Vietnam

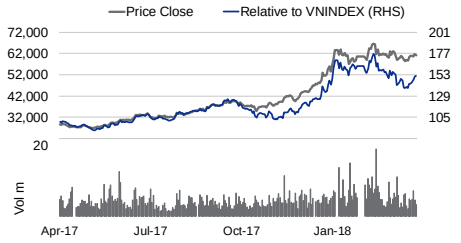
Hoa Phat Group

Solid play on country's multi-year construction boom

ADD *(previously NOT RATED)*

Consensus ratings*:	Buy 8 Hold 1 Sell 0
Current price:	VND60,100
Target price:	VND80,000
Previous target:	VND57,328
Up/downside:	33.1%
CGS-CIMB / Consensus:	6.2%
Reuters:	HPG.HM
Bloomberg:	HPG VN
Market cap:	US$4,004571m
	VND91,164,050m
Average daily turnover:	US$14.91m
	VND339,146m
Current shares o/s:	1,517m
Free float:	67.6%

*Source: Bloomberg



Source: Bloomberg

Price performance	1M	3M	12M
Absolute (%)	-0.5	17.5	107.5
Relative (%)	-2.6	7.3	47.8

Major shareholders	% held
Tran Dinh Long	25.2
Vu Thi Hien	7.3
VOF Investment Limited	4.7

- Hoa Phat Group (HPG) is currently Vietnam's largest steel producer in terms of 2017 market share according to the Vietnam Steel Association.
- We believe HPG will benefit from accelerating growth in construction steel consumption in Vietnam in 2018F.
- HPG has the ability to ride the continued upcycle in Vietnam's real estate industry and the boom in infrastructure investment, in our view.
- HPG's profit margins likely to expand as steel prices strengthen, while input prices stay soft. We estimate its long-steel capacity will double to 4m tonnes by Mar 2019F.
- We initiate coverage on HPG with an Add rating and a target price of VND80,000.

Initiate coverage with Add; potential upside of 33.1%

We initiate coverage on HPG with an Add rating and a target price of VND80,000, based on a forward P/E of 10.2x (average P/E over FY18-19F) and DCF valuation. Our Add rating is underpinned by: 1) HPG's best-in-class profitability in the Vietnam steel industry (as of 2017); 2) its ability to ride the continued upcycle in Vietnam's real estate industry and boom in infrastructure investment; 3) its improving profit margins due to global commodity dynamics; and 4) the doubling of its long-steel capacity over next 12 months.

Expect higher construction steel consumption by Vietnam in 2018F

We forecast 15% growth in construction steel consumption in Vietnam in 2018F vs. 12% in 2017, driven by stronger construction activity. We project public investment to recover in 2018F thanks to improving government finances, while the property market stays buoyant due to strong economic growth and accommodative monetary policy. We believe strong FDI inflows into the manufacturing sector will lead to more industrial construction and higher consumption of steel by other industries.

Ability to sustain and even consolidate its leading market position

We believe HPG is better positioned than its local competitors to capture market share in Vietnam's steel industry for the following reasons: 1) HPG has an integrated steel complex that helps it to control production costs; 2) its sound balance sheet and working capital management have created a strong foundation from which HPG is able to expand aggressively during upcycles; and 3) it has experienced and visionary management.

Margin expansion from rising steel prices & soft raw material prices

We expect global steel prices to continue rising over 2018-19F due to China's capacity cut and strong steel consumption worldwide. Meanwhile, rising iron ore supply from low-cost suppliers and the easing of short-term coking coal supply constraints could keep input prices subdued in 2018F, in our view. We also think Chinese environmental improvement measures could benefit Vietnamese steel producers like HPG, which use blends of low- and high-grade ores.

HPG's long-steel capacity to double over the next 12 months

HPG's Dung Quat Steel Complex project demonstrates its ambitions to not only solidify its Vietnam leadership position in construction steel (via capacity addition of a 2m tonnes or +100% over the next 12 months), but also to penetrate unexplored segments of Vietnam's steel industry (with the addition of 2m tonnes flat steel capacity). We project revenue CAGR of 24.4% and net profit CAGR of 32.9% over FY17-20F, thanks to the Dung Quat Steel Complex project (assume capacity utilisation rate of around 85%).

Financial Summary	Dec-16A	Dec-17A	Dec-18F	Dec-19F	Dec-20F
Revenue (VNDb)	33,283	46,162	60,064	78,313	88,810
Operating EBITDA (VNDb)	9,219	11,492	16,228	24,344	29,780
Net Profit (VNDb)	6,602	8,007	9,416	14,197	18,807
Core EPS (VND)	3,804	4,895	5,896	8,890	11,777
Core EPS Growth	89.4%	28.7%	20.5%	50.8%	32.5%
FD Core P/E (x)	16.09	12.50	10.38	6.88	5.20
DPS (VND)	0	0	0	1,000	2,000
Dividend Yield	0.00%	0.00%	0.00%	1.63%	3.27%
EV/EBITDA (x)	10.21	7.98	6.45	4.33	3.07
P/FCFE (x)	30.32	NA	27.81	NA	7.59
Net Gearing	6.1%	(3.8%)	28.6%	23.3%	(2.4%)
P/BV (x)	4.70	2.88	2.25	1.75	1.36
ROE	33.8%	28.5%	24.3%	28.6%	29.5%
CIMB/consensus EPS (x)			1.03	1.16	1.02

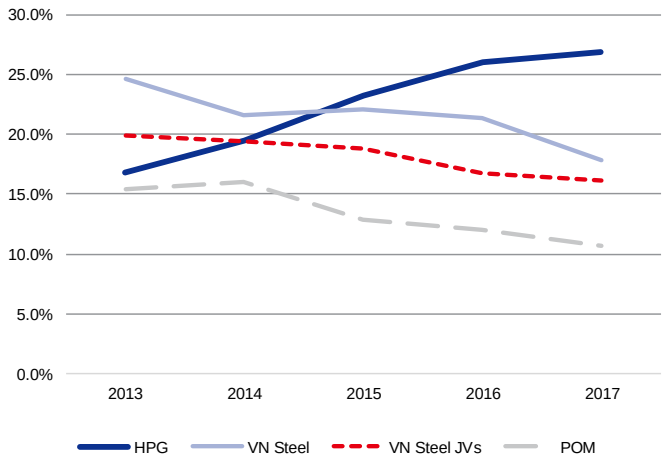
SOURCES: CGS-CIMB RESEARCH, HPG

Analyst(s)

My TRAN Ha
T (84) 96 681 1636
E my.tranha@vndirect.com.vn

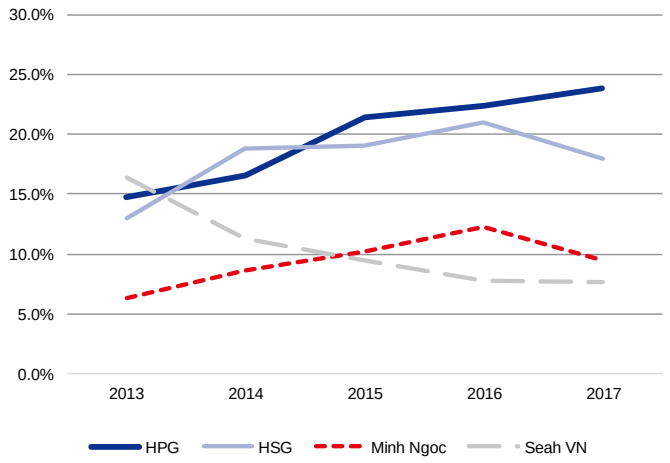
IMPORTANT DISCLOSURES, INCLUDING ANY REQUIRED RESEARCH CERTIFICATIONS, ARE PROVIDED AT THE END OF THIS REPORT. IF THIS REPORT IS DISTRIBUTED IN THE UNITED STATES IT IS DISTRIBUTED BY CIMB SECURITIES (USA), INC. AND IS CONSIDERED **THIRD-PARTY AFFILIATED RESEARCH**.
Powered by the EFA Platform

Figure 1: HPG consolidated its leading position in construction steel market in Vietnam (market share by player, 2013-17)



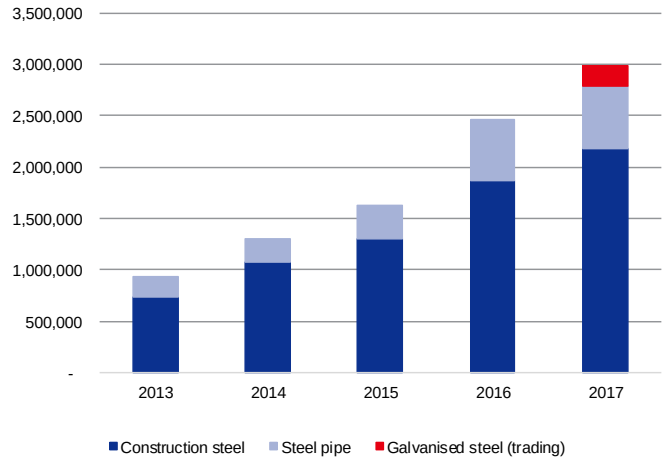
SOURCES: CGS-CIMB RESEARCH, VIETNAM STEEL ASSOCIATION

Figure 2: HPG is also the largest steel pipe producer in Vietnam (market share by player, 2013-17)



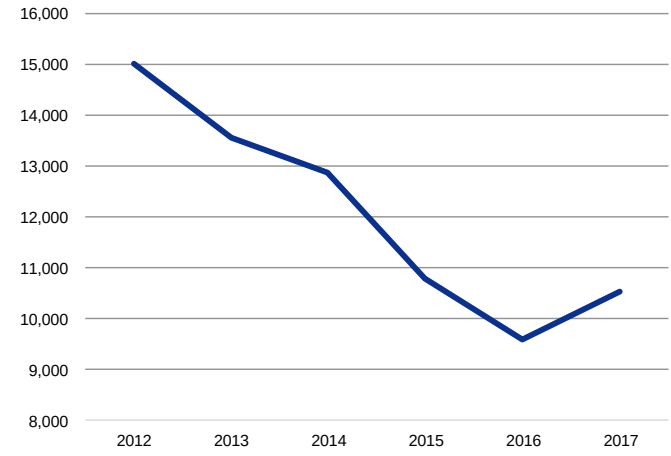
SOURCES: CGS-CIMB RESEARCH, VIETNAM STEEL ASSOCIATION

Figure 3: HPG enjoyed sales volume CAGR of 33.8% during 2013-17 (sales volume, tonnes)



SOURCES: CGS-CIMB RESEARCH, HPG

Figure 4: Construction steel price rebounded in 2017 (HPG's average selling price, VND per kg, 2012-17)

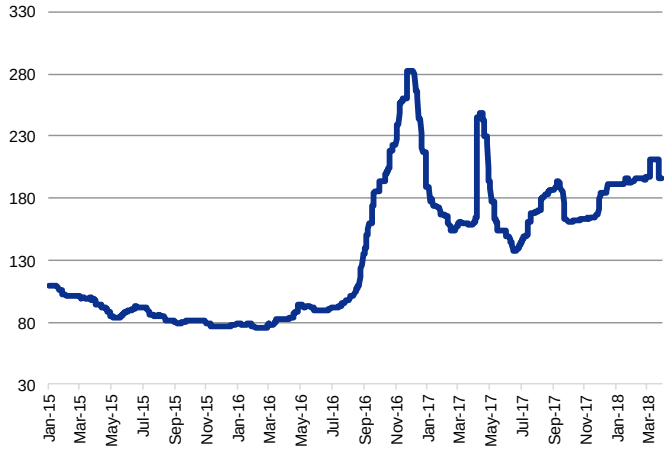


SOURCES: CGS-CIMB RESEARCH, VIETNAM STEEL ASSOCIATION

Figure 5: Iron ore price has corrected since early of Mar 2018 (Global iron ore price, US$/tonne, Jan 2015-Mar 2018)

SOURCES: CGS-CIMB RESEARCH, BLOOMBERG

Figure 6: Stable coking coal price (Global coking coal price, US$/tonne, Jan 2015-Mar 2018)



SOURCES: CGS-CIMB RESEARCH, BLOOMBERG

Solid play on country's multi-year construction boom

INVESTMENT THESIS

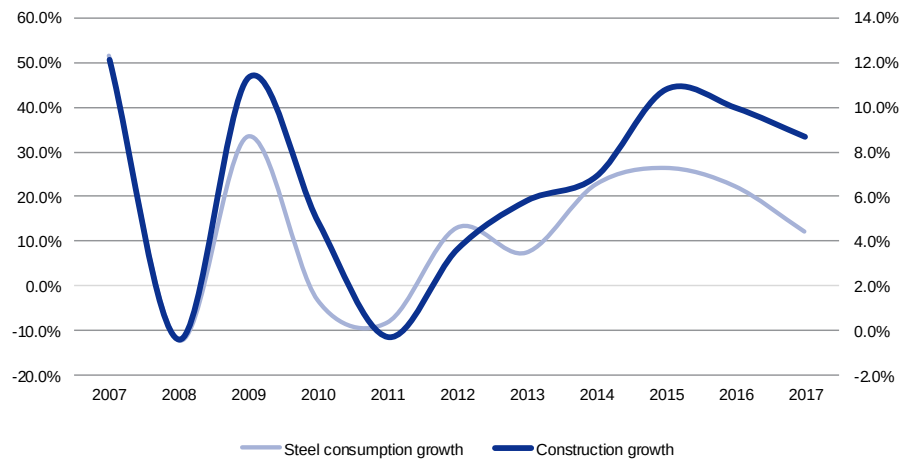
We forecast 15% growth in Vietnam construction steel consumption for 2018F

Vietnam's property market continues to be buoyant against the backdrop of the country's strong economic growth and loose monetary policy. Vietnam generated 2017 GDP growth of 6.8%, outpacing the government's target (6.7%) and Bloomberg consensus expectations (6.5%). Breakdown of 2017 GDP growth by sector showed that the construction and real estate sectors delivered strong growth of 8.7% and 4.1%, respectively.

With proceeds from the recent state-owned enterprise (SOE) equitisation and divestment programme, at end-2017, Vietnam's public debt as a percentage of GDP stayed below the cap of 65%, giving the government some fiscal room to speed up infrastructure investments, in our view. The government expects public investment disbursement to recover this year, with growth of 28.3% after a few years of sluggish spending (source: Vietnam's Ministry of Finance). The government targets faster GDP growth of 9.2% for construction industry this year on the back of the expected recovery in public investment spending (source: Vietnam's Ministry of Planning and Investment). Meanwhile, the Ho Chi Minh Real Estate Association predicts that the country's property market will continue to expand, thanks to strong domestic demand and accommodative monetary policy.

We project that construction steel consumption in the country will increase by 15% in 2018F, higher than the 12% in 2017. In addition, strong FDI flows into the manufacturing sector could drive an acceleration in industrial production growth, which we think would spur usage of steel products other than construction steel.

Figure 7: High correlation between construction growth and steel consumption growth (yoy % chg, 2007-17)



SOURCES: CGS-CIMB RESEARCH, WORLD STEEL ASSOCICATION, VIETNAM'S GENERAL STATISTICS OFFICE (GSO)

HPG is well positioned to consolidate market share during the current upcycle ➤

We observe that while its local competitors have not overcome their financial distress following the real estate bubble in 2011, HPG successfully expanded its construction steel market share from 14.7% in 2013 to 23.8% in 2017 (source: Vietnam Steel Association) by making timely investments in the second and third

phases of its Hoa Phat Integrated Steel Complex in 2013 and 2016, respectively. Over FY15-17, HPG enjoyed sales volume CAGR of 35.3%, revenue CAGR of 29.7%, which is far superior to those of other local (average 9.7%) and regional steel producers (average 10.8%).

After the Vietnamese government implemented anti-dumping measures on imported steel in Mar 2016, HPG saw remarkable earnings improvement, with net profit expanding 89.4% in FY16, and a further 21.3% in FY17. HPG's gross margin expanded from 20.4% in FY15 to 26.3% in FY16 before settling at 23.1% in FY17. Its net margin hit a record high of 19.8% in FY16, and 17.3% in FY17.

We believe HPG is better positioned than its local competitors to capture future growth opportunities in Vietnam's steel industry for the following reasons: 1) HPG's steel unit production costs are ~20% lower than its local competitors, which produce steel billet domestically using the more expensive electric arc furnace (EAF) technology, and 10% cheaper than the cost of importing steel billet to Vietnam (assuming anti-dumping duty of 19.3%); 2) the company has a strong balance sheet resulting from improved balance sheet management; and 3) in our view, HPG's management team has a strong and united vision that is geared towards the interest of its shareholders.

Steel prices could strengthen further even as raw material prices stay soft; margins may continue to expand ➤

During the previous six years, domestic steel prices did not rise despite the strong demand, but in 2017, thanks to the recovery in global steel prices, triggered by China's supply-side reforms in that year, domestic prices also rose. Rebar steel prices increased 17.4% yoy in 2017, while rolled steel prices surged 20.1% yoy. This also coincided with a rally in input raw material prices. However, by successfully hedging iron ore in 2017, HPG was able to realise a gross margin of 23.1%, after touching a record high of 26.3% in 2016. We expect iron ore price volatility to ebb this year and the company could maintain gross margins at 22.0%, in our view, a slight decrease from 2017's level.

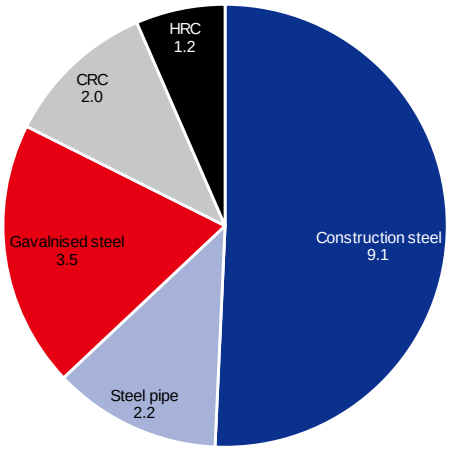
We expect the strengthening of steel prices will continue in 2018F due to a further production capacity cut of 30m tonnes in China (9.4% of total nationwide overcapacity) coupled with the improved outlook for steel consumption globally on the back of synchronised global economic growth and a prospective infrastructure binge in the US. Deutsche Bank forecasts that iron ore prices will decline to the US$58-60 level over 2019-22F due to persistent oversupply in the long run. They also expect coal prices to stabilise in 2018F and decrease gradually over the next two years, as the price surge in 2017 was mainly driven by the short-term supply disruption in the wake of Cyclone Debbie which hit Australia's coal-producing hub. Based on the projected increase in steel prices and lower raw material prices, we believe HPG's margins are likely to expand in the long-run.

Besides, we believe Chinese environmental pressures may continue to spur upgrades among Chinese steel producers to high-grade iron ore and scrap use, with price supports for lower grade iron ore consequently remaining weak. Without stricter environmental protections at home which would warrant a similar upgrade to higher grade ores, we think HPG could capitalise on this trend by using a greater share of low-grade iron ore in its input mix.

Long-steel capacity to double over the next 12 months ➤

HPG has successfully reaped growing economies of scale due to its continuous increase in capacity. Dung Quat Steel Complex project demonstrates HPG's ambitions to not only continue solidifying its leading position in construction steel, but also to penetrate new segments of Vietnam's steel industry (flat steel – especially hot rolled coil). Flat products are used across a wide range of industries such as automobile, household appliances, shipbuilding and construction.

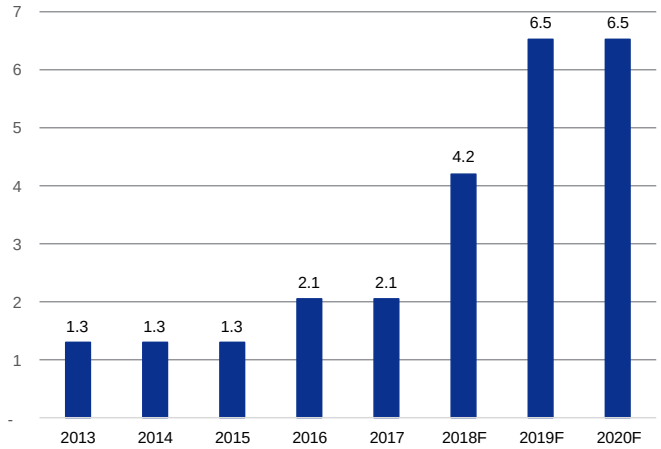
Figure 8: Vietnam's total steel consumption by type (m tonnes, 2017)



Note: Cold rolled coil (CRC) and hot rolled coil (HRC).
SOURCE: CGS-CIMB RESEARCH, VIETNAM STEEL ASSOCIATION

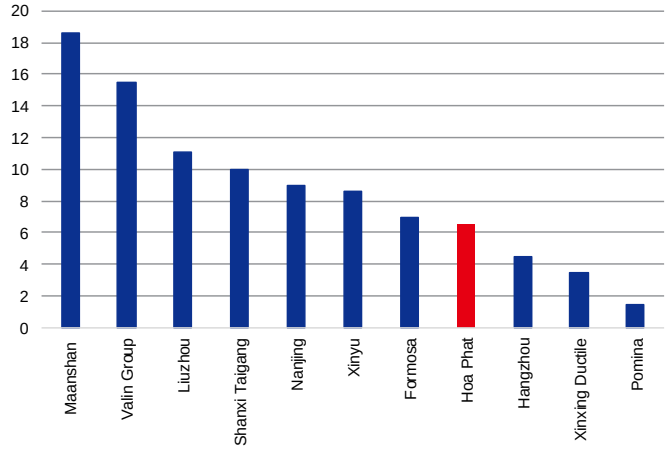
The first phase of the Dung Quat Steel Complex project will double HPG's current long steel capacity to 4m tonnes. This project kicked off in Feb 2017 and will commence production by Feb 2019F. In the second phase, HPG plans to produce 2m tonnes of hot rolled coil (HRC), according to management's guidance. In Vietnam's steel industry, HRC is the main input material for other flat steel products (steel pipe and galvanised steel) which saw demand volume CAGR of 19.9% in 2013-17. After the completion of phase 2, HPG will become only the second steel producer in Vietnam, after Formosa (Vietnam's FDI company), to be able to produce both long and flat steel products. Note, however, that the comparison with Formosa is asymmetric, in our view, as HPG, with its new flat steel capacity, will be a sizeable competitor to Formosa (flat steel capacity of 7m tonnes). In addition, Formosa's current long steel capacity of 300,000-500,000 tonnes is quite small compared with that of HPG now and will be even more so after HPG's planned long steel capacity addition (we do not believe Formosa has any concrete plans to expand its long steel production or move its flat steel production downstream).

Figure 9: HPG's total steel production capacity (m tonnes p.a.), based on our estimates



SOURCE: CGS-CIMB RESEARCH, HPG

Figure 10: HPG's post-expansion total steel production capacity vs. regional peers (2016, m tonnes p.a.)



SOURCE: CGS-CIMB RESEARCH, ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (OECD)

We estimate that the first phase of Dung Quat project will add 20-25% to HPG's revenue in FY19-20F per annum. As for the second phase, we assume HPG will use its HRC products as an input for producing steel pipe and galvanised steel and, therefore, we expect the company's profitability to improve after the completion of phase 2. For FY18-20F, we forecast gross profit margin to expand 3.4% pts from the average of 21.5% seen over FY13-17. As such, we expect a CAGR growth of 32.9% in net profit over FY17-20F.

VALUATION AND RECOMMENDATION

Initiate coverage with an Add rating

We initiate coverage on HPG with an Add rating and target price of VND80,000 (upside of 33.1% from the current share price), based on an equal weighting of: 1) a forward P/E of 10.2x on the average EPS over CY18-19F and 2) a DCF over a 5-year projection period. Our DCF-based target price is VND84,300. We used a WACC of 11.3% and terminal growth rate of 2.1% to reflect growth prospects for the steel industry in emerging countries. Our forward P/E-based target price is VND75,800 based on a target P/E multiple of 10.2x applied to average EPS over the period CY18-19F. We believe HPG deserves to trade at a premium over its regional peers given our FY18-19F ROE projection of 24.3% and 28.6% (vs. peers' average of 17.8% and 20.0%) based on our projections. Therefore, we applied a 30.0% premium over its regional peers' median CY18-19F P/E of 7.9x, which translates into a target FY18-19F P/E multiple of 10.2x for HPG.

Figure 11: DCF model - key assumptions & input, based on our estimates

General assumptions	2016A	2017A	2018F	2019F	2020F	2021F	2022F	Terminal
Risk free rate (10-year VGB yield)	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%
Equity risk premium	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Beta (source: BB, 1-y adj. beta)	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.19
Cost of equity	14.5%	14.5%	14.5%	14.5%	14.5%	14.5%	14.5%	16.0%
Long-term growth rate								2.1%
ROE (%)								23.0%
(in VND bn, otherwise noted)								
PV of DCF (5 years)			27,123					
PV of Terminal value			109,517					
Enteprise value			136,641					
Less: Total Debt			12,980					
Plus: Cash and Cash equiv.			4,265					
Implied EV			127,926					
No. of o/s shares (mn shares)			1,517					
Implied value per share (VND)			84,314					

SOURCES: CGS-CIMB RESEARCH, HPG

Figure 12: P/E method, key inputs, based on our estimates

	FY18F	FY19F	Avg. CY18-19F
EPS	5,896	8,889	7,392
Industry median multiple	8.6	7.2	7.9
Premium			30.0%
Target multiple			10.2
Implied value per share (VND)			75,761

SOURCES: CGS-CIMB RESEARCH

Figure 13: Blended target price, based on our estimates

Method	Implied value per share (VND)	Weight (%)	Weighted price (VND)
DCF	84,314	50%	42,157
P/E	75,761	50%	37,880
Target price (VND)			80,038

SOURCES: CGS-CIMB RESEARCH

Figure 14: Regional sector comparison

Company	Bloomberg Ticker	Recom.	Closing price	Target price	Market cap	ROE (%)		P/BV (x)		P/E (x)	
			(local curr.)	(local curr.)	(US$ m)	CY18F	CY19F	CY18F	CY19F	CY18F	CY19F
JSW Steel	JSTL IN	Reduce	308.7	222.0	11,402	14.0	14.3	2.8	2.5	16.6	13.2
Tata Steel	TATA IN	Reduce	592.1	460.0	10,370	14.0	10.8	1.4	1.2	9.5	8.2
NMDC	NMDC IN	Add	124.7	162.0	6,026	16.0	16.0	1.6	1.5	10.1	9.7
Shanxi Taigang Stainless-A	000825 CH	Not rated	6.0	na	5,440	15.2	16.1	1.3	1.1	8.6	7.9
Maanshan Iron & Steel-A	600808 CH	Add	3.5	4.8	4,037	14.7	16.3	1.0	0.9	6.3	6.3
Sansteel Minguang Co Ltd -A	002110 CH	Add	17.4	28.9	3,793	24.4	29.1	1.6	1.3	5.7	5.2
Hunan Valin Steel Co Ltd -A	000932 CH	Add	7.6	13.7	3,633	26.4	31.8	1.6	1.2	5.0	4.6
Shandong Iron And Steel Co-A	600022 CH	Not rated	2.0	na	3,519	12.9	13.0	1.1	0.9	9.4	7.2
Nanjing Iron & Steel Co-A	600282 CH	Not rated	4.3	na	3,025	19.4	23.1	1.3	1.0	5.5	5.1
Xinxing Ductile Iron Pipes-A	000778 CH	Not rated	4.7	na	2,979	6.8	6.4	0.9	0.8	13.8	12.2
Xinyu Iron & Steel Co Ltd-A	600782 CH	Not rated	5.8	na	2,949	18.5	20.8	1.2	1.0	6.0	5.4
Gansu Jiu Steel Group Hong-A	600307 CH	Not rated	2.3	na	2,323	10.3	8.5	1.4	1.3	15.5	11.7
Sgis Songshan Co Ltd-A	000717 CH	Not rated	6.4	na	2,476	38.5	53.7	2.6	1.6	5.8	5.1
Average regional peers						*17.8*	*20.0*	*1.5*	*1.3*	*9.1*	*7.8*
Median regional peers						*15.2*	*16.1*	*1.4*	*1.2*	*8.6*	*7.2*
Hoa Phat Group JSC	**HPG VN**	**Add**	**60,100**	**80,000**	**4,005**	**24.3**	**28.6**	**2.3**	**1.7**	**10.4**	**6.9**

NOTE: AS OF 16 APR 2018

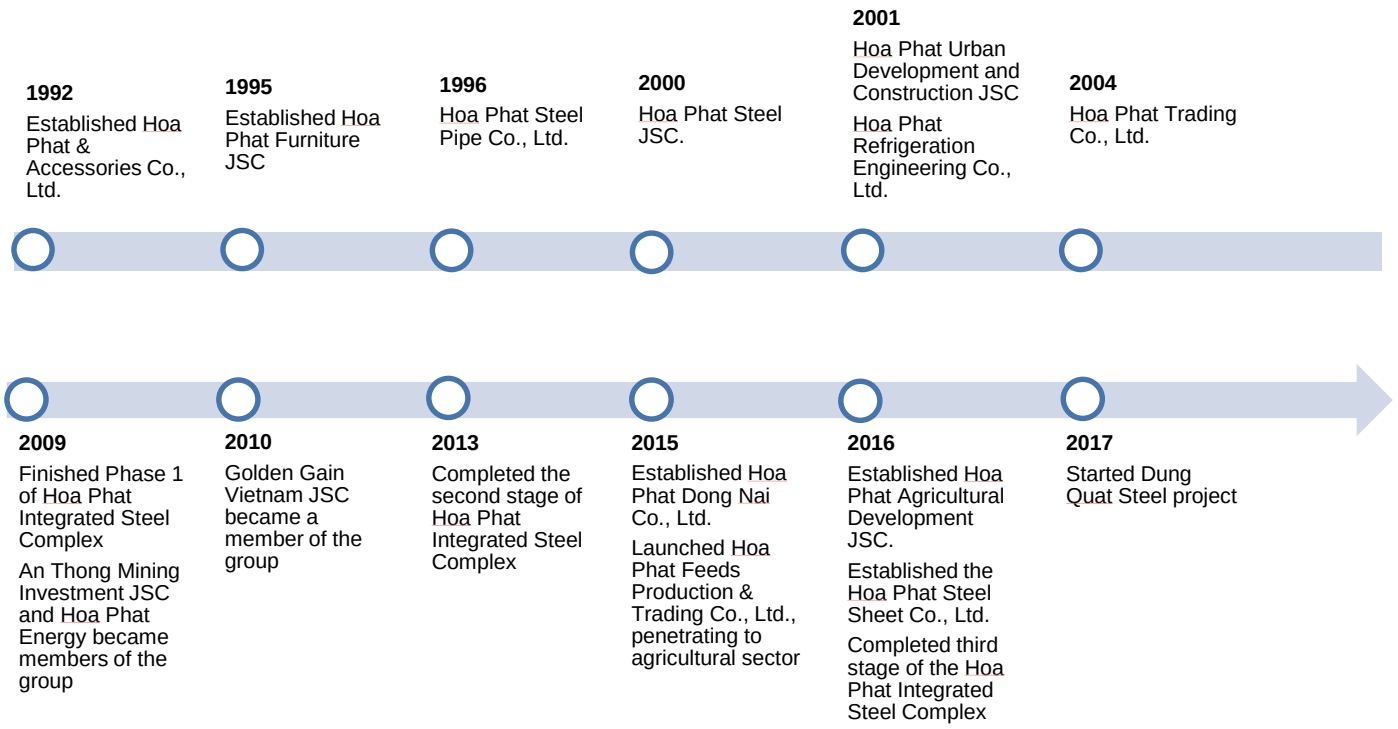
SOURCES: CGS-CIMB RESEARCH, BLOOMBERG

BACKGROUND

1.1 Company overview

Founded in 1992, HPG is one of the most successful companies in the private sector in Vietnam in terms of scale (top 10 private enterprises of Vietnam in 2017 according to the VNR500 rankings). In 2007, HPG was reorganised into a group structure and listed on the Ho Chi Minh Stock Exchange.

Figure 15: HPG's development milestones



SOURCE: CGS-CIMB RESEARCH, HPG

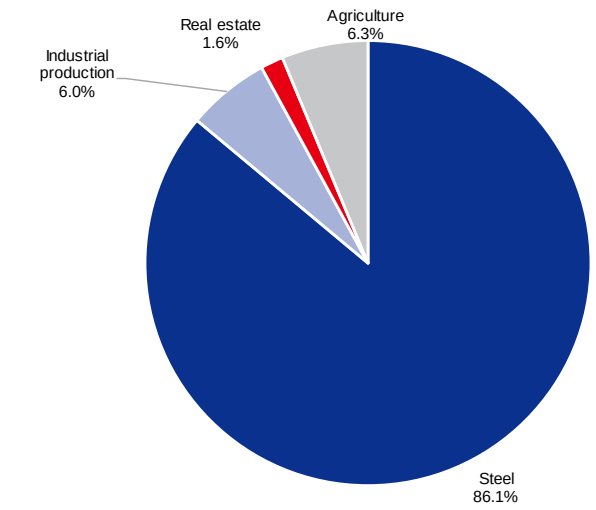
The company operates in four segments:

1) Steel: construction steel, steel pipes, coated steel and hot rolled steel
2) Other industrial production: construction & mining equipment, furniture, air conditioning and refrigerators
3) Real estate development: housing and industrial zones
4) Agriculture: animal feeds, pigs, cattle and poultry.

Although the company has pursued diversification strategies, steel production remains its core business, and accounts for 86.1% of total revenue and 90.8% of its total net profit (as of 2017).

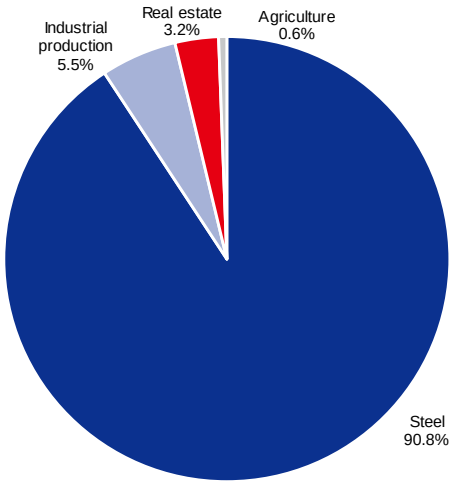
HPG previously had 18 member companies, but in 2016 reorganised its business model into 11 subsidiaries to streamline its production and reduce management costs. Steel production was divided into two segments including construction steel and steel pipe/galvanised steel. Meanwhile, the agriculture segment was put under the management of one company instead of five separate companies as was the case in the past.

Figure 16: FY17 revenue breakdown



SOURCE: CGS-CIMB RESEARCH, HPG

Figure 17: FY17 net profit breakdown



SOURCE: CGS-CIMB RESEARCH, HPG

1.2 Vietnam's biggest steel producer

HPG's construction steel products include reinforcing bars as well as steel wires and rods, which are used to support concrete construction.

The company launched its first steel mill, Hung Yen Plant, in 2000; it only had 250,000 tonnes p.a. capacity. Unlike other steel producers in Vietnam, in 2009 HPG had made a strategic move to employ basic oxygen furnace (BOF) technology. As BOF produces steel more quickly and cheaply than the previous technology of electric arc furnace (EAF), HPG was able to stay price competitive in the steel segment, gaining market share from most of its domestic competitors. At present, the company is the largest construction steel company in Vietnam, with total capacity of 2m tonnes p.a. and a 23.8% market share.

Most of the company's steel products are currently sold in the North of Vietnam (70.9%), while the central and southern regions account for 10.5% and 11.0%, of sales volume respectively, and the remaining 7.6% is exported. HPG began to export its products since 2015 and saw impressive growth of 117.2% CAGR in the export market over FY15-17. Its key export markets are currently ASEAN, the US and Australia. The contribution of exports to total sales volume increased from 2.7% in 2015 to 7.4% in 2017.

At the beginning of 2017, the Prime Minister approved HPG's plans for a new Dung Quat Integrated Steel Complex in Quang Ngai province. The plant has a planned capacity of 4m tonnes (2m tonnes of long steel and 2m tonnes of HRC steel). After completing this project in 2019F, HPG will be one of the largest construction steel producers in the region.

HPG is also the largest steel pipe producer in Vietnam with a 26.8% market share (according to the Vietnam Steel Association), focusing on welded steel pipes, which are rolled from imported HRC. HPG has 600k tonnes p.a. pipe production capacity at present. Because of their versatility, steel pipes are commonly used in many industrial industries from construction to automobiles. In FY13-17, the steel pipes industry in Vietnam expanded at a CAGR of 29.5%; the rapid growth in industrial production in Vietnam is the main driver of this impressive growth. HPG targets to grow its steel pipe business by 20-30% p.a. from now until 2020F and to reach an output of 1m tonnes by 2020F, with a market share of around 30%.

In Apr 2016, HPG started a galvanised steel production project with a total capacity of 400,000 tonnes p.a., and this project will be divided into two phases of 200,000 tonnes each. The products were launched in the market at the end of 2017. Demand for galvanised steel products in Vietnam has grown at a robust CAGR of 18.3% during FY13-17 as they offer superior economy in several construction and automotive applications, electric appliances and electronic equipment. Given the strong growth momentum of Vietnam's industrial production, HPG's well established and expansive distribution system, and its

ability to control input costs thanks to Dung Quat – Phase 2 project, we believe the company could gain market share in the galvanised steel industry.

In the beginning of 2018, the company started a high-quality steel project with a production capacity of 160,000 tonnes p.a. We expect this project to be completed at the end of this year which should help the company diversify its product portfolio.

1.3 Production cost advantages »

HPG's basic oxygen furnace (BOF) steel mill has a capacity of 1.7m tonnes p.a., while its electric arc furnace (EAF) steel mill has a capacity of 300k tonnes p.a. Although the BOF and EAF processes both produce steel as the end product, HPG's BOD has made explicit its intention to increasingly migrate to the BOF technology. At the moment, we think the BOF process is more economical than the EAF process for the following reasons:

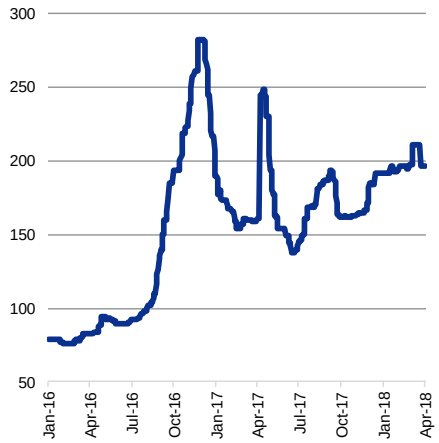
1) Raw material market dynamics are benefiting BOF steel mills

For BOF technology, producing steel requires a variety of raw materials, namely iron ore (27% of total costs), coal (22% of total costs) and scrap steel (15% of total costs). Meanwhile, EAF technology has a much simpler input process, as it only requires scrap steel as the major input (86% of total costs). Scrap steel prices have increased sharply recently while coking coal prices have also risen at a slower pace. In contrast, iron ore prices have corrected.

Figure 18: Iron ore price (Jan 2016- Apr 2018, US$/tonne)

SOURCES: CGS-CIMB RESEARCH, BLOOMBERG

Figure 19: Coking coal prices (Jan 2016- Apr 2018, US$/tonne)



SOURCES: CGS-CIMB RESEARCH, BLOOMBERG

Figure 20: Scrap price (Jan 2016- Apr 2018, US$/tonne)

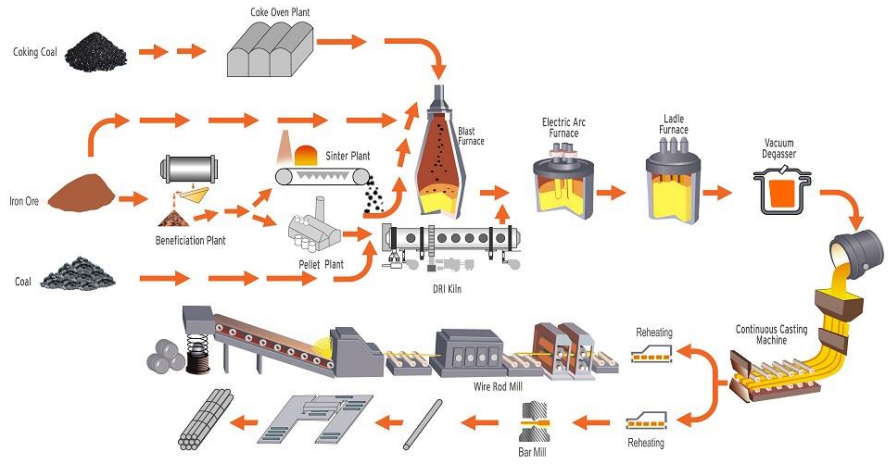
SOURCES: CGS-CIMB RESEARCH, BLOOMBERG

Recent graphite electrode shortages have also hit EAF steel producers, as the EAF process consumes more graphite electrodes than BOF to produce one tonne of steel. We estimate that an average EAF mill consumes approximately 1.8-2kg of graphite electrodes to produce one tonne of steel while a BOF mill only consumes 0.4-0.5kg of graphite electrodes to produce one tonne of steel.

Based on spot prices on 16 Apr 2018, we estimate that the unit billet production cost using BOF is ~27% lower than using EAF technology, and ~11% lower than using billet imported from China after import taxes and anti-dumping duties. Before the implementation of anti-dumping tariffs on billets, most EAF steel producers in Vietnam imported cheap billets from China to cast steel in order to remain competitive vs. BOF producers. We think they may not be able to take advantage of cheap billets from China moving forward due to rising steel production costs in China.

2) Vertically-integrated production helps HPG to reduce costs

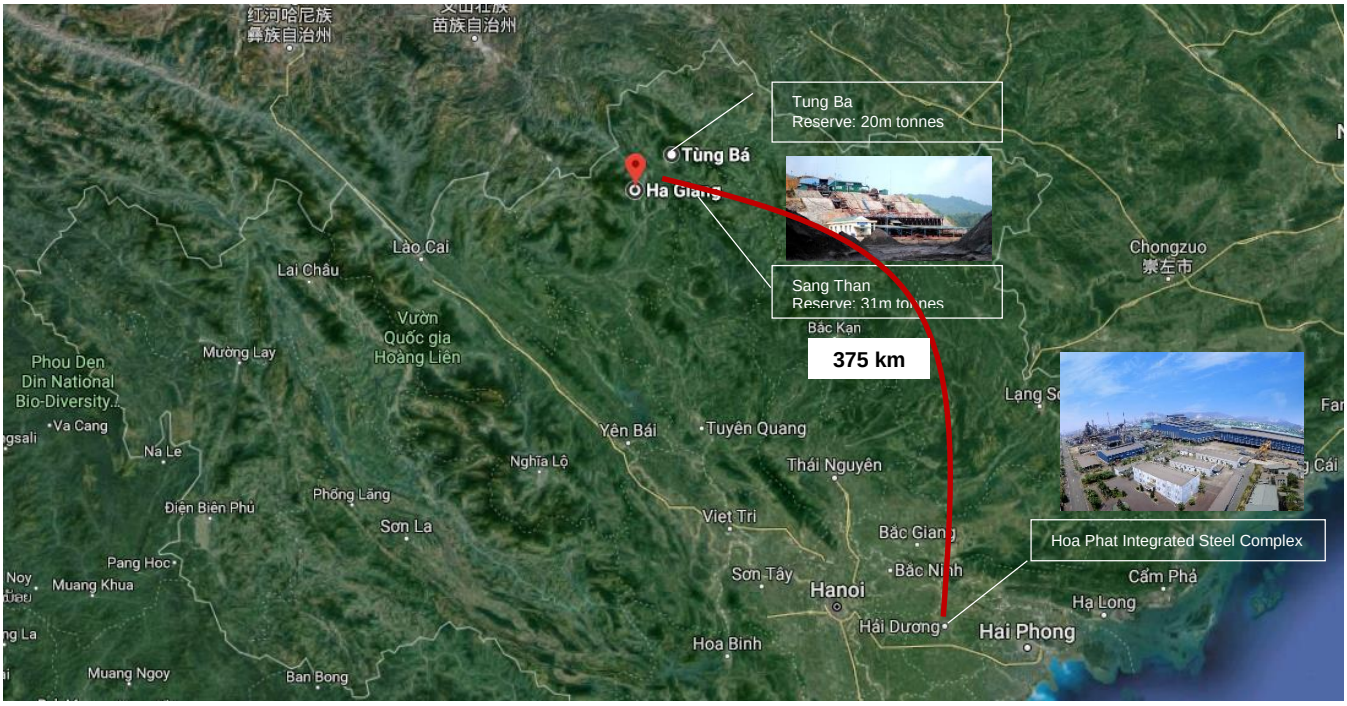
Figure 21: Vertically-integrated BOF steel-making process



SOURCE: CGS-CIMB RESEARCH, ushamartin.com

Flexibility through sizeable captive iron ore reserves: HPG uses about 3.6m tonnes of iron ore a year, based on our estimates: 24% of HPG's iron ore needs are fulfilled by its captive iron ore mines located in Ha Giang with total reserves of 51m tonnes (equivalent to 5.2 years of production at estimated post-expansion steady state production); the remaining 76% are met by domestic purchases and imports.

Figure 22: HPG's iron ore mine locations



SOURCES: CGS-CIMB RESEARCH, GOOGLE MAP, HPG

In 2013-14, the domestic iron ore spot price was lower than the international spot price. However, due to the sharp fall in international iron ore prices since 2014 which has not been matched in the domestic market, HPG has begun importing more iron ore. Hence, the company has less cost advantage in terms of iron ore costs as compared to the past (based on a captive iron ore extraction cost of US$80/tonne). If iron ore prices recover to the level of US$100-130 per tonne, HPG will regain its competitive advantage in controlling its production costs, through more in-sourcing of iron ore, similar to what it enjoyed in the 2013-14 period.

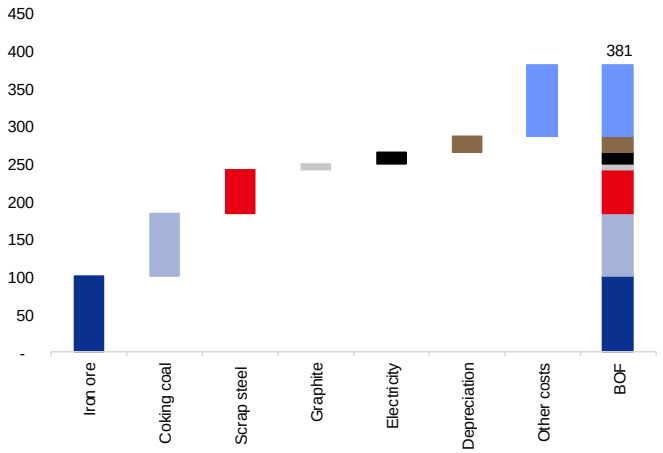
HPG previously considered Thach Khe mine (the largest iron ore reserves in Vietnam – 554m tonnes) as a potential mine to provide iron

ore for its Dung Quat Steel Complex, but the mine has been suspended for many years due to budgeting and environmental concerns. HPG does have a chance to utilise this mine in the future, subject to government approval.

Self-supplied coke and electricity: HPG's blast furnace-based steel mill uses around 940k tonnes of coking coal a year, but the company has 800k tonnes of annual coke production capacity (85% self-supplied). HPG's coke production cost is about 8-10% below the cost of importing coke, which we estimate lowers its final production costs by 2% compared with production cost levels assuming all coking coal requirements are met through imports (this is based on current international coking coal prices of US$191.9 per tonne).

In addition, the heat generated as a by-product of the coke production can be used to generate electricity at about half the cost of purchasing electricity from Electricity of Vietnam (EVN). HPG meets about 50% of its steel complex's requirements with this recycled energy, further boosting its cost advantage.

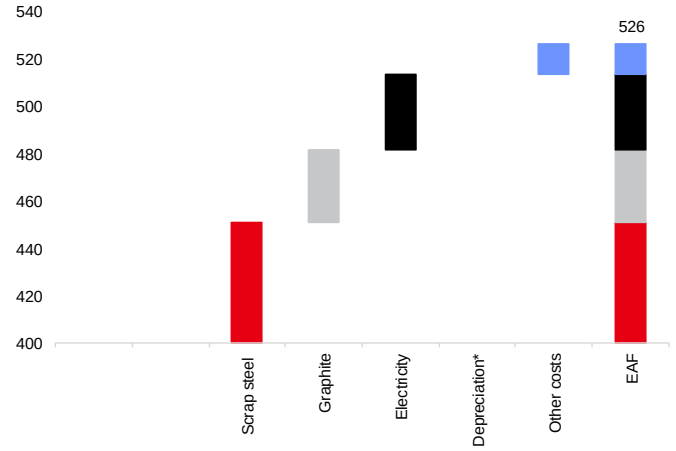
Figure 23: Production cost for BOF mill (US$/tonne, as of 16 Apr 2018), based on our estimates



Note: BOF mill = 1.65t iron ore + 0.43t coking coal + 0.15t scrap steel + 0.5kg graphite + 200kw electricity + depreciation + other costs.

SOURCES: CGS-CIMB RESEARCH, BLOOMBERG

Figure 24: Production cost for EAF mill (US$/tonne, as of 16 Apr 2018), based on our estimates



Note: EAF mill = 1.15t scrap steel + 2kg graphite + 450kw electricity + depreciation* + other costs

* Most of EAF mills in Vietnam are fully depreciated.

SOURCES: CGS-CIMB RESEARCH, BLOOMBERG

1.4 Diversification has not been much of a distraction»

Industrial business (6.0% of revenue and 5.5% of PAT in 2017): This includes construction equipment, furniture and refrigeration. The company has a demonstrated track record in new product development. HPG holds a leading market position in office furniture with a revenue growth of 25-35% and its Funiki brand of air conditioners is also well-known in the market.

Real estate (1.6% of revenue and 3.2% of PAT in 2017): This includes industrial parks, housing and urban projects. HPG has three industrial parks with a total area of 1,225ha and the company is expanding these parks to 1,594ha. Its industrial parks are located close to the Hai Phong port, the Hanoi-Hai Phong railway and the Hanoi International Airport. Its Pho Noi A and Hoa Mac industrial parks have high occupancy rates of more than 70% while its third industrial park Yen My 2, completed in 2017, has a current occupancy rate of around 20%. HPG has two active residential real estate projects in Hanoi (Mandarin Garden 2 and 70 Nguyen Duc Canh) and one active project in Hung Yen (North Pho Noi urban area). Its Mandarin Garden 2 development of four condominium blocks is near completion. We project HPG to book 80% of this project's net profit in 2018F, estimated at VND300 bn.

Agriculture (6.3% of revenue and 0.6% of PAT in 2017): HPG announced its strategy to enter the agriculture business in early 2015, with an ambition to establish a vertically-integrated agricultural production chain. In Jun 2016, its

first animal feed factory, located in Pho Noi A industrial zone, Hung Yen province, was put into operation with a capacity of 300,000 tonnes per year. One year later, the company completed its second animal feed factory in Dong Nai province, raising its animal feed capacity to 600,000 tonnes per year.

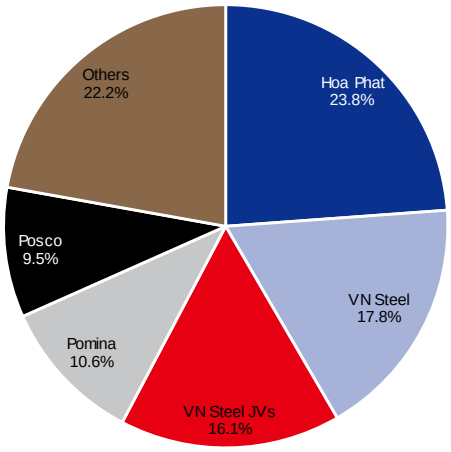
The company also aims to be able to produce 450,000 commercial pigs, 75,000 cattle and 300m eggs per year by 2022. After animal feed and breeding, the company will invest in the processing and distribution of safe and high-quality food to the market, completing a farm-to-fork chain in the agricultural segment.

HPG's core business is steel production which is a highly cyclical industry. An economic downturn could easily hit the steel sector more than other sectors. As such, we think HPG entered into the agriculture sector in order to reduce its exposure to the steel sector's cyclicality. After three years, its agriculture segment now contributes ~6% of revenue (as of 2017) and has started to generate profits. We think HPG will expand into the agriculture segment cautiously, starting with upstream production of animal feed first. As HPG has entered into a market dominated by foreign direct investment (FDI) companies with significant expertise as well as branding and scale benefits, we remain slightly concerned about this foray.

1.5 Continues to gain steel market share

HPG's cost advantages have allowed it to increase its market share, which grew from 14.7% in 2013 to 23.8% in 2017 (according to the Vietnam Steel Association), and solidify its leading position in Vietnam's construction steel market.

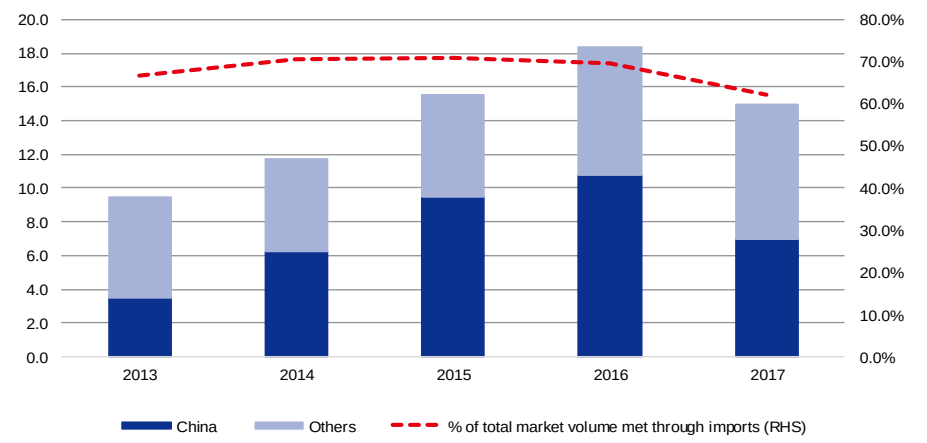
Figure 25: Top five Vietnamese construction steel producers' market share (as of 2017)



SOURCE: CGS-CIMB RESEARCH, VIETNAM STEEL ASSOCIATION

Since Mar 2016, the imposition of a 21.3% anti-dumping duty on Chinese billets imports and 15.4% anti-dumping duty on Chinese rebar imports have helped domestic steel manufacturers, including HPG, to gain market share from imported steel. In 2017, Chinese steel import volume was 6.97m tonnes (-35.4% yoy) while domestic construction steel consumption was 9.1m tonnes (+13.6% yoy).

Figure 26: Vietnam steel imports by source in 2013-17 (m tonnes)



SOURCES: CGS-CIMB RESEARCH, CUSTOMS, VIETNAM STEEL ASSOCIATION

In addition to construction steel, HPG is also the market leader in steel pipes. The company commanded a market share of 26.8% in 2017, up from 16.8% in 2013. HPG also widened its gap with its main rival in the steel pipe segment Hoa Sen Group (HSG VN, Not Rated) in 2017, as its market share lead expanded 8.6% pts from the previous year.

1.6 Sound corporate governance and good management

The Chairman and CEO of HPG have been with the company since early days when HPG was still a small trading company and had no brand name in the steel industry. In our view, HPG's board of directors (BOD) has demonstrated an ability to influence policymakers both to the benefit of the company and the domestic steel industry in general.

For example, taking advantage of the ban on iron ore exports from Vietnam enforced in 2008, HPG proposed to the government to buy domestic iron ore in order to prepare raw materials for the first phase of Hoa Phat Integrated Steel Complex. This was the first step in a strategic sourcing process, enabling the company to increase its raw material purchasing power in the domestic market. In addition, HPG succeeded in convincing the government to push through anti-dumping tariffs on Chinese steel in 2016, helping the company to fend-off competition before the completion of the third phase of its steel complex.

In 2017, HPG's BOD also took the first steps to cooperate with foreign partners including top iron ore suppliers [Vale (VALE3 BZ, Not Rated), Rio Tinto (RIO UN, Not Rated), etc.] in order to secure input for its large upcoming steel project (Dung Quat Steel Complex).

Figure 27: Key management profile (as of end-2017)

Mr Tran Dinh Long - Chairman	Mr Long graduated from National Economic University, majoring in economics, in 1986. He is a founding shareholder of the group. During the establishment of HPG, Mr Long was instrumental in developing its business unit level strategy.
Mr Tran Tuan Duong - CEO, Vice Chairman	Mr Duong obtained his bachelor's degree in economics from National Economics University and Bachelor of Journalism from Hanoi General University. He was a founding member of the group and gained deep management experience in subsidiaries such as Hoa Phat Equipment & Accessories, Hoa Phat Furniture and Hoa Phat Steel Pipe before he became the Vice Chairman of Management Board cum CEO of Hoa Phat Group since Jan 2007.
Mr Nguyen Viet Thang - Deputy CEO, BOD member	Mr Thang graduated from National University of Civil Engineering in 1992 and has worked for HPG for nearly 15 years. He had served several years in senior management positions as the Deputy Director of Hoa Phat Urban Development and Construction JSC before he was appointed as the Deputy CEO of HPG in Apr 2012. In Mar 2015, he was appointed director of Hoa Phat Feeds Trading and Production One Member Co Ltd.
Ms Nguyen Thi Thao Nguyen - Deputy CEO	Ms Nguyen completed her economics degree in Hanoi University of Finance and Accounting. She has nearly 30 years of experience working for HPG in different positions and was appointed Deputy CEO of HPG in Sep 2010.
Ms Pham Thi Kim Oanh - CFO	Ms Oanh has a master's degree in Economics and has worked at HPG since 2008. She was appointed CFO cum Chief Accountant of HPG in Apr 2016.

SOURCE: CGS-CIMB RESEARCH, HPG

FINANCIALS

2.1 HPG's industry-leading profitability underpinned by a fully integrated production chain and low construction costs ➤

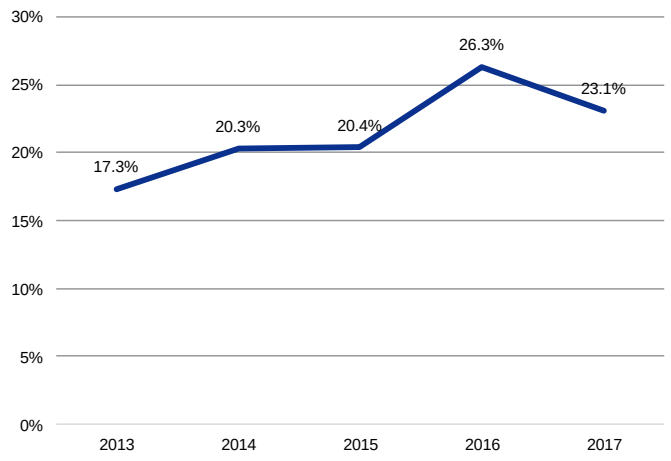
EAF steel mills are more capital efficient compared with BOF steel mills, with capex per tonne of VND2.8m vs. VND5.5m for BOF mills. We believe this implies that pay-back on the capex premium associated with BOF mills over EAF mills can be realised in less than a year assuming that the end-products from both mill types are sold at the same ASP. However, given HPG's unit operating cost advantages listed above (27% from producing steel via BOF instead of EAF, 2% from self-supplied coke and 1% from self-supplied electricity), we conservatively estimate that HPG's steel production costs are 20-25% cheaper than the cost of producing steel billet domestically with EAF technology. Moreover, HPG can produce steel billet at a cost that is about 10% cheaper than the cost of imported billet into Vietnam, thanks to anti-dumping duties (assumed to be 19.3% for the period from Mar 2018F to Mar 2019F).

In Asia, the average capacity of BOF mills is 1m-3m tonnes p.a., while HPG owns three BOF mills each with annual capacity of 0.5m-0.75m tonnes. Due to lower construction costs in Vietnam relative to the rest of the region, we believe HPG has capex efficiency advantages compared to other Asian BOF steel producers. We estimate HPG has an average capex per tonne of US$230 vs. an average of US$450 for Chinese BOF steel makers. This ultimately translates into an advantage in terms of fixed operating costs in the form of lower D&A expenses.

HPG's low production costs have helped the company sustain its gross margins. Its 10-year average gross margin is 19.2%, and this has steadily improved in the past five years. Its 5-year average gross margin is 21.3% while its 3-year average is 23.3%. The company realised a record-high gross margin of 26.3% in 2016.

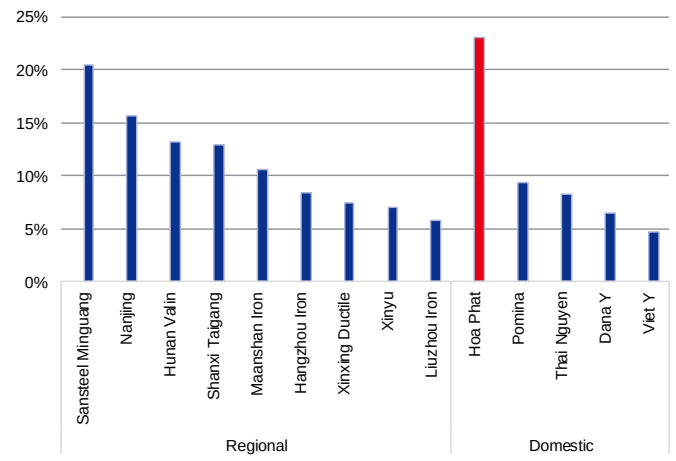
HPG has been a leader in terms of profitability both in the local and regional context for many years. In the trailing 12-month period, HPG ranked second in gross margins among Asian steel producers and its 3-year average gross margin was more than triple the regional peer average (3-year average HPG: 23.3% vs. Asia region: 6.9%).

Figure 28: HPG's gross margin (FY13-17)



SOURCE: CGS-CIMB RESEARCH, HPG

Figure 29: Gross margin comparison by steel producer (trailing 12-month)



SOURCE: CGS-CIMB RESEARCH, BLOOMBERG

2.2 Strong fixed asset growth & sound working capital management ➤

HPG saw its fixed assets grow at a CAGR of 29.4% during FY07-17, driven by aggressive investment in its steel production capacity. HPG raised its construction annual steel production capacity from 300k tonnes in FY02 to 750k

tonnes in FY09 then to 1.3m tonnes in FY13 and further to 2.0m tonnes in FY16. Its steel pipes capacity also increased from 200k tonnes p.a. in 2013 to 800k tonnes p.a. in 2017.

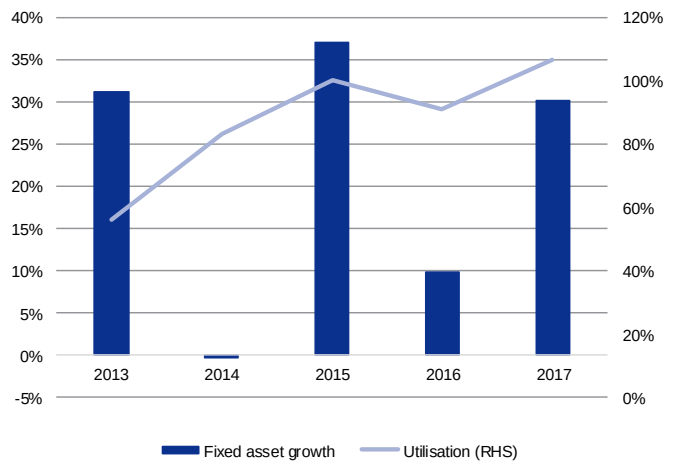
Building material companies usually have high days sales outstanding because construction companies need to buy building materials before they can collect cash which is disbursed based on construction progress. However, HPG generally has a faster cash conversion cycle than its peers, which we believe is due to its scale, market leadership, long-established distribution network and strong brand name. HPG's commercial receivable days (excluding prepayments to suppliers) is around 26.0 days (as of 2017), much lower than other domestic steel producers (~37.3 days), as a result of HPG's greater bargaining power with its customers, in our view.

Despite the volatility in raw material prices, HPG managed to keep its inventory turnover at around 3.2x, equivalent to days of inventory at hand of 3-4 months, during FY07-17. Compared with other steel producers, HPG has higher inventory turnover because of its integrated production chain which allows it more flexibility and control over raw material purchasing.

HPG has raised its days payable outstanding since 2016 because the company has gained more purchasing power in the international market by signing long-term contracts with many large iron ore producers. The company continuously hedges its raw materials using forward and option contracts, and the hedge ratio is usually at 50%. At the end of 2017, the company was cooperating with four of the largest Australia iron ore producers to ensure a stable and long-term supply source of iron ore for its steel mills.

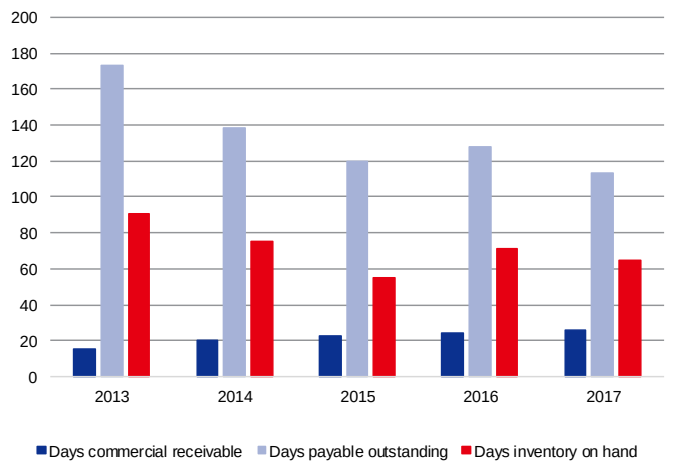
We forecast HPG's total receivable days (including prepayment to suppliers) to decrease from 35 days in 2017 to a normalised level of 26 days in FY18-19F as we expect a reduction in the prepayment to suppliers accounts during this period as construction on the new factory project tapers off.

Figure 30: HPG's fixed assets growth and average capacity utilisation based on sales volume (FY13-17)



SOURCE: CGS-CIMB RESEARCH, HPG

Figure 31: HPG's commercial receivable days, payable outstanding days, inventory on hand days (FY13-17)



SOURCE: CGS-CIMB RESEARCH, HPG

2.3 Low leverage and strong cash flow provide room for sustained and aggressive expansion

HPG's total debt-to-equity (D/E) ratio currently stands at 63.7% vs. the industry average of 162.8%. HPG's interest coverage ratio dropped to only 3x over FY11-12 due to the high interest rate environment. However, its interest coverage ratio recovered to 20x in FY17, thanks to its improved operating profits and a normalisation of the interest rate regime in Vietnam.

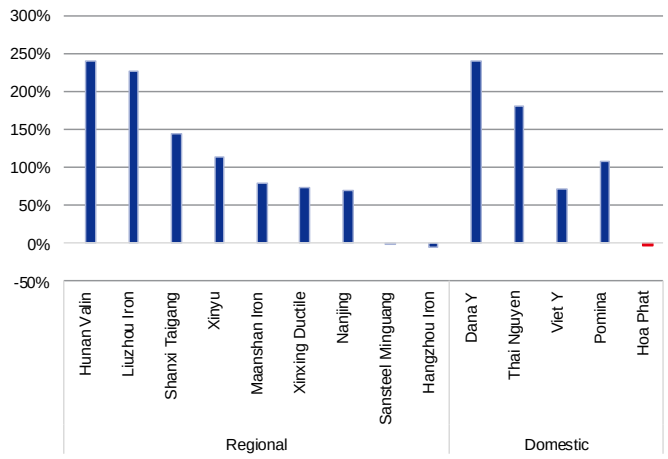
HPG is developing Dung Quat Steel Complex project in two phases with total capex of VND40tr (US$1,755.2m). The company will fund this project using a 50:50 debt-to-equity ratio. At the end of FY17, HPG's retained earnings and cash equivalents stood at VND11.0tr (US$482.7m) and VND14.2tr (US$623.1m), respectively. HPG currently generates VND6tr-7tr (US$263.3m-307.2m) a year in operating cash flow. Therefore, we think HPG's low leverage and strong cash

buffer will allow it to fund Phase 1 of the project solely through internal accruals. In Jul 2017, HPG completed a 5:1 rights issue at an issue price of VND20,000 per share. The proceeds of VND5.1tr (US$223.8m) will mostly be used to fund Phase 2 of the project.

We forecast the company's capex to surge in FY18-19F due to capacity expansion (Dung Quat Project) before regressing to normal, maintenance levels in FY20F assuming no significant changes in the company's plan.

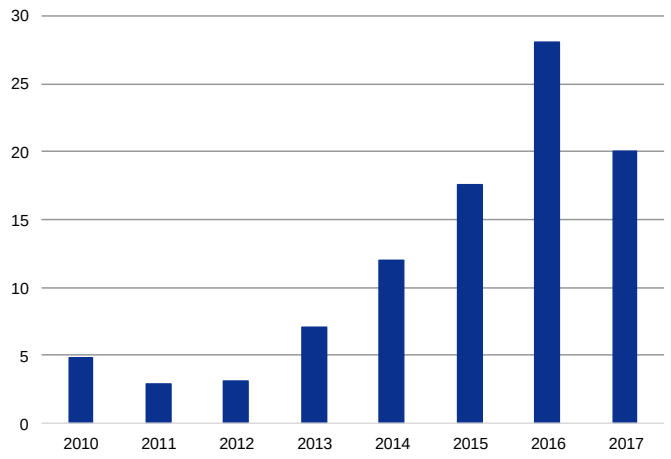
Given the heavy capex cycle, we do not expect the company to pay cash dividends in FY17-18F. Once this cycle plays out, we expect HPG to compensate its shareholders with cash dividends in FY19-20F at dividend payout ratios of 11-16%.

Figure 32: HPG's net D/E ratio vs. peers (as of 2017)



SOURCE: CGS-CIMB RESEARCH, BLOOMBERG

Figure 33: HPG's interest coverage ratio (FY10-17)



SOURCE: CGS-CIMB RESEARCH, BLOOMBERG

2.4 FY17 review – reaching new heights

In FY17, the company gained more market share in both the construction steel and steel pipe segments. Construction steel sales volume touched 2.2m tonnes (designed capacity of 2.0m tonnes p.a.), translating to 21.1% growth vs. 2016. Meanwhile, steel pipe sales volume increased to 600,000 tonnes, translating to 25.0% growth vs. 2016. The company increased its market share in the domestic market by 1.6% pts to 23.8% in the construction steel segment, and 0.8% pt to 26.8% in the steel pipes segments (according to the Vietnam Steel Association).

The strong volume growth and market share gains also translated into impressive revenue and profit growth. Revenue reached VND46,162bn (+38.7% yoy), net profit reached VND8,007bn (+21.3% yoy), exceeding its target by 33.3%. Revenue growth in the steel segment was attributable to a 25% rise in sales volume and a 15% rise in ASP. Gross margin, however, fell from 26.3% in FY16 to 23.1% in FY17 due to higher raw materials prices. Other industrial segments grew well in FY17 with revenue growth of 20.1% while there was a growth spurt in agriculture segment revenues (+107.6% yoy) due to the improved utilisation rate of its feed producing plants and sales of more imported cows. In FY18F, the company plans to realise VND55,000bn in revenue and maintain its net profit at VND8,050bn; note that last year's net profit included the impact of around VND700bn worth of raw material savings which are one-off in nature. We still think this target is quite conservative; we forecast a revenue of VND60,064bn and a net profit of VND9,416bn for FY18F. The company will pay a 40% stock dividend for FY17 because it wants to conserve cash for upcoming capex needs, according to management guidance.

OUTLOOK

3.1 Global steel industry: overcapacity to remain for the foreseeable future ➤

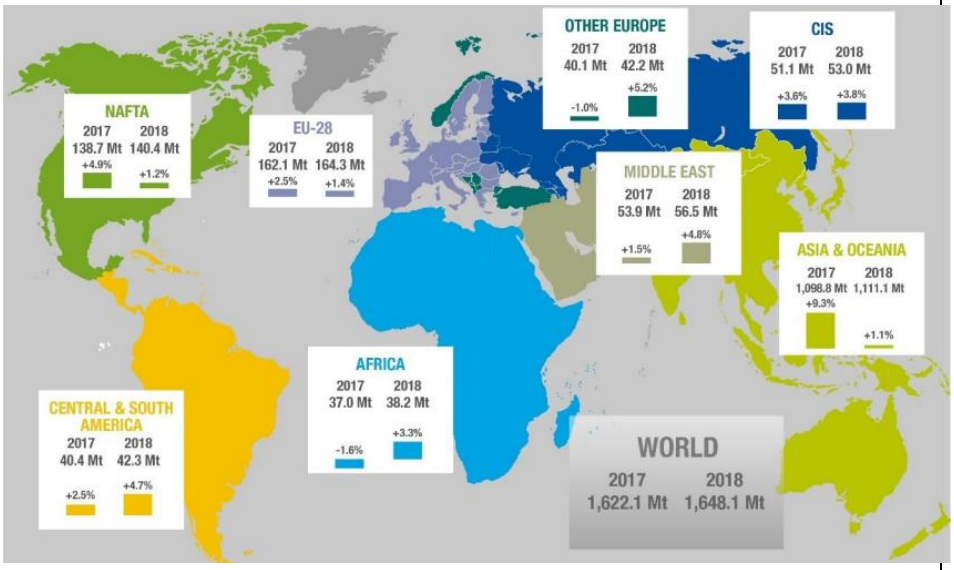
Demand to maintain decent growth momentum

The World Steel Organisation (WSA) forecasts that global steel demand will edge up by 1.6% to 1,648.1m tonnes in 2018F, as global consumption ex-China grows by 3.0%. The WSA expects China's steel demand to be flat in 2018F, while US steel demand will continue to grow but at a much slower rate (1.1% in 2018F vs. 4.0% in 2017). China's economy is shifting its growth model from a focus on fixed asset investment, which relies heavily on steel and cement usage, to private consumption, which will require less steel production. As a result, China's steel demand peaked in 2013 and most industry experts believe it is unlikely to rebound to the 2013 level in the long term.

Despite the fact that steel demand in other emerging countries is still growing, the incremental demand is still not large enough to offset the slowdown in China. That said, ASEAN remains a high-growth region, especially Vietnam and the Philippines. WSA expects ASEAN-5's steel demand growth to be 6.8% in 2018F vs. 4.8% in 2017.

In the US, we believe the Trump tax reform will boost demand for industrial metals but the effect is likely to be moderate, in our view, because: (1) China has replaced the US as the world's largest commodity consumer, (2) the US's planned tax cut policy is designed to enhance its own manufacturing industry and (3) we think the Trump administration will likely continue to tighten import restrictions.

Figure 34: World steel demand forecast for 2018F



SOURCE: CGS-CIMB RESEARCH, WORLDSTEEL.ORG

Supply surplus to decline but overcapacity will remain

Despite excess capacity in the global steel industry, there continue to be new capacity addition projects, especially in Asia ex-China and the Middle East. According to the Organisation for Economic Co-operation and Development (OECD), the world's steel-making capacity reached 2.38bn tonnes in 2016 (+1.3% yoy) and is likely to see net capacity reductions of 55.8m tonnes in 2017-19F. There are currently no notable investments in steel production capacity underway in China and a total of 150m tonnes worth of capacity is being cut.

Figure 35: Potential gross steel capacity additions worldwide in FY17-19F, based on OECD estimates (m tonnes)

	Existing nominal capacity		Potential net capacity additions in FY17-19F	
	2015	2016	Underway	Planned
Asia (excl. China)	423.4	444.0	7.8	34.0
China	1,162.3	1,164.6	(65.0)	(85.0)
CIS	147.8	150.7	4.2	7.7
Latin America	72.3	76.5	-	-
Middle East	60.3	63.1	23.1	7.3
Africa	35.0	35.3	4.0	3.4
Europe	283.3	278.3	-	2.3
NAFTA	157.2	159.2	0.6	-
Oceania	9.1	9.1	-	-
World total	**2,350.8**	**2,380.7**	**(25.3)**	**(30.5)**

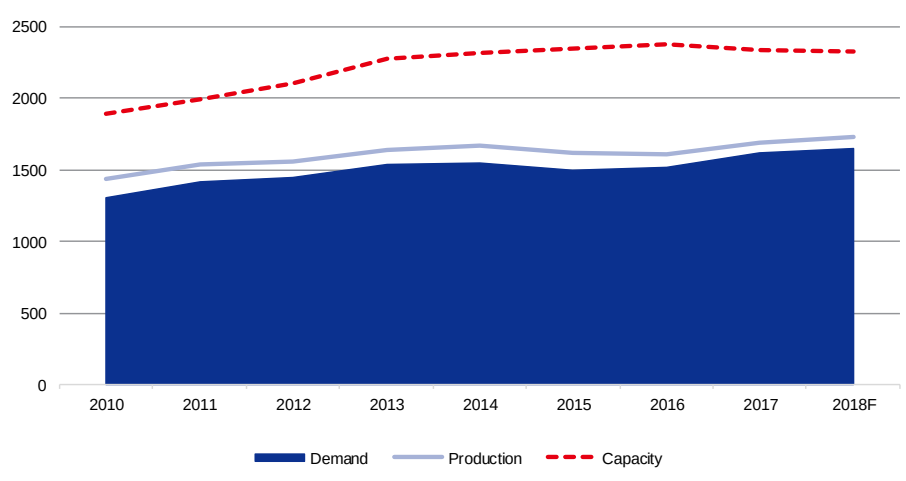
SOURCES: CGS-CIMB RESEARCH, OECD

By the end of Aug 2017, China had met its target of eliminating 50m tonnes of capacity per year, adding to a capacity reduction of 65m tonnes per year in 2016, meaning that the country has met 76.7% of its target of 150m tonnes of annual production capacity cuts by 2020. In Jan 2018, China said it aims to meet its target for reducing steel production capacity two years earlier than planned.

According to the China's National Bureau of Statistics, around 140m tonnes per year of steel capacity did not conform to state standards in 2017. Therefore, shutting down substandard steel players should be a key step in effective supply reform in China's steel sector. If the government becomes more aggressive in cutting capacity, there will be an additional crackdown on substandard steel of around 50m tonnes per year during FY18-20F, in our view.

As part of an anti-pollution campaign, China ordered 28 northern cities to cut steel output by up to half during the winter heating season from Nov 2017 to Mar 2018. In Feb 2018, China's top steelmaking city of Tangshan proposed new restrictions on production, which will continue to limit production for 244 days between Mar 2018 and Nov 2018. According to the proposal, the extended restrictions will cover 9.9m tonnes of annual steel production capacity.

Figure 36: Global steel demand/capacity (2010-18F, m tonnes)



SOURCE: CGS-CIMB RESEARCH, OECD

3.2 Steel prices should stay firm in the near term

We expect the bullish sentiment seen in the Asian steel market to persist into 2018F as China maintains winter production cuts at least until mid-Mar in the northern region, and until mid-Nov in Tangshan, one of the major steel production centres. The potential order in Tangshan could signal further restrictions in the northern region outside of the heating season, in our view, which continues to support steel prices. Because steel prices soared in 2017 on expectations that supply would tighten due to capacity cuts rather than strong

demand, we believe the steel price outlook for FY18-20F depends heavily on China's future capacity reduction plans.

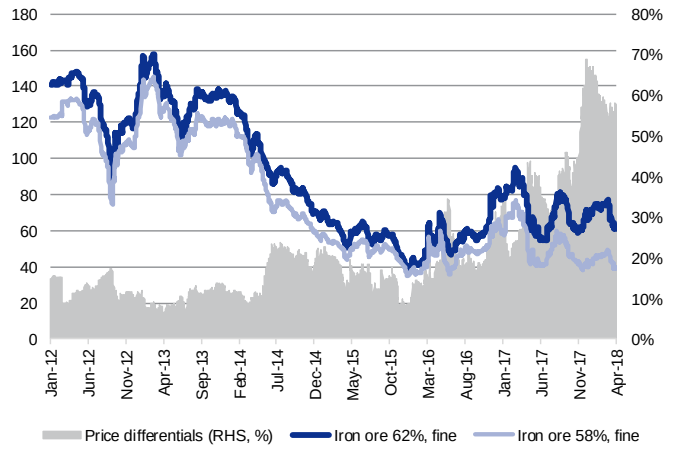
With the recent increase in trade protectionism, China's finished steel exports reached 75.4m tonnes last year, down 30.5% from 108.4m tonnes in 2016. While the supply reform is likely to continue, the Chinese government's policy will discourage the export of low-value added steel and, instead, push the industry to focus on higher-grade products and specialty steels. In an effort to improve steel exports, China, in Jan 2018 removed the export tax on steel products to make it easier for steel mills to export amid new anti-dumping rules from the EU, the US and India. However, because China's regulation of its steel industry has intensified with a shift in focus from quantity to quality, we expect non-Chinese steel producers to avoid a race to the bottom with Chinese imported steel; this should help support prices, in our view.

In the long run, the capacity cuts might actually encourage more production. In 2017, capacity cuts had only a tangential effect on production but a huge psychological effect on steel prices. China's steel production was still up 5.7% yoy to a record 831.7m tonnes despite mill closures while prices surged more than 30%. Some steelmakers reopened closed lines to take advantage of the higher prices and, therefore, the return of marginal producers could tame the recovery in steel prices.

3.3 Raw materials: environmental pressure may favour high quality iron ore and scrap use »

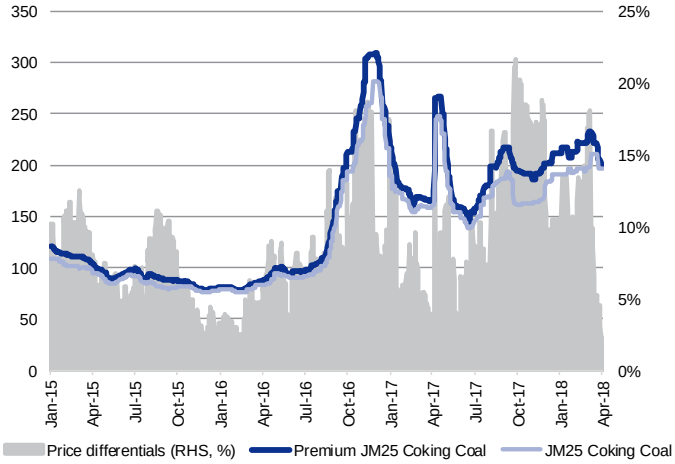
We believe China's steel sector restructuring is likely to drive more consumption of imported high-grade iron ore, as the government will encourage large integrated steel mills to produce high-grade steel products. This shift has led to a continued expansion in the price differential between the standard benchmark 62%-content iron ore and lower grades. As environmental protection remains weak in Vietnam, we think HPG could consider a mix usage of high-grade ore and low-grade ore to control costs.

Figure 37: The price differential between the 62%- vs. 58%-content iron ore (US$/tonne)



SOURCE: CIMB RESEARCH, BLOOMBERG

Figure 38: The price differential between premium and JM25 coking coal (US$/tonne)



SOURCE: CIMB RESEARCH, BLOOMBERG

In order to reduce smog and particulates in the air as part of its anti-pollution campaign, the Chinese government has targeted a 15% cut in emissions across the country and a 25% cut in Hebei, the biggest steelmaking province (by 2016). As a result, the demand for electric arc furnace (EAF) should grow significantly as it offers several advantages such as production flexibility and low CO2 emissions, in our view. However, we believe the shortage of graphite electrodes could still put a cap on EAF production. In the long-term, we think China's environmental protection measures may lead to the substitution of iron ore with scrap, curbing iron ore and coal demand. This would lower iron ore and coking coal input prices, benefitting blast furnace steel producers like HPG.

Figure 39: Our raw materials outlook for 2018F

	Supply	Demand	Price
Iron ore	Further reduction in Chinese domestic iron ore production due to the government's environmental crackdown. Growing supply from low-cost producers: Brazil plans to export 403 tonnes of iron ore (+4.2% yoy), and Australia 880 tonnes (+5.4% yoy) in 2018.	We expect China's iron ore imports to remain steady in 2018F (+0.1% yoy). Chinese iron ore port inventories will continue to rise due to the ongoing steel output cut and slower appetite from steel mills which have finished restocking. Pollution controls will result in lower demand for low-grade iron ore.	1H18F: Prices to stay strong at the US$70-80 per tonne range after the winter production restrictions are lifted. 2H18F: Iron ore prices to decline amid weak steel demand. Large discounts for low-grade ore seem likely to persist as long as China maintains an anti-pollution policy.
Coking coal	Chinese production will be constrained by the impact of ongoing mine safety inspections across Shanxi province. Short-term tight supply from Australia due to wet weather, engineering problems and port congestion.	Chinese steel mills ran down inventories heavily during 2017 and they will be keen to rebuild inventories.	Coking coal price to hold in the US$220-260 per tonne range before drifting lower at the end of 2018 F as short-term supply constraints gradually fade.
Scrap steel	Scrap supply is inelastic below a certain price (US$350-400/tonne). At a current price of US$400/tonne, the total scrap supply is relatively constant.	Steel produced by EAFs will account for a larger portion of China's steel production, boosting demand for scrap steel.	Scrap steel prices recovered in 2017 but at a slower pace than other steel raw materials. Higher demand could boost scrap prices further while supply needs time to improve.
Graphite electrode	Global capacity to shrink amid industry consolidation while China's graphite electrode capacity declines 30% due to strict environmental inspections. Tight supply of needle coke – the raw material used to produce graphite electrodes – due to rising demand for alternative usages (lithium-ion batteries).	China has also been encouraging the use of steel scrap for EAFs. As such, demand for graphite electrodes will rise.	The more than 10x surge in prices in 2017 appears excessive. Hence, prices are likely to experience adjustments in the near term. However, due to improved demand, we expect graphite electrode price to be in the range of US$8,000-12,000 per tonne.

SOURCE: CGS-CIMB RESEARCH

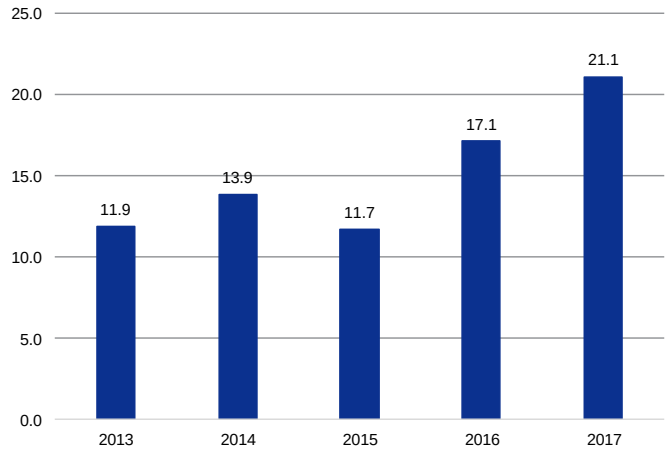
3.3 Vietnam's steel industry still in "Goldilocks" phase ➤

In 2017, Vietnam's steel industry witnessed strong performance with total consumption volume of 18.9m tonnes (+20.7% yoy). Steel pipe and galvanised steel recorded the strongest growth of 23.6% yoy and 18.8% yoy, respectively. Construction steel also grew 12.1% yoy.

For 2018F, Vietnam Steel Association (VSA) estimates steel volume growth of 20-22%. Specifically, it expects production volume growth of 10% in construction steel, 15% in steel pipe, and 12% in galvanised steel. Notably, the nation's HRC production could grow 154% yoy as Formosa plans to double its output.

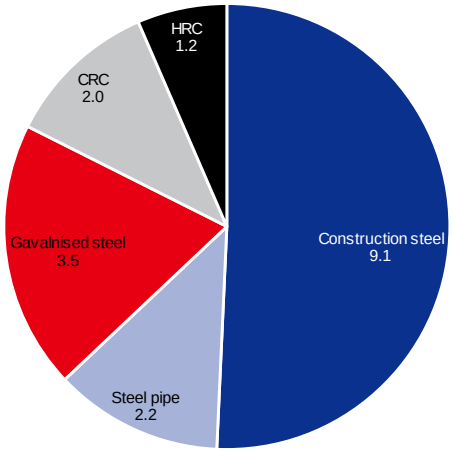
On the demand side, VSA expects construction steel consumption to maintain its growth momentum, thanks to a cooling but still-buoyant real estate market, and the recovery in infrastructure investment. It projects the construction sector growth to accelerate to 9.2% in 2018F from 8.7% in 2017. Public investment disbursement could speed up in 2018F (+28.3% yoy), in our view, as the SOEs' stake sales would help to release some pressure on the state budget. Besides, we believe strong FDI flows could support industrial production growth, increasing the usage of other steel products.

Figure 40: Domestic steel consumption in 2013-17 (m tonnes)



SOURCE: CGS-CIMB RESEARCH, VIETNAM STEEL ASSOCIATION

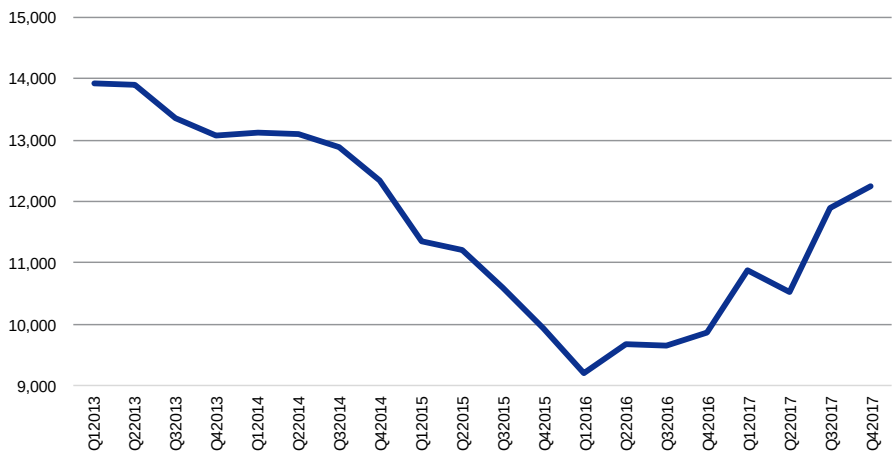
Figure 41: Domestic steel consumption by product in 2017 (m tonnes)



SOURCES: CGS-CIMB RESEARCH, VIETNAM STEEL ASSOCIATION

Limited short-term capacity expansion of construction steel and increasing demand, coupled with anti-dumping duties on imported steel are likely to be supportive of domestic construction steel prices in the near term.

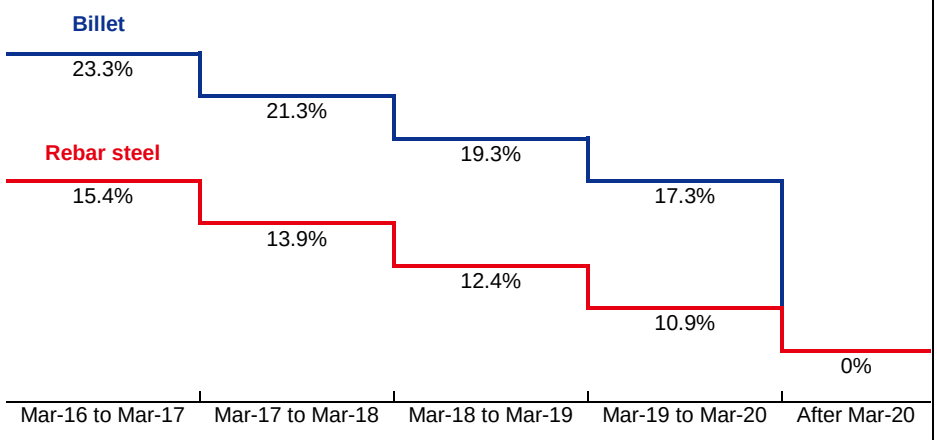
Figure 42: HPG's rebar steel prices (2013-17, VND per kg)



SOURCE: CGS-CIMB RESEARCH, VIETNAM STEEL ASSOCIATION

We also see improved relative cost advantages for BOF steel producers given: (1) a relatively stable outlook for raw materials prices, in our view; (2) main materials of EAF steel producers (scrap steel and graphite electrode) are likely to increase in the long-term, in our view; (3) the environmental protection impetus in China has increased the price premiums on high-grade ore and coal over low-grade ore and coal, but Vietnam's BOF steel producers do not have to comply with such strict environmental protection laws, allowing them to take advantage of this trend to control costs; and (4) anti-dumping duties on imported steel will last until Mar 2020.

Figure 43: The schedule of anti-dumping duties on imported Chinese steel



SOURCE: CGS-CIMB RESEARCH, GOVERNMENT OF VIETNAM

3.4 HPG to continue solidifying its leading market position

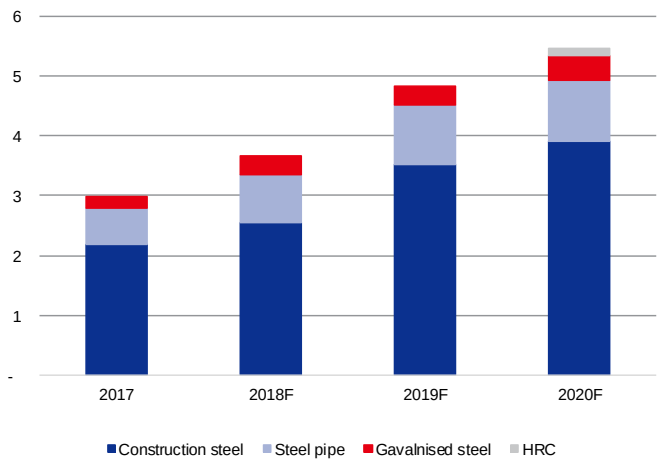
We project the company's growth will outpace the industry's, with its sales volume CAGR of 22.3% and revenue CAGR of 24.4% over FY17-20F.

The Dung Quat Project will help to ease HPG's capacity constraints by doubling its current long steel capacity from 2.0m tonnes p.a. to 4.0m tonnes p.a. In FY18F, HPG will first complete a part of Dung Quat Project, which will add 0.6m tonnes of rebar capacity. As such, we project that the company's FY18F rebar revenue could grow at around 24.5% yoy.

HPG's cost advantage should allow it to grab market share from both the inefficient competitors and imported steel, in our view, and we expect the company's market share in construction steel to increase from 24% in 2017 to 30% by 2020F.

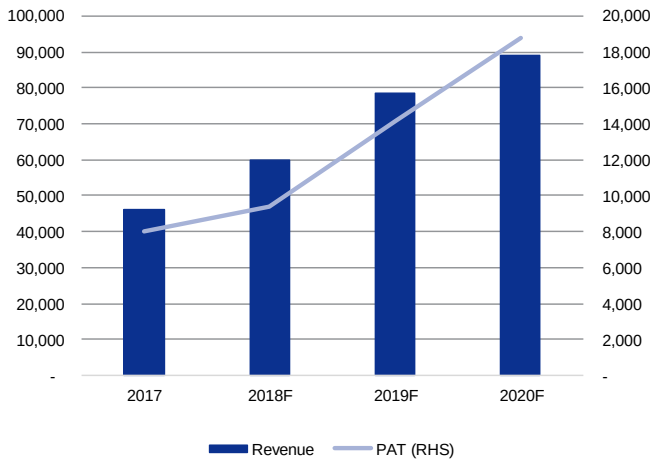
HPG is expanding into production of flat steel, in order to diversify its product portfolio. A new galvanised steel sheet line with capacity of 400,000 tonnes per year came online at the end of 2017. This capacity is equivalent to nearly 20% of that of rival HSG, the largest domestic galvanised steel sheet manufacturer. We project that the flat steel segment will account for 34.5% of HPG's revenue in FY18F. After that, the full implementation of DQP, scheduled for 2019F, should ensure continued growth and improving profitability for the company, in our view.

Figure 44: HPG's sales volume (m tonnes, FY17-20F), based on our estimates



SOURCE: CGS-CIMB RESEARCH, HPG

Figure 45: HPG's sales volume (m tonnes, FY17-20F), based on our estimates



SOURCE: CGS-CIMB RESEARCH, HPG

Thanks to its integrated production technology, long-term relationship with both suppliers and distributors, and ability to control production costs, we believe the company can still maintain favourable margins in FY18-20F. We believe HPG's foray into HRC production could help the company improve its gross margin in

FY19-20F, i.e. by using its own HRC products as an input for steel pipe and galvanised steel production. We expect the company to stabilise its gross margin at around 24.9% in FY18-20F.

In 4Q17, HPG only booked a small portion of revenue from Mandarin Garden 2, equivalent to approximately VND120bn (US$5.3m), leaving the remaining 90% of the project's revenue and profit to be booked over FY18-19F. We estimate that the profit from its real estate segment could contribute around VND300bn in net profit in FY18F.

INVESTMENT RISKS

4.1 Regulatory risks

We highlight that HPG's profitability in the period of 2016-17 was supported by the anti-dumping duties on Chinese imported steel. Protection measures on imported steel will be reduced gradually until 2020, which in turn could negatively affect HPG's profit margin.

The success of China's supply-side reform is still questionable, in our view, and could create substantial changes in global steel market fundamentals. Our base case has not built in any sharp decrease in steel prices. If HPG has to reduce its selling prices amid harsher competition from imported Chinese steel, it could hurt the company's profitability, which in turn could negatively affect our earnings forecasts.

Environmental regulations have become stricter in China, but not in Vietnam. HPG plans to spend 20-30% of its total investment in Dung Quat Steel Complex on environmental-related investments. We do not believe that an environmental disaster, like the Formosa spill disaster, is likely to occur over the investment phase (2017-19F) but, if it happens, we believe it will negatively affect the company's reputation and share price.

4.2 Risk of exposure to global raw material and steel prices

The key risks to the company are falling steel prices and rising raw material costs globally. Many analysts believe the Chinese economy will slow again in 2018F and demand for steel products will eventually decline, putting downward pressure on steel prices in the long term. Our sensitivity analysis in Figure 46 shows how HPG's earnings could vary based on different average selling price scenarios. Every 2% reduction in average selling price from our base case assumptions would lower our FY18F EPS estimate by 4-5%.

Figure 46: Sensitivity of HPG's EPS to steel price

	Forecasted average selling price (VND/kg)							
	10,214	**10,424**	**10,635**	**10,845**	**11,056**	**11,267**	**11,477**	**11,688**
2018F	4,682	4,925	5,167	5,410	5,653	5,896	6,138	6,381
2019F	7,447	7,735	8,024	8,312	8,601	8,889	9,178	9,466

SOURCES: CGS-CIMB RESEARCH

Having an integrated steel complex helps HPG to control its production costs but on the flipside, the company has to deal with the volatility of raw material prices. A rise in the price of raw materials (iron ore, coking coal) would have a sizeable impact on HPG's profit margins.

Our sensitivity analysis in Figure 47 shows how HPG's earnings could vary based on different iron ore and coking coal prices. Every 5% increase in the price of coal and iron ore from our base case assumptions would lower our FY18F EPS estimate by 2-3%.

Figure 47: Sensitivity of HPG's 2018 EPS to raw material prices

		Iron ore (US$/tonne)							
		58	**62**	**66**	**69**	**73**	**76**	**80**	**83**
Coking coal (US$/tonne)	**154**	6,451	6,318	6,185	6,052	5,919	5,786	5,653	5,520
	164	6,306	6,173	6,040	5,907	5,774	5,641	5,508	5,375
	173	6,162	6,029	5,896	5,763	5,630	5,497	5,363	5,230
	183	6,017	5,884	5,751	5,618	5,485	5,352	5,219	5,086
	192	5,872	5,739	5,606	5,473	5,340	5,207	5,074	4,941
	202	5,728	5,595	5,462	5,329	5,196	5,063	4,929	4,796
	211	5,583	5,450	5,317	5,184	5,051	4,918	4,785	4,652
	220	5,438	5,305	5,172	5,039	4,906	4,773	4,640	4,507

NOTE: Our sensitivity analysis does not factor in any captive iron ore usage as the top of the range is still below the cost of extraction from HPG's mines.

SOURCES: CGS-CIMB RESEARCH

Figure 48: Combined impact of ASP decrease and raw material price increase on HPG's FY18F EPS, based on our estimates

ASP index \ Raw material price index	100	105	110	115	120	125
100	5,896	5,618	5,340	5,063	4,785	4,507
98	5,653	5,375	5,097	4,820	4,542	4,264
96	5,410	5,132	4,855	4,577	4,299	4,022
94	5,167	4,890	4,612	4,334	4,057	3,779
93	4,925	4,647	4,369	4,091	3,814	3,536
91	4,682	4,404	4,126	3,849	3,571	3,293

NOTE: Raw material price index is composed of iron ore and coking coal
Both ASP and raw material price are indexed to 100 which is our base scenario
SOURCES: CGS-CIMB RESEARCH

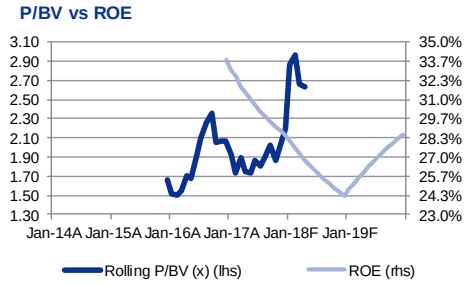
4.3 Slower growth in the real estate industry could have negative impact on the construction sector ➤

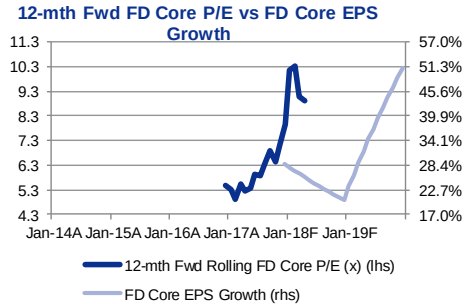
Although Vietnam's real estate market is not currently displaying signs of a property bubble, credit to the real estate sector has increased significantly through the surge in consumer credit. In 2017, consumer credit increased 59.0%, accounting for 13.0% of total credit while credit to the real estate and construction industry only increased 13.0%, accounting for 15.5% of total credit vs. 17.1% in 2016. Credit to real estate is still strong and is supporting the property market and, hence, any slowdown in credit could catalyse a property downturn which would negatively affect steel demand and HPG.

4.4 Rising interest rates ➤

Interest rate hikes could increase the debt service burden on HPG, especially after the completion of the Dung Quat Steel Complex project. Given its D/E ratio of about 63.7% (as of end-2017), fluctuations in interest rates could materially impact its bottom line.

BY THE NUMBERS





Profit & Loss

(VNDb)	Dec-16A	Dec-17A	Dec-18F	Dec-19F	Dec-20F
Total Net Revenues	**33,283**	**46,162**	**60,064**	**78,313**	**88,810**
Gross Profit	**8,751**	**10,674**	**13,184**	**19,403**	**24,786**
Operating EBITDA	**9,219**	**11,492**	**16,228**	**24,344**	**29,780**
Depreciation And Amortisation	(1,363)	(1,870)	(4,665)	(7,031)	(7,370)
Operating EBIT	**7,856**	**9,622**	**11,563**	**17,313**	**22,410**
Financial Income/(Expense)	(171)	(370)	(613)	(786)	(505)
Pretax Income/(Loss) from Assoc.	0	0	0	0	0
Non-Operating Income/(Expense)	17	36	36	36	36
Profit Before Tax (pre-EI)	**7,702**	**9,288**	**10,985**	**16,563**	**21,941**
Exceptional Items					
Pre-tax Profit	**7,702**	**9,288**	**10,985**	**16,563**	**21,941**
Taxation	(1,096)	(1,274)	(1,558)	(2,350)	(3,113)
Exceptional Income - post-tax					
Profit After Tax	**6,606**	**8,015**	**9,427**	**14,214**	**18,829**
Minority Interests	(4)	(8)	(11)	(17)	(22)
Preferred Dividends					
FX Gain/(Loss) - post tax					
Other Adjustments - post-tax					
Net Profit	**6,602**	**8,007**	**9,416**	**14,197**	**18,807**
Recurring Net Profit	5,771	7,426	8,945	13,487	17,866
Fully Diluted Recurring Net Profit	**5,771**	**7,426**	**8,945**	**13,487**	**17,866**

Cash Flow

(VNDb)	Dec-16A	Dec-17A	Dec-18F	Dec-19F	Dec-20F
EBITDA	9,219	11,492	16,228	24,344	29,780
Cash Flow from Invt. & Assoc.					
Change In Working Capital	(1,572)	(5,546)	1,091	(5,972)	(2,407)
(Incr)/Decr in Total Provisions	(126)	(5)	0	0	0
Other Non-Cash (Income)/Expense	181	24	0	0	0
Other Operating Cashflow	368	1,701	0	0	0
Net Interest (Paid)/Received	(154)	(333)	(577)	(750)	(469)
Tax Paid	(1,096)	(1,274)	(1,558)	(2,350)	(3,113)
Cashflow From Operations	**6,819**	**6,058**	**15,184**	**15,273**	**23,791**
Capex	(5,832)	(2,361)	(23,466)	(22,762)	(3,315)
Disposals Of FAs/subsidiaries	8	9	0	0	0
Acq. Of Subsidiaries/investments					
Other Investing Cashflow	2,696	(15,574)	9,000	0	0
Cash Flow From Investing	**(3,128)**	**(17,926)**	**(14,465)**	**(22,762)**	**(3,314)**
Debt Raised/(repaid)	(629)	5,840	2,621	(1,370)	(8,250)
Proceeds From Issue Of Shares	1,099	6,742	0	0	0
Shares Repurchased	(0)	(1)	(2)	0	0
Dividends Paid	0	0	0	(1,517)	(3,034)
Preferred Dividends					
Other Financing Cashflow	(2,208)	(1,687)	(169)	(471)	(461)
Cash Flow From Financing	**(1,738)**	**10,894**	**2,450**	**(3,358)**	**(11,745)**
Total Cash Generated	1,953	(973)	3,168	(10,847)	8,732
Free Cashflow To Equity	**3,062**	**(6,027)**	**3,339**	**(8,859)**	**12,227**
Free Cashflow To Firm	**3,845**	**(11,534)**	**1,295**	**(6,739)**	**20,946**

SOURCES: CGS-CIMB RESEARCH, HPG

BY THE NUMBERS… cont'd

Balance Sheet

(VNDb)	Dec-16A	Dec-17A	Dec-18F	Dec-19F	Dec-20F
Total Cash And Equivalents	5,252	14,201	8,746	8,659	15,732
Total Debtors	2,395	6,555	3,604	7,440	8,881
Inventories	10,247	11,769	15,470	19,440	21,128
Total Other Current Assets	289	552	663	994	1,193
Total Current Assets	**18,183**	**33,077**	**28,483**	**36,533**	**46,934**
Fixed Assets	13,846	18,652	41,840	48,872	47,665
Total Investments	79	17	17	17	16
Intangible Assets	257	240	234	229	224
Total Other Non-Current Assets	862	1,035	1,087	1,141	1,198
Total Non-current Assets	**15,044**	**19,945**	**43,178**	**50,259**	**49,104**
Short-term Debt	5,488	11,329	13,949	14,096	8,881
Current Portion of Long-Term Debt					
Total Creditors	6,097	6,487	8,438	10,604	11,524
Other Current Liabilities					
Total Current Liabilities	**11,585**	**17,815**	**22,388**	**24,700**	**20,405**
Total Long-term Debt	972	1,651	6,605	6,982	5,230
Hybrid Debt - Debt Component					
Total Other Non-Current Liabilities	819	1,158	1,327	1,798	2,259
Total Non-current Liabilities	**1,791**	**2,809**	**7,933**	**8,781**	**7,489**
Total Provisions	0	0	0	0	0
Total Liabilities	**13,376**	**20,624**	**30,320**	**33,481**	**27,894**
Shareholders' Equity	19,745	32,287	41,231	53,201	68,033
Minority Interests	106	111	111	111	111
Total Equity	**19,850**	**32,398**	**41,341**	**53,311**	**68,143**

Key Ratios

	Dec-16A	Dec-17A	Dec-18F	Dec-19F	Dec-20F
Revenue Growth	21.2%	38.7%	30.1%	30.4%	13.4%
Operating EBITDA Growth	66.4%	24.7%	41.2%	50.0%	22.3%
Operating EBITDA Margin	27.7%	24.9%	27.0%	31.1%	33.5%
Net Cash Per Share (VND)	(796)	805	(7,784)	(8,187)	1,069
BVPS (VND)	13,015	21,282	27,178	35,068	44,845
Gross Interest Cover	28.06	20.06	14.55	16.70	25.27
Effective Tax Rate	14.2%	13.7%	14.2%	14.2%	14.2%
Net Dividend Payout Ratio	NA	NA	NA	10.7%	16.1%
Accounts Receivables Days	22.01	35.38	30.87	25.74	33.63
Inventory Days	128.2	113.2	106.0	108.2	116.0
Accounts Payables Days	71.79	64.71	58.10	58.99	63.25
ROIC (%)	41.9%	44.1%	35.8%	31.8%	33.2%
ROCE (%)	33.6%	27.1%	21.9%	25.8%	29.1%
Return On Average Assets	23.1%	19.4%	16.1%	18.9%	21.1%

Key Drivers

	Dec-16A	Dec-17A	Dec-18F	Dec-19F	Dec-20F
ASP (% Change)	-10.9%	9.7%	7.0%	5.0%	0.0%
Unit Sales Growth (%)	51.1%	21.1%	22.8%	31.6%	13.2%
Utilisation Rate (%)	91.0%	106.4%	95.9%	60.9%	84.8%

SOURCES: CGS-CIMB RESEARCH, HPG

DISCLAIMER

The content of this report (including the views and opinions expressed therein, and the information comprised therein) has been prepared by and belongs to VNDIRECT Securities Corporation, and is distributed by CGS-CIMB or CIMB Investment Bank Berhad ("CIMB"), as the case may be, pursuant to an arrangement between VNDIRECT Securities Corporation and CGS-CIMB. VNDIRECT Securities Corporation is not an affiliate of CGS-CIMB or CIMB.

This report is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation.

By accepting this report, the recipient hereof represents and warrants that he is entitled to receive such report in accordance with the restrictions set forth below and agrees to be bound by the limitations contained herein (including the "Restrictions on Distributions" set out below). Any failure to comply with these limitations may constitute a violation of law. This publication is being supplied to you strictly on the basis that it will remain confidential. No part of this report may be (i) copied, photocopied, duplicated, stored or reproduced in any form by any means or (ii) redistributed or passed on, directly or indirectly, to any other person in whole or in part, for any purpose without the prior written consent of CGS-CIMB or CIMB, as the case may be.

The information contained in this research report is prepared from data believed to be correct and reliable at the time of issue of this report.

VNDIRECT Securities Corporation may or may not issue regular reports on the subject matter of this report at any frequency and may cease to do so or change the periodicity of reports at any time. None of VNDIRECT Securities Corporation, CGS-CIMB or CIMB is under any obligation to update this report in the event of a material change to the information contained in this report. None of VNDIRECT Securities Corporation, CGS-CIMB or CIMB has any and will accept any, obligation to (i) check or ensure that the contents of this report remain current, reliable or relevant, (ii) ensure that the content of this report constitutes all the information a prospective investor may require, (iii) ensure the adequacy, accuracy, completeness, reliability or fairness of any views, opinions and information, and accordingly, VNDIRECT Securities Corporation, CGS-CIMB and CIMB and their respective affiliates and related persons including China Galaxy International Financial Holdings Limited ("CGIFHL") and CIMB Group Sdn. Bhd. ("CIMBG") and their respective related corporations (and their respective directors, associates, connected persons and/or employees) shall not be liable in any manner whatsoever for any consequences (including but not limited to any direct, indirect or consequential losses, loss of profits and damages) of any reliance thereon or usage thereof. In particular, VNDIRECT Securities Corporation, CGS-CIMB and CIMB disclaim all responsibility and liability for the views and opinions set out in this report.

Unless otherwise specified, this report is based upon reasonable sources. Such sources will, unless otherwise specified, for market data, be market data and prices available from the main stock exchange or market where the relevant security is listed, or, where appropriate, any other market. Information on the accounts and business of company(ies) will generally be based on published statements of the company(ies), information disseminated by regulatory information services, other publicly available information and information resulting from our research. Whilst every effort is made to ensure that statements of facts made in this report are accurate, all estimates, projections, forecasts, expressions of opinion and other subjective judgments contained in this report are based on assumptions considered to be reasonable as of the date of the document in which they are contained and must not be construed as a representation that the matters referred to therein will occur. Past performance is not a reliable indicator of future performance. The value of investments may go down as well as up and those investing may, depending on the investments in question, lose more than the initial investment. No report shall constitute an offer or an invitation by or on behalf of CGS-CIMB, CIMB, or VNDIRECT Securities Corporation, or their respective affiliates (including CGIFHL, CIMBG and their respective related corporations) to any person to buy or sell any investments.

CGS-CIMB, CIMB and/or VNDIRECT Securities Corporation and/or their respective affiliates and related corporations (including CGIFHL, CIMBG and their respective related corporations), their respective directors, associates, connected parties and/or employees may own or have positions in securities of the company(ies) covered in this research report or any securities related thereto and may from time to time add to or dispose of, or may be materially interested in, any such securities. Further, CGS-CIMB, CIMB and/or VNDIRECT Securities Corporation, and/or their respective affiliates and their respective related corporations (including CGIFHL, CIMBG and their respective related corporations) do and seek to do business with the company(ies) covered in this research report and may from time to time act as market maker or have assumed an underwriting commitment in securities of such company(ies), may sell them to or buy them from customers on a principal basis and may also perform or seek to perform significant investment banking, advisory, underwriting or placement services for or relating to such company(ies) as well as solicit such investment, advisory or other services from any entity mentioned in this report.

CGS-CIMB, CIMB and/or VNDIRECT Securities Corporation and/or their respective affiliates (including CGIFHL, CIMBG and their respective related corporations) may enter into an agreement with the company(ies) covered in this report relating to the production of research reports. CGS-CIMB, CIMB and/or VNDIRECT Securities Corporation may disclose the contents of this report to the company(ies) covered by it and may have amended the contents of this report following such disclosure.

The analyst responsible for the production of this report hereby certifies that the views expressed herein accurately and exclusively reflect his or her personal views and opinions about any and all of the issuers or securities analysed in this report and were prepared independently and autonomously. No part of the compensation of the analyst(s) was, is, or will be directly or indirectly related to the inclusion of specific recommendations(s) or view(s) in this report. The analyst(s) who prepared this research report is prohibited from receiving any compensation, incentive or bonus based on specific investment banking transactions or for providing a specific recommendation for, or view of, a particular company. Information barriers and other arrangements may be established where necessary to prevent conflicts of interests arising. However, the analyst(s) may receive compensation that is based on his/their coverage of company(ies) in the performance of his/their duties or the performance of his/their recommendations and the research personnel involved in the preparation of this report may also participate in the solicitation of the businesses as described above. In reviewing this research report, an investor should be aware that any or all of the foregoing, among other things, may give rise to real or potential conflicts of interest. Additional information is, subject to the duties of confidentiality, available on request.

The term "VNDIRECT Securities Corporation" shall, unless the context otherwise requires, mean VNDIRECT Securities Corporation and its

affiliates, subsidiaries and related companies. The term "CGS-CIMB" shall denote, where appropriate, the relevant entity distributing or disseminating the report in the particular jurisdiction referenced below, or, in every other case except as otherwise stated herein, CIMB Securities International Pte. Ltd. and its affiliates, subsidiaries and related corporations.

CGS-CIMB

Country	CGS-CIMB Entity	Regulated by
Hong Kong	CGS-CIMB Securities Limited	Securities and Futures Commission Hong Kong
India	CGS-CIMB Securities (India) Private Limited	Securities and Exchange Board of India (SEBI)
Indonesia	PT CGS-CIMB Sekuritas Indonesia	Financial Services Authority of Indonesia
Singapore	CGS-CIMB Research Pte. Ltd.	Monetary Authority of Singapore
South Korea	CGS-CIMB Securities Limited, Korea Branch	Financial Services Commission and Financial Supervisory Service
Thailand	CGS-CIMB Securities (Thailand) Co. Ltd.	Securities and Exchange Commission Thailand

CIMB

Country	CIMB Entity	Regulated by
Malaysia	CIMB Investment Bank Berhad	Securities Commission Malaysia

(i) As of April 16, 2018 VNDIRECT Securities Corporation has a proprietary position in the securities (which may include but not limited to shares, warrants, call warrants and/or any other derivatives) in the following company or companies covered or recommended in this report:
(a) -
(ii) As of April 16, 2018, the analyst(s) who prepared this report, and the associate(s), has / have an interest in the securities (which may include but not limited to shares, warrants, call warrants and/or any other derivatives) in the following company or companies covered or recommended in this report:
(a) -

This report does not purport to contain all the information that a prospective investor may require. CGS-CIMB, and VNDIRECT Securities Corporation and their respective affiliates (including CGIFHL, CIMBG and their related corporations) do not make any guarantee, representation or warranty, express or implied, as to the adequacy, accuracy, completeness, reliability or fairness of any such information and opinion contained in this report. None of CGS-CIMB, CIMB and VNDIRECT Securities Corporation and their respective affiliates nor their related persons (including CGIFHL, CIMBG and their related corporations) shall be liable in any manner whatsoever for any consequences (including but not limited to any direct, indirect or consequential losses, loss of profits and damages) of any reliance thereon or usage thereof.

This report is general in nature and has been prepared for information purposes only. It is intended for circulation amongst CGS-CIMB's, CIMB's and their respective affiliates' (including CGIFHL's, CIMBG's and their respective related corporations') clients generally and does not have regard to the specific investment objectives, financial situation and the particular needs of any specific person who may receive this report. The information and opinions in this report are not and should not be construed or considered as an offer, recommendation or solicitation to buy or sell the subject securities, related investments or other financial instruments or any derivative instrument, or any rights pertaining thereto.

Investors are advised to make their own independent evaluation of the information contained in this research report, consider their own individual investment objectives, financial situation and particular needs and consult their own professional and financial advisers as to the legal, business, financial, tax and other aspects before participating in any transaction in respect of the securities of company(ies) covered in this research report. The securities of such company(ies) may not be eligible for sale in all jurisdictions or to all categories of investors.

Australia: Despite anything in this report to the contrary, this research is provided in Australia by CIMB Securities (Singapore) Pte. Ltd. and CIMB Securities Limited. This research is only available in Australia to persons who are "wholesale clients" (within the meaning of the Corporations Act 2001 (Cth) and is supplied solely for the use of such wholesale clients and shall not be distributed or passed on to any other person. You represent and warrant that if you are in Australia, you are a "wholesale client". This research is of a general nature only and has been prepared without taking into account the objectives, financial situation or needs of the individual recipient. CIMB Securities (Singapore) Pte. Ltd. and CIMB Securities Limited do not hold, and are not required to hold an Australian financial services license. CIMB Securities (Singapore) Pte. Ltd. and CIMB Securities Limited rely on "passporting" exemptions for entities appropriately licensed by the Monetary Authority of Singapore (under ASIC Class Order 03/1102) and the Securities and Futures Commission in Hong Kong (under ASIC Class Order 03/1103).

Canada: This research report has not been prepared in accordance with the disclosure requirements of Dealer Member Rule 3400 – Research Restrictions and Disclosure Requirements of the Investment Industry Regulatory Organization of Canada. For any research report distributed by CIBC, further disclosures related to CIBC conflicts of interest can be found at https://researchcentral.cibcwm.com.

China: For the purpose of this report, the People's Republic of China ("PRC") does not include the Hong Kong Special Administrative Region, the Macau Special Administrative Region or Taiwan. The distributor of this report has not been approved or licensed by the China Securities Regulatory Commission or any other relevant regulatory authority or governmental agency in the PRC. This report contains only marketing information. The distribution of this report is not an offer to buy or sell to any person within or outside PRC or a solicitation to any person within or outside of PRC to buy or sell any instruments described herein. This report is being issued outside the PRC to a limited number of institutional investors and may not be provided to any person other than the original recipient and may not be reproduced or used for any other purpose.

France: Only qualified investors within the meaning of French law shall have access to this report. This report shall not be considered as an

offer to subscribe to, or used in connection with, any offer for subscription or sale or marketing or direct or indirect distribution of financial instruments and it is not intended as a solicitation for the purchase of any financial instrument.

Germany: This report is only directed at persons who are professional investors as defined in sec 31a(2) of the German Securities Trading Act (WpHG). This publication constitutes research of a non-binding nature on the market situation and the investment instruments cited here at the time of the publication of the information.

The current prices/yields in this issue are based upon closing prices from Bloomberg as of the day preceding publication. Please note that neither the German Federal Financial Supervisory Agency (BaFin), nor any other supervisory authority exercises any control over the content of this report.

Hong Kong: This report is issued and distributed in Hong Kong by CIMB Securities Limited ("CHK") which is licensed in Hong Kong by the Securities and Futures Commission for Type 1 (dealing in securities), Type 4 (advising on securities) and Type 6 (advising on corporate finance) activities. Any investors wishing to purchase or otherwise deal in the securities covered in this report should contact the Head of Sales at CIMB Securities Limited. The views and opinions in this research report are of VNDIRECT Securities Corporation as of the date hereof and are subject to change. If the Financial Services and Markets Act of the United Kingdom or the rules of the Financial Conduct Authority apply to a recipient, our obligations owed to such recipient therein are unaffected. CHK has no obligation to update its opinion or the information in this research report.

This publication is strictly confidential and is for private circulation only to clients of CHK.

CHK does not make a market on other securities mentioned in the report.

India: This report is issued and distributed in India by CIMB Securities (India) Private Limited ("CIMB India") which is registered with the National Stock Exchange of India Limited and BSE Limited as a trading and clearing member under the Securities and Exchange Board of India (Stock Brokers and Sub-Brokers) Regulations, 1992. In accordance with the provisions of Regulation 4(g) of the Securities and Exchange Board of India (Investment Advisers) Regulations, 2013, CIMB India is not required to seek registration with the Securities and Exchange Board of India ("SEBI") as an Investment Adviser. CIMB India is registered with SEBI as a Research Analyst pursuant to the SEBI (Research Analysts) Regulations, 2014 ("Regulations").

This report does not take into account the particular investment objectives, financial situations, or needs of the recipients. It is not intended for and does not deal with prohibitions on investment due to law/jurisdiction issues etc. which may exist for certain persons/entities. Recipients should rely on their own investigations and take their own professional advice before investment.

The report is not a "prospectus" as defined under Indian Law, including the Companies Act, 2013, and is not, and shall not be, approved by, or filed or registered with, any Indian regulator, including any Registrar of Companies in India, SEBI, any Indian stock exchange, or the Reserve Bank of India. No offer, or invitation to offer, or solicitation of subscription with respect to any such securities listed or proposed to be listed in India is being made, or intended to be made, to the public, or to any member or section of the public in India, through or pursuant to this report.

The research analysts, strategists or economists principally responsible for the preparation of this research report are segregated from the other activities of CIMB India and they have received compensation based upon various factors, including quality, accuracy and value of research, firm profitability or revenues, client feedback and competitive factors. Research analysts', strategists' or economists' compensation is not linked to investment banking or capital markets transactions performed or proposed to be performed by CIMB India or its affiliates.

CGS-CIMB India has not received any investment banking related compensation from the companies mentioned in the report in the past 12 months.

CGS-CIMB India has not received any compensation from the companies mentioned in the report in the past 12 months.

Indonesia: This report is issued and distributed by PT CIMB Sekuritas Indonesia ("CIMBI"). The views and opinions in this research report are our own as of the date hereof and are subject to change. CIMBI has no obligation to update its opinion or the information in this research report. Neither this report nor any copy hereof may be distributed in Indonesia or to any Indonesian citizens wherever they are domiciled or to Indonesian residents except in compliance with applicable Indonesian capital market laws and regulations.

This research report is not an offer of securities in Indonesia. The securities referred to in this research report have not been registered with the Financial Services Authority (Otoritas Jasa Keuangan) pursuant to relevant capital market laws and regulations, and may not be offered or sold within the territory of the Republic of Indonesia or to Indonesian citizens through a public offering or in circumstances which constitute an offer within the meaning of the Indonesian capital market law and regulations.

Ireland: CGS-CIMB is not an investment firm authorised in the Republic of Ireland and no part of this document should be construed as CGS-CIMB acting as, or otherwise claiming or representing to be, an investment firm authorised in the Republic of Ireland.

Malaysia: This report is distributed by CIMB solely for the benefit of and for the exclusive use of our clients. CIMB has no obligation to update, revise or reaffirm its opinion or the information in this research reports after the date of this report.

New Zealand: In New Zealand, this report is for distribution only to persons who are wholesale clients pursuant to section 5C of the Financial Advisers Act 2008.

Singapore: This report is issued and distributed by CIMB Research Pte Ltd ("CIMBR"). CIMBR is a financial adviser licensed under the Financial Advisers Act, Cap 110 ("FAA") for advising on investment products, by issuing or promulgating research analyses or research reports, whether in electronic, print or other form. Accordingly CIMBR is a subject to the applicable rules under the FAA unless it is able to avail itself to any prescribed exemptions.

Recipients of this report are to contact CIMB Research Pte Ltd, 50 Raffles Place, #16-02 Singapore Land Tower, Singapore in respect of any matters arising from, or in connection with this report. CIMBR has no obligation to update its opinion or the information in this research report. This publication is strictly confidential and is for private circulation only. If you have not been sent this report by CIMBR directly, you may not rely, use or disclose to anyone else this report or its contents.

If the recipient of this research report is not an accredited investor, expert investor or institutional investor, CIMBR accepts legal responsibility for the contents of the report without any disclaimer limiting or otherwise curtailing such legal responsibility. If the recipient is an

accredited investor, expert investor or institutional investor, the recipient is deemed to acknowledge that CIMBR is exempt from certain requirements under the FAA and its attendant regulations, and as such, is exempt from complying with the following :

(a) Section 25 of the FAA (obligation to disclose product information);

(b) Section 27 (duty not to make recommendation with respect to any investment product without having a reasonable basis where you may be reasonably expected to rely on the recommendation) of the FAA;

(c) MAS Notice on Information to Clients and Product Information Disclosure [Notice No. FAA-N03];

(d) MAS Notice on Recommendation on Investment Products [Notice No. FAA-N16];

(e) Section 36 (obligation on disclosure of interest in securities), and

(f) any other laws, regulations, notices, directive, guidelines, circulars and practice notes which are relates to the above, to the extent permitted by applicable laws, as may be amended from time to time, and any other laws, regulations, notices, directive, guidelines, circulars, and practice notes as we may notify you from time to time. In addition, the recipient who is an accredited investor, expert investor or institutional investor acknowledges that a CIMBR is exempt from Section 27 of the FAA, the recipient will also not be able to file a civil claim against CIMBR for any loss or damage arising from the recipient's reliance on any recommendation made by CIMBR which would otherwise be a right that is available to the recipient under Section 27 of the FAA, the recipient will also not be able to file a civil claim against CIMBR for any loss or damage arising from the recipient's reliance on any recommendation made by CIMBR which would otherwise be a right that is available to the recipient under Section 27 of the FAA.

CIMBR, its affiliates and related corporations, their directors, associates, connected parties and/or employees may own or have positions in securities of the company(ies) covered in this research report or any securities related thereto and may from time to time add to or dispose of, or may be materially interested in, any such securities. Further, CIMBR, its affiliates and its related corporations do and seek to do business with the company(ies) covered in this research report and may from time to time act as market maker or have assumed an underwriting commitment in securities of such company(ies), may sell them to or buy them from customers on a principal basis and may also perform or seek to perform significant investment banking, advisory, underwriting or placement services for or relating to such company(ies) as well as solicit such investment, advisory or other services from any entity mentioned in this report.

As of April 16, 2018,, CIMBR does not have a proprietary position in the recommended securities in this report.

CIMBR does not make a market on the securities mentioned in the report.

South Korea: This report is issued and distributed in South Korea by CIMB Securities Limited, Korea Branch ("CIMB Korea") which is licensed as a cash equity broker, and regulated by the Financial Services Commission and Financial Supervisory Service of Korea. In South Korea, this report is for distribution only to professional investors under Article 9(5) of the Financial Investment Services and Capital Market Act of Korea ("FSCMA").

Spain: This document is a research report and it is addressed to institutional investors only. The research report is of a general nature and not personalised and does not constitute investment advice so, as the case may be, the recipient must seek proper advice before adopting any investment decision. This document does not constitute a public offering of securities.

CGS-CIMB is not registered with the Spanish Comision Nacional del Mercado de Valores to provide investment services.

Sweden: This report contains only marketing information and has not been approved by the Swedish Financial Supervisory Authority. The distribution of this report is not an offer to sell to any person in Sweden or a solicitation to any person in Sweden to buy any instruments described herein and may not be forwarded to the public in Sweden.

Switzerland: This report has not been prepared in accordance with the recognized self-regulatory minimal standards for research reports of banks issued by the Swiss Bankers' Association (Directives on the Independence of Financial Research).

Thailand: This report is issued and distributed by CIMB Securities (Thailand) Co. Ltd. ("CIMBT") based upon sources believed to be reliable (but their accuracy, completeness or correctness is not guaranteed). The statements or expressions of opinion herein were arrived at after due and careful consideration for use as information for investment. Such opinions are subject to change without notice and CIMBT has no obligation to update its opinion or the information in this research report.

CIMBT may act or acts as Market Maker, and issuer and offerer of Derivative Warrants and Structured Note which may have the following securities as its underlying securities. Investors should carefully read and study the details of the derivative warrants in the prospectus before making investment decisions.

AAV, ADVANC, AMATA, ANAN, AOT, AP, BA, BANPU, BBL, BCH, BCP, BCPG, BDMS, BEAUTY, BEC, BEM, BJC, BH, BIG, BLA, BLAND, BPP, BTS, CBG, CENTEL, CHG, CK, CKP, COM7, CPALL, CPF, CPN, DELTA, DTAC, EA, EGCO, EPG, GFPT, GLOBAL, GLOW, GPSC, GUNKUL, HMPRO, INTUCH, IRPC, ITD, IVL, KBANK, KCE, KKP, KTB, KTC, LH, LHBANK, LPN, MAJOR, MALEE, MEGA, MINT, MONO, MTLS, PLANB, PSH, PTL, PTG, PTT, PTTEP, PTTGC, QH, RATCH, ROBINS, S, SAWAD, SCB, SCC, SCCC, SIRI, SPALI, SPRC, STEC, STPI, SUPER, TASCO, TCAP, THAI, THANI, THCOM, TISCO, TKN, TMB, TOP, TPIPL, TRUE, TTA, TU, TVO, UNIQ, VGI, WHA, WORK.

Corporate Governance Report:

The disclosure of the survey result of the Thai Institute of Directors Association ("IOD") regarding corporate governance is made pursuant to the policy of the Office of the Securities and Exchange Commission. The survey of the IOD is based on the information of a company listed on the Stock Exchange of Thailand and the Market for Alternative Investment disclosed to the public and able to be accessed by a general public investor. The result, therefore, is from the perspective of a third party. It is not an evaluation of operation and is not based on inside information.

The survey result is as of the date appearing in the Corporate Governance Report of Thai Listed Companies. As a result, the survey result may be changed after that date. CIMBT does not confirm nor certify the accuracy of such survey result.

Score Range:	90 - 100	80 – 89	70 - 79	Below 70 or	No Survey Result
Description:	Excellent	Very Good	Good	N/A	

United Arab Emirates: The distributor of this report has not been approved or licensed by the UAE Central Bank or any other relevant

licensing authorities or governmental agencies in the United Arab Emirates. This report is strictly private and confidential and has not been reviewed by, deposited or registered with UAE Central Bank or any other licensing authority or governmental agencies in the United Arab Emirates. This report is being issued outside the United Arab Emirates to a limited number of institutional investors and must not be provided to any person other than the original recipient and may not be reproduced or used for any other purpose. Further, the information contained in this report is not intended to lead to the sale of investments under any subscription agreement or the conclusion of any other contract of whatsoever nature within the territory of the United Arab Emirates.

United Kingdom and European Economic Area (EEA): In the United Kingdom and European Economic Area, this material is also being distributed by CIMB Securities (UK) Limited ("CIMB UK"). CIMB UK is authorized and regulated by the Financial Conduct Authority and its registered office is at 27 Knightsbridge, London, SW1X7YB. The material distributed by CIMB UK has been prepared in accordance with CGS-CIMB's policies for managing conflicts of interest arising as a result of publication and distribution of this material. This material is for distribution only to, and is solely directed at, selected persons on the basis that those persons: (a) are eligible counterparties and professional clients of CIMB UK; (b) have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the "Order"), (c) fall within Article 49(2)(a) to (d) ("high net worth companies, unincorporated associations etc") of the Order; (d) are outside the United Kingdom subject to relevant regulation in each jurisdiction, material(all such persons together being referred to as "relevant persons"). This material is directed only at relevant persons and must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this material relates is available only to relevant persons and will be engaged in only with relevant persons.

Where this material is labelled as non-independent, it does not provide an impartial or objective assessment of the subject matter and does not constitute independent "research" (cannot remove research from here under the applicable rules of the Financial Conduct Authority in the UK. Consequently, any such non-independent material will not have been prepared in accordance with legal requirements designed to promote the independence of research (cannot remove research from here) and will not subject to any prohibition on dealing ahead of the dissemination of research. Any such non-independent material must be considered as a marketing communication.

United States: This research report is distributed in the United States of America by CIMB Securities (USA) Inc, a U.S. registered broker-dealer and a related company of CIMB Research Pte Ltd, PT CIMB Sekuritas Indonesia, CIMB Securities (Thailand) Co. Ltd, CIMB Securities Limited, CIMB Securities (India) Private Limited, and is distributed solely to persons who qualify as "U.S. Institutional Investors" as defined in Rule 15a-6 under the Securities and Exchange Act of 1934. This communication is only for Institutional Investors whose ordinary business activities involve investing in shares, bonds, and associated securities and/or derivative securities and who have professional experience in such investments. Any person who is not a U.S. Institutional Investor or Major Institutional Investor must not rely on this communication. The delivery of this research report to any person in the United States of America is not a recommendation to effect any transactions in the securities discussed herein, or an endorsement of any opinion expressed herein. CIMB Securities (USA) Inc, is a FINRA/SIPC member and takes responsibility for the content of this report. For further information or to place an order in any of the above-mentioned securities please contact a registered representative of CIMB Securities (USA) Inc.

CIMB Securities (USA) Inc. does not make a market on other securities mentioned in the report.

CIMB Securities (USA) Inc. has not managed or co-managed a public offering of any of the securities mentioned in the past 12 months.

CIMB Securities (USA) Inc. has not received compensation for investment banking services from any of the company mentioned in the past 12 months.

CIMB Securities (USA) Inc. neither expects to receive nor intends to seek compensation for investment banking services from any of the company mentioned within the next 3 months.

Other jurisdictions: In any other jurisdictions, except if otherwise restricted by laws or regulations, this report is only for distribution to professional, institutional or sophisticated investors as defined in the laws and regulations of such jurisdictions.

RECOMMENDATION FRAMEWORK

Stock Ratings	Definition:
Add	The stock's total return is expected to reach 15% or higher over the next 12 months.
Hold	The stock's total return is expected to be between negative 10% and positive 15% over the next 12 months.
Reduce	The stock's total return is expected to fall below negative 10% over the next 12 months.

The total expected return of a stock is defined as the sum of the:(i) percentage difference between the target price and the current price and (ii) the forward net dividend yields of the stock. Stock price targets have an investment horizon of 12 months.

Sector Ratings	Definition:
Overweight	An Overweight rating means stocks in the sector have, on a market cap-weighted basis, a positive absolute recommendation.
Neutral	A Neutral rating means stocks in the sector have, on a market cap-weighted basis, a neutral absolute recommendation.
Underweight	An Underweight rating means stocks in the sector have, on a market cap-weighted basis, a negative absolute recommendation.

Country Ratings	Definition:
Overweight	An Overweight rating means investors should be positioned with an above-market weight in this country relative to benchmark.
Neutral	A Neutral rating means investors should be positioned with a neutral weight in this country relative to benchmark.
Underweight	An Underweight rating means investors should be positioned with a below-market weight in this country relative to benchmark.

Anirban Lahiri – Head of Research
Email: anirban.lahiri@vndirect.com.vn
My TRAN Ha – Senior Analyst
Email: my.tranha@vndirect.com.vn

VNDIRECT Securities Corporation
1 Nguyen Thuong Hien Str – Hai Ba Trung Dist – Ha Noi
Tel: +84 2439724568
Email: research@vndirect.com.vn
Website: https://vndirect.com.vn