

HOA PHAT GROUP JSC (HPG)

DESPITE HUGE CHALLENGES STILL AHEAD, THE WORST IS OVER

We recommend a **BUY** for HPG stock with one-year target price of VND25,060 per share (an upside of 21.1% compared to March 28, 2023) based on the following factors: (1) Steel industry hit a bottom in 4Q 2022 and 1Q 2023, and is predicted to recover from 2Q 2023 thanks to global steel prices rise in early 2023 and recovering domestic and export demand; (2) We expect HPG restart all 4 blast furnaces in May 2023; (3) Profit margin is likely to improve as the company is desired to reverse the provision already set aside in 2022.

HPG's EBITDA margin remains at the same level to previous crises.

Input and output prices in the past year have experienced unusual and unpredictable changes, but HPG's EBITDA margin in 2022 remained the highest among other domestic enterprises, standing at 14%, definitively showing the company's ability to withstand market shocks and its no-doubt leading position in negotiating prices. In previous economic crises, HPG's EBITDA margin also hovered around 14% (2008: 14.2%, 2012: 13.9%, 2022: 14%). We forecast HPG's EBITDA slightly jump up to 14.2% this year.

Valuation: We use the discounted cash flow method and comparison method (P/B, P/E methods) to determine the value of HPG stock. Based on the one-year target price of VND25,060 per share, the upside is 21.1% compared to the closing price on March 28th, 2023.

| | 2020 | 2021 | 2022 | 2023E | 2024E |
|---------------------|---------|---------|---------|---------|---------|
| Revenue | 90,119 | 149,680 | 141,409 | 138,681 | 159,275 |
| Gross profit | 18,904 | 41,108 | 16,763 | 23,109 | 31,559 |
| Net profit | 13,506 | 34,521 | 8,444 | 12,892 | 19,575 |
| EBITDA | 22,324 | 45,659 | 19,801 | 19,638 | 27,470 |
| Total assets | 131,511 | 178,236 | 170,336 | 217,707 | 261,390 |
| Total equity | 59,220 | 90,780 | 96,113 | 106,241 | 122,903 |

| Key ratios | 2020 | 2021 | 2022 | 2023E | 2024E |
|----------------------|--------|--------|--------|--------|--------|
| EBITDA margin | 24.8% | 30.5% | 14.0% | 14.2% | 17.7% |
| Gross margin | 20.98% | 27.46% | 11.85% | 16.66% | 19.81% |
| ROA | 11.58% | 22.29% | 4.88% | 6.64% | 8.17% |
| ROE | 25.24% | 46.03% | 9.04% | 12.74% | 17.09% |

Sources: HPG, PSI

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INDUSTRY: STEEL

DATED 29th March 2023

RECOMMENDATIONS

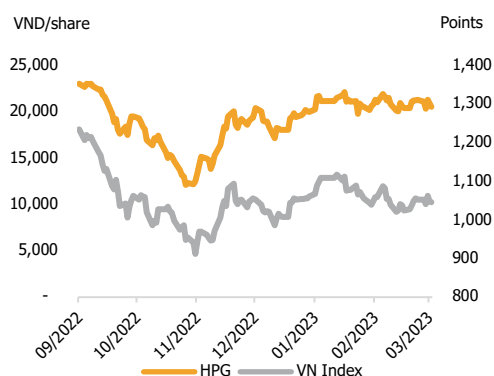
| | |
|--|------------|
| One-year recommendations | BUY |
| One-year target price (VND) | 25,060 |
| Closing price on 28th March 2023 (VND) | 20,700 |
| Upside (1 year) | 21.1% |

Stock data (28th March 2023)

| | |
|--------------------------------|-----------------|
| Total issued shares | 5,814,785,700 |
| Outstanding shares | 5,814,785,700 |
| Market cap (VND billion) | 120,366 |
| Price range in last 1 year | 12,100 – 36,350 |
| Avg. trading volume (3 months) | 23,730,175 |
| Avg. trading volume (1 month) | 20,023,955 |
| Price changed in last 1 week | 1.22% |
| Price changed in last 1 month | 3.5% |

(Source: PSI's summary)

Stock performance (Latest 6 months)



(Source: cafef.vn)

KEY SHAREHOLDERS

| | |
|----------------|-------|
| Tran Dinh Long | 26.1% |
| Vu Thi Hien | 7.3% |

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INVESTMENT VIEWPOINTS

KEY CATALYSTS

Steel prices are predicted to increase from 1Q/2023. Steel prices hit bottom in October before moving sideways until the end of December. The steel industry has been bottoming out and has a chance to recover thanks to recent updates such as *China loosening its Zero-COVID measures, the event of commencing 12 projects as part of the North-South Highway Phase 2 project.* In addition, *the global steel market is showing signs of recovery* in many regions such as the US, Europe, especially after the earthquake in Turkey, when the country announced a need for 4 million tons of steel for reconstruction and economic recovery.

Steel production is expected to recover. HPG stopped operations at 4 blast furnaces in 4Q/2022, *but those have not completely been shut down and just maintained at a low temperature*, so the time to restart production would not be too long. At the end of December 2022, one blast furnace was restored to production, and we believe that steel production will begin to recover from 2Q/2023 when the blast furnaces resume operations in May, which is a positive signal that the steel market is on a sustainable recovery trend.

Outlook for better business performance in 2023. We expect HPG's EBITDA margin to improve in 2023 due to the following reasons:

- + Steel prices are expected to rise again after bottoming out in 4Q/2022;
- + Prices of steel and some input materials such as iron ore, coke, and scrap steel have been increasing, allowing HPG to reverse the provisions set aside in 2022 (over VND 1 trillion);
- + Production would be quite modest in the first quarter of 2023, but we believe in an improvement from the second quarter as the four blast furnaces at Hai Duong and Dung Quat have plans to resume operation;
- + EBITDA margin is maintained at 14-30% per year, despite in the circumstances of crises of the steel industry, showing HPG's resilience is quite sharp. We expect the EBITDA margin to reach 14.2% in 2023.

RISKS

Weakening domestic demand has not been over yet. Steel consumption in the first 2 months of 2023 decreased by 29.6% YoY. Steel demand depends heavily on the performance of real estate industry as well as the progress of infrastructure construction projects. Both of which are not expected to improve significantly in 2023.

Fluctuations in input material prices. Materials such as iron ore, coke, scrap steel, and outputs such as HRC are all heavily dependent on supply and demand in the global market. Currently, the Roper Valley iron ore mine is still unable to be exploited due to the risk of erosion, so HPG only self-manage only a portion of the input cost by utilizing the iron ore mined from the Sang Than iron ore mine (Ha Giang). High inflation may also affect steel production costs.

Steel exports may decline due to weak global demand. The global market still lacks sufficient momentum to recover in the near future, leading to

the possibility of a decline in steel export volume.

VALUATION

Methodologies

We have chosen two valuation methods: the discounted cash flow (DCF) method and the comparable method.

- For the discounted cash flow method, we have chosen the FCFE and FCFF methods to evaluate the impact of debt and fixed asset investments on the business efficiency.
- For the comparative method, we have chosen the PB and PE methods to determine the value of HPG's stock based on a comparison with the PB and PE ratios of large steel-producing and trading companies around the world.

Some of the key assumptions in the valuation model are as follows:

- (1) The valuation period starts from 2022 and lasts for 5 years from 2022 to 2026.
- (2) The cost of equity (K_e) is 19.63% (risk-free interest rate of 4.2%, risk premium of 11.13%, and Beta of 1.38). We calculate the Beta coefficient based on HPG's most recent year of tradings using the following formula:

$$\text{Beta} = \text{Covar}(R_i, R_m) / \text{Var}(R_m)$$

Where:

R_i : the rate of return of the stock.

R_m : the rate of return of the market (in this case, the VN-Index).

$\text{Var}(R_m)$: the variance of the market's rate of return.

$\text{Covar}(R_i, R_m)$: the covariance of the stock's rate of return and the market's rate of return.

- (3) The cost of debt is 5.36% and the after-tax cost of debt is 4.72%.

Earnings model:

- (1) **The growth rate of HPG's construction steel output is expected to slow down in 2023 and 2024.** The demand for construction is still minor, caused by the housing market is still sluggish, and has not been supported by legal factors. It is forecasted that the consumption of construction steel in 2023 will increase by 4.9% compared to 2022 (10.11% growth in 2022) and reach a growth rate of 5% in 2024.
- (2) **Steel prices would be expected to be 6% higher than the second half of 2022.** The selling price of construction steel set by HPG dropped to the bottom and moved sideways in 4Q/2022, before bouncing back in 1Q/2023. With a leading position, HPG has many advantages in pricing its products on the market. We forecast that HPG's steel prices this year will be 6% higher than the average selling price in the last 6 months of 2022.

(3) **Fluctuations in input material prices can affect profit margins.**

The prospect of iron ore and coking coal prices is greatly influenced by developments in the international market. Coal prices have risen sharply since the beginning of the year in Australia due to supply chain issues and wet weather, while iron ore prices have also increased significantly since the beginning of the year as the market started to absorb the positive information. This upward trend is not expected to be sustainable due to the unstable market conditions. However, HPG will benefit from the reversal of provisions for the reduced prices of raw materials (approximately VND1,000 billion in 2022).

(4) **The interest expense may sharply increase in the next 2-3 years** when the company begins to implement phase 2 of the Hoa Phat Dung Quat Steel Project with a loan amount of VND35,000 billion.

Valuation result (FCFF method):

| Unit: VND billion | 2022 | 2023E | 2024E | 2025E | 2026E |
|-----------------------------------|----------------|---------------|---------------|---------------|---------------|
| Net profit | 8,444 | 12,892 | 19,575 | 37,929 | 31,453 |
| (+) Depreciation | 6,759 | 7,367 | 7,368 | 7,367 | 7,367 |
| (-) Capital expenditure | 8,373 | 8,588 | 11,902 | 24,686 | 16,236 |
| (-) Change in net working capital | 7,209 | (9,764) | (6,907) | (7,687) | (8,611) |
| FCFF | 2,464 | 25,818 | 26,857 | 33,710 | 36,871 |
| (+) Discounted terminal value | 118,241 | | | | |
| Total firm value | 210,300 | | | | |
| Debt | 74,223 | | | | |
| Cash & cash equivalents | 8,325 | | | | |
| Number of outstanding shares | 5,814,785,700 | | | | |
| Stock price (VND) | 24,834 | | | | |
| Discount rate | | | | | |
| Beta | 1.38 | | | | |
| Risk-free rate | 4.2% | | | | |
| Equity risk premium | 11.13% | | | | |
| Cost of equity | 19.63% | | | | |

Valuation result (FCFE method):

| Unit: VND billion | 2022 | 2023E | 2024E | 2025E | 2026E |
|--------------------------------|----------------|---------------|---------------|---------------|---------------|
| FCFF | 2,464 | 25,818 | 26,857 | 33,710 | 36,871 |
| (-) Interest expense * (1 - t) | 2,714 | 4,386 | 4,848 | 5,329 | 5,646 |
| (+) Net borrowing | 479 | 13,707 | 12,908 | 8,064 | 5,657 |
| FCFE | 229 | 35,139 | 34,917 | 36,446 | 36,882 |
| (+) Discounted terminal value | 118,275 | | | | |
| Total firm value | 224,531 | | | | |
| Debt | 74,223 | | | | |
| Cash & cash equivalents | 8,325 | | | | |
| Number of outstanding shares | 5,814,785,700 | | | | |
| Stock price (VND) | 27,281 | | | | |

Valuation result (P/B method):

| Companies | Revenue T12M (VND billion) | P/B |
|---|-------------------------------|-------------|
| Vale Indonesia | 27,633 | 1.81 |
| Nanjing Iron & Steel Co Ltd | 243,143 | 0.94 |
| Changjiang & Jinggong Steel Building Group Co Ltd | 55,563 | 1.08 |
| Tiangong International Co Ltd | 20,554 | 1.08 |
| Fangda Special Steel Technology Co Ltd | 83,840 | 1.73 |
| Hainan Mining Co Ltd | 16,618 | 2.42 |
| Average | 74,559 | 1.67 |

| | |
|---|---------------------------|
| Total Equity (2022 ending value in VND) | 96,112,939,615,783 |
| Minority interest (VND) | 148,427,638,716 |
| <i>Book value (VND)</i> | <i>96,007,377,469,468</i> |
| Number of outstanding shares | 5,814,785,700 |
| <i>BVPS</i> | <i>16,511</i> |
| Average P/B | 1.29 |
| Stock price (VND) | 27,848 |

Valuation result (P/E method):

| Companies | Revenue T12M (VND billion) | P/E |
|---|-------------------------------|--------------|
| Vale Indonesia | 27,633 | 21.05 |
| Nanjing Iron & Steel Co Ltd | 243,143 | 8.71 |
| Changjiang & Jinggong Steel Building Group Co Ltd | 55,563 | 10.49 |
| Tiangong International Co Ltd | 20,554 | 11.93 |
| Fangda Special Steel Technology Co Ltd | 83,840 | 13.00 |
| Hainan Mining Co Ltd | 16,618 | 19.78 |
| Average | 74,559 | 14.16 |

| | |
|---|---------------------------|
| Total Equity (2022 ending value in VND) | 96,112,939,615,783 |
| Minority interest (VND) | 148,427,638,716 |
| <i>Book value (VND)</i> | <i>96,007,377,469,468</i> |
| Number of outstanding shares | 5,814,785,700 |
| <i>BVPS</i> | <i>16,511</i> |
| Average P/B | 14.16 |
| Stock price (VND) | 23,353 |

VALUATION RESULT

The stock valuation result for HPG is at **VND25,060/share** based on these valuation methods: FCFF, FCFE, PB and PE comparison.

| Methodologies | Weights | Price (VND) | Target price (VND) |
|---------------|---------|-------------|--------------------|
|---------------|---------|-------------|--------------------|

| | | | | | |
|---------------|-----|---|--------|---|-----------------|
| FCFE | 25% | X | 27,281 | → | } 25,060 |
| FCFF | 25% | X | 24,834 | | |
| P/E | 25% | X | 23,353 | | |
| P/B | 25% | X | 27,766 | → | |
| Upside | | | | | 21.1% |

SENSITIVITY ANALYSIS

The cost of capital and interest expenses are major factors that significantly affect HPG's financial performance, which will strongly impact the stock valuation of HPG. Therefore, we have selected these two variables as the main ones to assess the sensitivity of HPG stock.

(1) Weighted average cost of capital

| WACC | Adjusted price | Price sensitivity |
|---------------|----------------|-------------------|
| 14.13% | 24,530 | -2.1% |
| 13.63% | 24,792 | -1.1% |
| 13.13% | 25,060 | 0.0% |
| 12.63% | 25,333 | 1.1% |
| 12.13% | 25,611 | 2.2% |

(2) Cost of debt

| Kd | Adjusted price | Price sensitivity |
|--------------|----------------|-------------------|
| 6.36% | 24,852 | -0.8% |
| 5.86% | 24,955 | -0.4% |
| 5.36% | 25,060 | 0.0% |
| 4.86% | 25,162 | 0.4% |
| 4.36% | 25,267 | 0.8% |

(3) Price changed with changes in cost of equity and constant growth rate

| Ke | 18.63% | 19.13% | 19.63% | 20.13% | 20.63% |
|--------------|--------|--------|---------------|--------|--------|
| g | | | | | |
| 0.00% | 25,594 | 25,162 | 24,751 | 24,360 | 23,987 |
| 0.25% | 25,765 | 25,323 | 24,904 | 24,504 | 24,124 |
| 0.50% | 25,940 | 25,489 | 25,060 | 24,652 | 24,263 |
| 0.75% | 26,121 | 25,659 | 25,220 | 24,803 | 24,406 |
| 1.00% | 26,307 | 25,834 | 25,385 | 24,958 | 24,553 |

COMPETITIVE ANALYSIS

VIETNAM STEEL INDUSTRY

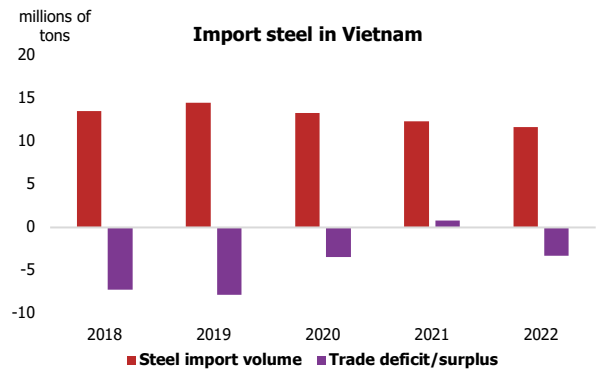
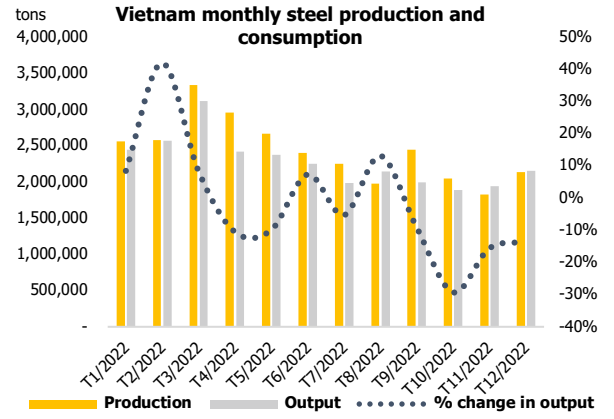
The domestic steel industry has not been tough. In 2022, the total value of steel imported into our country was \$11.92 billion, with a trade deficit of \$3.93 billion. The steel industry is the cause of the weakened trade balance. Except for the surge in export production in 2021, the Vietnamese steel industry has been in a state of trade deficit for many years, indicating that the competitiveness of the Vietnamese steel industry is still not severe. Besides some new large-capacity construction plants such as Hoa Phat Dung Quat steel plant, Hung Nghiep Formosa steel plant, Nghi Son steel, the remaining steel billet production plants mainly have small capacity and outdated equipment.

The steel industry entered a period of decline. The industry witnessed tough challenges when consumption was low, input prices fluctuated sharply, interest rates and exchange rates inflated, thus the business situation of many steel enterprises hit the bottom. Many real estate businesses faced great obstacles in capital flows and legal factors when implementing new projects, which greatly affected the steel industry's output. At the end of 2022, the production and consumption of the entire steel industry decreased by 11.9% and 7.2% compared to 2021, respectively.

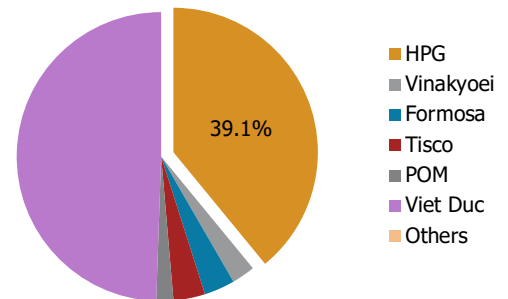
Recovering consumption becomes the main growth driver. Steel prices dropped to a bottom and moved sideways in the fourth quarter before rebounding in the first quarter of 2023. This comes from positive updates in the international market, such as China reopening its economy, the earthquake in Turkey improving the demand for construction steel and HRC worldwide. However, the sustainable recovery of the steel industry also depends on domestic steel production and consumption. In the scenario of improved production in the upcoming quarters in 2023, the steel industry can be considered to have successfully bottomed out.

Prospect of slight recovery with prolonged challenges. We expect the steel industry to recover from the end of the third quarter and the beginning of the fourth quarter based on the following scenarios:

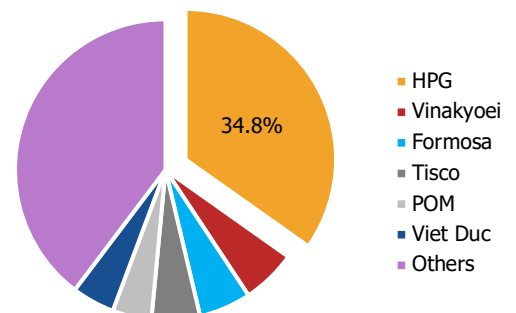
- The draft amendment of the Land Law is passed in the second quarter of 2023, and the real estate market may recover slightly by the end of the year.
- The construction of component projects of the North-South Expressway Phase 2 project is synchronously implemented from this year.
- The prices of building steel and HRC bottomed out in the fourth quarter of 2022 and risen in the first quarter of 2023, expecting to create a higher price level than in 2022.



2022 crude steel market share



2022 construction steel market share



- Interest rates and exchange rates are controlled and flexibly managed, helping enterprises minimize loan interest costs and exchange rate losses.

However, Vietnam's steel industry may take time to progress due to weak domestic demand. The advance of real estate sector, which is a major consumer of steel products, is still stuck with legal issues and limited funding sources. In addition, key public investment projects are mostly in trouble due to incomplete land clearance and selection of suitable contractors.

HPG HAS NO DOUBT LEADING POSITION IN THE DOMESTIC MARKET

HPG has a leading position in the market, holding the largest market share for construction steel products and steel pipes in Vietnam. The company is also one of only two producers of HRC steel on the market. HPG also provides various other steel products such as steel billets, steel pipes, and color-coated steel coils.

HPG owns a complete and closed steel production process. Its steel complexes all have the most modern and complete facilities for steel production, including:

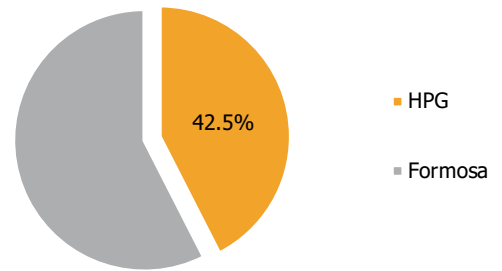
- Iron ore processing and lime production plants,
- Sintering and iron ore pelletizing plants,
- Iron and steel making plants,
- Steel rolling mills,
- Power plants.

Furthermore, HPG's thermal power plant in Hoa Phat Hai Duong helps save hundreds of billions of VND in electricity costs for HPG by reusing excess heat generated during the process of making coke for power generation to serve other business activities.

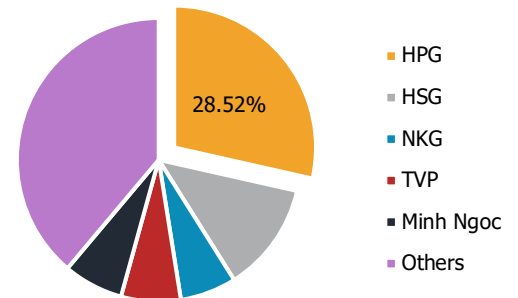
Opportunities to gain market share. HPG has many advantages in terms of price and sales capabilities due to its position as a leading enterprise. Its closed steel production process, including abundant raw material inputs, helps HPG minimize the risk of fluctuations in material prices compared to other companies. HPG can also attract the capital inflows at lower costs than other competitors. Thanks to its strong financial health, HPG can take advantage of this to capture more market share in the steel products market.

In fact, in the last 6 months of 2022, when the steel industry hit the bottom of the cycle, HPG's market share of crude steel production increased from 38.5% to 39.1%. HPG still maintains its number one position in this segment. The market share of HRC consumption also increased from 39.6% to 42.5%, and it is on the track to narrow the gap with Formosa Ha Tinh. It is expected that this ratio will be significantly improved after the completion of Phase 2 - Hoa Phat Dung Quat project.

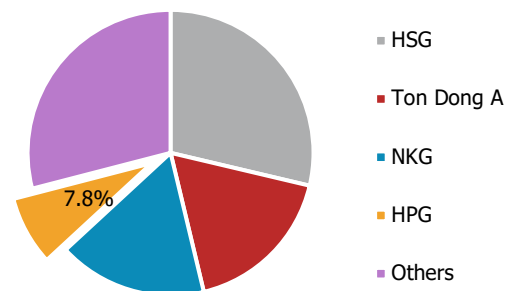
2022 HRC market share



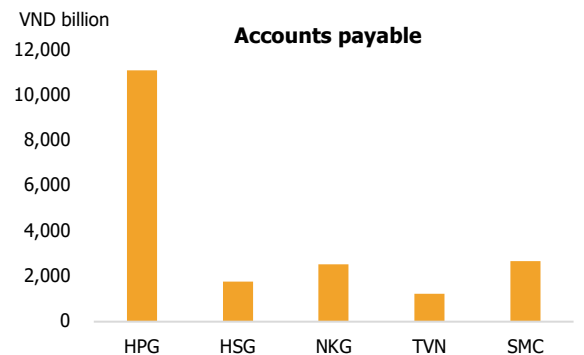
2022 Steel pipe market share



2022 Color-coated steel coils market share



Source: VSA



Sources: Companies' FS

As a leading enterprise, HPG has high bargaining power to suppliers. With its leading position, HPG has the right to adjust steel prices to gain advantages over smaller companies. Moreover, HPG can negotiate with suppliers of iron ore and coke inputs for steel production. HPG's outstanding payable balance to sellers also surpasses its receivable balance, allowing it to negotiate favorable payment terms with suppliers.

Comparison on key performances of main players in Vietnam steel industry

| | HPG | NKG | HSG |
|--|------------|----------|----------|
| Number of outstanding shares (million) | 5,815 | 263 | 598 |
| Market cap (VND billion) | 120,947.54 | 3,988.66 | 8,970.82 |
| EPS (VND) | 1,459 | -253 | -1,784 |
| Book value (VND billion) | 96,007 | 5,378 | 10,154 |
| EBIT | 13,007 | 216 | -803 |
| P/E | 8.83 | 11.8 | 9.63 |
| P/B | 1.77 | 1.6 | 0.87 |
| Cash ratio | 0.13 | 0.12 | 0.11 |
| Current ratio | 1.29 | 1.29 | 1.56 |
| Long-term debt to total assets | 0.07 | 0.00 | 0 |
| Total debt to total assets | 0.34 | 0.38 | 0.17 |
| Receivables to total assets | 0.06 | 0.11 | 0.10 |
| Gross margin | 11.85% | 6.68% | 7.31% |
| Operating margin | 6.93% | -0.20% | -2.72% |
| Profit before tax margin | 7.02% | -0.20% | -2.55% |
| Net profit margin | 5.97% | -0.29% | -2.62% |
| ROE | 9.04% | -1.20% | -9.95% |
| ROA | 4.85% | -0.46% | -5.49% |
| 10-day avg. trading volume | 1,178,821 | 937,759 | 108,283 |

Sources: Companies' FS, PSI's summary

ANALYSIS ON BUSINESS OPERATIONS

IRON ORE AND COKING COAL PRICES FLUCTUATED, FIRMS WENT TROUBLE

The price of iron ore mainly revolves around developments in China. In a growing Chinese economy, infrastructure development stimulates the demand for iron ore as it is a crucial raw material for steel production.

The iron ore market peaked and then sharply reversed. The price of iron ore reached \$160/ton in March 2022 due to measures by the Chinese government to restrict steel production to reduce significant emissions from blast furnaces, in preparation for the 2022 Winter Olympics. However, since April 2022, the price of this material has plummeted mainly because China began implementing Zero-COVID policies, which was the key reason to disrupt the economy, including real estate sector, thus seriously affecting steel consumption.

Australian coking coal also experienced significant fluctuations in 2022. In the first three months of the year, the supply of coking coal was severely affected by the La Nina phenomenon in the country. In addition, the outbreak of the Russia-Ukraine conflict in late February 2022, along with Western countries' sanctions against Russia, pushed up the demand and price of coking coal.

The decline in the coking coal market began in the second quarter of 2022 due to several main reasons:

- India, the world's second-largest steel producer, imposed export tariffs on Australian coking coal.
- Steel demand in Europe weakened due to inflationary pressures, supply chain disruptions, and large inventories resulting from hoarding in the previous period.
- The economic downturn in China has had a negative impact on the real estate industry.

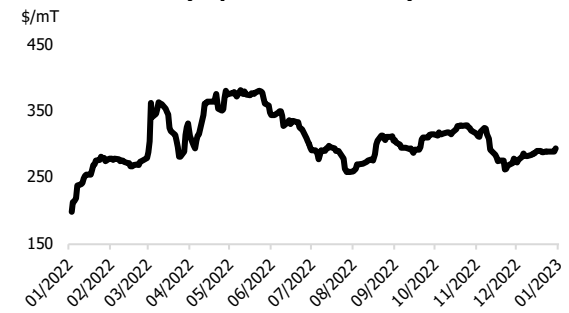
EXPECTATIONS FOR IRON ORE AND COKING COAL PRICES IN 2023: RECOVERY IN DIFFICULTIES

Iron ore: Expectations for a recovery in the Chinese market. The price of iron ore has risen slightly by 10% since the end of the fourth quarter of 2022 due to the easing of Zero-COVID policies, which has pushed up steel demand. In general, manufacturing activities in China are gradually recovering, and the Chinese government is also striving to stimulate growth in the construction sector through supporting packages and new credit policies for investors. However, the recovery in steel consumption is still unclear, so we expect iron ore prices to improve compared to 3Q-4Q

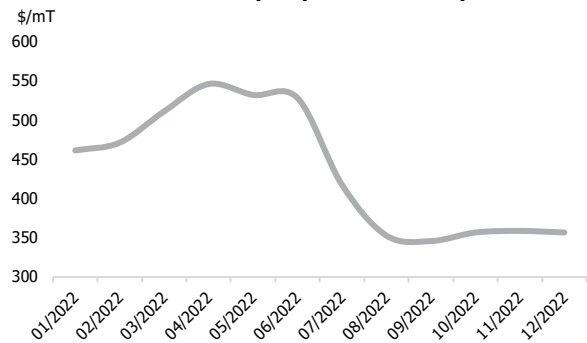
Iron ore 62% Fe futures traded in Australia (Expired in Feb 2023)



Australian coking coal futures traded in Singapore Exchange (Expired in Feb 2023)

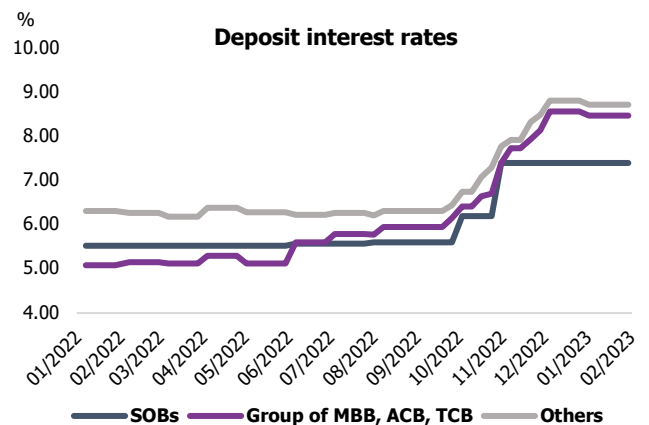


Prices of scrap imported from Japan



Sources: Bloomberg

Deposit interest rates



Source: PSI's summary

2022, but not to reach high levels.

The coking coal market may have a more optimistic outlook in 2023 due to favorable weather conditions and many coal mines resuming operations, with some even planning to expand production. However, demand remains unstable in countries such as India, China, and the EU due to uncontrolled inflationary pressures and unresolved supply chain issues. Russia's possible increase in the supply of goods to China and India could negatively affect Australian coal prices. We expect Australian coal prices to increase slightly in the first two quarters of the year before possibly encountering downward pressure later.

STEEL PRODUCTION GROWTH, STEEL PIPES LEAD THE MARKET

Construction steel remains the core product, with HPG's total consumption reaching 4.28 million tons (+ 10% YoY). Construction steel still contributed 94.7% and 95.7% to HPG's 2022 revenue and profit, respectively.

Construction steel of HPG maintains its leading position. With good distribution capacity, serious corporate governance, and financial management, and leveraging its position in the market, HPG still maintains a leading market share of 34.8% (compared to 32.6% in 2021).

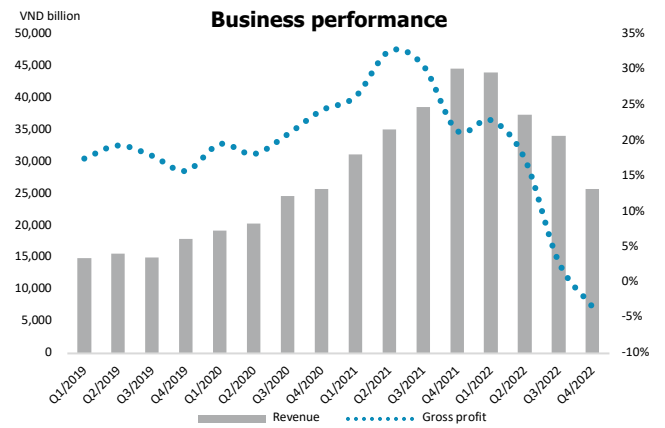
The domestic market condition was severe in both output and prices

Steel production and construction steel consumption have declined significantly since 2Q/2022 due to:

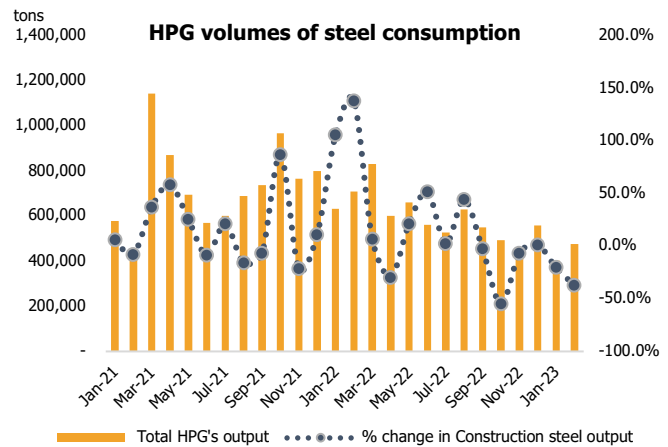
- Domestic construction and real estate demand have decreased significantly due to a frozen market, high-interest rates, and some controversy among real estate companies, leading to a tightening of real estate credit sources.
- HPG announced the suspension of operations at 4 blast furnaces in 4Q/2022, significantly affecting production and consumption.

HPG construction steel is still the most widely used in low-rise housing construction and row houses. We believe that high-interest rates have significantly affected consumer spending and investment, including a shift in demand from real estate investment to other types of investment, leading to a significant decline in domestic real estate demand and weak steel consumption..

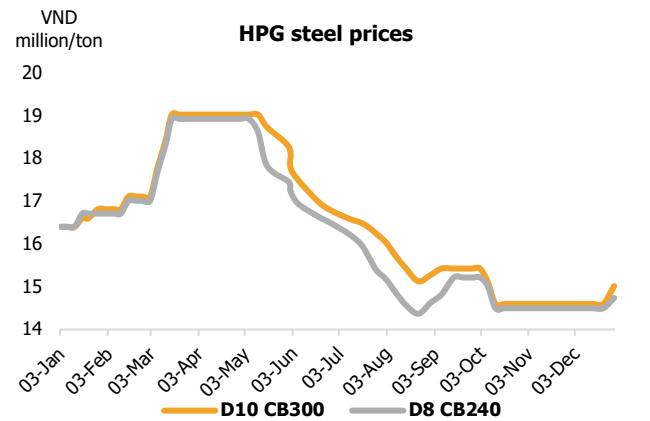
HPG steel prices are negatively affected by market condition. Limited steel demand has caused HPG to continuously announce price reductions in the last 8 months of the year. As of the end of December, HPG steel prices had dropped by 23.4% compared to the peak in March, reaching



Source: HPG



Source: HPG



Sources: PSI's summary

VND14,500 - 14,600/kg.

PERFORMANCE FELL INTO THE BOTTOM RANGE

In 4Q 2022, HPG's business performance was predictably negative. The company recorded a net revenue of VND26,211.6 billion (-41.8% YoY), which correctly reflected the steel market's decline. The weakening demand for steel due to the declining construction and civil real estate markets heavily affected HPG. Additionally, the need to reserve for the decreased inventory value due to the steel price decline and the input material's price also eroded the company's profits. In this quarter, HPG suffered a gross loss of VND885.2 billion.

Steel consumption volume fundamentally and continuously went down in the second half of 2022.

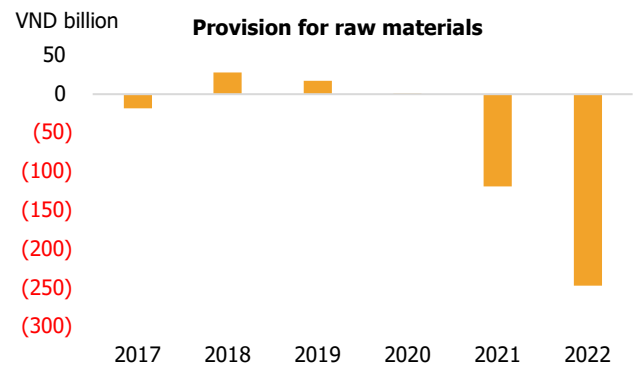
Although the steel output for the entire year increased compared to the same period, the growth rate was mainly contributed by 1Q (+57% YoY). The construction steel output in 2Q increased only by 6% YoY, while 4Q was the time to hit the bottom when the output decreased by 24.9% YoY because HPG had to stop operating five blast furnaces in two steel complexes in Hai Duong and Dung Quat.

The prices of input materials fluctuated significantly.

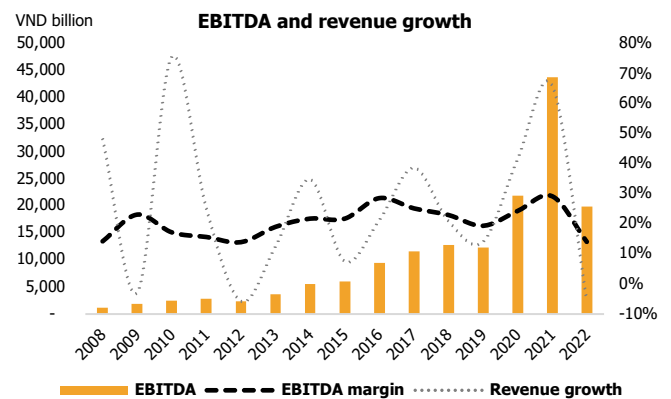
The prices of coke and scrap steel increased sharply in 1Q before plunging from 2Q. The world steel market fell into a severe crisis, causing steel production activities to freeze. Many steel production factories stopped operating, especially in China and Europe, causing the prices of coke and scrap steel to decrease.

The Roper Valley iron ore mine has not been exploited, putting HPG at risk of fluctuations in global iron ore prices. It is expected that this year, the Northern Territory government will solve the erosion risks of this mine, allowing HPG to exploit it. The Roper Valley mine has a reserve of 320 million tons/year, and with the current demand, HPG can exploit this mine for over 20 years. Currently, HPG is still exploiting iron ore at the Sangoan mine with a capacity of 510,000 tons/year, while we estimate that HPG needs 12-15 million tons of iron ore annually to serve production.

The EBITDA margin decayed but still optimistic. The volatility of raw material prices poses a significant risk to the business efficiency of steel companies. However, HPG still achieved an EBITDA of 14% in 2022, which is much higher than other companies such as HSG and NKG (0.9% and 2.6% respectively). During previous economic downturns, HPG's EBITDA remained around the 14% mark (2008: 14.2%, 2012: 13.9%, 2022: 14%), before increasing sharply in the following years. With a cautious scenario, steel prices

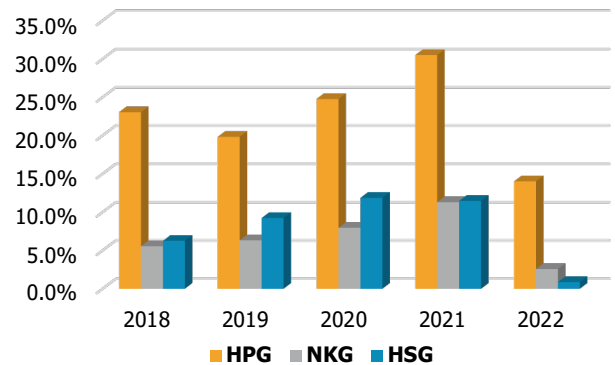


Sources: HPG's FS



Source: HPG's FS, PSI's summary

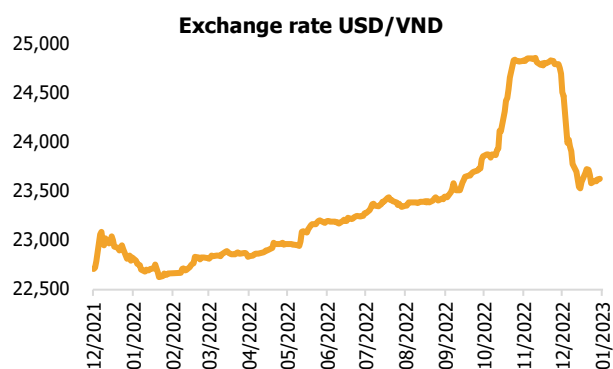
EBITDA margin of some steel companies



Source: FS of HPG, NKG, HSG

are unlikely to return to 2022 levels, and it will take time for consumption to recover. Therefore, we predict that HPG's EBITDA will only slightly increase to 14.2% in 2023.

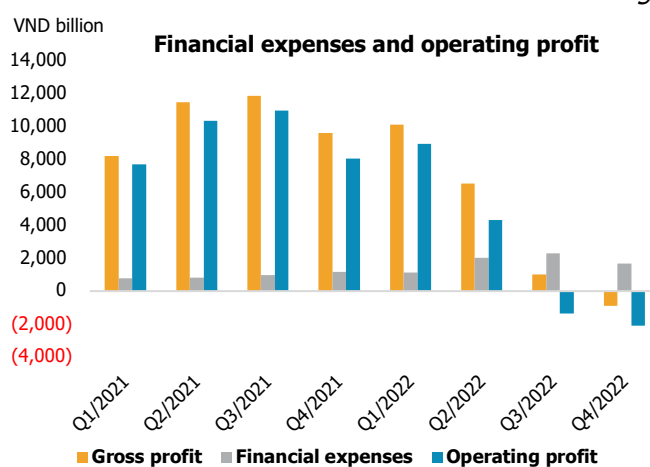
We expect building steel and HRC prices to show a slight recovery in 2Q/2023 after stabilizing in 4Q/2022. The demand for construction and real estate will still be modest in the first half of 2023, but HPG's profit may improve thanks to the competitive advantage in prices as well as owning a complete steel production process. Steel production is also expected to recover from 2Q/2023 when HPG will resume operations of all 4 blast furnaces from May 2023.



Source: Bloomberg

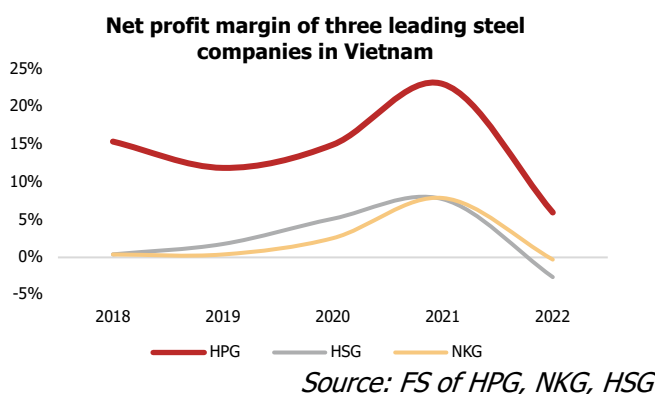
HIGH INTEREST RATES AND EXCHANGE RATES ERODE BUSINESS PROFITS

Interest rates for loans have increased significantly in the fourth quarter of 2022 due to high demand for bank credit. HPG recorded the highest interest expense in its history, reaching VND932.7 billion in 4Q (+ 48.2% YoY), with a total of VND3,083.6 billion (+ 22.1% YoY) for the year. The USD/VND exchange rate also remained high, causing the company to record a foreign exchange loss of VND718.2 billion (+ 42.1% YoY).



For the full year 2022, HPG's net revenue reached VND 141,409 billion (-5.5% YoY), gross profit was VND16,763 billion (-59.2% YoY), and net profit after tax was VND 8,444.4 billion, with a net profit margin of 6%.

We expect that the negative trends in the steel industry during the recent period have been reflected in the business results of HPG and the Vietnamese steel industry as a whole. Positive developments will take time to confirm as production and consumption volumes may not improve in the short term due to many companies suspending steel production facilities to optimize operating costs.



Source: FS of HPG, NKG, HSG

ANALYSIS ON FINANCIAL SITUATIONS

PROFITABILITY FORECAST (P&L)

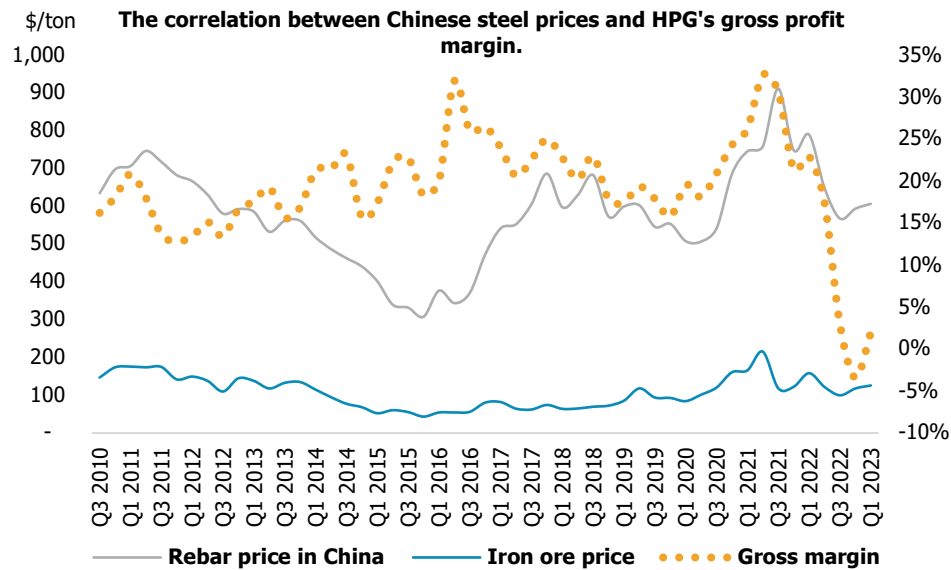
The steel production and business activities of HPG in 2022 were severely affected by the overall market downturn. Limited consumption demand due to the freeze of the civil construction and real estate sectors, especially in 4Q/2022,

resulted in a decline in both revenue and profit. The high interest rates and exchange rates also led to a sharp increase in financial costs, further narrowing the profit margin of HPG.

The financing costs will be predicted to increase due to the implementation of Hoa Phat Dung Quat Steel Project (Phase 2). Profit margins in 2023 may recover with a scenario of such that steel prices will be at a higher level than in the second half of 2022, and input material prices may not reach the high levels of early 2022 due to negative events such as the Russia-Ukraine conflict and China's Zero-COVID policy...

| | 2022 | 2023F | % Change | Notes |
|--------------------------|----------------|----------------|--------------|--|
| Net Revenue | 141,409 | 138,681 | -1.9% | |
| <i>Steel</i> | 137,803 | 134,521 | -2.4% | Revenue from the steel sector will decrease by 2.4% compared to 2022 due to the following assumptions: (1) Prices of construction steel, steel pipes, and galvanized steel sheets will decrease by 3% - 5% compared to the average price level of 2022 due to the low overall demand; (2) The consumption of construction steel will only slightly increase by 4.9% as the level of improvement in demand on the market is not strong enough. |
| <i>Agriculture</i> | 2,994 | 6,264 | 109.2% | |
| <i>Real Estates</i> | 612 | 642 | 5.0% | |
| Gross profit | 16,763 | 23,109 | 37.8% | |
| Gross margin | 11.9% | 16.7% | | Expectation for gross profit margin to improve due to: (1) Steel prices have continuously increased since the beginning of the year, totaling approximately VND1,220,000/ton (+8.3%), and could remain at this price level this year; (2) Iron ore and coking coal prices have fallen to a very low level in the fourth quarter, allowing HPG to exploit this low price to supplement inventory. (3) HPG may be able to recover the provision set aside in 2022 due to the decline in steel prices as well as input materials. |
| Interest expense | 3,084 | 4,982 | 61.6% | Interest expense is projected to increase significantly due to the loans incurred for the construction of the Hoa Phat Dung Quat project Phase 2. |
| SG&A expense | 3,685 | 3,067 | -16.8% | |
| EBITDA | 19,821 | 19,638 | -0.8% | |
| EBITDA margin | 14.0% | 14.2% | | |
| Profit before tax | 9,923 | 12,037 | 21.3% | |
| Profit after tax | 8,444 | 10,589 | 25.4% | |
| Net profit margin | 6.0% | 7.7% | | |

- **In 1Q/2023**, we forecast HPG's revenue to reach VND28,160.5 billion, up 9% compared to 4Q/2022 but down 36% compared to the same period in 2022. In which, revenue from the steel segment is estimated at VND26,752.5 billion. The output of construction steel in 1Q is expected to reach 918,150 tons, down 31.6% YoY, due to the fact that 4 blast furnaces have not yet resumed operation.



Source: Bloomberg, PSI's summary

The gross profit margin in 1Q/2023 is forecasted from the perspective of historical data and the trend of domestic steel prices.

- In 2016, the Ministry of Industry and Trade issued Decision No. 862 on imposing import taxes on steel billets and long steel products, assisting HPG in reducing competition pressure from cheap imported goods and thus significantly improve gross margin. Since 2017, the gross margin has had a relatively consistent trend with China steel prices. China steel prices have increased in 1Q/2023 thanks to the improving demand signal when Zero-COVID policies are relaxed.
- HPG's steel prices have increased by 6-8% since the beginning of the year.
- HPG has the potential to recover reserves thanks to the increase in steel prices this quarter. Since 2Q/2022, HPG has had to reserve more than VND1,027 billion for reducing raw material and finished product prices.

| <i>Units: Output: tons; Price: VND million/ton Revenue & Profit: VND million</i> | 1Q/2023 | % YoY |
|--|-------------------|----------------|
| Total output of construction steel | 918,150 | (31.6%) |
| Average selling price | 15.56 | |
| Revenue from construction steel | 14,286,414 | |
| Total output of HRC | 507,800 | (33.5%) |
| Average selling price | 15.56 | |
| Revenue from HRC | 7,901,460 | |
| Total output of steel pipe | 161,000 | (21.8%) |
| Average selling price | 17.9 | |
| Revenue from steel pipe | 2,889,145 | |
| Total output of coated steel pipe | 75,000 | (28.6%) |
| Average selling price | 22.34 | |
| Revenue from coated steel pipe | 1,675,433 | |
| Total Revenue from Steel segment | 26,752,452 | |
| Total Revenue of HPG in 1Q/2023 | 28,160,475 | (36.1%) |
| Gross profit | 544,749 | (94.6%) |
| Gross margin | 1.9% | |
| Net profit | (117,020) | |
| Net profit margin | (0.42%) | |

BALANCE SHEET FORECAST

The inventory of HPG would decrease slightly in order to take advantage of the steel price increases, while still ensuring the supply of raw materials for steel production, and at the same time limiting inflation risks. The accounts payable may increase when HPG needs to retain cash flow to finance construction projects in Hai Duong and Dung Quat.

| Unit: VND billion | 2022 | 2023E | 2024E | 2025E |
|-----------------------------------|---------|---------|---------|---------|
| Tangible assets | 70,199 | 70,955 | 74,518 | 89,733 |
| Intangible assets | 634 | 645 | 675 | 746 |
| Construction in progress | 13,363 | 22,681 | 37,070 | 30,113 |
| Working capital | 18,129 | 38,004 | 39,713 | 60,666 |
| Capital Expenditure | 8,374 | 8,588 | 11,902 | 24,686 |
| Long-term debt | 11,152 | 14,050 | 14,862 | 14,986 |
| Chartered capital | 58,148 | 58,148 | 75,592 | 98,270 |
| Total capital | 170,335 | 217,707 | 261,390 | 308,064 |
| Current ratio | 1.29 | 1.49 | 1.39 | 1.51 |
| Quick ratio | 0.71 | 1.05 | 1.05 | 1.22 |
| Cash ratio | 0.13 | 0.49 | 0.46 | 0.60 |
| Total debt-to-equity ratio | 0.60 | 0.67 | 0.69 | 0.59 |
| Total liabilities-to-equity ratio | 0.44 | 0.51 | 0.53 | 0.49 |
| Receivables turnover | 14.13 | 13.37 | 13.79 | 13.67 |
| Inventory turnover | 3.25 | 3.44 | 3.90 | 4.28 |
| Asset turnover | 0.82 | 0.71 | 0.66 | 0.68 |

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