

**38/2020/GPW (136) November 19, 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 18.40  
**12M EFV:** PLN 23.4 (↑)

**Market Cap:** US\$ 103.2 m  
**Bloomberg code:** FRO PW  
**Av. daily turnover:** US\$ 0.03 m  
**12M range:** PLN 10.30-20.00  
**Free float:** 31%

## Recommended action

We maintain our ST relative Overweight rating and LT fundamental Buy recommendation. The Company's 1-3Q20 financials are very good with 3Q20 NP rising 62% yoy to PLN 24 million. After the financial forecasts upgrade our 12M EFV for Ferro grows 6% to PLN 23.4 (previously PLN 22) per share.

We believe the Company is likely to make an acquisition in the next months which should facilitate the Group's further development given its strong position on the existing markets and in the assortment of offered products. At the end of 3Q20 Ferro's net debt (with leasing) stood at just PLN 31 million.

## 3Q20 financial results review

Similarly to 1H20, 3Q20 was very favorable for the Company. 3Q20 sales reached PLN 148 million (+21% yoy) with Hungary and Romania delivering the highest sales dynamic, at 72% and 39% yoy, respectively. In Poland/Czechia/Slovakia 3Q20 sales increase amounts to 13%/8%/5%. The Group's revenues on the remaining markets showed a 52% yoy growth.

Ferro improved its profitability. We believe the Company limited a number of intensive marketing campaigns. Other operating costs and salary costs were lower than we expected. Salary costs fell qoq though we suppose that high revenues will lead to payments of bonuses and in consequence the said costs will rise in 4Q20. The commodities and currency market environment was favorable for the Company. Costs of goods sold in 3Q20 turned to be lower than we forecasted. 3Q20 EBIT reached PLN 27.6 million vs PLN 21.9 million in our forecasts and PLN 19.8 million in 3Q19.

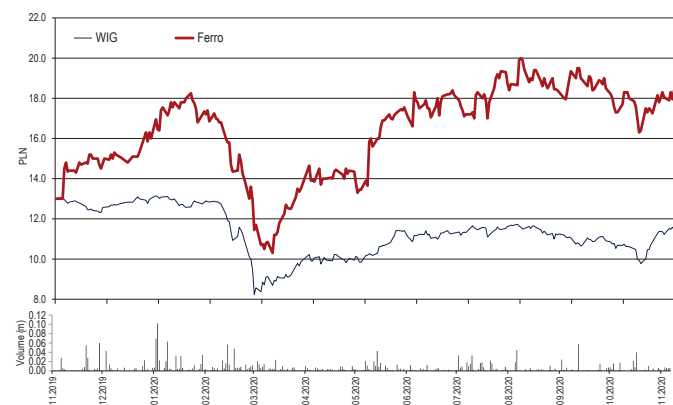
**Guide to adjusted profits**  
Income tax.

### Key data

IFRS consolidated		2019	2020E	2021E	2022E
Sales	PLN m	451.3	498.4	518.3	549.4
EBITDA	PLN m	66.9	79.2	67.8	71.4
EBIT	PLN m	60.6	72.1	59.3	62.7
Net income	PLN m	40.0	57.2	45.3	48.5
Adj net income	PLN m	42.9	57.2	45.3	48.5
Adj EPS	PLN	2.0	2.7	2.1	2.3
Adj EPS yoy chg	%	11	33	-21	7
Net debt	PLN m	75.8	56.2	62.0	54.1
P/E	x	9.8	6.8	8.6	8.1
Adj P/E	x	9.1	6.8	8.6	8.1
EV/EBITDA	x	7.0	5.6	6.7	6.2
EV/EBIT	x	7.7	6.2	7.6	7.1
DPS	PLN	1.12	0.40	1.70	1.35
Gross dividend yield	%	6.1	2.2	9.2	7.3
Number of shares (eop)	m	21.2	21.2	21.2	21.2

Source: Company, DM BOS SA estimates

### Stock performance



Source: Bloomberg

Fig. 1. Ferro; 3Q20 financials vs forecasts

IFRS consolidated (PLN m)									yoy chg			yoy chg	Realisation of 3Q		Realisation of	
	1Q19	2Q19	3Q19	4Q19	1Q20	2Q20	3Q20	3Q20E		1-3Q19	1-3Q20		results in		1-3Q results in	
													2019	2020E	2019	2020E
Sales	109.4	105.8	122.1	113.9	124.8	112.0	147.7	134.3	21%	337.3	384.5	14%	27%	27%	75%	77%
EBITDA	18.7	14.4	21.5	12.3	21.8	17.3	29.4	23.8	37%	54.6	68.5	26%	32%	30%	82%	86%
EBITDA margin	17.1%	13.6%	17.6%	10.8%	17.5%	15.4%	19.9%	17.7%	-	16.2%	17.8%	-	-	-	-	-
EBIT	17.5	12.7	19.8	10.6	20.0	15.4	27.6	21.9	40%	50.0	63.1	26%	33%	30%	82%	88%
EBIT margin	16.0%	12.0%	16.2%	9.3%	16.1%	13.8%	18.7%	16.3%	-	14.8%	16.4%	-	-	-	-	-
Pre-tax profit	16.1	11.7	17.7	8.5	20.2	14.5	29.1	20.1	64%	45.6	63.8	40%	33%	28%	84%	90%
Pre-tax profit margin	14.7%	11.1%	14.5%	7.4%	16.2%	12.9%	19.7%	14.9%	-	13.5%	16.6%	-	-	-	-	-
Net profit	13.0	9.5	14.5	2.9	16.5	12.3	23.6	16.3	62%	37.1	52.5	42%	36%	28%	93%	92%
Net profit margin	11.9%	9.0%	11.9%	2.6%	13.2%	11.0%	16.0%	12.1%	-	11.0%	13.6%	-	-	-	-	-

Source: The Company, DM BOŚ SA

The Group's net financial result stood at PLN +1.5 million vs PLN -2 million a year ago. Ultimately, 3Q20 NI reached PLN 23.6 million (+62% yoy) whereas we expected PLN 16.3 million.

OCF in 1-3Q20 hit PLN 51 million vs PLN 39 million a year ago.

Given the advanced realization of our FY forecasts we upgrade forecasts of the Group's sales/EBIT/NI by 3%/13%/20%.

Ferro upheld its strategy implementation plans which according to the management should enable the Company to reach 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. Acquisition plans are not included.

## 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 6% to PLN 23.40 from PLN 22.0 per share. The DCF/peer-relative valuation yields PLN 26.0 (from PLN 24.8)/ 20.7 (from PLN 19.2) per share.

Fig. 2. Ferro; Changes in DM BOŚ SA forecasts

IFRS consolidated (PLN m)	2020E			2021E			2022E		
	current	previous	change	current	previous	change	current	previous	change
Sales	498.4	481.6	3%	518.3	515.3	1%	549.4	546.2	1%
EBITDA	79.2	71.2	11%	67.8	67.1	1%	71.4	70.6	1%
EBIT	72.1	63.6	13%	59.3	58.5	1%	62.7	61.8	1%
NP	57.2	47.7	20%	45.3	44.6	2%	48.5	47.7	2%
Net debt	56.2	60.9	-8%	62.0	65.7	-6%	54.1	58.1	-7%

Source: DM BOŚ SA estimates

**Fig. 3. 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	1.2	1.2
<b>Required rate of return</b>	<b>11.3%</b>	<b>11.2%</b>	<b>11.0%</b>	<b>10.8%</b>	<b>10.6%</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	80%	81%	82%	82%	84%
Debt share	20%	19%	18%	18%	16%
Cost of equity	11.3%	11.2%	11.0%	10.8%	10.6%
After tax cost of debt	3.8%	3.8%	3.8%	3.8%	3.8%
<b>WACC</b>	<b>9.8%</b>	<b>9.8%</b>	<b>9.7%</b>	<b>9.6%</b>	<b>9.5%</b>
<b>Financial forecasts (PLN m)</b>					
Sales	518.3	549.4	576.9	605.7	623.9
EBIT	59.3	62.7	66.2	72.8	75.0
NOPLAT	48.0	50.8	53.6	58.9	60.8
Depreciation	8.6	8.7	9.8	10.8	12.0
NWC change	-14.6	-10.9	-9.7	-10.1	-6.4
Capex	-8.6	-10.4	-10.6	-11.8	-13.1
<b>FCFF</b>	<b>33.3</b>	<b>38.2</b>	<b>43.1</b>	<b>47.8</b>	<b>53.4</b>

Source: DM BOŚ SA estimates

**Fig. 4. Ferro; DCF Valuation (PLN m)**

FCFF terminal growth	1.0%
WACC in residual period	9.5%
Residual value	631.0
PV of residual value	433.2
PV of FCFF	175.7
Enterprise value	608.8
Net debt	56.2
<b>Equity value</b>	<b>552.7</b>
Number of shares (million)	21.2
<b>12M EFV (PLN)</b>	<b>26.0</b>

Source: DM BOŚ SA estimates

**Fig. 5. Ferro; Peer-relative comparison**

Company	P/E			EV/EBITDA			EV/EBIT		
	2020E	2021E	2022E	2020E	2021E	2022E	2020E	2021E	2022E
Villeroy & Boch Ag-Pref	21.4	12.4	11.1	6.1	4.7	4.3	14.3	8.9	7.7
Fortune Brands Home & Securi	20.2	17.7	15.7	13.3	11.6	10.7	16.2	14.1	12.3
Nilfisk Holding	b.z.	12.5	9.4	10.4	6.4	5.5	b.z.	14.8	11.1
Tarkett	b.z.	14.3	11.3	6.1	5.0	4.4	b.z.	10.9	9.0
Nichiha	11.3	b.z.	12.6	5.6	7.8	5.5	7.9	b.z.	7.7
Norcros	6.4	9.2	7.7	4.7	5.3	4.0	6.6	b.z.	6.9
Vestel Beyaz Esya Sanayi	8.4	7.5	7.3	5.8	5.3	5.7	7.1	6.9	7.7
Mercor	8.9	6.4	6.0	6.2	4.9	4.6	8.9	6.5	6.1
Lena Lighting	8.8	8.4	8.1	4.8	4.5	4.3	6.7	6.2	5.9
<b>Median</b>	<b>9.4</b>	<b>10.8</b>	<b>9.4</b>	<b>6.1</b>	<b>5.3</b>	<b>5.5</b>	<b>7.9</b>	<b>8.9</b>	<b>7.7</b>
Ferro	6.8	8.6	8.1	5.6	6.7	6.2	6.2	7.6	7.1
Implied Ferro's price based on peers (PLN)	25.4	23.1	21.4	20.1	14.0	15.9	24.2	21.9	20.2
<b>Implied Ferro's price (PLN)</b>	<b>20.7</b>								

Source: Bloomberg, DM BOŚ SA estimates

**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 (currency risk when PLN and CZK weaken against US\$ and EUR)
9. Own brands developed by shopping 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. 6. 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>203.1</b>	<b>203.1</b>	<b>204.7</b>
Other fixed assets	1.0	1.0	1.6	1.7	1.8	1.9
Current trade assets	177.4	193.7	206.7	278.3	284.1	306.1
- inventory	106.7	119.0	125.5	152.5	166.5	176.5
- net trade receivables	51.8	57.1	60.7	66.1	68.7	72.9
Accruals	18.9	17.6	20.5	59.7	48.9	56.8
<b>Assets</b>	<b>365.2</b>	<b>390.9</b>	<b>411.6</b>	<b>483.1</b>	<b>489.0</b>	<b>512.7</b>
Shareholders' funds	198.3	233.2	250.3	296.4	305.7	325.5
Reserves	35.1	8.1	8.1	8.1	8.1	8.1
Liabilities	131.8	149.6	153.2	178.6	175.2	179.0
- interest bearing debt	65.6	109.1	89.2	108.8	103.8	103.8
- trading liabilities	59.7	34.7	47.2	52.0	54.1	57.2
- other	5.6	5.8	9.7	10.7	10.3	10.9
<b>Shareholders equity and liabilities</b>	<b>365.2</b>	<b>390.9</b>	<b>411.6</b>	<b>483.1</b>	<b>489.0</b>	<b>512.7</b>
<b>Ratios:</b>						
Debt/Equity	0.3	0.5	0.4	0.4	0.4	0.3
Net WC / Total assets	0.3	0.4	0.3	0.3	0.4	0.4
Current ratio	1.5	1.6	1.7	2.2	2.2	2.3
Quick ratio	0.6	0.6	0.7	1.0	0.9	1.0
Sales / Total assets	1.0	1.1	1.1	1.1	1.1	1.1
Sales / Net WC	3.5	3.4	3.2	3.3	3.0	2.9
Inventory turnover (days)*	104	102	99	102	112	114
Average receivable turnover (days)*	48	49	48	46	47	47
Average accounts payable period (days)*	49	42	33	36	37	37
Cash conversion cycle (days)	103	108	113	112	122	124
ROA	11.2%	10.2%	10.7%	12.8%	9.3%	9.7%
ROE	19.2%	17.9%	17.7%	20.9%	15.1%	15.4%

\*in relation to revenues

Source: Company, DM BOŚ SA estimates

Fig. 7. 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>498.4</b>	<b>518.3</b>	<b>549.4</b>
Costs of operating activities	319.3	353.9	392.9	428.1	461.0	488.8
<b>EBITDA</b>	<b>51.6</b>	<b>57.3</b>	<b>66.9</b>	<b>79.2</b>	<b>67.8</b>	<b>71.4</b>
<b>EBIT</b>	<b>47.7</b>	<b>53.6</b>	<b>60.6</b>	<b>72.1</b>	<b>59.3</b>	<b>62.7</b>
Financial income	2.9	0.0	0.0	2.9	0.9	0.9
Financial costs	-10.1	-6.7	-6.6	-4.4	-4.2	-3.8
<b>Pre-tax profit</b>	<b>40.5</b>	<b>46.8</b>	<b>54.0</b>	<b>70.6</b>	<b>56.0</b>	<b>59.8</b>
Income tax	-29.5	-9.1	-14.0	-13.4	-10.6	-11.4
<b>NP</b>	<b>11.1</b>	<b>37.7</b>	<b>40.0</b>	<b>57.2</b>	<b>45.3</b>	<b>48.5</b>
<b>Adj NP</b>	<b>39.6</b>	<b>38.6</b>	<b>42.9</b>	<b>57.2</b>	<b>45.3</b>	<b>48.5</b>
<b>Margins:</b>						
EBITDA	14.2%	14.1%	14.8%	15.9%	13.1%	13.0%
EBIT	13.1%	13.2%	13.4%	14.5%	11.4%	11.4%
Pre-tax profit	11.1%	11.5%	12.0%	14.2%	10.8%	10.9%
NP	3.0%	9.3%	8.9%	11.5%	8.7%	8.8%
Adj NP	10.9%	9.5%	9.5%	11.5%	8.7%	8.8%
<b>Nominal growth:</b>						
Sales	9.7%	11.2%	11.3%	10.4%	4.0%	6.0%
EBITDA	12.4%	11.0%	16.7%	18.5%	-14.4%	5.3%
EBIT	16.1%	12.2%	13.2%	19.0%	-17.8%	5.8%
Pre-tax profit	11.1%	15.5%	15.4%	30.7%	-20.7%	6.9%
NP	-62.0%	240.8%	6.1%	42.9%	-20.7%	6.9%
Adj NP	36.2%	-2.6%	11.2%	33.3%	-20.7%	6.9%

Source: The Company, DM BOS SA estimates

Fig. 8. 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>40.2</b>	<b>41.7</b>	<b>49.6</b>
Pre-tax profit	48.7	46.8	54.0	70.6	56.0	59.8
Depreciation	3.9	3.7	6.3	7.1	8.6	8.7
Change in working capital	8.2	-44.7	0.8	-28.4	-14.6	-10.9
Other	0.7	-31.0	-6.5	-9.1	-8.2	-8.0
<b>Net funds from investing activities</b>	<b>-4.3</b>	<b>-7.1</b>	<b>-4.4</b>	<b>-7.0</b>	<b>-8.6</b>	<b>-10.4</b>
Capital expenditures	-4.4	-7.2	-4.6	-7.0	-8.6	-10.4
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>-43.9</b>	<b>-31.3</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	-36.1	-28.6
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>39.2</b>	<b>-10.8</b>	<b>7.9</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	35	34	5	9	0
Percentage	42%	41%	6%	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	3	8	0	2	0
Percentage	23%	62%	0%	15%	0%

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

	Overweight	Neutral	Underweight	Suspended	Under revision
Numbers	31	28	15	9	0
Percentage	37%	34%	18%	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	3	6	2	2	0
Percentage	23%	46%	15%	15%	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	11%	12%	17.00	20.30 ↑
Sylwia Jaśkiewicz	-	→	-	01.09.2020	02.09.2020	-	-	-	18.60	20.30 →
Sylwia Jaśkiewicz	-	→	-	17.09.2020	18.09.2020	-	-	-	18.90	20.30 →
Sylwia Jaśkiewicz	-	→	-	29.09.2020	30.09.2020	-	-	-	18.70	19.90 ↓
Sylwia Jaśkiewicz	-	→	-	08.10.2020	09.10.2020	-	-	-	19.00	19.90 →
Sylwia Jaśkiewicz	-	→	-	03.11.2020	04.11.2020	-	-	-	17.30	22.00 ↑
Sylwia Jaśkiewicz	-	→	-	08.11.2020	09.11.2020	-	-	-	17.25	22.00 →
Sylwia Jaśkiewicz	-	→	-	19.11.2020	20.11.2020	-	-	-	18.40	23.40 ↑

\* 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 18%
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 -
Sylwia Jaśkiewicz	-	→	-	01.09.2020	02.09.2020	-	18.60 -
Sylwia Jaśkiewicz	-	→	-	17.09.2020	18.09.2020	-	18.90 -
Sylwia Jaśkiewicz	-	→	-	29.09.2020	30.09.2020	-	18.70 -
Sylwia Jaśkiewicz	-	→	-	08.10.2020	09.10.2020	-	19.00 -
Sylwia Jaśkiewicz	-	→	-	03.11.2020	04.11.2020	-	17.30 -
Sylwia Jaśkiewicz	-	→	-	08.11.2020	09.11.2020	-	17.25 -
Sylwia Jaśkiewicz	-	→	-	19.11.2020	20.11.2020	-	18.40 -

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



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