

22/2020/GPW (91) July 22, 2020

This report is prepared for the Warsaw Stock Exchange SA within the framework of the Analytical Coverage Support Pilot Program. This is a translation of the Polish analytical report.

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# Ferro

**Sector:** Construction materials  
**Fundamental rating:** Buy (↑)  
**Market relative:** Overweight (→)  
**Price:** PLN 17.00  
**12MEFV:** PLN 20.3 (↑)

**Market Cap:** US\$ 93.7 m  
**Bloomberg code:** FRO PW  
**Av. daily turnover:** US\$ 0.027 m  
**12M range:** PLN 10.30-18.40  
**Free float:** 31%

## Recommended action

We maintain our ST relative rating at Overweight and keep overweighing Ferro's equities in our monthly portfolio. The Company's 1Q20 financial results were robust and we believe 2Q20 performance will be good as well. Though in April the demand for the Company's products/goods fell due to the COVID-19 fallout, in May and June it started to recover. We expect Ferro to pursue an acquisition in 2H20 which, given the Company's strong position on the existing markets, should trigger the Group's further development. When the acquisition does not materialize, next year's dividend payment is likely to be visibly higher.

We upgrade our LT fundamental recommendation to Buy from Hold on the back of the more favorable market environment than we assumed previously albeit we would like to stress that our financial forecasts are encumbered with significant risk.

Demand for the Company's products/goods is driven by the development of the residential market in the region (foreign markets contributed 63% of the Company's FY19 revenues after a 25% yoy increase). In the installation fittings segment, the replacement demand constitutes 55% and 45% comes from new investments. In the section of batteries and accessories, 80% of demand results from renovations and 20% from new residential investments. The Company distributes its goods and products through traditional (66%) and modern (34%) channels. The Company benefits from a one-to-two year shift in demand with respect to the construction of apartments. Besides, the renovation and product life cycles are shortened and currently the replacement of accessories does not require significant expenses and is often related to interior decoration and depends on the current fashion. Current circumstances will undoubtedly affect the housing market and demand for the Company's goods however we assume that apartments under

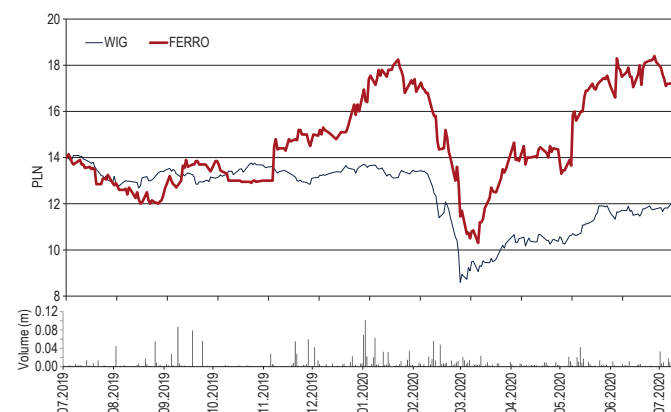
**Guide to adjusted profits**  
Income tax.

### Key data

IFRS consolidated		2019	2020E	2021E	2022E
Sales	PLN m	451.3	455.8	487.7	516.9
EBITDA	PLN m	66.9	61.0	63.2	68.6
EBIT	PLN m	60.6	53.2	54.6	59.6
Net income	PLN m	40.0	40.1	41.4	45.9
Adj net income	PLN m	42.9	40.1	41.4	45.9
Adj EPS	PLN	2.0	1.9	2.0	2.2
Adj EPS yoy chg	%	11	-7	3	11
Net debt	PLN m	75.8	60.1	72.0	63.8
P/E	x	9.0	9.0	8.7	7.9
Adj P/E	x	8.4	9.0	8.7	7.9
EV/EBITDA	x	6.5	6.9	6.9	6.2
EV/EBIT	x	7.2	7.9	7.9	7.1
DPS	PLN	1.12	0.52	1.19	1.23
Gross dividend yield	%	6.6	3.1	7.0	7.2
Number of shares (eop)	m	21.2	21.2	21.2	21.2

Source: Company, DM BOS SA estimates

### Stock performance



Source: Bloomberg

### Upcoming events

1. Release of 1H20 consolidated financial results: September 17
2. Release of 3Q20 consolidated financial results: November 19

construction will be finished on an ongoing basis which in turn will trigger the demand. Moreover, Ferro' products belong to the lower-end market which may also help mitigate the demand drop in the downturn.

## Valuation

Due to our financial forecasts update and valuation horizon forward shift our 12M EFV for the Company representing a 50%-50% mix of the outcome of the

DCF FCFF and peer-relative valuations increases by 10% to PLN 20.3 from PLN 18.5 per share. The DCF/peer-relative valuation yields PLN 23.2 (from PLN 21.9)/ 17.4 (from PLN 15.0) per share.

Fig. 1. Ferro; DCF model

	2021E	2022E	2023E	2024E	2025E
<b>Cost of equity</b>					
Risk free	1.5%	1.5%	1.5%	1.5%	1.5%
Equity market premium	7.5%	7.5%	7.5%	7.5%	7.5%
Unlevered beta	1.2	1.2	1.2	1.2	1.2
Leveraged beta	1.3	1.3	1.3	1.3	1.2
<b>Required rate of return</b>	<b>11.5%</b>	<b>11.4%</b>	<b>11.2%</b>	<b>11.0%</b>	<b>10.8%</b>
<b>Cost of debt</b>					
Pre-tax cost of debt	4.7%	4.7%	4.7%	4.7%	4.7%
Effective tax rate	19.0%	19.0%	19.0%	19.0%	19.0%
<b>After-tax cost of debt</b>	<b>3.8%</b>	<b>3.8%</b>	<b>3.8%</b>	<b>3.8%</b>	<b>3.8%</b>
<b>WACC</b>					
Equity share	79%	80%	80%	81%	83%
Debt share	21%	20%	20%	19%	17%
Cost of equity	11.5%	11.4%	11.2%	11.0%	10.8%
After tax cost of debt	3.8%	3.8%	3.8%	3.8%	3.8%
<b>WACC</b>	<b>9.9%</b>	<b>9.8%</b>	<b>9.7%</b>	<b>9.6%</b>	<b>9.6%</b>
<b>Financial forecasts (PLN m)</b>					
Sales	487.7	516.9	542.8	569.9	587.0
EBIT	54.6	59.6	64.7	70.1	71.3
NOPLAT	44.2	48.3	52.4	56.8	57.8
Depreciation	8.7	9.0	10.0	11.1	12.4
NWC change	-25.6	-10.7	-9.5	-10.0	-6.3
Capex	-11.7	-10.5	-10.9	-12.1	-13.4
<b>FCFF</b>	<b>15.5</b>	<b>36.1</b>	<b>42.1</b>	<b>45.8</b>	<b>50.4</b>

Source: DM BOŚ SA estimates

Fig. 2. Ferro; DCF Valuation (PLN m)

FCFF terminal growth	1.0%
WACC in residual period	9.6%
Residual value	593.7
PV of residual value	394.5
PV of FCFF	146.9
Enterprise value	541.4
Net debt	60.1
Dividend	11.1
<b>Equity value</b>	<b>492.3</b>
Number of shares (million)	21.2
<b>12M EFV (PLN)</b>	<b>23.2</b>

Source: DM BOŚ SA estimates

**Fig. 3. Ferro; Peer-relative comparison**

Company	P/E			EV/EBITDA			EV/EBIT		
	2020E	2021E	2022E	2020E	2021E	2022E	2020E	2021E	2022E
Villeroy & Boch Ag-Pref	n.m.	11.7	10.4	4.0	3.0	3.0	11.8	5.6	5.4
Fortune Brands Home & Securi	22.4	19.5	17.9	13.8	12.1	n.a.	17.4	14.8	n.a.
Nilfisk Holding	n.m.	11.2	8.4	9.9	6.1	5.0	n.m.	14.0	10.2
Tarkett	n.m.	14.0	11.4	6.7	4.8	4.5	n.m.	11.5	10.2
Vatti Corporation	12.5	10.9	10.0	9.0	7.6	7.0	10.2	9.1	7.9
Nichiha	8.4	13.3	9.6	4.0	5.4	3.9	5.6	9.4	5.4
Norcros	5.1	4.6	4.3	3.9	3.6	3.1	5.6	4.2	3.7
Vestel Beyaz Esya Sanayi	7.5	6.5	n.a.	5.2	4.4	n.a.	6.5	5.7	n.a.
Decora	9.3	9.1	9.1	6.2	6.0	5.9	8.3	8.2	8.1
Mercor	9.3	6.5	6.1	6.6	5.5	5.2	9.4	7.2	6.8
Lena Lighting	8.5	8.1	7.8	4.8	4.5	4.1	6.6	6.1	5.6
<b>Median</b>	<b>9.3</b>	<b>11.0</b>	<b>9.6</b>	<b>6.4</b>	<b>5.4</b>	<b>4.8</b>	<b>8.9</b>	<b>8.7</b>	<b>7.4</b>
Ferro	9.0	8.7	7.9	6.9	6.9	6.2	7.9	7.9	7.1
Implied Ferro's price based on peers (PLN)	17.5	21.5	20.7	15.5	12.8	12.4	19.4	18.8	17.6
<b>Implied Ferro's price (PLN)</b>	<b>17.4</b>								

Source: Bloomberg, DM BOŚ SA estimates

## 2Q20 financial results preview

It seems that 2Q20 was similar to the previous quarter in that it turned quite benign for the Company which experienced lower demand in April however the next two months should have been better mom, we believe. Additionally, the geographic diversification of Ferro's business activities proved to be extremely favorable as various countries introduced/ended lockdowns in different periods and with different restrictions.

We expect 2Q20 revenues to be flat yoy and stand at PLN 107 million, with an improvement of operating profitability. We assume that the Company cut

expenses wherever it was possible and a lack of intense marketing campaigns should also help. We expect the travel and sales costs to decline. It seems that the salary growth rate, supposed to be high mainly due to the strategy implementation and thus exert a pressure on 2Q20 results, turned out to be slower. The commodities and currency market environment was quite favorable for 2Q20 results as well. We forecast 2Q20 EBIT at PLN 13.3 million vs PLN 12.7 million in 2Q19.

We forecast 2Q20 financial net costs at PLN 1.4 million vs PLN 0.9 million a year ago and PLN 0.2 million financial net gain in 1Q20. All in all, we expect 2Q20 NP to reach PLN 10 million.

**Fig. 4. Ferro; 2Q20 forecasts**

IFRS consolidated (PLN m)	1Q19	2Q19	3Q19	4Q19	1Q20	2Q20E	yoy chg	1H19	1H20E	yoy chg	Realisation of 2Q results in		Realisation of 1H results in	
											2019	2020E	2019	2020E
Sales	109.4	105.8	122.1	113.9	124.8	106.9	1%	215.3	231.6	8%	23%	23%	48%	51%
EBITDA	18.7	14.4	21.5	12.3	21.8	15.1	5%	33.1	36.9	12%	22%	25%	50%	61%
EBITDA margin	17.1%	13.6%	17.6%	10.8%	17.5%	14.2%	-	15.4%	16.0%	-	-	-	-	-
EBIT	17.5	12.7	19.8	10.6	20.0	13.3	5%	30.2	33.3	10%	21%	25%	50%	63%
EBIT margin	16.0%	12.0%	16.2%	9.3%	16.1%	12.4%	-	14.0%	14.4%	-	-	-	-	-
Pre-tax profit	16.1	11.7	17.7	8.5	20.2	11.8	1%	27.8	32.0	15%	22%	24%	51%	65%
Pre-tax profit margin	14.7%	11.1%	14.5%	7.4%	16.2%	11.1%	-	12.9%	13.8%	-	-	-	-	-
Net profit	13.0	9.5	14.5	2.9	16.5	9.6	1%	22.5	26.1	16%	24%	24%	56%	65%
Net profit margin	11.9%	9.0%	11.9%	2.6%	13.2%	9.0%	-	10.5%	11.3%	-	-	-	-	-

Source: The Company, DM BOŚ SA

## 2020E outlook

Since 2019 and 2020 were supposed to be the years of the strategy implementation, we expected a larger-scale of costs accumulation assuming the years 2021-2023 should witness a faster growth. It seems that the strategy implementation costs were quite low in 2019 and though they were to increase in 2020 we believe the Company approached expenses with caution, at least in 1H20. The development cost would probably increase in 2H20 and 2021.

The COVID-19 fallout and the restrictions implemented by governments might have affected the Group's results and liquidity though not that severely as it was expected. Besides, it seems that the lockdown triggered interest in renovations. The Group operates in a B2B model and current orders are carried out smoothly, however there is still large uncertainty concerning the consumers' behavior. Nevertheless, we upgrade our financial forecasts for the Group for this year given good 1H20 results expected.

We forecast FY20 revenues at PLN 456 million vs PLN 451 million in FY19.

The Group's profitability is determined by (i) pricing, (ii) goods purchase prices/production costs (pricing formulas for the merchandise from China are based on copper and zinc quotations in Shanghai), and (iii) HR costs. Costs of commodities and goods purchase as well as transport prices are mainly denominated in US\$ (90%) and to a lesser extent in EUR (10%) while revenues are mostly generated in PLN and CZK which ties the realized margins to FX rates. Ferro can be flexible in adjusting final prices

to FX rates by the fine-tuning of discounts. The time delay between the order placement and payment is responsible for the FX differences booked in financial costs.

It is worth noting that at the end of March prices of aluminum/copper/zinc denominated in US\$ and PLN were lower by 22%/25%/35% and 15%/18%/30%, respectively, while at the end of June contract prices of aluminum/copper/zinc in US\$ and PLN changed by -10%/0%/-17% yoy and -5%/5%/-14% yoy, respectively. We believe the current environment on the commodities and currencies market is quite favorable for the Group's operating profitability.

We forecast the Group's EBIT margin drop to 11.7% in 2020 from 13.4% in 2019, mainly due the strategy implementation (costs may become visible in 2H20). We expect the Group's FY20 NP to reach PLN 40 million (5% increase vs the previous forecast).

We assume this year's capex at PLN 7 million. Given the current uncertainty on the market and planned acquisitions the Company announced that this year's dividend payment would exceed 20% of FY19 unconsolidated profit (>PLN 7.4 million). We assume a PLN 11 million dividend payment in 2020 and forecast the Group's net debt (with leasing) at PLN 60 million at the end of 2020 vs PLN 76 million at the end of 2019. When no acquisition materializes, the management may consider a significantly higher dividend payment next year.

In our model we do not include any acquisition which is highly likely to materialize in 2H20.

Fig. 5. Ferro; Changes in DM BOŚ SA forecasts

IFRS consolidated (PLN m)	2020E			2021E			2022E		
	current	previous	change	current	previous	change	current	previous	change
Sales	455.8	451.3	1%	487.7	473.8	3%	516.9	497.5	4%
EBITDA	61.0	58.7	4%	63.2	62.7	1%	68.6	67.4	2%
EBIT	53.2	50.9	5%	54.6	53.9	1%	59.6	58.3	2%
NP	40.1	38.1	5%	41.4	41.0	1%	45.9	45.0	2%
Adj NP	40.1	38.1	5%	41.4	41.0	1%	45.9	45.0	2%
Net debt	60.1	65.0	-8%	72.0	57.2	26%	63.8	46.8	36%

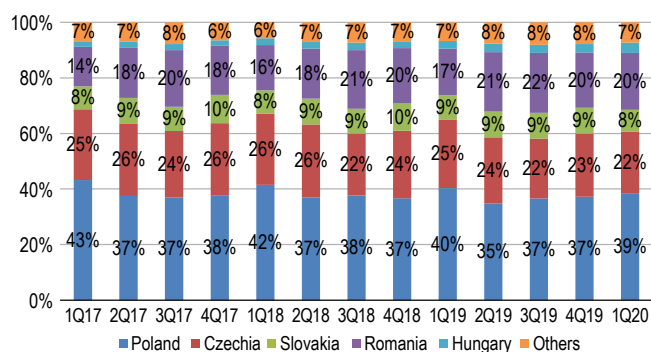
Source: DM BOŚ SA estimates

**Strategy**

After the review of the strategy for 2019-2023 the Company maintained its plans and consolidated revenues and EBITDA targets at PLN 700 million and PLN 90 million, respectively in 2023 (2018-23 CAGR at 11% and 10%, respectively). Investment expenditures in this period should not exceed the annual average of PLN 10 million, and the Group’s ND/EBITDA multiple should not exceed 2.5x. Ferro intends to make an acquisition and informed about intensification of efforts in this field in 2H20. We assume that Ferro can target a company from Poland or Central Europe.

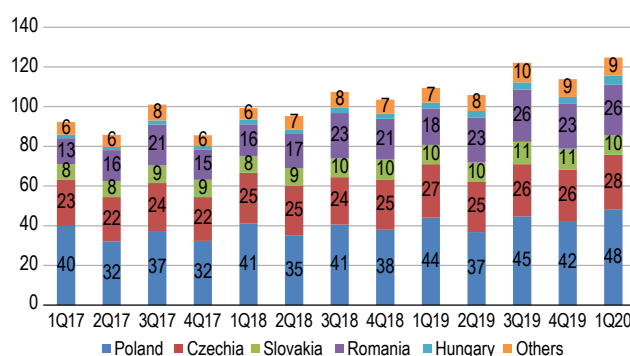
The adopted strategy is based on four main pillars: (i) integration and optimization, (ii) eco-awareness and innovation, (iii) speed and flexibility, (iv) introduction of new distribution channels and products. Integration and optimization are aimed at consolidating central functions within the Group through the integration of external and internal processes, aggregation of databases and implementation of a coherent human resources management system which should enable building a customer-oriented organization. Eco-awareness and innovation will allow an introduction of comprehensive solutions consisting in the creation of a systemic offer and introduction of solutions related to the economic consumption of water and energy. The Company works on expanding its offer in the high-end segment, providing services dedicated to architecture firms. The phrasing ‘fast and flexible’ means supporting the e-commerce development, optimization and integration of the supply chain, market expansion intensification and strengthening of market shares. Ferro intends to improve the availability and completeness of its offer by increasing the speed of deliveries and its assortment range (supplementing the offer for bathroom design). Besides, the Company wants to focus on improving its brand recognition. In this area, there are considered potential acquisition projects, which should enable the Company to (i) expand or strengthen its product range and (ii) enter new geographical destinations or strengthen its position in existing markets. The introduction of new distribution channels and products is to take place through the implementation of projects in the area of offer segmentation and brand repositioning, acquisition of new B2B customers and introduction of sales-related services

**Fig. 6. Ferro; Revenue – geographical structure**



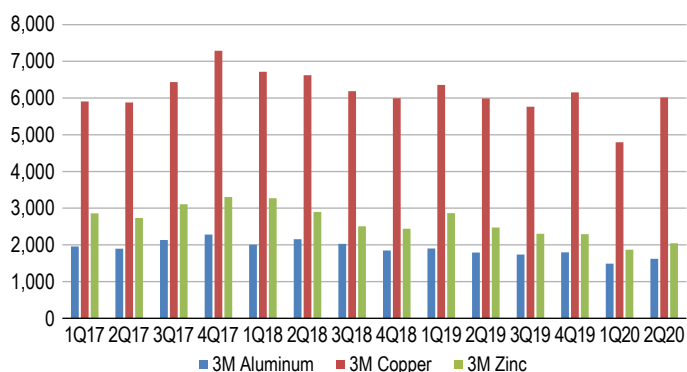
Source: Company, DM BOŚ SA

**Fig. 7. Ferro; Revenue – geographical segments (PLN m)**



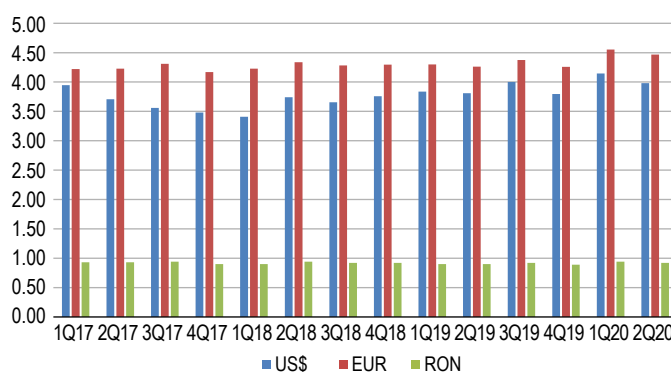
Source: Company, DM BOŚ SA

**Fig. 8. Raw material prices (eop, US\$)**



Source: Bloomberg

**Fig. 9. FX vs PLN (eop)**



Source: Bloomberg

and complimentary assortment. The Company has been slowly building its presence in the investment-related segment.

**The market environment**

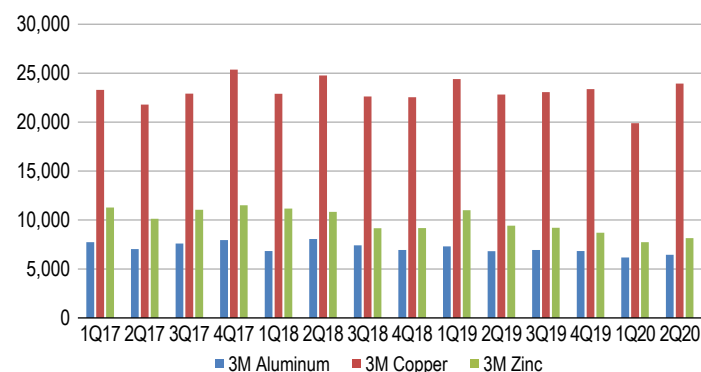
The economic situation on the markets where the Group operates was favorable in 2019 and in 1Q20. According to CSO, in 2019 in Poland (i) 237,000 dwellings were started, up 7% yoy, (ii) 207,000 dwellings were delivered, up 12% yoy, and (iii) 268,000 building permits were issued, up 4% yoy. In 1Q20 in Poland (i) 53,000 dwellings were started, down 3% yoy, (ii) 50,000 dwellings were delivered, up 4% yoy, and (iii) 59,000 building permits were issued, up 3% yoy.

In March (i) 19,000 dwellings were started, down 21% yoy, (ii) 829,000 dwellings were under construction, up 3% yoy, and (iii) 22,000 building permits were issued, up 11% yoy, and (iv) 16,000 dwellings were delivered, up 7% yoy.

In April/ May/ June approximately (i) 14,000/ 15,000/ 19,000 dwellings were started, down 38%/ down 27%/ down 1% yoy, (ii) 14,000/ 16,000/ 17,000 dwellings were delivered, down 22%/ up 10%/ up 19% yoy, and (iii) 17,000/ 19,000/ 27,000 building permits were issued, down 27%/ down 28%/ up 19% yoy. In 2Q20 c. 47,000 dwellings were delivered, down 4% yoy.

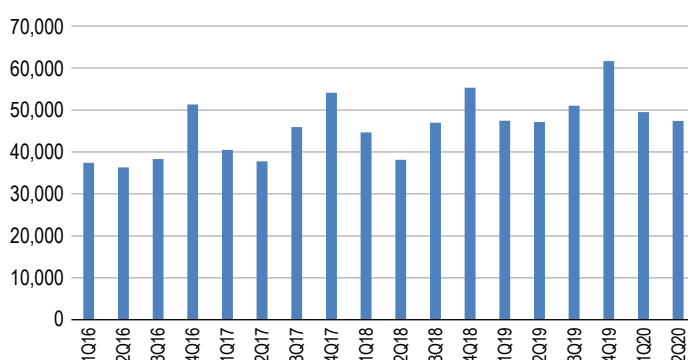
According to the Czech Statistical Office, in 2019 in Czechia the construction of c. 39,000 dwellings (+17% yoy) was commenced, and 36,000 dwellings (+8% yoy) were finished; in 1Q20 the construction of 9,000 dwellings (-4% yoy) was commenced, and 8,000 dwellings (-1% yoy) were finished.

**Fig. 10. Raw material prices (eop, PLN)**



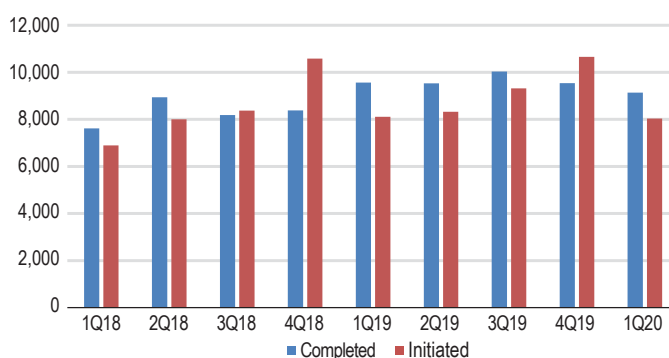
Source: Bloomberg

**Fig. 11. Poland; The number of completed dwellings**



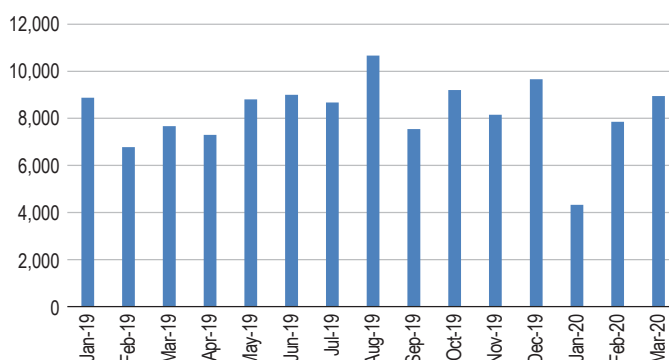
Source: CSO

**Fig. 12. Czechia; The number of constructed dwellings**



Source: Czech Statistical Office

**Fig. 13. Romania; The number of building permits**



Source: CEICDATA

**Risk factors**

1. Economic slowdown in Europe
2. Falling demand for new flats (about a quarter of demand for the Company's products generated by new housing projects)
3. Lower frequency of renovations (replacement demand generates c. 75% of demand for the Company's products/goods)
4. High prices of construction materials (falling demand for finishing materials)
5. Workforce shortage (qualified staff needed due to the market expansion)
6. Wage pressure
7. High/volatile raw materials prices (of copper and zinc, in particular)
8. Unfavorable/volatile FX rates (38%/25% of revenues in PLN/CZK and 90%/10% of foreign supplies costs in US\$/EUR; currency risk when PLN and CZK weaken against US\$ and EUR)
9. Own brands developed by shopping chains (c. 33% of the Company's turnover realized in large-format chains)
10. Lack of attractive acquisition targets/ high valuations

**Catalysts**

1. Continuous demand for new apartment flats (time delay between the construction and fit-out works)
2. Development of the market for renovations (new design elements, increasing frequency of renovations)
3. Expansion in European markets
4. Strengthening position on the existing markets
5. New products (expanding the product offer)
6. Repositioning of the Company's brands (new upper segment brands)
7. Favorable/stable FX rates
8. Favorable/stable raw materials prices
9. Brand promotion (intensifying online activities)
10. Potential acquisitions (if beneficial from the Group's perspective)

**Financial statements (IFRS consolidated)**
**Fig. 14. Ferro; Balance sheet**

(PLN m)	2017	2018	2019	2020E	2021E	2022E
<b>Fixed assets</b>	<b>186.8</b>	<b>196.2</b>	<b>203.4</b>	<b>202.6</b>	<b>205.5</b>	<b>206.9</b>
Other fixed assets	1.0	1.0	1.6	1.6	1.7	1.8
Current trade assets	177.4	193.7	206.7	255.6	267.7	289.6
- inventory	106.7	119.0	125.5	139.4	164.1	174.0
- net trade receivables	51.8	57.1	60.7	60.4	64.7	68.6
Accruals	18.9	17.6	20.5	55.7	38.9	47.1
<b>Assets</b>	<b>365.2</b>	<b>390.9</b>	<b>411.6</b>	<b>459.8</b>	<b>474.9</b>	<b>498.3</b>
Shareholders' funds	198.3	233.2	250.3	279.3	295.4	315.2
Reserves	35.1	8.1	8.1	8.1	8.1	8.1
Liabilities	131.8	149.6	153.2	172.3	171.3	175.0
- interest bearing debt	65.6	109.1	89.2	108.8	103.8	103.8
- trading liabilities	59.7	34.7	47.2	47.7	50.9	53.9
- other	5.6	5.8	9.7	8.8	9.5	10.2
<b>Shareholders equity and liabilities</b>	<b>365.2</b>	<b>390.9</b>	<b>411.6</b>	<b>459.8</b>	<b>474.9</b>	<b>498.3</b>
<b>Ratios:</b>						
Debt/Equity	0.3	0.5	0.4	0.4	0.4	0.4
Net WC / Total assets	0.3	0.4	0.3	0.3	0.4	0.4
Current ratio	1.5	1.6	1.7	2.1	2.1	2.2
Quick ratio	0.6	0.6	0.7	1.0	0.8	0.9
Sales / Total assets	1.0	1.1	1.1	1.0	1.0	1.1
Sales / Net WC	3.5	3.4	3.2	3.1	3.0	2.8
Inventory turnover (days)*	104	102	99	106	114	119
Average receivable turnover (days)*	48	49	48	49	47	47
Average accounts payable period (days)*	49	42	33	38	37	37
Cash conversion cycle (days)	103	108	113	117	124	129
ROA	11.2%	10.2%	10.7%	9.2%	8.9%	9.4%
ROE	19.2%	17.9%	17.7%	15.1%	14.4%	15.0%

\*in relation to revenues

Source: Company, DM BOŚ SA estimates



**Fig. 15. Ferro; Income statement**

(PLN m)	2017	2018	2019	2020E	2021E	2022E
<b>Net sales</b>	<b>364.7</b>	<b>405.6</b>	<b>451.3</b>	<b>455.8</b>	<b>487.7</b>	<b>516.9</b>
Costs of operating activities	319.3	353.9	392.9	404.8	435.6	459.9
<b>EBITDA</b>	<b>51.6</b>	<b>57.3</b>	<b>66.9</b>	<b>61.0</b>	<b>63.2</b>	<b>68.6</b>
<b>EBIT</b>	<b>47.7</b>	<b>53.6</b>	<b>60.6</b>	<b>53.2</b>	<b>54.6</b>	<b>59.6</b>
Financial income	2.9	0.0	0.0	0.6	0.8	0.7
Financial costs	-10.1	-6.7	-6.6	-4.5	-4.2	-3.8
<b>Pre-tax profit</b>	<b>40.5</b>	<b>46.8</b>	<b>54.0</b>	<b>49.4</b>	<b>51.2</b>	<b>56.6</b>
Income tax	-29.5	-9.1	-14.0	-9.4	-9.7	-10.8
<b>NP</b>	<b>11.1</b>	<b>37.7</b>	<b>40.0</b>	<b>40.1</b>	<b>41.4</b>	<b>45.9</b>
<b>Adj NP</b>	<b>39.6</b>	<b>38.6</b>	<b>42.9</b>	<b>40.1</b>	<b>41.4</b>	<b>45.9</b>
<b>Margins:</b>						
EBITDA	14.2%	14.1%	14.8%	13.4%	13.0%	13.3%
EBIT	13.1%	13.2%	13.4%	11.7%	11.2%	11.5%
Pre-tax profit	11.1%	11.5%	12.0%	10.8%	10.5%	11.0%
NP	3.0%	9.3%	8.9%	8.8%	8.5%	8.9%
Adj NP	10.9%	9.5%	9.5%	8.8%	8.5%	8.9%
<b>Nominal growth:</b>						
Sales	9.7%	11.2%	11.3%	1.0%	7.0%	6.0%
EBITDA	12.4%	11.0%	16.7%	-8.8%	3.6%	8.6%
EBIT	16.1%	12.2%	13.2%	-12.1%	2.4%	9.3%
Pre-tax profit	11.1%	15.5%	15.4%	-8.5%	3.4%	10.7%
NP	-62.0%	240.8%	6.1%	0.1%	3.4%	10.7%
Adj NP	36.2%	-2.6%	11.2%	-6.6%	3.4%	10.7%

Source: The Company, DM BOS SA estimates

**Fig. 16. Ferro; Cash flow**

(PLN m)	2017	2018	2019	2020E	2021E	2022E
<b>Operating cash flow</b>	<b>61.4</b>	<b>-25.1</b>	<b>54.6</b>	<b>36.1</b>	<b>27.9</b>	<b>47.5</b>
Pre-tax profit	48.7	46.8	54.0	49.4	51.2	56.6
Depreciation	3.9	3.7	6.3	7.8	8.7	9.0
Change in working capital	8.2	-44.7	0.8	-14.1	-25.6	-10.7
Other	0.7	-31.0	-6.5	-7.0	-6.2	-7.3
<b>Net funds from investing activities</b>	<b>-4.3</b>	<b>-7.1</b>	<b>-4.4</b>	<b>-6.9</b>	<b>-11.7</b>	<b>-10.5</b>
Capital expenditures	-4.4	-7.2	-4.6	-6.9	-11.7	-10.5
Other	0.1	0.2	0.2	0.0	0.0	0.0
<b>Net funds from financial activities</b>	<b>-39.6</b>	<b>5.3</b>	<b>-51.9</b>	<b>6.0</b>	<b>-33.1</b>	<b>-28.8</b>
Income from shares issue	0.0	0.0	0.0	0.0	0.0	0.0
Net change in debt	-12.4	15.0	-25.2	19.6	-5.0	0.0
Dividends paid	-25.5	-7.4	-23.8	-11.1	-25.3	-26.1
Other	-1.7	-2.3	-3.0	-2.5	-2.8	-2.7
<b>Change in cash</b>	<b>17.6</b>	<b>-26.9</b>	<b>-1.8</b>	<b>35.3</b>	<b>-16.9</b>	<b>8.2</b>

Source: The Company, DM BOS SA estimates

## BASIC DEFINITIONS

**A/R turnover** (in days) =  $365/(\text{sales}/\text{average A/R})$   
**Inventory turnover** (in days) =  $365/(\text{COGS}/\text{average inventory})$   
**A/P turnover** (in days) =  $365/(\text{COGS}/\text{average A/P})$   
**Current ratio** =  $(\text{current assets} - \text{ST deferred assets})/\text{current liabilities}$   
**Quick ratio** =  $(\text{current assets} - \text{ST deferred assets} - \text{inventory})/\text{current liabilities}$   
**Interest coverage** =  $(\text{pre-tax profit before extraordinary items} + \text{interest payable})/\text{interest payable}$   
**Gross margin** =  $\text{gross profit on sales}/\text{sales}$   
**EBITDA margin** =  $\text{EBITDA}/\text{sales}$   
**EBIT margin** =  $\text{EBIT}/\text{sales}$   
**Pre-tax margin** =  $\text{pre-tax profit}/\text{sales}$   
**Net margin** =  $\text{net profit}/\text{sales}$   
**ROE** =  $\text{net profit}/\text{average equity}$   
**ROA** =  $(\text{net income} + \text{interest payable})/\text{average assets}$   
**EV** =  $\text{market capitalization} + \text{interest bearing debt} - \text{cash and equivalents}$   
**EPS** =  $\text{net profit}/\text{no. of shares outstanding}$   
**CE** =  $\text{net profit} + \text{depreciation}$   
**Dividend yield** (gross) =  $\text{pre-tax DPS}/\text{stock market price}$   
**Cash sales** =  $\text{accrual sales corrected for the change in A/R}$   
**Cash operating expenses** =  $\text{accrual operating expenses corrected for the changes in inventories and A/P, depreciation, cash taxes and changes in the deferred taxes}$

DM BOŠ S.A. generally values the covered non bank companies via two methods: comparative method and DCF method (discounted cash flows). The advantage of the former is the fact that it incorporates the current market assessment of the value of the company's peers. The weakness of the comparative method is the risk that the valuation benchmark may be mispriced. The advantage of the DCF method is its independence from the current market valuation of the comparable companies. The weakness of this method is its high sensitivity to undertaken assumptions, especially those related to the residual value calculation. Please note that we also resort to other valuation techniques (e.g. NAV-, DDM- or SOTP-based), should it prove appropriate in a given case.

## KEY TO INVESTMENT RANKINGS

This is a guide to expected price performance in absolute terms over the next 12 months:

**Buy** – fundamentally undervalued (upside to 12M EFV in excess of the cost of equity) + catalysts which should close the valuation gap identified;  
**Hold** – either (i) fairly priced, or (ii) fundamentally undervalued/overvalued but lacks catalysts which could close the valuation gap;  
**Sell** – fundamentally overvalued (12M EFV < current share price + 1-year cost of equity) + catalysts which should close the valuation gap identified.

This is a guide to expected relative price performance:

**Overweight** – expected to perform better than the benchmark (WIG) over the next quarter in relative terms  
**Neutral** – expected to perform in line with the benchmark (WIG) over the next quarter in relative terms  
**Underweight** – expected to perform worse than the benchmark (WIG) over the next quarter in relative terms

The recommendation tracker presents the performance of DM BOŠ S.A.'s recommendations. A recommendation expires on the day it is altered or on the day 12 months after its issuance, whichever comes first.

Relative performance compares the rate of return on a given recommended stock in the period of the recommendation's validity (i.e. from the date of issuance to the date of alteration or – in case of maintained recommendations – from the date of issuance to the current date) in a relation to the rate of return on the benchmark in this time period. The WIG index constitutes the benchmark. For recommendations that expire by an alteration or are maintained, the ending values used to calculate their absolute and relative performance are: the stock closing price on the day the recommendation expires/ is maintained and the closing value of the benchmark on that date. For recommendations that expire via a passage of time, the ending values used to calculate their absolute and relative performance are: the average of the stock closing prices for the day the recommendation elapses and four directly preceding sessions and the average of the benchmark's closing values for the day the recommendation expires and four directly preceding sessions.

### Distribution of DM BOŠ's current recommendations

	Buy	Hold	Sell	Suspended	Under revision
Numbers	30	38	8	9	0
Percentage	35%	45%	9%	11%	0%

## Banks

**Net Interest Margin (NIM)** =  $\text{net interest income}/\text{average assets}$   
**Non interest income** =  $\text{fees\&commissions} + \text{result on financial operations (trading gains)} + \text{FX gains}$   
**Interest Spread** =  $(\text{interest income}/\text{average interest earning assets})/(\text{interest cost}/\text{average interest bearing liabilities})$   
**Cost/Income** =  $(\text{general costs} + \text{depreciation})/(\text{profit on banking activity} + \text{other net operating income})$   
**ROE** =  $\text{net profit}/\text{average equity}$   
**ROA** =  $\text{net income}/\text{average assets}$   
**Non performing loans (NPL)** = loans in 'basket 3' category  
**NPL coverage ratio** =  $\text{loan loss provisions}/\text{NPL}$   
**Net provision charge** =  $\text{provisions created} - \text{provisions released}$

DM BOŠ S.A. generally values the covered banks via two methods: comparative method and fundamental target fair P/E and target fair P/BV multiples method. The advantage of the former is the fact that it incorporates the current market assessment of the value of the company's peers. The weakness of the comparative method is the risk that the valuation benchmark may be mispriced. The advantage of the fundamental target fair P/E and target fair P/BV multiples method is its independence of the current market valuation of the comparable companies. The weakness of this method is its high sensitivity to undertaken assumptions, especially those related to the residual value calculation. Assumptions used in valuation can change, influencing thereby the level of the valuation. Among the most important assumptions are: GDP growth, forecasted level of inflation, changes in interest rates and currency prices, employment level and change in wages, demand on the analysed company products, raw material prices, competition, standing of the main customers and suppliers, legislation changes, etc. Changes in the environment of the analysed company are monitored by analysts involved in the preparation of the recommendation, estimated, incorporated in valuation and published in the recommendation whenever needed.

### Distribution of DM BOŠ's current recommendations for the companies which DM BOŠ has supplied with material investment services within the last 12 months

	Buy	Hold	Sell	Suspended	Under revision
Numbers	4	7	1	2	0
Percentage	29%	50%	7%	14%	0%

### Distribution of DM BOŠ's current market relative recommended weightings

	Overweight	Neutral	Underweight	Suspended	Under revision
Numbers	28	34	14	9	0
Percentage	33%	40%	16%	11%	0%

### Distribution of DM BOŠ's current market relative recommended weightings for the companies which DM BOŠ has supplied with material investment services within the last 12 months

	Overweight	Neutral	Underweight	Suspended	Under revision
Numbers	4	6	2	2	0
Percentage	29%	43%	14%	14%	0%

**LT fundamental recommendation tracker**

Analyst	Recommendation	Report date	Reiteration date	Distribution date	Expiry date	Performance	Relative performance	Price at issue/reiteration*	EFV (12 months)	
<b>Ferro</b>										
Sylwia Jaśkiewicz	Hold	-	21.07.2019	-	22.07.2019	04.12.2019	11%	20%	13.70	17.10 -
Sylwia Jaśkiewicz	-	→	-	30.07.2019	31.07.2019	-	-	-	13.50	17.10 →
Sylwia Jaśkiewicz	-	→	-	01.09.2019	02.09.2019	-	-	-	12.05	17.10 →
Sylwia Jaśkiewicz	-	→	-	10.09.2019	11.09.2019	-	-	-	12.10	17.10 →
Sylwia Jaśkiewicz	-	→	-	15.09.2019	16.09.2019	-	-	-	12.65	17.10 →
Sylwia Jaśkiewicz	-	→	-	13.10.2019	14.10.2019	-	-	-	13.40	17.10 →
Sylwia Jaśkiewicz	-	→	-	24.10.2019	25.10.2019	-	-	-	13.00	17.10 →
Sylwia Jaśkiewicz	-	→	-	17.11.2019	18.11.2019	-	-	-	13.00	17.10 →
Sylwia Jaśkiewicz	-	→	-	18.11.2019	19.11.2019	-	-	-	13.00	17.10 →
Sylwia Jaśkiewicz	Buy	↑	04.12.2019	-	05.12.2019	28.01.2020	17%	15%	15.20	17.80 ↑
Sylwia Jaśkiewicz	-	→	-	08.12.2019	09.12.2019	-	-	-	15.00	17.80 →
Sylwia Jaśkiewicz	-	→	-	09.01.2020	10.01.2020	-	-	-	16.30	17.80 →
Sylwia Jaśkiewicz	Hold	↓	28.01.2020	-	29.01.2020	22.07.2020	-4%	5%	17.80	18.50 ↑
Sylwia Jaśkiewicz	-	→	-	04.02.2020	05.02.2020	-	-	-	17.90	18.50 →
Sylwia Jaśkiewicz	-	→	-	06.02.2020	07.02.2020	-	-	-	17.50	18.50 →
Sylwia Jaśkiewicz	-	→	-	03.03.2020	04.03.2020	-	-	-	15.20	18.50 →
Sylwia Jaśkiewicz	-	→	-	30.03.2020	31.03.2020	-	-	-	12.25	18.50 →
Sylwia Jaśkiewicz	-	→	-	22.04.2020	23.04.2020	-	-	-	14.00	18.50 →
Sylwia Jaśkiewicz	-	→	-	23.04.2020	24.04.2020	-	-	-	14.00	18.50 →
Sylwia Jaśkiewicz	-	→	-	19.05.2020	20.05.2020	-	-	-	13.65	18.50 →
Sylwia Jaśkiewicz	-	→	-	15.06.2020	16.06.2020	-	-	-	16.60	18.50 →
Sylwia Jaśkiewicz	-	→	-	13.07.2020	14.07.2020	-	-	-	17.90	18.50 →
Sylwia Jaśkiewicz	Buy	↑	22.07.2020	-	23.07.2020	Not later than 22.07.2021	-	-	17.00	20.30 ↑

\* prices at issue/reiteration are the closing prices at the report or reiteration date

**Market-relative recommendation tracker**

Analyst	Relative Recommendation	Report date	Reiteration date	Distribution date	Expiry date	Price at issue/reiteration*	Relative performance
<b>Ferro</b>							
Sylwia Jaśkiewicz	Neutral	-	21.07.2019	-	22.07.2019	18.11.2019	13.70 -2%
Sylwia Jaśkiewicz	-	→	-	30.07.2019	31.07.2019	-	13.50 -
Sylwia Jaśkiewicz	-	→	-	01.09.2019	02.09.2019	-	12.05 -
Sylwia Jaśkiewicz	-	→	-	10.09.2019	11.09.2019	-	12.10 -
Sylwia Jaśkiewicz	-	→	-	15.09.2019	16.09.2019	-	12.65 -
Sylwia Jaśkiewicz	-	→	-	13.10.2019	14.10.2019	-	13.40 -
Sylwia Jaśkiewicz	-	→	-	24.10.2019	25.10.2019	-	13.00 -
Sylwia Jaśkiewicz	-	→	-	17.11.2019	18.11.2019	-	13.00 -
Sylwia Jaśkiewicz	Overweight	↑	18.11.2019	-	19.11.2019	28.01.2020	13.00 41%
Sylwia Jaśkiewicz	-	→	-	04.12.2019	05.12.2019	-	15.20 -
Sylwia Jaśkiewicz	-	→	-	08.12.2019	09.12.2019	-	15.00 -
Sylwia Jaśkiewicz	-	→	-	09.01.2020	10.01.2020	-	16.30 -
Sylwia Jaśkiewicz	Neutral	↓	28.01.2020	-	29.01.2020	23.04.2020	17.80 -1%
Sylwia Jaśkiewicz	-	→	-	04.02.2020	05.02.2020	-	17.90 -
Sylwia Jaśkiewicz	-	→	-	06.02.2020	07.02.2020	-	17.50 -
Sylwia Jaśkiewicz	-	→	-	03.03.2020	04.03.2020	-	15.20 -
Sylwia Jaśkiewicz	-	→	-	30.03.2020	31.03.2020	-	12.25 -
Sylwia Jaśkiewicz	-	→	-	22.04.2020	23.04.2020	-	14.00 -
Sylwia Jaśkiewicz	Overweight	↑	23.04.2020	-	24.04.2020	Not later than 23.04.2021	14.00 6%
Sylwia Jaśkiewicz	-	→	-	19.05.2020	20.05.2020	-	13.65 -
Sylwia Jaśkiewicz	-	→	-	15.06.2020	16.06.2020	-	16.60 -
Sylwia Jaśkiewicz	-	→	-	13.07.2020	14.07.2020	-	17.90 -
Sylwia Jaśkiewicz	-	→	-	22.07.2020	23.07.2020	-	17.00 -

\* prices at issue/reiteration are the closing prices at the report or reiteration date

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