Trade Center, VCSC

Figure 20: China's packaging paper supply and demand growth during 2013-2021F



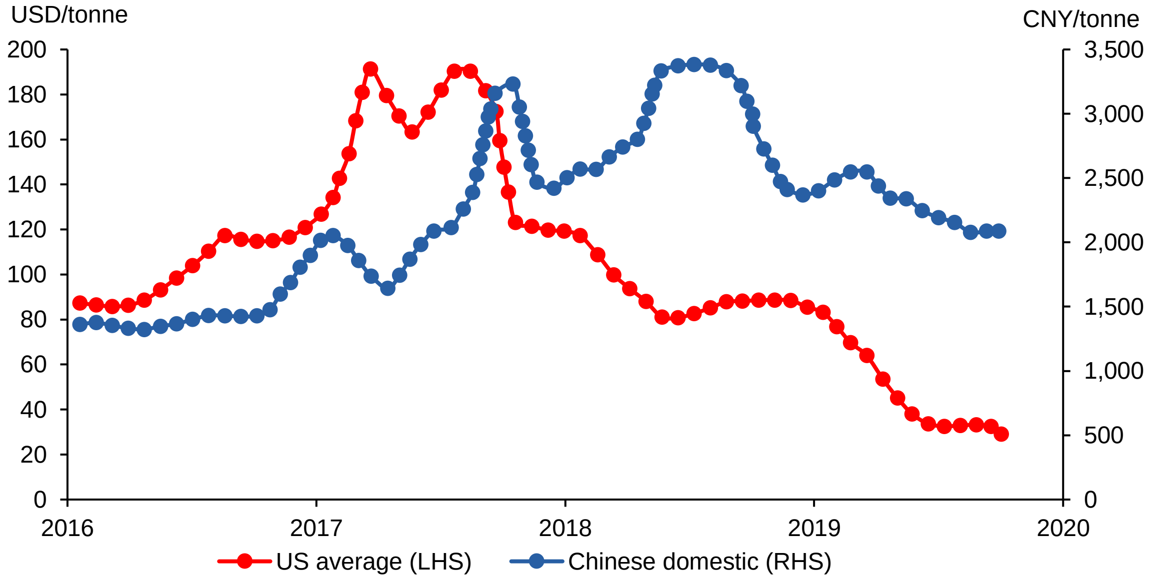
Source: RISI, VCSC

We project Vietnam's packaging paper prices will decline by 10% in 2020. Per RISI, China's paper demand will sink another ~0.3 million tonnes, or ~1% of its total demand, in 2020 before bouncing back in 2021.

China's OCC import policies might prop up profit margins of Vietnamese paper producers

Since 2017, China's restrictive recovered paper import policies have been favorable for Vietnam's paper producers. In order to tackle pollution and encourage domestic paper recycling, the Chinese government started to reduce OCC imports via quotas in mid-2017, which led to a supply shortage in its packaging paper market while resulting in a supply surplus in the global OCC market. This scenario has translated to favorable price spreads for paper companies in Asia, including Vietnam.

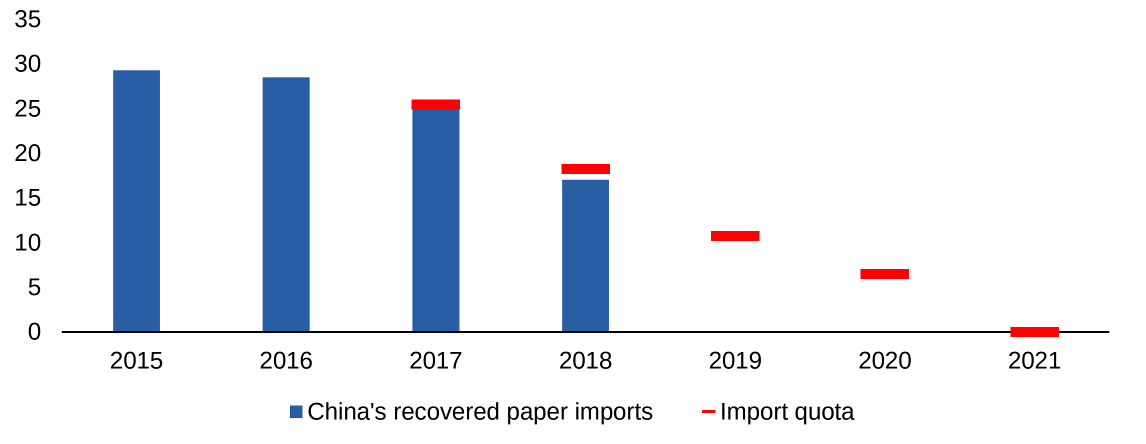
Figure 21: OCC prices during 2016-2019



Source: RISI, VCSC

Per RISI, the Chinese government plans to cut OCC import quota from 10.8 million tonnes in 2019 to 6.5 million tonnes in 2020 and zero by 2021. We believe this plan, if implemented, will put pressure on OCC prices, which will in turn be supportive for the profit margins of Vietnamese paper producers.

Figure 22: China's recovered paper imports and import quota (million tonnes)



Source: International Trade Center, RISI, VCSC

Paper recycling is environmentally sustainable

Despite risk of pollution from paper recycling, the US and EU recognize that it is a net positive for the environment. Per the US Environmental Protection Agency, recycling a tonne of paper instead of producing paper from trees helps to save electricity, water and trees and also reduces carbon emissions. On the other hand, the European Union introduced the Action Plan for the Circular Economy in 2015 to "close the loop" of product lifecycles through greater recycling and re-use, which will benefit both the environment and economy. According to this plan, the EU targets to recycle at least 85% of paper and cardboard by 2035.

Figure 23: Resources saved from recycling a tonne of paper

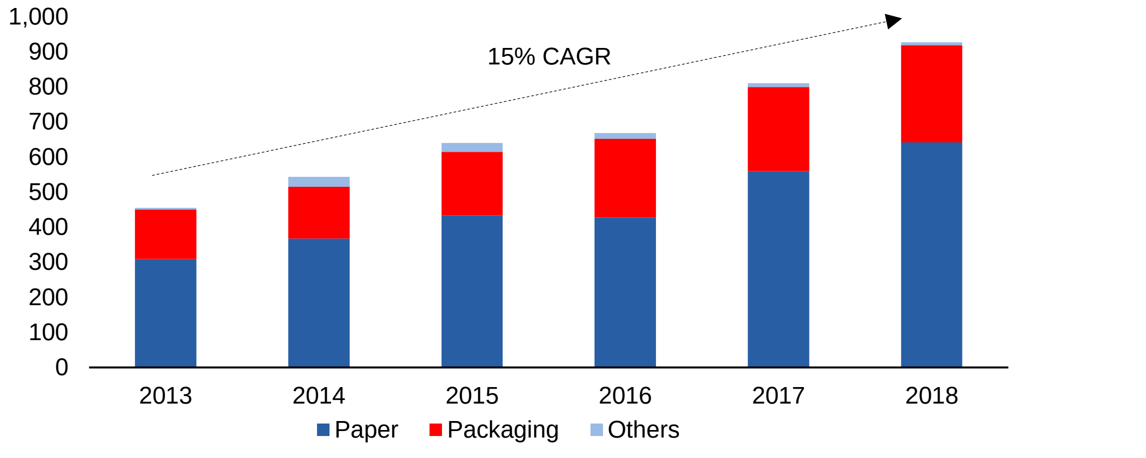
Source: US Environmental Protection Agency

After a regulation hiccup in late 2018, OCC imports into Vietnam have normalized despite the Government's more conservative approach in granting import licenses. In Q3 2018, due to environmental concerns and a surge in waste material imports into Vietnam, the Vietnamese Government unexpectedly tightened import procedures for waste materials and delayed granting import licenses to companies that use these materials. However, in March 2019, the Government issued new regulations to ease the import procedures of waste materials. To mitigate pollution risks, instead of an outright ban, the Government will now conduct inspections and only grant OCC import licenses for companies that have adequate water treatment such as DHC. Meanwhile, the VPPA is proposing that the Government change OCC in legal documents from "waste paper" to "old corrugated paper" or "old recycled paper" to ease political and social sensitivity to OCC as well as to promote the benefits of recycling.

DHC's historical financial performance

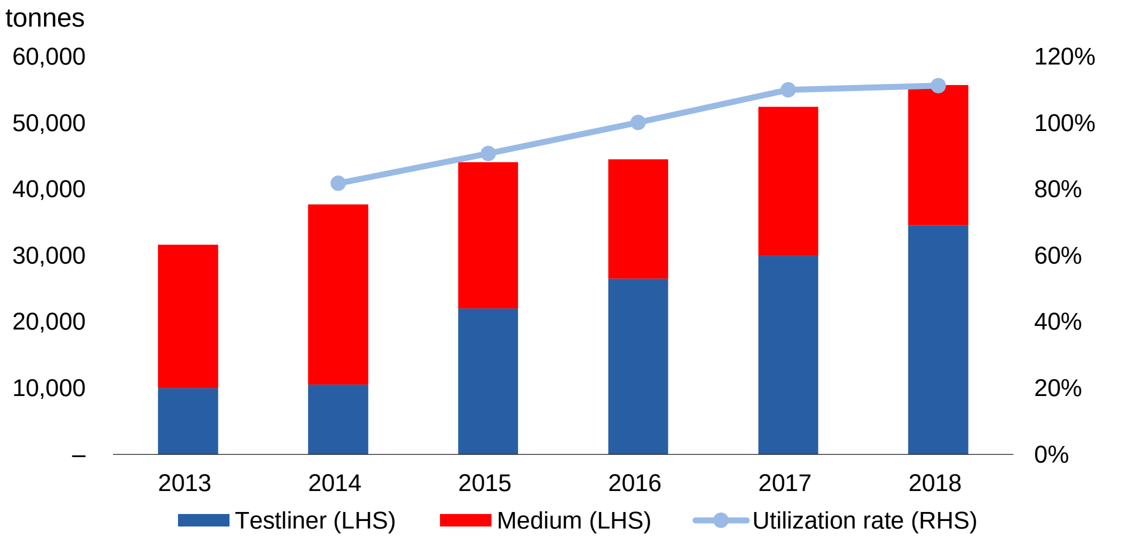
DHC recorded a 15% revenue CAGR during 2013-2018, thanks to upbeat domestic packaging paper demand. This performance was driven by 16% and 14% revenue CAGRs in the paper and packaging segments, respectively. We estimate that DHC's paper sales volume posted a 12% CAGR during this period, which was generally in line with the packaging paper industry. On the other hand, DHC's packaging sales volume recorded a 21% CAGR during 2013-2018, which we attribute to its low base and capacity expansion.

Figure 24: DHC's revenue (VND bn) during 2013-2018



Source: DHC, VCSC

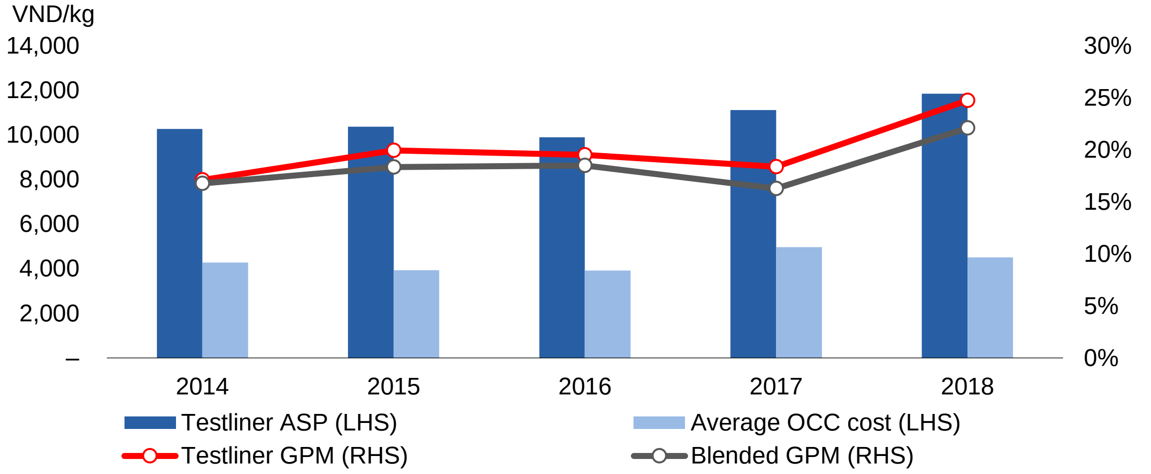
Figure 25: DHC's paper sales volume and utilization rate during 2013-2018



Source: DHC, VCSC

Spreads between paper selling prices and OCC prices are key factor for DHC's profitability. During 2014-2017, DHC's testliner GPM (its main product) fluctuated between 16.8% and 19.9% while its blended GPM varied between 16.3% and 18.5%. Notably, DHC's testliner GPM expanded from 18.4% in 2017 to 24.7% in 2018, aided by China's stricter OCC import policies as discussed above. Per our estimate, OCC accounted for ~58% of DHC's paper production costs in 2018. Meanwhile, paper contributed 54% to DHC's packaging production costs in 2018, per our estimate.

Figure 26: DHC's testliner GPM, ASP and average OCC costs during 2014-2018

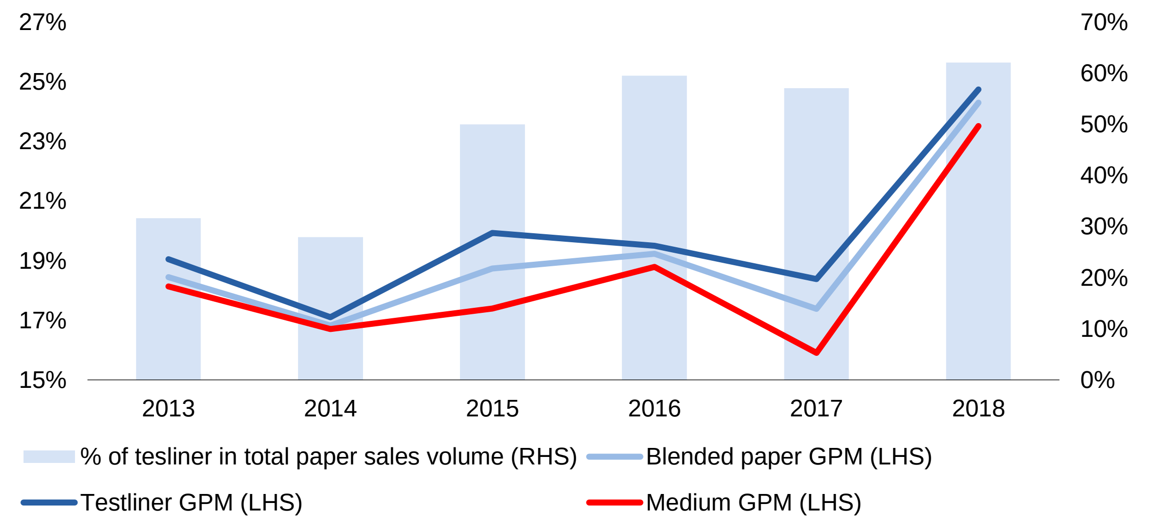


Source: DHC, VCSC

In addition to price spreads, DHC's margins also benefited from a better sales mix. DHC's testliner/medium sales mix went from 30/70 in 2013 to 60/40 in 2018. We note that testliner is typically sold at a 10% premium vs medium paper.

Underpinned by these margin tailwinds, DHC recorded an NPAT CAGR of 38% during 2013-2018.

Figure 27: DHC's paper GPM during 2013-2018

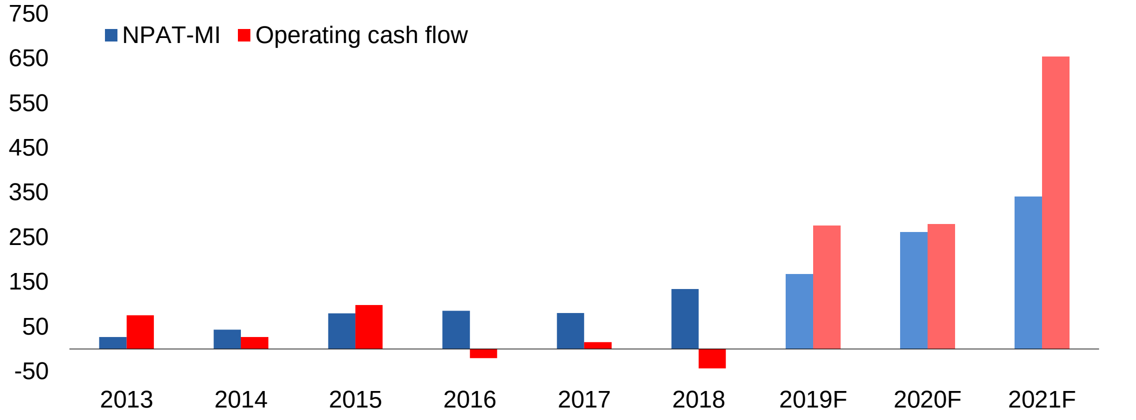


Source: DHC, VCSC.

DHC generated solid operating cash flows (CFO) prior to 2016; however, its CFO weakened afterwards, which was partly due to product quality issues in 2016 and active raw material stockpiling in 2017-2018. In 2013-2015, DHC's CFO/NPAT-MI ratio fluctuated between heathly levels of 0.6x-2.8x. However, its CFO turned negative in 2016 as DHC extended its account receivable days to support sales as a saline intrusion in the Mekong Delta undermined DHC's paper quality. This problem and the extended account receivable days were fixed after DHC installed additional water treatment facilities in 2016. Nonetheless, DHC's CFO remained low in 2017 and 2018 as it loaded up raw materials for its new factory, which led to increased inventory days in 2017-2018.

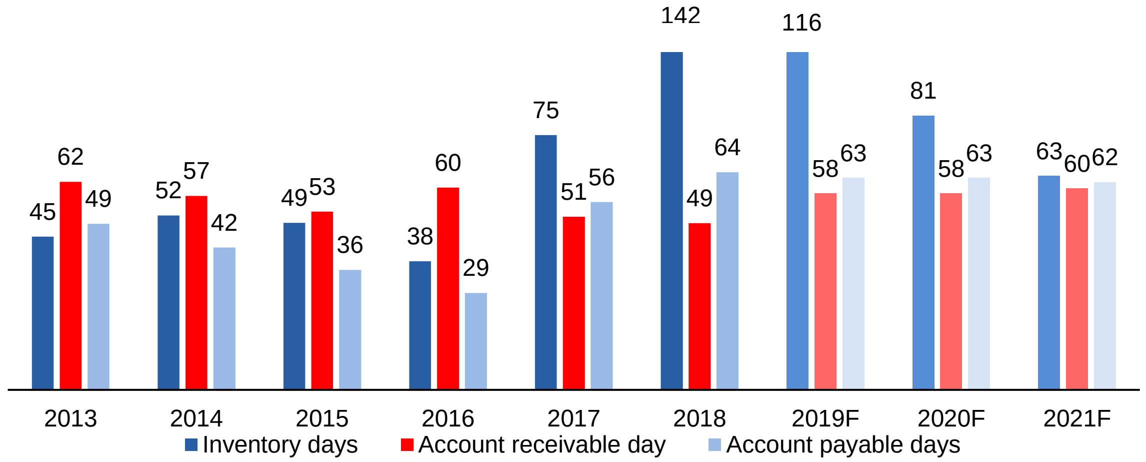
Going forward, we expect DHC's operating cash flow will strengthen thanks to contribution from its new factory and a potential normalization of inventory days as raw materials for the new factory were already largely pre-stocked.

Figure 28: DHC's NPAT-MI and CFO (VND bn)



Source: DHC, VCSC

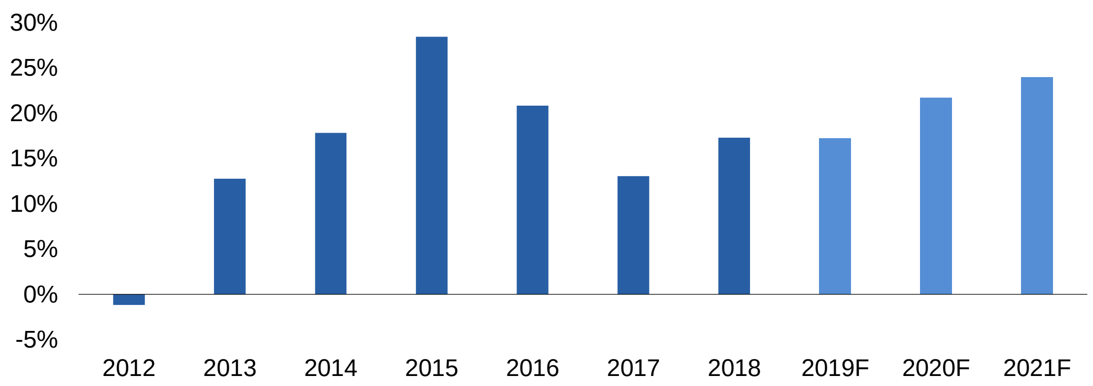
Figure 29: DHC's days of inventory, account receivable and account payable



Source: DHC, VCSC

After reaching 29% in 2015, DHC's ROE fell to 17.3% in 2018 due to temporary capital tie-up for the construction of the Giao Long 2 factory that came online in September 2019. We note that Giao Long 2 had an investment cost of VND1.2tn (USD52mn), which was 2.7x DHC's total assets as of YE2015. This capex, along with the aforementioned inventory stockpiling, reduced DHC's asset turnover from 1.5x in 2015 to 0.6x in 2018. Now that the new paper factory is operating, DHC's ROE will gradually improve back to 2015's level, based on our projections.

Figure 30: DHC's ROE

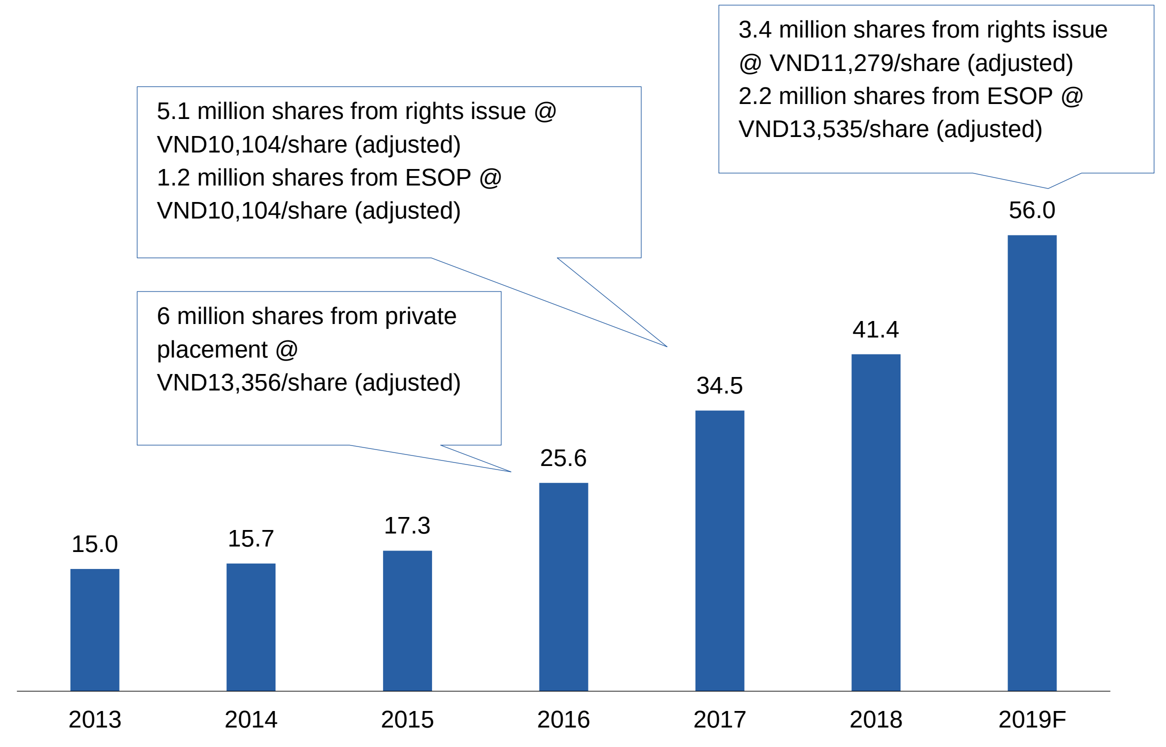


Source: DHC, VCSC

DHC raised equity capital, including via ESOP issuances, during 2016-2019 to finance its new paper factory. DHC carried out a ~35% private placement in 2016, a 20% rights issue in 2017 and a 10% rights issue 2018, in addition to 5% ESOP issuances in each of 2017 and 2019. In total, DHC raised VND272bn (USD12mn) in equity during 2016-2018. These capital injections helped DHC's net debt/equity to stay under control at ~1.0x as of YE2018.

The aforementioned ESOP issuances naturally raise concerns about dilution risks for existing shareholders. In our view, from an earnings perspective, the dilutive impact from the last two ESOP issuances (each of which had a one-year lock-up) was material but not excessive because we estimate the total unrealized gains enjoyed by the ESOP receivers at the time of issuances were equivalent to ~14% of DHC's total NPAT from 2017 to 2020F. That said, if DHC was to maintain a pace of issuing a 5% ESOP every two years as it has done since 2017, then it would still represent a material dilution risk for existing shareholders, unless the company could deliver strong earnings growth (as we currently forecast for the next three years) or raise the ESOP issuing price.

Figure 31: DHC's year-end share count during 2013-2019 (million shares)



Source: DHC, VCSC (issuing prices are adjusted for non-dilutive share splits)

Business outlook: Profits to surge on capacity expansion

Partly backed by competitive investment costs, DHC's Giao Long 2 factory is on track to fully utilize its capacity in 2021, in our view

After three years of construction, DHC's Giao Long 2 paper factory commenced commercial operation in September 2019. Compared to other paper factories invested or to be invested in Vietnam during 2017-2020, Giao Long 2 factory boasts a smaller unit investment cost at just USD236 per tonne compared to a peer average of USD655 per tonne, based on our estimate. We attribute DHC's low investment cost to a favorable timing of investment (i.e., equipment prices were favorable at the time DHC made the investment) and prudent approach in designing the factory as well as procuring machinery (e.g., utilizing Chinese ancillary equipment to supplement core German equipment). Notwithstanding the lower investment cost, Giao Long 2's paper quality is among the highest on the market thanks to its core German technology, per management.

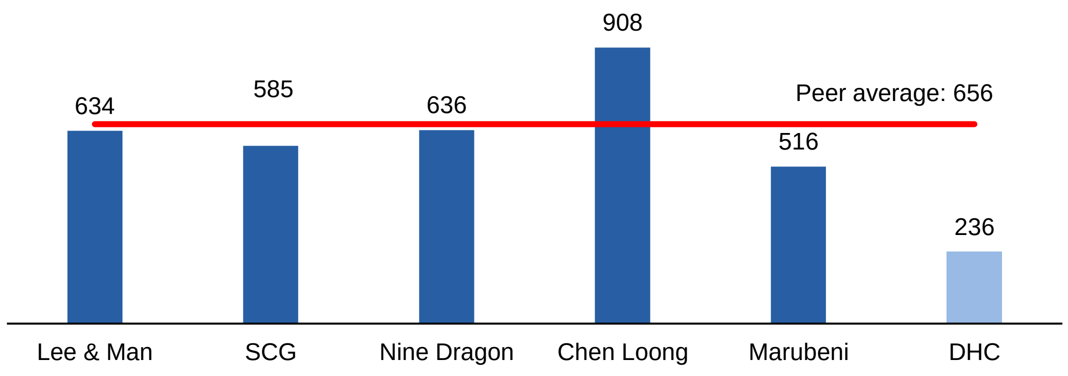
Per DHC, Giao Long 2 operated at 100% utilization in October-November 2019. We expect its utilization rate to maintain at high levels of 85%/100% in full-year 2020/2021 and reach 110% in 2022. Our conservative utilization projection for 2020 vs Q4 2019 is premised on the fact that Q4 2019's utilization rate might have benefited from seasonality (i.e., Q4 is high season).

Figure 32: DHC's Giao Long 2 paper factory

Capacity	~200,000 tonnes per annum
Technology	Core: Germany (Andritz, ABB); Ancillaries: Chinese
Investment cost	Planned: VND1.1tn (USD48mn) Actual: VND1.2tn (USD52mn) as of end-Q3 2019
Construction time	2016-2019
Debt/equity	Planned: 60%, Actual: 49% as of end-Q3 2019

Source: DHC, VCSC compilation

Figure 33: Factory investment cost (USD/tonne) of key packaging paper players in Vietnam



Source: VCSC compilation

Figure 34: Notable packaging paper factories that commenced operation or will commence operation during 2017-2020

Company	Company type	Location	Capacity (tonnes)	Investment (USD mn)	Operational year
Lee & Man	FDI (Hong Kong)	Hau Giang	550,000	348.7	2017
SCG (Vinakraft)	FDI (Thailand)	Binh Duong	256,500	150.0	2017
Nine Dragons (Chanh Duong)	FDI (Hong Kong)	Binh Duong	440,000	280.0	Late 2017
Chen Loong	FDI (Taiwan)	Binh Duong	300,000	272.5	2018
Marubeni	FDI (Japan)	Vung Tau	400,000	206.0	Late 2020
DHC	**Domestic**	**Ben Tre**	**200,000**	**47.2**	**2019**

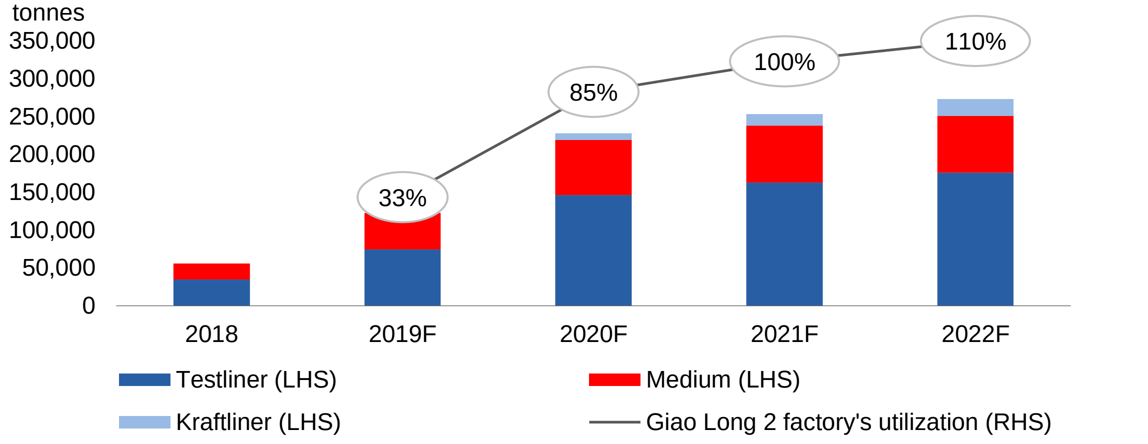
Source: Company disclosures, VCSC compilation

Sales mix to improve, driven by new kraftliner paper products

Along with additional capacity, the Giao Long 2 factory also enables DHC to introduce a higher-value grade of paper — kraftliner. DHC plans to allocate 10% of Giao Long 2's capacity to produce kraftliner from 2020. Compared to testliner, kraftliner boasts a 40%-50% price premium. Kraftliner uses virgin fiber made from wood along with recovered fiber made from OCC. Thanks to the usage of virgin fiber, kraftliner features superior strength vs testliner.

As DHC's projected production volume for kraftliner is small compared to its market size, sales should not be a problem, in our opinion. We project revenue contribution from kraftliner to reach 5% in 2020 (equivalent to 50% of allocated capacity) and 10% in 2022 (100% of allocated capacity).

Figure 35: DHC's paper sales volume and Giao Long 2's utilization rate



Source: DHC, VCSC

New packaging factory is another potential growth driver, although we expect its contribution will be modest initially

DHC plans to construct a new packaging factory as the company expects its existing packaging factory will max out its capacity in 2020-2021. According to DHC, the new facility will have an annual capacity of 42 million sqm, which is equivalent to 64 million carton boxes and ~1.3x of DHC's existing packaging capacity, per our estimate. This new factory will be located near DHC's existing factories in Ben Tre Province in the Mekong Delta region.

We assume this new factory will come online in 2021 and fill up its capacity after about seven years of operation. Our conservative utilization assumption is premised on the fact that this factory will be located far from the southeast region, which is a manufacturing hub for Vietnam's consumer goods industries. This location will make it costly for DHC to ship carton boxes as the transportation of carton boxes is more expensive than paper due to the size of the boxes. Based on our forecasts, DHC's new packaging factory will contribute ~30% to DHC's carton box sales volume and 5% to its total gross profit in 2021.

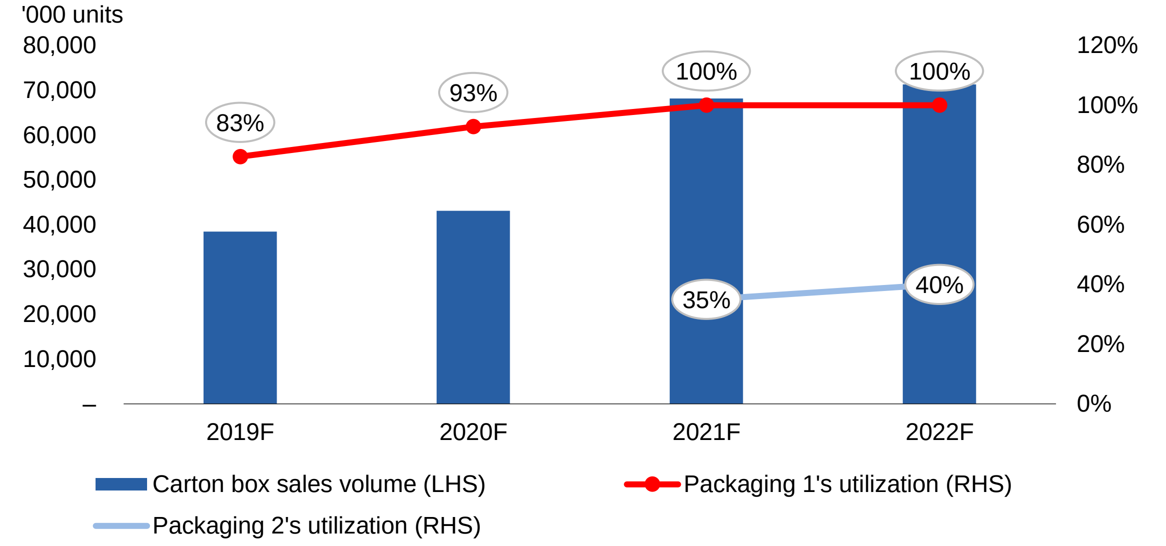
In our view, DHC has selected this factory location because (1) it can utilize its existing land, (2) it can continue to serve its existing customers in the Mekong Delta and (3) the southeast region is already being served by packaging companies that are DHC's existing paper customers.

Figure 36: DHC's packaging 2 factory

Capacity	42 million sqm or 63 million carton boxes
Investment cost	VND168bn (USD7mn), including VND34bn (USD1.5mn) for construction and VND120bn (USD5mn) for machinery
Construction time	2020-2021
Debt/equity	100% equity

Source: DHC, VCSC compilation

Figure 37: DHC's carton box sales volume and utilization rates of its packaging factories over 2019F-2022F



Source: DHC, VCSC

Summary of 2019-2022 forecasts

Figure 38: VCSC's forecast for 2019F-2022F

VND bn	2018	2019F	2020F	2021F	2022F
Revenue	**927**	**1,479**	**2,309**	**2,769**	**2,996**
Paper	641	1,125	1,927	2,169	2,369
Packaging	277	346	374	591	618
Others	8	8	8	8	8
Gross profit	**205**	**303**	**428**	**510**	**590**
Paper	156	238	359	418	482
Packaging	48	65	69	93	107
Operating profit	**164**	**236**	**324**	**386**	**455**
Profit before tax	**155**	**201**	**277**	**359**	**451**
NPAT-MI	**134**	**168**	**261**	**340**	**393**
YoY Growth					
Revenue	**14%**	**60%**	**56%**	**20%**	**8%**
Paper	15%	75%	71%	13%	9%
Packaging	16%	25%	8%	58%	5%
Gross profit	**55%**	**48%**	**42%**	**19%**	**16%**
Paper	60%	53%	51%	16%	16%
Packaging	45%	34%	7%	34%	16%
Operating profit	**74%**	**44%**	**37%**	**19%**	**18%**
Profit before tax	**66%**	**30%**	**38%**	**30%**	**26%**
NPAT-MI	**67%**	**25%**	**56%**	**30%**	**16%**
Margins					
GPM	**22.1%**	**20.5%**	**18.5%**	**18.4%**	**19.7%**
Paper	24.3%	21.1%	18.6%	19.3%	20.4%
Packaging	17.4%	18.7%	18.5%	15.7%	17.3%
OPM	**17.7%**	**16.0%**	**14.0%**	**13.9%**	**15.2%**
PBT margin	**16.7%**	**13.6%**	**12.0%**	**13.0%**	**15.1%**
NPM	**14.5%**	**11.3%**	**11.3%**	**12.3%**	**13.1%**

Source: VCSC

2019 forecasts

Figure 39: VCSC's forecasts for 2019

VND bn	2018	2019F	YoY	VCSC comments
Revenue	**927**	**1,479**	**60%**	
Paper	641	1,125	75%	Bolstered by a 120% jump in sales volume as DHC's Giao Long 2 factory began commercial operation in September 2019 and reached a utilization rate of ~100% in Q4 2019. We expect ASP to decline ~20% YoY amid weaker demand in China.
Packaging	277	346	25%	Mainly lifted by volume.
Others	8	8	0%	
Gross profit	**205**	**303**	**48%**	
Paper	156	238	53%	GPM to contract due to ASP reduction and DHC's high-cost OCC inventory. DHC already cleared its high-cost inventory in November 2019, per management.
Packaging	48	65	34%	We project packaging GPM will broaden amid softer paper prices.
Operating profit	**164**	**236**	**44%**	
Financial income	2	7	192%	
Financial expenses	-15	-42	184%	
- o/w, interest expense	-11	-42	273%	Interest expenses from loans to finance Giao Long 2 factory started to be recognized in P&L in September 2019 as opposed to being capitalized prior to that.
Others	3	0	-100%	
Profit before tax	**155**	**201**	**30%**	
NPAT-MI	**134**	**168**	**25%**	
GPM	**22.1%**	**20.5%**		
Paper	24.3%	21.1%		
Packaging	17.4%	18.7%		
SG&A/Sales	4.4%	4.5%		
OPM	**17.7%**	**16.0%**		
PBT margin	**16.7%**	**13.6%**		
NPM	**14.5%**	**11.3%**		
Effective tax rate	**13.5%**	**16.5%**		Tax incentives of DHC's packaging factory and Giao Long 1 paper factory (10%) phased out.

Source: DHC, VCSC

2020 forecasts

Figure 40: VCSC's forecasts for 2020

VND bn	2019F	2020F	YoY	VCSC comments
Revenue	**1,479**	**2,309**	**56%**	
Paper	1,125	1,927	71%	We project paper sales volume to soar 79% YoY as we assume the Giao Long 2 factory will reach 85% utilization in 2020. We conservatively assume ASP to slide 10% due to expected softer paper demand in China.
Packaging	346	374	8%	Mainly driven by a 12% increase in sales volume. We assume the utilization rate of DHC's existing packaging factory will reach 93% in 2020. We assume packaging ASP will dwindle 4% YoY on the back of easing input paper prices.
Others	8	8	0%	
Gross profit	**303**	**428**	**42%**	
Paper	238	359	51%	GPM to shrink amid a smaller ASP. We have not factored in potential favorable OCC prices that could happen thanks to weaker paper demand and stricter OCC import policies in China.
Packaging	65	69	7%	
Operating profit	**236**	**324**	**37%**	
Financial income	7	16	131%	
Financial expenses	-42	-63	51%	
- o/w, interest expense	-42	-63	51%	Interest expenses from loans to finance Giao Long 2 factory will be recognized in P&L for twelve months in 2020 vs four months in 2019.
Others	0	0	NA	
Profit before tax	**201**	**277**	**38%**	
NPAT-MI	**168**	**261**	**56%**	
GPM	**20.5%**	**18.5%**		
Paper	21.1%	18.6%		
Packaging	18.7%	18.5%		
SG&A/Sales	4.5%	4.5%		
OPM	**16.0%**	**14.0%**		
PBT margin	**13.6%**	**12.0%**		
NPM	**11.3%**	**11.3%**		
Effective tax rate	**16.5%**	**5.6%**		We assume Giao Long 2 factory will enjoy a 0% tax rate for the first two years, starting from 2020, and 10% for the ensuing four years.

Source: DHC, VCSC

Valuation

We apply a 50/50 mix of DCF/PER to value DHC. For the PER method, we set our target PER at 10x, which is 10% lower than the five-year average of peer median TTM PERs of 11.0x and 21% lower than their ten-year average of 12.6x. In our opinion, this target PER is justified given DHC's much smaller scale relative to its peers. Our selected peer group for DHC is made up of packaging paper companies in emerging Asian markets. We note that ten out of thirteen companies in our peer group are located in Greater China. In our view, these companies' PERs have been trending downward and fell below their five-year averages partly because China tightened its OCC import policies in mid-2017 as we discussed earlier. As DHC is a beneficiary of these policies (i.e., lower OCC costs), we believe the peers' historical averages are a more appropriate benchmark for our relative valuation than their current PERs.

Our DCF valuation produces a higher target price than PER, which we partly attribute to expected improvements in DHC's working capital days in the coming years; this is despite our application of a 0% terminal growth rate as we assume DHC will not expand its capacity further in the long term.

Figure 41: Summary of VCSC's valuation for DHC

Method	Fair value (VND/share)	Weighting	Contribution (VND/share)
DCF	49,721	50%	24,861
PER @ 10.0x (2020F EPS)	45,747	50%	22,873
Target price (VND/share)			**47,700**
Implied 2020F PER @ TP			10.4x

Source: VCSC

Figure 42: DCF valuation for DHC

Cost of capital		FCFF (ten years)	VND bn
Beta	1.2	PV of Free Cash Flows	1,389
Market risk premium	8.7%	PV of Terminal Val (0% g)	2,171
Risk-free rate	4.5%	**PV of FCF and TV**	**3,560**
Cost of Equity	14.5%	+ Cash & ST investments	53
Cost of Debt	7.3%	- Debt	-830
Debt %	35.0%	- Minority Interest	0
Equity %	65.0%	**Equity Value**	**2,784**
Corporate Tax%	20.0%	Shares (million)	56
WACC %	**11.5%**	**Value per share, VND**	**49,721**

Source: VCSC

Figure 43: Cash flow projections for DHC

VND bn	2018	2019F	2020F	2021F	2022F	2023F	2024F
Earnings before interest and tax	**164**	**236**	**240**	**335**	**400**	**481**	**489**
less: tax	-21	-33	-15	-19	-58	-60	-61
add: depreciation	38	69	133	157	129	130	132
less: net capex	-530	-116	-218	-25	-25	-25	-25
(increase) / decrease in NWC	-183	43	-111	162	-155	77	-70
Free cash flow	**-532**	**198**	**29**	**611**	**291**	**603**	**465**
PV of FCF			26	492	210	391	270
Cumulative PV of FCF			**26**	**518**	**728**	**1,119**	**1,389**

Source: VCSC

Figure 44: Sensitivity analysis of our target price for DHC in relation to WACC and terminal growth rate in our DCF valuation, ceteris paribus

Target price (VND)		WACC				
		10.5%	11.0%	11.5%	12.0%	12.5%
Terminal growth (g)	0.0%	50,900	49,300	**47,700**	46,300	45,000
	1.0%	53,500	51,600	49,800	48,200	46,700
	2.0%	56,700	54,400	52,300	50,400	48,700
	3.0%	60,800	57,900	55,400	53,100	51,100
	4.0%	66,100	62,500	59,300	56,500	54,100

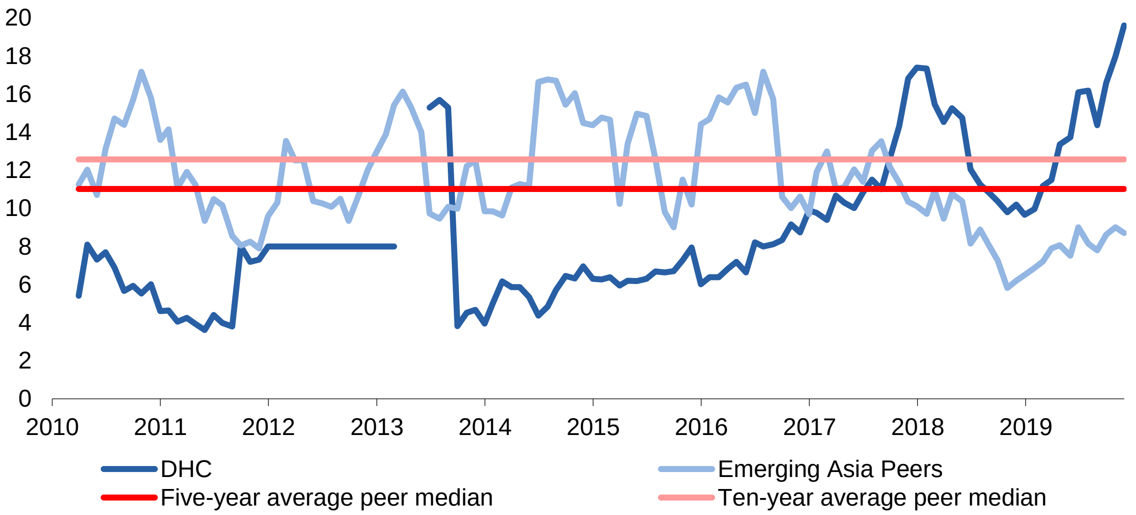
Source: VCSC

Figure 45: Comparable universe

Name	Country	Market Cap (USD mn)	TTM Sales Growth (%)	TTM EPS Growth (%)	ROE (%)	ROA (%)	Net D/E (x)	NPM (%)	LQ PBR (x)	TTM PER (x)	TTM EV/ EBITDA (x)
Nine Dragons	Hong Kong	4,965.4	3.5	-50.8	10.5	4.9	0.6	7.1	0.9	8.8	6.4
Shandong Sun	China	3,630.7	3.6	-21.6	14.7	6.3	0.9	8.7	1.8	12.9	NA
Lee & Man	Hong Kong	3,474.2	-6.4	-38.6	14.1	7.8	0.5	12.4	1.0	7.6	6.6
Indah Kiat	Indonesia	3,294.7	-2.3	-51.7	8.1	3.6	0.8	9.4	0.8	10.6	5.2
Shanying	China	2,330.0	2.3	-23.8	16.9	6.0	1.1	9.4	0.8	6.8	NA
Fajar Surya Wisesa	Indonesia	1,315.3	-10.3	14.2	31.7	12.6	0.9	15.2	4.0	13.4	11.1
Xiamen Hexing	China	688.0	-9.5	NA	-1.9	-0.8	0.7	-0.4	1.6	NA	NA
Long Chen	Taiwan	607.8	-96.6	NA	-0.1	0.0	1.7	-0.0	0.9	NA	14.2
Chen Loong	Taiwan	747.5	-6.2	-50.7	8.4	3.1	0.8	4.8	1.0	11.8	7.3
Henan Yinge	China	607.7	-23.8	NA	-14.5	-6.2	1.1	-12.7	2.3	NA	NA
Zhejiang Rongsheng	China	461.8	-12.0	-2.4	19.5	15.6	-0.2	13.6	2.2	12.5	NA
Yibin	China	321.3	-7.0	NA	-5.1	-0.8	3.8	-2.0	3.2	NA	NA
Muda	Malaysia	108.3	-2.0	-35.4	5.6	3.0	0.5	3.7	0.4	7.7	4.5
Peer median		**747.5**	**-6.4**	**-35.4**	**8.4**	**3.6**	**0.8**	**7.1**	**1.0**	**10.6**	**6.6**
Peer mean		**1,734.8**	**-12.8**	**-29.0**	**8.3**	**4.2**	**1.0**	**5.3**	**1.6**	**10.2**	**7.9**
DHC	**Vietnam**	**95.1**	**10.9**	**-23.4**	**12.0**	**5.6**	**0.8**	**10.5**	**2.3**	**21.0**	**16.5**

Source: Bloomberg, VCSC

Figure 46: DHC's TTM PER vs peers (x)



Source: Bloomberg, VCSC (DHC's TTM PER was not meaningful for a period during 2013 because it made a net loss in 2012 due to its inefficient aquaculture segment and increased interest expenses)

Investment risks

Further slowdown in the Chinese economy. In our view, a continued slump in paper demand in China will lead to heightening price competition in Vietnam as domestic players try to keep up their capacity utilization and offload their volume.

Unexpected capacity expansion. If industry capacity expands faster than demand, Vietnam's packaging paper industry could dive deeper into an oversupply territory. This scenario would be more likely if the Government was to approve the expansion plans of Lee & Man and Nine Dragons, as discussed on page 9.

Unexpected regulation risks. Regulations on OCC imports could change unfavorably for paper companies if big environmental scandals emerged and soured public sentiment.

Financial statements

P/L (VND bn)	2018	2019F	2020F	2021F
Revenue	**927**	**1,479**	**2,309**	**2,769**
COGS	-722	-1,176	-1,881	-2,258
Gross profit	**205**	**303**	**428**	**510**
Sales & Marketing exp	-26	-40	-62	-75
General & Admin exp	-14	-27	-42	-50
Operating Profit	**164**	**236**	**324**	**386**
Financial income	2	7	16	21
Financial expenses	-15	-42	-63	-48
- o/w, interest expense	-11	-42	-63	-48
Share profit/loss from associates	0	0	0	0
Net other income/(loss)	3	0	0	0
Profit before Tax	**155**	**201**	**277**	**359**
Income Tax	-21	-33	-15	-19
NPAT before MI	**134**	**168**	**261**	**340**
Minority interests	0	0	0	0
NPAT less MI, reported	**134**	**168**	**261**	**340**
NPAT less MI, adjusted[1]	**134**	**168**	**261**	**340**
EBITDA	202	305	457	543
EPS basic reported, VND	2,531	3,044	4,575	5,951
EPS basic adjusted[1], VND	2,531	3,044	4,575	5,951
EPS fully diluted[1], VND	2,531	3,044	4,575	5,951
DPS, VND	0	1,000	1,900	2,400
DPS/EPS (%)	0	33%	42%	40%
(1) Adjusted for one-offs				

Ratios	2018	2019F	2020F	2021F
Growth				
Revenue growth	14.4%	59.6%	56.1%	19.9%
Op profit growth	73.7%	44.0%	37.4%	19.0%
PBT growth	66.1%	29.6%	37.9%	29.6%
EPS growth, adjusted	56.9%	20.3%	50.3%	30.1%
Profitability ratios				
Gross Profit Margin	22.1%	20.5%	18.5%	18.4%
EBIT margin	17.7%	16.0%	14.0%	13.9%
EBITDA margin	21.8%	20.6%	19.8%	19.6%
NPAT-MI Margin, adj.	14.5%	11.3%	11.3%	12.3%
ROE	17.3%	17.2%	21.7%	23.9%
ROA	8.6%	7.8%	10.5%	13.0%
Efficiency ratios				
Days Inventory On Hand	142	117	81	63
Days Accts, Receivable	49	58	58	60
Days Accts, Payable	75	63	62	62
Cash Conversion Days	117	112	77	61
Liquidity/Solvency				
Current Ratio x	1.4	1.4	1.3	1.4
Quick Ratio x	0.6	0.9	0.8	1.0
Cash Ratio x	0.1	0.5	0.2	0.5
Debt / Assets	0.5	0.4	0.3	0.2
Debt / Capital	0.5	0.5	0.4	0.3
Net Debt / Equity	1.0	0.9	0.6	0.4
Interest Coverage x	14.5	5.6	5.1	8.0

B/S (VND bn)	2018	2019F	2020F	2021F
Cash & equivalents	29	417	206	621
ST investment	8	8	8	8
Accounts receivables	147	324	411	493
Inventories	337	419	412	371
Other current assets	44	44	44	44
Total Current Assets	**565**	**1,212**	**1,081**	**1,537**
Fix assets, gross	1,427	1,544	1,761	1,786
- Depreciation	-206	-275	-408	-565
Fix assets, net	1,221	1,269	1,354	1,221
LT investments	3	3	3	3
LT assets other	24	24	24	24
Total LT assets	**1,248**	**1,295**	**1,380**	**1,248**
Total Assets	**1,812**	**2,507**	**2,461**	**2,784**
Accounts payable	80	355	283	464
Short-term debt	286	466	446	536
Other ST liabilities	46	73	114	136
Total current liabilities	412	893	843	1,136
Long term debt	558	508	311	115
Other LT liabilities	0	0	0	0
Total liabilities	**970**	**1,401**	**1,155**	**1,251**
Preferred Equity	0	0	0	0
Share premium	192	236	236	236
Paid in capital	414	560	560	560
Retained earnings	213	282	475	691
Other equity	23	28	36	46
Minority interest	0	0	0	0
Total equity	**842**	**1,106**	**1,307**	**1,533**
Total liabilities & equity	**1,812**	**2,507**	**2,461**	**2,784**
Y/E shares out, mn	51.9	56.0	56.0	56.0
Y/E treasury shares, mn	0	0	0	0

Cash Flow (VND bn)	2018	2019F	2020F	2021F
Beginning Cash Balance	**111**	**29**	**417**	**206**
Net Income	134	168	261	340
Dep, & amortization	38	69	133	157
Chge in Working Cap	-183	43	-111	162
Other adjustments	-33	-3	-5	-7
Cash from Operations	**-44**	**276**	**279**	**653**
Capital Expenditures, net	-530	-116	-218	-25
Investments, net	0	0	0	0
Cash from Investing	**-530**	**-116**	**-218**	**-25**
Dividends paid	0	0	-56	-106
∆ in Share Capital	0	100	0	0
∆ in ST debt	182	180	-20	90
∆ in LT debt	310	-51	-196	-196
Other financing C/F	0	0	0	0
Cash from Financing	**491**	**229**	**-272**	**-213**
Net change in cash	**-83**	**389**	**-211**	**415**
Ending Cash Balance	**29**	**417**	**206**	**621**

Source: Company data, VCSC

VCSC Rating System

Stock ratings are set based on projected total shareholder return (TSR), defined as (target price – current price)/current price + dividend yield, and are not related to market performance.

Equity rating key	Definition
BUY	If the projected TSR is 20% or higher
OUTPERFORM	If the projected TSR is between 10% and 20%
MARKET PERFORM	If the projected TSR is between - 10% and 10%
UNDERPERFORM	If the projected TSR is between - 10% and - 20%
SELL	If the projected TSR is - 20% or lower
NOT RATED	The company is or may be covered by the Research Department but no rating or target price is assigned either voluntarily or to comply with applicable regulation and/or firm policies in certain circumstances, including when VCSC is acting in an advisory capacity in a merger or strategic transaction involving the company.
RATING SUSPENDED, COVERAGE TERMINATED	A rating may be suspended, or coverage terminated, if fundamental information is deemed insufficient to determine a target price or investment rating or due to a reallocation of research resources. Any previous investment rating and target price are no longer in effect.

Unless otherwise specified, these performance parameters are set with a 12- month horizon. Movement in share prices may cause a temporary mismatch between the latest published rating and projected TSR for a stock based on its market price and the latest published target price.

Target prices are generally based on the analyst's assessment of the stock's fair value over a 12- month horizon. However, the target price may differ from the analyst's fair value if the analyst believes that the market will not price the stock in line with assessed fair value over the specified time horizon.

Risks: Past performance is not necessarily indicative of future results. Foreign currency rates of exchange may adversely affect the value, price or income of any security or related instrument mentioned in this report. For investment advice, trade execution or other enquiries, clients should contact their local sales representative.

Disclaimer

Analyst Certification of Independence

We, Ha Dao and Phap Dang, hereby certify that the views expressed in this report accurately reflect my personal views about the subject securities or issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed in this report. The equity research analysts responsible for the preparation of this report receive compensation based upon various factors, including the quality and accuracy of research, client feedback, competitive factors, and overall firm revenues, which include revenues from, among other business units, Institutional Equities and Investment Banking.

VCSC and its officers, directors and employees may have positions in any securities mentioned in this document (or in any related investment) and may from time to time add to or dispose of any such securities (or investment).VCSC may have, within the last three years, served as manager or co-manager of a public offering of securities for, or currently may make a primary market in issues of, any or all of the entities mentioned in this report or may be providing, or have provided within the previous 12 months, significant advice or investment services in relation to the investment concerned or a related investment.

 This report has been prepared on the basis of information believed to be reliable at the time of publication. VCSC makes no representation or warranty regarding the completeness and accuracy of such information. Opinions, estimates and projection expressed in this report represent the current views of the author at the date of publication only. They do not necessarily reflect the opinions of VCSC and are subject to change without notice. This report is provided, for information purposes only, to institutional investors and retail clients of VCSC in Vietnam and overseas in accordance to relevant laws and regulations explicit to the country where this report is distributed, and does not constitute an offer or solicitation to buy or sell any securities discussed herein in any jurisdiction. Investors must make their investment decisions based upon independent advice subject to their particular financial situation and investment objectives. This report may not be copied, reproduced, published or redistributed by any person for any purpose without the written permission of an authorized representative of VCSC. Please cite sources when quoting.

U.K. and European Economic Area (EEA): Unless specified to the contrary, issued and approved for distribution in the U.K. and the EEA by VCSC issued by VCSC has been prepared in accordance with VCSC’s policies for managing conflicts of interest arising as a result of publication and distribution of investment research. Many European regulators require a firm to establish, implement and maintain such a policy. This report has been issued in the U.K. only to persons of a kind described in Article 19 (5), 38, 47 and 49 of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (all such persons being referred to as "relevant persons"). This document must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this document relates is only available to relevant persons and will be engaged in only with relevant persons. In other EEA countries, the report has been issued to persons regarded as professional investors (or equivalent) in their home jurisdiction. **Australia:** This material is issued and distributed by VCSC in Australia to "wholesale clients" only. VCSC does not issue or distribute this material to "retail clients". The recipient of this material must not distribute it to any third party or outside Australia without the prior written consent of VCSC. For the purposes of this paragraph the terms "wholesale client" and "retail client" have the meanings given to them in section 761G of the Corporations Act 2001. **Hong Kong:** The 1% ownership disclosure as of the previous month end satisfies the requirements under Paragraph 16.5(a) of the Hong Kong Code of Conduct for Persons Licensed by or Registered with the Securities and Futures Commission. (For research published within the first ten days of the month, the disclosure may be based on the month end data from two months prior.) **Japan:** There is a risk that a loss may occur due to a change in the price of the shares in the case of share trading, and that a loss may occur due to the exchange rate in the case of foreign share trading. In the case of share trading, VCSC will be receiving a brokerage fee and consumption tax (shouhizei) calculated by multiplying the executed price by the commission rate which was individually agreed between VCSC and the customer in advance. **Korea:** This report may have been edited or contributed to from time to time by affiliates of VCSC. **Singapore:** VCSC and/or its affiliates may have a holding in any of the securities discussed in this report; for securities where the holding is 1% or greater, the specific holding is disclosed in the Important Disclosures section above. **India:** For private circulation only, not for sale. **Pakistan:** For private circulation only, not for sale. **New Zealand:** This material is issued and distributed by VCSC in New Zealand only to persons whose principal business is the investment of money or who, in the course of and for the purposes of their business, habitually invest money. VCSC does not issue or distribute this material to members of "the public" as determined in accordance with section 3 of the Securities Act 1978. The recipient of this material must not distribute it to any third party or outside New Zealand without the prior written consent of VCSC. **Canada:** The information contained herein is not, and under no circumstances is to be construed as, a prospectus, an advertisement, a public offering, an offer to sell securities described herein, or solicitation of an offer to buy securities described herein, in Canada or any province or territory thereof. Any offer or sale of the securities described herein in Canada will be made only under an exemption from the requirements to file a prospectus with the relevant Canadian securities regulators and only by a dealer properly registered under applicable securities laws or, alternatively, pursuant to an exemption from the dealer registration requirement in the relevant province or territory of Canada in which such offer or sale is made. The information contained herein is under no circumstances to be construed as investment advice in any province or territory of Canada and is not tailored to the needs of the recipient. To the extent that the information contained herein references securities of an issuer incorporated, formed or created under the laws of Canada or a province or territory of Canada, any trades in such securities must be conducted through a dealer registered in Canada. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed judgment upon these materials, the information contained herein or the merits of the securities described herein, and any representation to the contrary is an offence. **Dubai:** This report has been issued to persons regarded as professional clients as defined under the DFSA rules. **United States:** This research report prepared by VCSC is distributed in the United States to Major US Institutional Investors (as defined in Rule 15a-6 under the Securities Exchange Act of 1934, as amended) only by Decker&Co, LLC, a broker-dealer registered in the US (registered under Section 15 of Securities Exchange Act of 1934, as amended). All responsibility for the distribution of this report by Decker&Co, LLC in the US shall be borne by Decker&Co, LLC. All resulting transactions by a US person or entity should be effected through a registered broker-dealer in the US. This report is not directed at you if VCSC Broker or Decker&Co, LLC is prohibited or restricted by any legislation or regulation in any jurisdiction from making it available to you. You should satisfy yourself before reading it that Decker&Co, LLC and VCSC is permitted to provide research material concerning investment to you under relevant legislation and regulations.

Contacts

Corporate

www.vcsc.com.vn

Head Office
Bitexco Financial Tower, 2 Hai Trieu Street
District 1, HCMC
+84 28 3914 3588

Hanoi Branch
109 Tran Hung Dao
Hoan Kiem District, Hanoi
+84 24 6262 6999

Transaction Office
10 Nguyen Hue Street
District 1, HCMC
+84 28 3914 3588

Transaction Office
236-238 Nguyen Cong Tru Street
District 1, HCMC
+84 28 3914 3588

Research

Research Team: +84 28 3914 3588
research@vcsc.com.vn

Alastair Macdonald, Head of Research, ext 105
alastair.macdonald@vcsc.com.vn

Banks, Securities and Insurance
Long Ngo, Associate Director, ext 123
- Nghia Dien, Senior Analyst, ext 138
- Anh Dinh, Analyst, ext 139
- Truc Ngo, Analyst, ext 116

Macro
- Luong Hoang, Senior Analyst, ext 364
- Nguyen Truong, Analyst, ext 132

Consumer and Pharma
Phap Dang, Associate Director, ext 143
- Dao Nguyen, Manager, ext 185
- Ha Dao, Analyst, ext 194
- Vinh Bui, Analyst, ext 191

Oil & Gas and Power
Duong Dinh, Senior Manager, ext 140
- Tram Ngo, Senior Analyst, ext 135
- Thanh Nguyen, Senior Analyst, ext 173
- Duc Le, Analyst, ext 196

Real Estate, Construction and Materials
Hong Luu, Senior Manager, ext 120
- Vy Nguyen, Senior Analyst, ext 147
- Duc Pham, Analyst, ext 174

Industrials and Transportation
- Nam Hoang, Senior Analyst, ext 124
- Dang Thai, Analyst, ext 149

Retail Client Research
Duc Vu, Senior Manager, ext 363
- Nghia Le, Analyst, ext 181
- Tra Vuong, Analyst, ext 365
- Trung Nguyen, Analyst, ext 129

Institutional Sales and Brokerage

& Foreign Individuals
Dung Nguyen
+84 28 3914 3588, ext 136
dung.nguyen@vcsc.com.vn

Retail & Corporate Brokerage

Ho Chi Minh City
Quynh Chau
+84 28 3914 3588, ext 222
quynh.chau@vcsc.com.vn

Hanoi
Quang Nguyen
+84 24 6262 6999, ext 312
quang.nguyen@vcsc.com.vn