



390R/2023/AR

June 29, 2023

| Company          | LT fundamental recommendation | 12M EFV (PLN)    | ST market-relative bias | Analyst                               |
|------------------|-------------------------------|------------------|-------------------------|---------------------------------------|
| <b>Asseco BS</b> | Buy (from Hold)               | 44.6 (from 41.6) | Overweight              | Sobiesław Pająk, CFA +48 22 504 32 72 |

**Event: 12M EFV update + LT fundamental rating up to a Buy.**

Our **12M EFV** for Asseco BS increases moderately (by 7%) to **PLN 44.6** per share (from PLN 41.6 previously).

**We raise our LT fundamental rating** for shares of Asseco BS to a **Buy** (from Hold).

*Regarding the potential sources of conflict of interest, please refer to the disclaimer section of the attached research report.*

## 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** = gross profit on sales/sales  
**EBITDA margin** = EBITDA/sales  
**EBIT margin** = EBIT/sales  
**Pre-tax margin** = pre-tax profit/sales  
**Net margin** = net profit/sales  
**ROE** = net profit/average equity  
**ROA** =  $(\text{net income} + \text{interest payable})/\text{average assets}$   
**EV** = market capitalization + interest bearing debt – cash and equivalents  
**EPS** = net profit/ no. of shares outstanding  
**CE** = net profit + depreciation  
**Dividend yield** (gross) = pre-tax DPS/stock market price  
**Cash sales** = accrual sales corrected for the change in A/R  
**Cash operating expenses** = accrual operating expenses corrected for the changes in inventories and A/P, depreciation, cash taxes and changes in the deferred taxes

DM BOŚ 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 BOŚ 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 BOŚ's current recommendations

|            | Buy | Hold | Sell | Suspended | Under revision | Not rated |
|------------|-----|------|------|-----------|----------------|-----------|
| Numbers    | 39  | 32   | 8    | 9         | 0              | 2         |
| Percentage | 43% | 36%  | 9%   | 10%       | 0%             | 2%        |

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

|            | Overweight | Neutral | Underweight | Suspended | Under revision | Not rated |
|------------|------------|---------|-------------|-----------|----------------|-----------|
| Numbers    | 33         | 32      | 14          | 9         | 0              | 2         |
| Percentage | 37%        | 36%     | 16%         | 10%       | 0%             | 2%        |

## Banks

**Net Interest Margin (NIM)** = net interest income/average assets  
**Non interest income** = fees&commissions + result on financial operations (trading gains) + 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** = net profit/average equity  
**ROA** = net income/average assets  
**Non performing loans (NPL)** = loans in 'basket 3' category  
**NPL coverage ratio** = loan loss provisions/NPL  
**Net provision charge** = provisions created – provisions released

DM BOŚ 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 BOŚ's current recommendations for the companies which DM BOŚ has supplied with material investment services within the last 12 months

|            | Buy | Hold | Sell | Suspended | Under revision | Not rated |
|------------|-----|------|------|-----------|----------------|-----------|
| Numbers    | 6   | 6    | 1    | 1         | 0              | 2         |
| Percentage | 38% | 38%  | 6%   | 6%        | 0%             | 13%       |

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

|            | Overweight | Neutral | Underweight | Suspended | Under revision | Not rated |
|------------|------------|---------|-------------|-----------|----------------|-----------|
| Numbers    | 6          | 3       | 4           | 1         | 0              | 2         |
| Percentage | 38%        | 19%     | 25%         | 6%        | 0%             | 13%       |

LT fundamental recommendation tracker

| Analyst   | Recommendation | Report date | Reiteration date | Distribution date | Expiry date | Performance | Relative performance | Price at issue/reiteration* | EFV (12 months) |   |
|-----------|----------------|-------------|------------------|-------------------|-------------|-------------|----------------------|-----------------------------|-----------------|---|
| Asseco BS |                |             |                  |                   |             |             |                      |                             |                 |   |
| -         | Hold           | 7.02.2008   | -                | -                 | 11.05.2008  | 0%          | 1%                   | 12.50                       | 13.20           | - |
| -         | -              | -           | 21.02.2008       | -                 | -           | -           | -                    | 13.50                       | 14.20           | ↑ |
| -         | -              | -           | 13.03.2008       | -                 | -           | -           | -                    | 13.30                       | 14.10           | ↓ |
| -         | -              | -           | 30.03.2008       | -                 | -           | -           | -                    | 12.67                       | 14.00           | ↓ |
| -         | -              | -           | 08.04.2008       | -                 | -           | -           | -                    | 12.66                       | 14.00           | → |
| -         | Buy            | 11.05.2008  | -                | -                 | 09.11.2008  | -30%        | 18%                  | 12.50                       | 14.60           | ↑ |
| -         | -              | -           | 01.06.2008       | -                 | -           | -           | -                    | 12.97                       | 14.60           | → |
| -         | -              | -           | 29.06.2008       | -                 | -           | -           | -                    | 11.45                       | 14.50           | ↓ |
| -         | -              | -           | 02.07.2008       | -                 | -           | -           | -                    | 11.30                       | 14.30           | ↓ |
| -         | -              | -           | 28.07.2008       | -                 | -           | -           | -                    | 10.40                       | 14.30           | → |
| -         | -              | -           | 07.08.2008       | -                 | -           | -           | -                    | 11.30                       | 14.30           | → |
| -         | -              | -           | 31.08.2008       | -                 | -           | -           | -                    | 12.45                       | 14.30           | → |
| -         | -              | -           | 28.09.2008       | -                 | -           | -           | -                    | 10.80                       | 14.30           | → |
| -         | -              | -           | 01.10.2008       | -                 | -           | -           | -                    | 10.00                       | 12.80           | ↓ |
| -         | -              | -           | 29.10.2008       | -                 | -           | -           | -                    | 8.55                        | 12.80           | → |
| -         | Hold           | 09.11.2008  | -                | -                 | 07.01.2009  | -41%        | -41%                 | 8.80                        | 10.30           | ↓ |
| -         | -              | -           | 30.11.2008       | -                 | -           | -           | -                    | 8.59                        | 10.30           | → |
| -         | -              | -           | 15.12.2008       | -                 | -           | -           | -                    | 6.20                        | 9.30            | ↓ |
| -         | Buy            | 07.01.2009  | -                | -                 | 24.02.2009  | 40%         | 86%                  | 5.20                        | 9.30            | → |
| -         | -              | -           | 11.01.2009       | -                 | -           | -           | -                    | 5.34                        | 9.30            | → |
| -         | -              | -           | 08.02.2009       | -                 | -           | -           | -                    | 6.39                        | 9.30            | → |
| -         | Hold           | 24.02.2009  | -                | -                 | 05.11.2009  | 11%         | -39%                 | 7.29                        | 8.80            | ↓ |
| -         | -              | -           | 08.03.2009       | -                 | -           | -           | -                    | 6.00                        | 8.80            | → |
| -         | -              | -           | 05.04.2009       | -                 | -           | -           | -                    | 5.95                        | 8.80            | → |
| -         | -              | -           | 14.04.2009       | -                 | -           | -           | -                    | 5.62                        | 8.30            | ↓ |
| -         | -              | -           | 17.05.2009       | -                 | -           | -           | -                    | 6.80                        | 8.30            | → |
| -         | -              | -           | 08.06.2009       | -                 | -           | -           | -                    | 6.70                        | 7.90            | ↓ |
| -         | -              | -           | 08.07.2009       | -                 | -           | -           | -                    | 6.20                        | 7.90            | → |
| -         | -              | -           | 14.07.2009       | -                 | -           | -           | -                    | 6.14                        | 6.70            | ↓ |
| -         | -              | -           | 02.08.2009       | -                 | -           | -           | -                    | 6.57                        | 6.70            | → |
| -         | -              | -           | 24.08.2009       | -                 | -           | -           | -                    | 7.11                        | 6.70            | → |
| -         | -              | -           | 31.08.2009       | -                 | -           | -           | -                    | 7.55                        | 6.70            | → |
| -         | -              | -           | 06.10.2009       | -                 | -           | -           | -                    | 8.53                        | 8.70            | ↑ |
| -         | -              | -           | 12.10.2009       | -                 | -           | -           | -                    | 8.12                        | 8.70            | → |
| -         | Buy            | 05.11.2009  | -                | -                 | 07.01.2010  | 18%         | 13%                  | 7.64                        | 9.40            | ↑ |
| -         | -              | -           | 08.12.2009       | -                 | -           | -           | -                    | 7.90                        | 9.40            | → |
| -         | -              | -           | 14.12.2009       | -                 | -           | -           | -                    | 8.00                        | 9.40            | → |
| -         | Hold           | 07.01.2010  | -                | -                 | 30.06.2010  | 8%          | 12%                  | 9.05                        | 9.80            | ↑ |
| -         | -              | -           | 03.02.2010       | -                 | -           | -           | -                    | 8.79                        | 9.80            | → |
| -         | -              | -           | 01.03.2010       | -                 | -           | -           | -                    | 9.25                        | 9.80            | → |
| -         | -              | -           | 29.03.2010       | -                 | -           | -           | -                    | 9.99                        | 9.80            | → |
| -         | -              | -           | 31.03.2010       | -                 | -           | -           | -                    | 9.82                        | 10.40           | ↑ |
| -         | -              | -           | 05.05.2010       | -                 | -           | -           | -                    | 10.00                       | 9.65            | ↓ |
| -         | -              | -           | 17.05.2010       | -                 | -           | -           | -                    | 8.50                        | 9.65            | → |
| -         | -              | -           | 14.06.2010       | -                 | -           | -           | -                    | 9.03                        | 9.65            | → |
| -         | Buy            | 30.06.2010  | -                | -                 | 02.01.2011  | 44%         | 19%                  | 9.00                        | 10.50           | ↑ |
| -         | -              | -           | 19.07.2010       | -                 | -           | -           | -                    | 9.20                        | 10.50           | → |
| -         | -              | -           | 31.08.2010       | -                 | -           | -           | -                    | 10.00                       | 10.50           | → |
| -         | -              | -           | 03.10.2010       | -                 | -           | -           | -                    | 10.70                       | 12.20           | ↑ |
| -         | -              | -           | 12.10.2010       | -                 | -           | -           | -                    | 11.08                       | 12.20           | → |
| -         | -              | -           | 15.11.2010       | -                 | -           | -           | -                    | 11.20                       | 12.20           | → |
| -         | -              | -           | 13.12.2010       | -                 | -           | -           | -                    | 10.74                       | 12.80           | ↑ |
| -         | -              | -           | 15.12.2010       | -                 | -           | -           | -                    | 11.20                       | 12.80           | → |
| -         | Hold           | 02.01.2011  | -                | -                 | 11.12.2011  | -19%        | 0%                   | 12.93                       | 12.80           | → |
| -         | -              | -           | 28.01.2011       | -                 | -           | -           | -                    | 12.16                       | 12.80           | → |
| -         | -              | -           | 01.03.2011       | -                 | -           | -           | -                    | 12.25                       | 12.80           | → |
| -         | -              | -           | 10.03.2011       | -                 | -           | -           | -                    | 12.10                       | 12.80           | → |
| -         | -              | -           | 13.03.2011       | -                 | -           | -           | -                    | 12.56                       | 14.20           | ↑ |
| -         | -              | -           | 24.03.2011       | -                 | -           | -           | -                    | 12.44                       | 14.20           | → |
| -         | -              | -           | 20.04.2011       | -                 | -           | -           | -                    | 13.20                       | 14.20           | → |
| -         | -              | -           | 11.05.2011       | -                 | -           | -           | -                    | 13.50                       | 13.30           | ↓ |
| -         | -              | -           | 16.05.2011       | -                 | -           | -           | -                    | 12.30                       | 13.30           | → |
| -         | -              | -           | 20.06.2011       | -                 | -           | -           | -                    | 12.08                       | 13.30           | → |
| -         | -              | -           | 25.07.2011       | -                 | -           | -           | -                    | 10.92                       | 13.30           | → |
| -         | -              | -           | 31.08.2011       | -                 | -           | -           | -                    | 9.90                        | 11.60           | ↓ |
| -         | -              | -           | 03.10.2011       | -                 | -           | -           | -                    | 10.00                       | 11.60           | → |
| -         | -              | -           | 24.10.2011       | -                 | -           | -           | -                    | 10.02                       | 11.60           | → |
| -         | -              | -           | 02.11.2011       | -                 | -           | -           | -                    | 9.91                        | 11.60           | → |
| -         | -              | -           | 14.11.2011       | -                 | -           | -           | -                    | 10.43                       | 11.60           | → |
| -         | Hold           | 11.12.2011  | -                | -                 | 14.11.2012  | 9%          | -4%                  | 9.61                        | 11.60           | → |
| -         | -              | -           | 01.01.2012       | -                 | -           | -           | -                    | 9.29                        | 10.50           | ↓ |
| -         | -              | -           | 25.01.2012       | -                 | -           | -           | -                    | 9.52                        | 10.50           | → |
| -         | -              | -           | 29.02.2012       | -                 | -           | -           | -                    | 10.50                       | 10.50           | → |
| -         | -              | -           | 09.03.2012       | -                 | -           | -           | -                    | 10.22                       | 10.50           | → |
| -         | -              | -           | 20.03.2012       | -                 | -           | -           | -                    | 10.75                       | 10.50           | → |
| -         | -              | -           | 15.04.2012       | -                 | -           | -           | -                    | 10.55                       | 10.50           | → |
| -         | -              | -           | 09.05.2012       | -                 | -           | -           | -                    | 9.60                        | 9.54            | ↓ |
| -         | -              | -           | 15.05.2012       | -                 | -           | -           | -                    | 9.61                        | 9.54            | → |
| -         | -              | -           | 21.06.2012       | -                 | -           | -           | -                    | 9.13                        | 9.54            | → |
| -         | -              | -           | 19.07.2012       | -                 | -           | -           | -                    | 8.74                        | 9.54            | → |
| -         | -              | -           | 02.09.2012       | -                 | -           | -           | -                    | 9.20                        | 9.54            | → |
| -         | -              | -           | 01.10.2012       | -                 | -           | -           | -                    | 8.90                        | 9.10            | ↓ |
| -         | -              | -           | 10.10.2012       | -                 | -           | -           | -                    | 8.37                        | 9.10            | → |

LT fundamental recommendation tracker (continued)

| Analyst         | Recommendation | Report date | Reiteration date | Distribution date | Expiry date | Performance | Relative performance | Price at issue/reiteration* | EFV (12 months) |
|-----------------|----------------|-------------|------------------|-------------------|-------------|-------------|----------------------|-----------------------------|-----------------|
| -               | -              | -           | 05.11.2012       | -                 | -           | -           | -                    | 9.35                        | 9.10 →          |
| -               | -              | -           | 06.11.2012       | -                 | -           | -           | -                    | 9.80                        | 9.10 →          |
| -               | Hold           | 14.11.2012  | -                | -                 | 14.11.2013  | 47%         | 21%                  | 9.50                        | 9.10 →          |
| -               | -              | -           | 13.12.2012       | -                 | -           | -           | -                    | 10.65                       | 10.20 ↑         |
| -               | -              | -           | 23.01.2013       | -                 | -           | -           | -                    | 10.31                       | 10.20 →         |
| -               | -              | -           | 18.02.2013       | -                 | -           | -           | -                    | 11.09                       | 10.20 →         |
| -               | -              | -           | 21.03.2013       | -                 | -           | -           | -                    | 11.19                       | 10.20 →         |
| -               | -              | -           | 02.04.2013       | -                 | -           | -           | -                    | 11.55                       | 11.60 ↑         |
| -               | -              | -           | 17.04.2013       | -                 | -           | -           | -                    | 11.08                       | 11.60 →         |
| -               | -              | -           | 13.05.2013       | -                 | -           | -           | -                    | 10.70                       | 10.80 ↓         |
| -               | -              | -           | 15.05.2013       | -                 | -           | -           | -                    | 11.39                       | 10.80 →         |
| -               | -              | -           | 17.06.2013       | -                 | -           | -           | -                    | 11.69                       | 10.80 →         |
| -               | -              | -           | 14.07.2013       | -                 | -           | -           | -                    | 10.80                       | 11.70 ↑         |
| -               | -              | -           | 25.07.2013       | -                 | -           | -           | -                    | 11.18                       | 11.70 →         |
| -               | -              | -           | 01.09.2013       | -                 | -           | -           | -                    | 11.98                       | 11.70 →         |
| -               | -              | -           | 20.10.2013       | -                 | -           | -           | -                    | 12.50                       | 11.70 →         |
| -               | Hold           | 14.11.2013  | -                | -                 | 08.04.2014  | -4%         | -3%                  | 13.20                       | 11.70 →         |
| -               | -              | -           | 12.12.2013       | -                 | -           | -           | -                    | 12.85                       | 13.80 ↑         |
| -               | -              | -           | 14.01.2014       | -                 | -           | -           | -                    | 13.17                       | 13.80 →         |
| -               | -              | -           | 21.01.2014       | -                 | -           | -           | -                    | 13.29                       | 13.80 →         |
| -               | -              | -           | 17.02.2014       | -                 | -           | -           | -                    | 12.10                       | 13.80 →         |
| -               | -              | -           | 23.03.2014       | -                 | -           | -           | -                    | 12.47                       | 13.80 →         |
| -               | Buy            | 08.04.2014  | -                | -                 | 26.03.2015  | 24%         | 21%                  | 12.65                       | 14.40 ↑         |
| -               | -              | -           | 13.04.2014       | -                 | -           | -           | -                    | 12.60                       | 14.40 →         |
| -               | -              | -           | 11.05.2014       | -                 | -           | -           | -                    | 12.86                       | 13.60 ↓         |
| -               | -              | -           | 15.05.2014       | -                 | -           | -           | -                    | 12.00                       | 13.60 →         |
| -               | -              | -           | 16.06.2014       | -                 | -           | -           | -                    | 11.59                       | 13.60 →         |
| -               | -              | -           | 20.07.2014       | -                 | -           | -           | -                    | 11.16                       | 13.60 →         |
| -               | -              | -           | 01.09.2014       | -                 | -           | -           | -                    | 11.49                       | 13.60 →         |
| -               | -              | -           | 07.10.2014       | -                 | -           | -           | -                    | 12.00                       | 15.00 ↑         |
| -               | -              | -           | 14.10.2014       | -                 | -           | -           | -                    | 12.22                       | 15.00 →         |
| -               | -              | -           | 16.11.2014       | -                 | -           | -           | -                    | 12.30                       | 15.00 →         |
| -               | -              | -           | 14.12.2014       | -                 | -           | -           | -                    | 12.87                       | 15.00 →         |
| -               | -              | -           | 18.01.2015       | -                 | -           | -           | -                    | 12.61                       | 15.00 →         |
| -               | -              | -           | 10.02.2015       | -                 | -           | -           | -                    | 13.50                       | 15.00 →         |
| -               | -              | -           | 23.03.2015       | -                 | -           | -           | -                    | 14.49                       | 15.00 →         |
| -               | Buy            | 26.03.2015  | -                | -                 | 17.05.2015  | 2%          | -4%                  | 14.90                       | 15.70 ↑         |
| -               | -              | -           | 19.04.2015       | -                 | -           | -           | -                    | 15.20                       | 15.70 →         |
| -               | -              | -           | 13.05.2015       | -                 | -           | -           | -                    | 15.15                       | 14.85 ↓         |
| Sobiesław Pająk | Hold           | 17.05.2015  | -                | 18.05.2015        | 01.07.2015  | -10%        | -3%                  | 14.30                       | 14.85 →         |
| Sobiesław Pająk | -              | -           | 21.06.2015       | 22.06.2015        | -           | -           | -                    | 13.95                       | 14.85 →         |
| Sobiesław Pająk | Buy            | 01.07.2015  | -                | 02.07.2015        | 04.08.2015  | 26%         | 26%                  | 12.94                       | 15.80 ↑         |
| Sobiesław Pająk | -              | -           | 16.07.2015       | 17.07.2015        | -           | -           | -                    | 13.70                       | 15.80 →         |
| Sobiesław Pająk | Hold           | 04.08.2015  | -                | 05.08.2015        | 04.10.2015  | -13%        | -6%                  | 16.35                       | 15.80 →         |
| Sobiesław Pająk | -              | -           | 31.08.2015       | 01.09.2015        | -           | -           | -                    | 13.32                       | 15.80 →         |
| Sobiesław Pająk | Buy            | 04.10.2015  | -                | 05.10.2015        | 31.08.2016  | 75%         | 80%                  | 14.30                       | 16.50 ↑         |
| Sobiesław Pająk | -              | -           | 15.10.2015       | 16.10.2015        | -           | -           | -                    | 15.00                       | 16.50 →         |
| Sobiesław Pająk | -              | -           | 16.11.2015       | 17.11.2015        | -           | -           | -                    | 15.93                       | 16.50 →         |
| Sobiesław Pająk | -              | -           | 13.12.2015       | 14.12.2015        | -           | -           | -                    | 15.70                       | 18.80 ↑         |
| Sobiesław Pająk | -              | -           | 17.01.2016       | 18.01.2016        | -           | -           | -                    | 15.45                       | 18.80 →         |
| Sobiesław Pająk | -              | -           | 15.02.2016       | 16.02.2016        | -           | -           | -                    | 13.50                       | 18.80 →         |
| Sobiesław Pająk | -              | -           | 02.03.2016       | 03.03.2016        | -           | -           | -                    | 14.84                       | 18.80 →         |
| Sobiesław Pająk | -              | -           | 21.03.2016       | 22.03.2016        | -           | -           | -                    | 18.30                       | 18.80 →         |
| Sobiesław Pająk | -              | -           | 23.03.2016       | 24.03.2016        | -           | -           | -                    | 18.40                       | 23.00 ↑         |
| Sobiesław Pająk | -              | -           | 13.04.2016       | 14.04.2016        | -           | -           | -                    | 18.99                       | 23.00 →         |
| Sobiesław Pająk | -              | -           | 11.05.2016       | 11.05.2016        | -           | -           | -                    | 19.50                       | 22.00 ↓         |
| Sobiesław Pająk | -              | -           | 16.05.2016       | 17.05.2016        | -           | -           | -                    | 18.88                       | 22.00 →         |
| Sobiesław Pająk | -              | -           | 27.06.2016       | 28.06.2016        | -           | -           | -                    | 18.00                       | 22.00 →         |
| Sobiesław Pająk | -              | -           | 24.07.2016       | 25.07.2016        | -           | -           | -                    | 19.71                       | 22.00 →         |
| Sobiesław Pająk | -              | -           | 04.08.2016       | 04.08.2016        | -           | -           | -                    | 22.44                       | 26.00 ↑         |
| Sobiesław Pająk | Buy            | 31.08.2016  | -                | 01.09.2016        | 15.03.2017  | 16%         | -6%                  | 23.99                       | 26.00 →         |
| Sobiesław Pająk | -              | -           | 12.10.2016       | 13.10.2016        | -           | -           | -                    | 23.01                       | 26.00 →         |
| Sobiesław Pająk | -              | -           | 02.11.2016       | 03.11.2016        | -           | -           | -                    | 23.10                       | 26.00 →         |
| Sobiesław Pająk | -              | -           | 04.12.2016       | 05.12.2016        | -           | -           | -                    | 23.00                       | 26.20 ↑         |
| Sobiesław Pająk | -              | -           | 12.01.2017       | 13.01.2017        | -           | -           | -                    | 24.01                       | 26.20 →         |
| Sobiesław Pająk | -              | -           | 08.02.2017       | 09.02.2017        | -           | -           | -                    | 23.01                       | 26.20 →         |
| Sobiesław Pająk | -              | -           | 07.03.2017       | 08.03.2017        | -           | -           | -                    | 26.20                       | 26.20 →         |
| Sobiesław Pająk | Hold           | 15.03.2017  | -                | 16.03.2017        | 13.02.2018  | -3%         | -9%                  | 27.76                       | 29.40 ↑         |
| Sobiesław Pająk | -              | -           | 11.04.2017       | 12.04.2017        | -           | -           | -                    | 26.73                       | 29.40 →         |
| Sobiesław Pająk | -              | -           | 10.05.2017       | 11.05.2017        | -           | -           | -                    | 31.38                       | 28.10 ↓         |
| Sobiesław Pająk | -              | -           | 30.05.2017       | 31.05.2017        | -           | -           | -                    | 30.50                       | 28.10 →         |
| Sobiesław Pająk | -              | -           | 11.06.2017       | 12.06.2017        | -           | -           | -                    | 28.98                       | 29.70 ↑         |
| Sobiesław Pająk | -              | -           | 12.07.2017       | 13.07.2017        | -           | -           | -                    | 28.50                       | 29.70 →         |
| Sobiesław Pająk | -              | -           | 03.09.2017       | 04.09.2017        | -           | -           | -                    | 27.50                       | 29.70 →         |
| Sobiesław Pająk | -              | -           | 15.10.2017       | 16.10.2017        | -           | -           | -                    | 27.30                       | 29.70 →         |
| Sobiesław Pająk | -              | -           | 15.11.2017       | 16.11.2017        | -           | -           | -                    | 25.85                       | 29.70 →         |
| Sobiesław Pająk | -              | -           | 10.12.2017       | 11.12.2017        | -           | -           | -                    | 26.20                       | 28.20 ↓         |
| Sobiesław Pająk | -              | -           | 10.01.2018       | 11.01.2018        | -           | -           | -                    | 27.60                       | 28.20 →         |
| Sobiesław Pająk | -              | -           | 14.01.2018       | 15.01.2018        | -           | -           | -                    | 28.30                       | 30.20 ↑         |
| Sobiesław Pająk | Buy            | 13.02.2018  | -                | 14.02.2018        | 15.03.2018  | 11%         | 15%                  | 25.60                       | 30.20 →         |
| Sobiesław Pająk | -              | -           | 12.03.2018       | 13.03.2018        | -           | -           | -                    | 28.90                       | 30.20 →         |
| Sobiesław Pająk | Hold           | 15.03.2018  | -                | 16.03.2018        | 29.05.2018  | -14%        | -10%                 | 28.50                       | 30.20 →         |
| Sobiesław Pająk | -              | -           | 16.04.2018       | 17.04.2018        | -           | -           | -                    | 28.30                       | 30.20 →         |
| Sobiesław Pająk | -              | -           | 13.05.2018       | 14.05.2018        | -           | -           | -                    | 26.30                       | 28.20 ↓         |
| Sobiesław Pająk | Buy            | 29.05.2018  | -                | 30.05.2018        | 31.08.2018  | 11%         | 6%                   | 23.10                       | 28.90 →         |

LT fundamental recommendation tracker (continued)

| Analyst         | Recommendation | Report date | Reiteration date | Distribution date | Expiry date               | Performance | Relative performance | Price at issue/reiteration* | EFV (12 months) |
|-----------------|----------------|-------------|------------------|-------------------|---------------------------|-------------|----------------------|-----------------------------|-----------------|
| Sobiestaw Pająk | -              | -           | 16.07.2018       | 17.07.2018        | -                         | -           | -                    | 26.90                       | 28.90 →         |
| Sobiestaw Pająk | -              | -           | 02.08.2018       | 03.08.2018        | -                         | -           | -                    | 26.00                       | 28.90 →         |
| Sobiestaw Pająk | Hold           | 30.08.2018  | -                | 31.08.2018        | 09.12.2018                | -5%         | -1%                  | 25.60                       | 28.90 →         |
| Sobiestaw Pająk | -              | -           | 11.10.2018       | 12.10.2018        | -                         | -           | -                    | 24.10                       | 28.90 →         |
| Sobiestaw Pająk | -              | -           | 23.10.2018       | 24.10.2018        | -                         | -           | -                    | 24.40                       | 28.90 →         |
| Sobiestaw Pająk | -              | -           | 14.11.2018       | 15.11.2018        | -                         | -           | -                    | 24.50                       | 28.90 →         |
| Sobiestaw Pająk | Buy            | 09.12.2018  | -                | 10.12.2018        | 07.01.2019                | 22%         | 20%                  | 24.20                       | 29.50 ↑         |
| Sobiestaw Pająk | Hold           | 07.01.2019  | -                | 08.01.2019        | 08.12.2019                | 2%          | 7%                   | 28.00                       | 29.90 ↑         |
| Sobiestaw Pająk | -              | -           | 10.01.2019       | 11.01.2019        | -                         | -           | -                    | 27.90                       | 29.90 →         |
| Sobiestaw Pająk | -              | -           | 04.02.2019       | 05.02.2019        | -                         | -           | -                    | 29.50                       | 29.90 →         |
| Sobiestaw Pająk | -              | -           | 26.02.2019       | 27.02.2019        | -                         | -           | -                    | 29.50                       | 29.90 →         |
| Sobiestaw Pająk | -              | -           | 13.03.2019       | 14.03.2019        | -                         | -           | -                    | 29.50                       | 30.30 ↑         |
| Sobiestaw Pająk | -              | -           | 26.03.2019       | 27.03.2019        | -                         | -           | -                    | 29.80                       | 30.30 →         |
| Sobiestaw Pająk | -              | -           | 22.04.2019       | 23.04.2019        | -                         | -           | -                    | 29.20                       | 30.30 →         |
| Sobiestaw Pająk | -              | -           | 24.04.2019       | 25.04.2019        | -                         | -           | -                    | 28.60                       | 30.30 →         |
| Sobiestaw Pająk | -              | -           | 29.05.2019       | 30.05.2019        | -                         | -           | -                    | 27.30                       | 28.80 ↓         |
| Sobiestaw Pająk | -              | -           | 30.05.2019       | 31.05.2019        | -                         | -           | -                    | 28.00                       | 28.80 →         |
| Sobiestaw Pająk | -              | -           | 17.07.2019       | 18.07.2019        | -                         | -           | -                    | 27.60                       | 28.80 →         |
| Sobiestaw Pająk | -              | -           | 30.07.2019       | 31.07.2019        | -                         | -           | -                    | 27.40                       | 28.80 →         |
| Sobiestaw Pająk | -              | -           | 01.09.2019       | 02.09.2019        | -                         | -           | -                    | 27.60                       | 28.80 →         |
| Sobiestaw Pająk | -              | -           | 13.10.2019       | 14.10.2019        | -                         | -           | -                    | 28.00                       | 28.80 →         |
| Sobiestaw Pająk | -              | -           | 24.10.2019       | 25.10.2019        | -                         | -           | -                    | 27.00                       | 28.80 →         |
| Sobiestaw Pająk | -              | -           | 17.11.2019       | 18.11.2019        | -                         | -           | -                    | 28.00                       | 28.80 →         |
| Sobiestaw Pająk | Hold           | 08.12.2019  | -                | 09.12.2019        | 06.12.2020                | 33%         | 35%                  | 27.00                       | 31.50 ↑         |
| Sobiestaw Pająk | -              | -           | 09.01.2020       | 10.01.2020        | -                         | -           | -                    | 28.40                       | 31.50 →         |
| Sobiestaw Pająk | -              | -           | 14.01.2020       | 15.01.2020        | -                         | -           | -                    | 28.80                       | 31.50 →         |
| Sobiestaw Pająk | -              | -           | 04.02.2020       | 05.02.2020        | -                         | -           | -                    | 33.60                       | 31.50 →         |
| Sobiestaw Pająk | -              | -           | 06.02.2020       | 07.02.2020        | -                         | -           | -                    | 33.60                       | 31.50 →         |
| Sobiestaw Pająk | -              | -           | 03.03.2020       | 04.03.2020        | -                         | -           | -                    | 35.60                       | 31.50 →         |
| Sobiestaw Pająk | -              | -           | 30.03.2020       | 31.03.2020        | -                         | -           | -                    | 31.00                       | 31.50 →         |
| Sobiestaw Pająk | -              | -           | 22.04.2020       | 23.04.2020        | -                         | -           | -                    | 35.80                       | 31.50 →         |
| Sobiestaw Pająk | -              | -           | 17.05.2020       | 18.05.2020        | -                         | -           | -                    | 34.00                       | 29.70 ↓         |
| Sobiestaw Pająk | -              | -           | 19.05.2020       | 20.05.2020        | -                         | -           | -                    | 34.60                       | 29.70 →         |
| Sobiestaw Pająk | -              | -           | 15.06.2020       | 16.06.2020        | -                         | -           | -                    | 31.80                       | 29.70 →         |
| Sobiestaw Pająk | -              | -           | 24.06.2020       | 25.06.2020        | -                         | -           | -                    | 33.00                       | 35.20 ↑         |
| Sobiestaw Pająk | -              | -           | 13.07.2020       | 14.07.2020        | -                         | -           | -                    | 32.60                       | 35.20 →         |
| Sobiestaw Pająk | -              | -           | 01.09.2020       | 02.09.2020        | -                         | -           | -                    | 32.70                       | 35.20 →         |
| Sobiestaw Pająk | -              | -           | 08.10.2020       | 09.10.2020        | -                         | -           | -                    | 34.20                       | 35.20 →         |
| Sobiestaw Pająk | -              | -           | 08.11.2020       | 09.11.2020        | -                         | -           | -                    | 32.80                       | 35.20 →         |
| Sobiestaw Pająk | Hold           | 06.12.2020  | -                | 07.12.2020        | 09.03.2021                | 15%         | 7%                   | 34.20                       | 36.30 ↑         |
| Sobiestaw Pająk | -              | -           | 05.01.2021       | 05.01.2021        | -                         | -           | -                    | 38.20                       | 36.30 →         |
| Sobiestaw Pająk | -              | -           | 28.01.2021       | 29.01.2021        | -                         | -           | -                    | 38.40                       | 36.30 →         |
| Sobiestaw Pająk | -              | -           | 28.02.2021       | 01.03.2021        | -                         | -           | -                    | 39.00                       | 36.30 →         |
| Sobiestaw Pająk | Buy            | 09.03.2021  | -                | 09.03.2021        | 07.02.2022                | 10%         | -3%                  | 39.20                       | 44.20 ↑         |
| Sobiestaw Pająk | -              | -           | 16.04.2021       | 16.04.2021        | -                         | -           | -                    | 37.50                       | 44.20 →         |
| Sobiestaw Pająk | -              | -           | 30.05.2021       | 31.05.2021        | -                         | -           | -                    | 35.90                       | 44.20 →         |
| Sobiestaw Pająk | -              | -           | 16.06.2021       | 17.06.2021        | -                         | -           | -                    | 35.00                       | 42.20 ↓         |
| Sobiestaw Pająk | -              | -           | 09.07.2021       | 09.07.2021        | -                         | -           | -                    | 35.00                       | 42.20 →         |
| Sobiestaw Pająk | -              | -           | 31.08.2021       | 31.08.2021        | -                         | -           | -                    | 35.80                       | 42.20 →         |
| Sobiestaw Pająk | -              | -           | 07.10.2021       | 07.10.2021        | -                         | -           | -                    | 35.30                       | 42.20 →         |
| Sobiestaw Pająk | -              | -           | 04.11.2021       | 04.11.2021        | -                         | -           | -                    | 40.00                       | 42.20 →         |
| Sobiestaw Pająk | -              | -           | 05.12.2021       | 06.12.2021        | -                         | -           | -                    | 39.50                       | 45.00 ↑         |
| Sobiestaw Pająk | -              | -           | 16.01.2022       | 17.01.2022        | -                         | -           | -                    | 42.80                       | 45.00 →         |
| Sobiestaw Pająk | Buy            | 07.02.2022  | -                | 07.02.2022        | 18.03.2022                | 2%          | 8%                   | 41.10                       | 45.00 →         |
| Sobiestaw Pająk | -              | -           | 28.02.2022       | 28.02.2022        | -                         | -           | -                    | 37.70                       | 45.00 →         |
| Sobiestaw Pająk | Hold           | 18.03.2022  | -                | 18.03.2022        | 31.10.2022                | -26%        | -7%                  | 42.00                       | 42.30 ↓         |
| Sobiestaw Pająk | -              | -           | 14.04.2022       | 14.04.2022        | -                         | -           | -                    | 42.80                       | 42.30 →         |
| Sobiestaw Pająk | -              | -           | 26.05.2022       | 26.05.2022        | -                         | -           | -                    | 40.00                       | 42.30 →         |
| Sobiestaw Pająk | -              | -           | 08.06.2022       | 09.06.2022        | -                         | -           | -                    | 39.88                       | 40.10 ↓         |
| Sobiestaw Pająk | -              | -           | 07.07.2022       | 07.07.2022        | -                         | -           | -                    | 39.50                       | 36.90 ↓         |
| Sobiestaw Pająk | -              | -           | 15.07.2022       | 15.07.2022        | -                         | -           | -                    | 38.40                       | 36.90 →         |
| Sobiestaw Pająk | -              | -           | 16.08.2022       | 16.08.2022        | -                         | -           | -                    | 39.10                       | 36.90 →         |
| Sobiestaw Pająk | -              | -           | 02.09.2022       | 02.09.2022        | -                         | -           | -                    | 36.00                       | 36.90 →         |
| Sobiestaw Pająk | -              | -           | 22.09.2022       | 22.09.2022        | -                         | -           | -                    | 34.00                       | 34.40 ↓         |
| Sobiestaw Pająk | -              | -           | 07.10.2022       | 07.10.2022        | -                         | -           | -                    | 30.30                       | 34.40 →         |
| Sobiestaw Pająk | -              | -           | 28.10.2022       | 28.10.2022        | -                         | -           | -                    | 29.00                       | 34.40 →         |
| Sobiestaw Pająk | Buy            | 01.11.2022  | -                | 01.11.2022        | 03.02.2023                | 26%         | 4%                   | 28.80                       | 34.40 →         |
| Sobiestaw Pająk | -              | -           | 04.12.2022       | 05.12.2022        | -                         | -           | -                    | 31.70                       | 36.00 ↑         |
| Sobiestaw Pająk | -              | -           | 13.01.2023       | 13.01.2023        | -                         | -           | -                    | 36.20                       | 36.00 →         |
| Sobiestaw Pająk | Hold           | 03.02.2023  | -                | 03.02.2023        | 29.06.2023                | 11%         | 1%                   | 36.40                       | 36.00 →         |
| Sobiestaw Pająk | -              | -           | 10.03.2023       | 10.03.2023        | -                         | -           | -                    | 38.00                       | 36.00 →         |
| Sobiestaw Pająk | -              | -           | 14.03.2023       | 14.03.2023        | -                         | -           | -                    | 39.50                       | 41.60 ↑         |
| Sobiestaw Pająk | -              | -           | 13.04.2023       | 13.04.2023        | -                         | -           | -                    | 37.20                       | 41.60 →         |
| Sobiestaw Pająk | -              | -           | 29.05.2023       | 29.05.2023        | -                         | -           | -                    | 40.90                       | 41.60 →         |
| Sobiestaw Pająk | -              | -           | 06.06.2023       | 07.06.2023        | -                         | -           | -                    | 40.70                       | 41.60 →         |
| Sobiestaw Pająk | Buy            | 29.06.2023  | -                | 29.06.2023        | Not later than 29.06.2024 | -           | -                    | 38.10                       | 44.60 ↑         |

\* prices at issue/reiteration are the closing prices at the report or reiteration date  
pre-June 2014 recommendations issued at DM IDMSA

Market-relative recommendation tracker

| Analyst          | Relative Recommendation |   | Report date | Reiteration date | Distribution date | Expiry date | Price at issue/<br>reiteration* | Relative performance |
|------------------|-------------------------|---|-------------|------------------|-------------------|-------------|---------------------------------|----------------------|
| <b>Asseco BS</b> |                         |   |             |                  |                   |             |                                 |                      |
| -                | Overweight              | - | 07.02.2008  | -                | -                 | 21.02.2008  | 12.50                           | 4%                   |
| -                | Neutral                 | ↓ | 21.02.2008  | -                | -                 | 11.05.2008  | 13.50                           | -3%                  |
| -                | -                       | → | -           | 13.03.2008       | -                 | -           | 13.30                           | -                    |
| -                | -                       | → | -           | 30.03.2008       | -                 | -           | 12.67                           | -                    |
| -                | -                       | → | -           | 08.04.2008       | -                 | -           | 12.66                           | -                    |
| -                | Overweight              | ↑ | 11.05.2008  | -                | -                 | 07.08.2008  | 12.50                           | 5%                   |
| -                | -                       | → | -           | 01.06.2008       | -                 | -           | 12.97                           | -                    |
| -                | -                       | → | -           | 29.06.2008       | -                 | -           | 11.45                           | -                    |
| -                | -                       | → | -           | 02.07.2008       | -                 | -           | 11.30                           | -                    |
| -                | -                       | → | -           | 28.07.2008       | -                 | -           | 10.40                           | -                    |
| -                | Neutral                 | ↓ | 07.08.2008  | -                | -                 | 09.11.2008  | 11.30                           | 12%                  |
| -                | -                       | → | -           | 31.08.2008       | -                 | -           | 12.45                           | -                    |
| -                | -                       | → | -           | 28.09.2008       | -                 | -           | 10.80                           | -                    |
| -                | -                       | → | -           | 01.10.2008       | -                 | -           | 10.00                           | -                    |
| -                | -                       | → | -           | 29.10.2008       | -                 | -           | 8.55                            | -                    |
| -                | Underweight             | ↓ | 09.11.2008  | -                | -                 | 07.01.2009  | 8.80                            | -41%                 |
| -                | -                       | → | -           | 30.11.2008       | -                 | -           | 8.59                            | -                    |
| -                | -                       | → | -           | 15.12.2008       | -                 | -           | 6.20                            | -                    |
| -                | Overweight              | ↑ | 07.01.2009  | -                | -                 | 24.02.2009  | 5.20                            | 86%                  |
| -                | -                       | → | -           | 11.01.2009       | -                 | -           | 5.34                            | -                    |
| -                | -                       | → | -           | 08.02.2009       | -                 | -           | 6.39                            | -                    |
| -                | Neutral                 | ↓ | 24.02.2009  | -                | -                 | 17.05.2009  | 7.29                            | -29%                 |
| -                | -                       | → | -           | 08.03.2009       | -                 | -           | 6.00                            | -                    |
| -                | -                       | → | -           | 05.04.2009       | -                 | -           | 5.95                            | -                    |
| -                | -                       | → | -           | 14.04.2009       | -                 | -           | 5.62                            | -                    |
| -                | Overweight              | ↑ | 17.05.2009  | -                | -                 | 08.06.2009  | 6.80                            | 0%                   |
| -                | Neutral                 | ↓ | 08.06.2009  | -                | -                 | 08.07.2009  | 6.70                            | -4%                  |
| -                | Underweight             | ↓ | 08.07.2009  | -                | -                 | 24.08.2009  | 6.20                            | -12%                 |
| -                | -                       | → | -           | 14.07.2009       | -                 | -           | 6.14                            | -                    |
| -                | -                       | → | -           | 02.08.2009       | -                 | -           | 6.57                            | -                    |
| -                | Neutral                 | ↑ | 24.08.2009  | -                | -                 | 08.12.2009  | 7.11                            | 8%                   |
| -                | -                       | → | -           | 31.08.2009       | -                 | -           | 7.55                            | -                    |
| -                | -                       | → | -           | 06.10.2009       | -                 | -           | 8.53                            | -                    |
| -                | -                       | → | -           | 12.10.2009       | -                 | -           | 8.12                            | -                    |
| -                | -                       | → | -           | 05.11.2009       | -                 | -           | 7.64                            | -                    |
| -                | Overweight              | ↑ | 08.12.2009  | -                | -                 | 15.11.2010  | 7.90                            | 28%                  |
| -                | -                       | → | -           | 14.12.2009       | -                 | -           | 8.00                            | -                    |
| -                | -                       | → | -           | 07.01.2010       | -                 | -           | 9.05                            | -                    |
| -                | -                       | → | -           | 03.02.2010       | -                 | -           | 8.79                            | -                    |
| -                | -                       | → | -           | 01.03.2010       | -                 | -           | 9.25                            | -                    |
| -                | -                       | → | -           | 29.03.2010       | -                 | -           | 9.99                            | -                    |
| -                | -                       | → | -           | 31.03.2010       | -                 | -           | 9.82                            | -                    |
| -                | -                       | → | -           | 05.05.2010       | -                 | -           | 10.00                           | -                    |
| -                | -                       | → | -           | 17.05.2010       | -                 | -           | 8.50                            | -                    |
| -                | -                       | → | -           | 14.06.2010       | -                 | -           | 9.03                            | -                    |
| -                | -                       | → | -           | 30.06.2010       | -                 | -           | 9.00                            | -                    |
| -                | -                       | → | -           | 19.07.2010       | -                 | -           | 9.20                            | -                    |
| -                | -                       | → | -           | 31.08.2010       | -                 | -           | 10.00                           | -                    |
| -                | -                       | → | -           | 03.10.2010       | -                 | -           | 10.70                           | -                    |
| -                | -                       | → | -           | 12.10.2010       | -                 | -           | 11.08                           | -                    |
| -                | Overweight              | → | 15.11.2010  | -                | -                 | 02.01.2011  | 11.20                           | 15%                  |
| -                | -                       | → | -           | 13.12.2010       | -                 | -           | 10.74                           | -                    |
| -                | -                       | → | -           | 15.12.2010       | -                 | -           | 11.20                           | -                    |
| -                | Neutral                 | ↓ | 02.01.2011  | -                | -                 | 10.03.2011  | 12.93                           | -5%                  |
| -                | -                       | → | -           | 28.01.2011       | -                 | -           | 12.16                           | -                    |
| -                | -                       | → | -           | 01.03.2011       | -                 | -           | 12.25                           | -                    |
| -                | Overweight              | ↑ | 10.03.2011  | -                | -                 | 11.05.2011  | 12.10                           | 17%                  |
| -                | -                       | → | -           | 13.03.2011       | -                 | -           | 12.56                           | -                    |
| -                | -                       | → | -           | 24.03.2011       | -                 | -           | 12.44                           | -                    |
| -                | -                       | → | -           | 20.04.2011       | -                 | -           | 13.20                           | -                    |
| -                | Neutral                 | ↓ | 11.05.2011  | -                | -                 | 31.08.2011  | 13.50                           | -15%                 |
| -                | -                       | → | -           | 16.05.2011       | -                 | -           | 12.30                           | -                    |
| -                | -                       | → | -           | 20.06.2011       | -                 | -           | 12.08                           | -                    |
| -                | -                       | → | -           | 25.07.2011       | -                 | -           | 10.92                           | -                    |
| -                | Overweight              | ↑ | 31.08.2011  | -                | -                 | 02.11.2011  | 9.90                            | 4%                   |
| -                | -                       | → | -           | 03.10.2011       | -                 | -           | 10.00                           | -                    |
| -                | -                       | → | -           | 24.10.2011       | -                 | -           | 10.02                           | -                    |
| -                | Neutral                 | ↓ | 02.11.2011  | -                | -                 | 25.01.2012  | 9.91                            | -1%                  |
| -                | -                       | → | -           | 14.11.2011       | -                 | -           | 10.43                           | -                    |
| -                | -                       | → | -           | 11.12.2011       | -                 | -           | 9.61                            | -                    |
| -                | -                       | → | -           | 01.01.2012       | -                 | -           | 9.29                            | -                    |
| -                | Overweight              | ↑ | 25.01.2012  | -                | -                 | 29.02.2012  | 9.52                            | 5%                   |
| -                | Neutral                 | ↓ | 29.02.2012  | -                | -                 | 09.03.2012  | 10.50                           | -2%                  |
| -                | Underweight             | ↓ | 09.03.2012  | -                | -                 | 21.06.2012  | 10.22                           | 1%                   |
| -                | -                       | → | -           | 20.03.2012       | -                 | -           | 10.75                           | -                    |
| -                | -                       | → | -           | 15.04.2012       | -                 | -           | 10.55                           | -                    |
| -                | -                       | → | -           | 09.05.2012       | -                 | -           | 9.60                            | -                    |
| -                | -                       | → | -           | 15.05.2012       | -                 | -           | 9.61                            | -                    |
| -                | Neutral                 | ↑ | 21.06.2012  | -                | -                 | 02.09.2012  | 9.13                            | -3%                  |
| -                | -                       | → | -           | 19.07.2012       | -                 | -           | 8.74                            | -                    |
| -                | Underweight             | ↓ | 02.09.2012  | -                | -                 | 05.11.2012  | 9.20                            | -3%                  |
| -                | -                       | → | -           | 01.10.2012       | -                 | -           | 8.90                            | -                    |
| -                | -                       | → | -           | 10.10.2012       | -                 | -           | 8.37                            | -                    |

Market-relative recommendation tracker (continued)

| Analyst         | Relative Recommendation |   | Report date | Reiteration date | Distribution date | Expiry date | Price at issue/reiteration* | Relative performance |
|-----------------|-------------------------|---|-------------|------------------|-------------------|-------------|-----------------------------|----------------------|
| -               | Overweight              | ↑ | 05.11.2012  | -                | -                 | 06.11.2012  | 9.35                        | 5%                   |
| -               | Neutral                 | ↓ | 06.11.2012  | -                | -                 | 20.10.2013  | 9.80                        | 12%                  |
| -               | -                       | → | -           | 14.11.2012       | -                 | -           | 9.50                        | -                    |
| -               | -                       | → | -           | 13.12.2012       | -                 | -           | 10.65                       | -                    |
| -               | -                       | → | -           | 23.01.2013       | -                 | -           | 10.31                       | -                    |
| -               | -                       | → | -           | 18.02.2013       | -                 | -           | 11.09                       | -                    |
| -               | -                       | → | -           | 21.03.2013       | -                 | -           | 11.19                       | -                    |
| -               | -                       | → | -           | 02.04.2013       | -                 | -           | 11.55                       | -                    |
| -               | -                       | → | -           | 17.04.2013       | -                 | -           | 11.08                       | -                    |
| -               | -                       | → | -           | 13.05.2013       | -                 | -           | 10.70                       | -                    |
| -               | -                       | → | -           | 15.05.2013       | -                 | -           | 11.39                       | -                    |
| -               | -                       | → | -           | 17.06.2013       | -                 | -           | 11.69                       | -                    |
| -               | -                       | → | -           | 14.07.2013       | -                 | -           | 10.80                       | -                    |
| -               | -                       | → | -           | 25.07.2013       | -                 | -           | 11.18                       | -                    |
| -               | -                       | → | -           | 01.09.2013       | -                 | -           | 11.98                       | -                    |
| -               | Neutral                 | → | 20.10.2013  | -                | -                 | 08.04.2014  | 12.50                       | 1%                   |
| -               | -                       | → | -           | 14.11.2013       | -                 | -           | 13.20                       | -                    |
| -               | -                       | → | -           | 12.12.2013       | -                 | -           | 12.85                       | -                    |
| -               | -                       | → | -           | 14.01.2014       | -                 | -           | 13.17                       | -                    |
| -               | -                       | → | -           | 21.01.2014       | -                 | -           | 13.29                       | -                    |
| -               | -                       | → | -           | 17.02.2014       | -                 | -           | 12.10                       | -                    |
| -               | -                       | → | -           | 23.03.2014       | -                 | -           | 12.47                       | -                    |
| -               | Overweight              | ↑ | 08.04.2014  | -                | -                 | 07.10.2014  | 12.65                       | -1%                  |
| -               | -                       | → | -           | 13.04.2014       | -                 | -           | 12.60                       | -                    |
| -               | -                       | → | -           | 11.05.2014       | -                 | -           | 12.86                       | -                    |
| -               | -                       | → | -           | 15.05.2014       | -                 | -           | 12.00                       | -                    |
| -               | -                       | → | -           | 16.06.2014       | -                 | -           | 11.59                       | -                    |
| -               | -                       | → | -           | 20.07.2014       | -                 | -           | 11.16                       | -                    |
| -               | -                       | → | -           | 01.09.2014       | -                 | -           | 11.49                       | -                    |
| -               | Neutral                 | ↓ | 07.10.2014  | -                | -                 | 01.07.2015  | 12.00                       | 17%                  |
| -               | -                       | → | -           | 14.10.2014       | -                 | -           | 12.22                       | -                    |
| -               | -                       | → | -           | 16.11.2014       | -                 | -           | 12.30                       | -                    |
| -               | -                       | → | -           | 14.12.2014       | -                 | -           | 12.87                       | -                    |
| -               | -                       | → | -           | 18.01.2015       | -                 | -           | 12.61                       | -                    |
| -               | -                       | → | -           | 10.02.2015       | -                 | -           | 13.50                       | -                    |
| -               | -                       | → | -           | 23.03.2015       | -                 | -           | 14.49                       | -                    |
| -               | -                       | → | -           | 26.03.2015       | -                 | -           | 14.90                       | -                    |
| -               | -                       | → | -           | 19.04.2015       | -                 | -           | 15.20                       | -                    |
| -               | -                       | → | -           | 13.05.2015       | -                 | -           | 15.15                       | -                    |
| -               | -                       | → | -           | 17.05.2015       | 18.05.2015        | -           | 14.30                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 21.06.2015       | 22.06.2015        | -           | 13.95                       | -                    |
| Sobiesław Pająk | Overweight              | ↑ | 01.07.2015  | -                | 02.07.2015        | 04.08.2015  | 12.94                       | 26%                  |
| Sobiesław Pająk | -                       | → | -           | 16.07.2015       | 17.07.2015        | -           | 13.70                       | -                    |
| Sobiesław Pająk | Neutral                 | ↓ | 04.08.2015  | -                | 05.08.2015        | 04.10.2015  | 16.35                       | -6%                  |
| Sobiesław Pająk | -                       | → | -           | 31.08.2015       | 01.09.2015        | -           | 13.32                       | -                    |
| Sobiesław Pająk | Overweight              | ↑ | 04.10.2015  | -                | 05.10.2015        | 13.12.2015  | 14.30                       | 22%                  |
| Sobiesław Pająk | -                       | → | -           | 15.10.2015       | 16.10.2015        | -           | 15.00                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 16.11.2015       | 17.11.2015        | -           | 15.93                       | -                    |
| Sobiesław Pająk | Neutral                 | ↓ | 13.12.2015  | -                | 14.12.2015        | 02.03.2016  | 15.70                       | -8%                  |
| Sobiesław Pająk | -                       | → | -           | 17.01.2016       | 18.01.2016        | -           | 15.45                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 15.02.2016       | 16.02.2016        | -           | 13.50                       | -                    |
| Sobiesław Pająk | Overweight              | ↑ | 02.03.2016  | -                | 03.03.2016        | 08.02.2017  | 14.84                       | 32%                  |
| Sobiesław Pająk | -                       | → | -           | 21.03.2016       | 22.03.2016        | -           | 18.30                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 23.03.2016       | 24.03.2016        | -           | 18.40                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 13.04.2016       | 14.04.2016        | -           | 18.99                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 11.05.2016       | 11.05.2016        | -           | 19.50                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 16.05.2016       | 17.05.2016        | -           | 18.88                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 27.06.2016       | 28.06.2016        | -           | 18.00                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 24.07.2016       | 25.07.2016        | -           | 19.71                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 04.08.2016       | 04.08.2016        | -           | 22.44                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 31.08.2016       | 01.09.2016        | -           | 23.99                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 12.10.2016       | 13.10.2016        | -           | 23.01                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 02.11.2016       | 03.11.2016        | -           | 23.10                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 04.12.2016       | 05.12.2016        | -           | 23.00                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 12.01.2017       | 13.01.2017        | -           | 24.01                       | -                    |
| Sobiesław Pająk | Overweight              | → | 08.02.2017  | -                | 09.02.2017        | 30.05.2017  | 23.01                       | 27%                  |
| Sobiesław Pająk | -                       | → | -           | 07.03.2017       | 08.03.2017        | -           | 26.20                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 15.03.2017       | 16.03.2017        | -           | 27.76                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 11.04.2017       | 12.04.2017        | -           | 26.73                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 10.05.2017       | 11.05.2017        | -           | 31.38                       | -                    |
| Sobiesław Pająk | Neutral                 | ↓ | 30.05.2017  | -                | 31.05.2017        | 15.11.2017  | 30.50                       | -18%                 |
| Sobiesław Pająk | -                       | → | -           | 11.06.2017       | 12.06.2017        | -           | 28.98                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 12.07.2017       | 13.07.2017        | -           | 28.50                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 03.09.2017       | 04.09.2017        | -           | 27.50                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 15.10.2017       | 16.10.2017        | -           | 27.30                       | -                    |
| Sobiesław Pająk | Overweight              | ↑ | 15.11.2017  | -                | 16.11.2017        | 30.08.2018  | 25.85                       | 7%                   |
| Sobiesław Pająk | -                       | → | -           | 10.12.2017       | 11.12.2017        | -           | 26.20                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 10.01.2018       | 11.01.2018        | -           | 27.60                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 14.01.2018       | 15.01.2018        | -           | 28.30                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 13.02.2018       | 14.02.2018        | -           | 25.60                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 12.03.2018       | 13.03.2018        | -           | 28.90                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 15.03.2018       | 16.03.2018        | -           | 28.50                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 16.04.2018       | 17.04.2018        | -           | 28.30                       | -                    |
| Sobiesław Pająk | -                       | → | -           | 13.05.2018       | 14.05.2018        | -           | 26.30                       | -                    |

Market-relative recommendation tracker (continued)

| Analyst         | Relative Recommendation | Report date | Reiteration date | Distribution date | Expiry date | Price at issue/reiteration* | Relative performance |      |
|-----------------|-------------------------|-------------|------------------|-------------------|-------------|-----------------------------|----------------------|------|
| Sobiesław Pająk | -                       | →           | -                | 29.05.2018        | 30.05.2018  | -                           | 23.10                | -    |
| Sobiesław Pająk | -                       | →           | -                | 16.07.2018        | 17.07.2018  | -                           | 26.90                | -    |
| Sobiesław Pająk | -                       | →           | -                | 02.08.2018        | 03.08.2018  | -                           | 26.00                | -    |
| Sobiesław Pająk | Neutral                 | ↓           | 30.08.2018       | -                 | 31.08.2018  | 30.07.2019                  | 25.60                | 15%  |
| Sobiesław Pająk | -                       | →           | -                | 11.10.2018        | 12.10.2018  | -                           | 24.10                | -    |
| Sobiesław Pająk | -                       | →           | -                | 23.10.2018        | 24.10.2018  | -                           | 24.40                | -    |
| Sobiesław Pająk | -                       | →           | -                | 14.11.2018        | 15.11.2018  | -                           | 24.50                | -    |
| Sobiesław Pająk | -                       | →           | -                | 09.12.2018        | 10.12.2018  | -                           | 24.20                | -    |
| Sobiesław Pająk | -                       | →           | -                | 07.01.2019        | 08.01.2019  | -                           | 28.00                | -    |
| Sobiesław Pająk | -                       | →           | -                | 10.01.2019        | 11.01.2019  | -                           | 27.90                | -    |
| Sobiesław Pająk | -                       | →           | -                | 04.02.2019        | 05.02.2019  | -                           | 29.50                | -    |
| Sobiesław Pająk | -                       | →           | -                | 26.02.2019        | 27.02.2019  | -                           | 29.50                | -    |
| Sobiesław Pająk | -                       | →           | -                | 13.03.2019        | 14.03.2019  | -                           | 29.50                | -    |
| Sobiesław Pająk | -                       | →           | -                | 26.03.2019        | 27.03.2019  | -                           | 29.80                | -    |
| Sobiesław Pająk | -                       | →           | -                | 22.04.2019        | 23.04.2019  | -                           | 29.20                | -    |
| Sobiesław Pająk | -                       | →           | -                | 24.04.2019        | 25.04.2019  | -                           | 28.60                | -    |
| Sobiesław Pająk | -                       | →           | -                | 29.05.2019        | 30.05.2019  | -                           | 27.30                | -    |
| Sobiesław Pająk | -                       | →           | -                | 30.05.2019        | 31.05.2019  | -                           | 28.00                | -    |
| Sobiesław Pająk | -                       | →           | -                | 17.07.2019        | 18.07.2019  | -                           | 27.60                | -    |
| Sobiesław Pająk | Neutral                 | →           | 30.07.2019       | -                 | 31.07.2019  | 14.01.2020                  | 27.40                | 6%   |
| Sobiesław Pająk | -                       | →           | -                | 01.09.2019        | 02.09.2019  | -                           | 27.60                | -    |
| Sobiesław Pająk | -                       | →           | -                | 13.10.2019        | 14.10.2019  | -                           | 28.00                | -    |
| Sobiesław Pająk | -                       | →           | -                | 24.10.2019        | 25.10.2019  | -                           | 27.00                | -    |
| Sobiesław Pająk | -                       | →           | -                | 17.11.2019        | 18.11.2019  | -                           | 28.00                | -    |
| Sobiesław Pająk | -                       | →           | -                | 08.12.2019        | 09.12.2019  | -                           | 27.00                | -    |
| Sobiesław Pająk | -                       | →           | -                | 09.01.2020        | 10.01.2020  | -                           | 28.40                | -    |
| Sobiesław Pająk | Overweight              | ↑           | 14.01.2020       | -                 | 15.01.2020  | 24.06.2020                  | 28.80                | 42%  |
| Sobiesław Pająk | -                       | →           | -                | 04.02.2020        | 05.02.2020  | -                           | 33.60                | -    |
| Sobiesław Pająk | -                       | →           | -                | 06.02.2020        | 07.02.2020  | -                           | 33.60                | -    |
| Sobiesław Pająk | -                       | →           | -                | 03.03.2020        | 04.03.2020  | -                           | 35.60                | -    |
| Sobiesław Pająk | -                       | →           | -                | 30.03.2020        | 31.03.2020  | -                           | 31.00                | -    |
| Sobiesław Pająk | -                       | →           | -                | 22.04.2020        | 23.04.2020  | -                           | 35.80                | -    |
| Sobiesław Pająk | -                       | →           | -                | 17.05.2020        | 18.05.2020  | -                           | 34.00                | -    |
| Sobiesław Pająk | -                       | →           | -                | 19.05.2020        | 20.05.2020  | -                           | 34.60                | -    |
| Sobiesław Pająk | -                       | →           | -                | 15.06.2020        | 16.06.2020  | -                           | 31.80                | -    |
| Sobiesław Pająk | Neutral                 | ↓           | 24.06.2020       | -                 | 25.06.2020  | 30.05.2021                  | 33.00                | -17% |
| Sobiesław Pająk | -                       | →           | -                | 13.07.2020        | 14.07.2020  | -                           | 32.60                | -    |
| Sobiesław Pająk | -                       | →           | -                | 01.09.2020        | 02.09.2020  | -                           | 32.70                | -    |
| Sobiesław Pająk | -                       | →           | -                | 08.10.2020        | 09.10.2020  | -                           | 34.20                | -    |
| Sobiesław Pająk | -                       | →           | -                | 08.11.2020        | 09.11.2020  | -                           | 32.80                | -    |
| Sobiesław Pająk | -                       | →           | -                | 06.12.2020        | 07.12.2020  | -                           | 34.20                | -    |
| Sobiesław Pająk | -                       | →           | -                | 05.01.2021        | 05.01.2021  | -                           | 38.20                | -    |
| Sobiesław Pająk | -                       | →           | -                | 28.01.2021        | 29.01.2021  | -                           | 38.40                | -    |
| Sobiesław Pająk | -                       | →           | -                | 28.02.2021        | 01.03.2021  | -                           | 39.00                | -    |
| Sobiesław Pająk | -                       | →           | -                | 09.03.2021        | 09.03.2021  | -                           | 39.20                | -    |
| Sobiesław Pająk | -                       | →           | -                | 16.04.2021        | 16.04.2021  | -                           | 37.50                | -    |
| Sobiesław Pająk | Neutral                 | →           | 30.05.2021       | -                 | 31.05.2021  | 26.05.2022                  | 35.90                | 36%  |
| Sobiesław Pająk | -                       | →           | -                | 16.06.2021        | 17.06.2021  | -                           | 35.00                | -    |
| Sobiesław Pająk | -                       | →           | -                | 09.07.2021        | 09.07.2021  | -                           | 35.00                | -    |
| Sobiesław Pająk | -                       | →           | -                | 31.08.2021        | 31.08.2021  | -                           | 35.80                | -    |
| Sobiesław Pająk | -                       | →           | -                | 07.10.2021        | 07.10.2021  | -                           | 35.30                | -    |
| Sobiesław Pająk | -                       | →           | -                | 04.11.2021        | 04.11.2021  | -                           | 40.00                | -    |
| Sobiesław Pająk | -                       | →           | -                | 05.12.2021        | 06.12.2021  | -                           | 39.50                | -    |
| Sobiesław Pająk | -                       | →           | -                | 16.01.2022        | 17.01.2022  | -                           | 42.80                | -    |
| Sobiesław Pająk | -                       | →           | -                | 07.02.2022        | 07.02.2022  | -                           | 41.10                | -    |
| Sobiesław Pająk | -                       | →           | -                | 28.02.2022        | 28.02.2022  | -                           | 37.70                | -    |
| Sobiesław Pająk | -                       | →           | -                | 18.03.2022        | 18.03.2022  | -                           | 42.00                | -    |
| Sobiesław Pająk | -                       | →           | -                | 14.04.2022        | 14.04.2022  | -                           | 42.80                | -    |
| Sobiesław Pająk | Neutral                 | →           | 26.05.2022       | -                 | 26.05.2022  | 07.07.2022                  | 40.00                | 10%  |
| Sobiesław Pająk | -                       | →           | -                | 08.06.2022        | 09.06.2022  | -                           | 39.88                | -    |
| Sobiesław Pająk | Underweight             | ↓           | 07.07.2022       | -                 | 07.07.2022  | 22.09.2022                  | 39.50                | -7%  |
| Sobiesław Pająk | -                       | →           | -                | 15.07.2022        | 15.07.2022  | -                           | 38.40                | -    |
| Sobiesław Pająk | -                       | →           | -                | 16.08.2022        | 16.08.2022  | -                           | 39.10                | -    |
| Sobiesław Pająk | -                       | →           | -                | 02.09.2022        | 02.09.2022  | -                           | 36.00                | -    |
| Sobiesław Pająk | Neutral                 | ↑           | 22.09.2022       | -                 | 22.09.2022  | 29.05.2023                  | 34.00                | -7%  |
| Sobiesław Pająk | -                       | →           | -                | 07.10.2022        | 07.10.2022  | -                           | 30.30                | -    |
| Sobiesław Pająk | -                       | →           | -                | 28.10.2022        | 28.10.2022  | -                           | 29.00                | -    |
| Sobiesław Pająk | -                       | →           | -                | 01.11.2022        | 01.11.2022  | -                           | 28.80                | -    |
| Sobiesław Pająk | -                       | →           | -                | 04.12.2022        | 05.12.2022  | -                           | 31.70                | -    |
| Sobiesław Pająk | -                       | →           | -                | 13.01.2023        | 13.01.2023  | -                           | 36.20                | -    |
| Sobiesław Pająk | -                       | →           | -                | 03.02.2023        | 03.02.2023  | -                           | 36.40                | -    |
| Sobiesław Pająk | -                       | →           | -                | 10.03.2023        | 10.03.2023  | -                           | 38.00                | -    |
| Sobiesław Pająk | -                       | →           | -                | 14.03.2023        | 14.03.2023  | -                           | 39.50                | -    |
| Sobiesław Pająk | -                       | →           | -                | 13.04.2023        | 13.04.2023  | -                           | 37.20                | -    |
| Sobiesław Pająk | Overweight              | ↑           | 29.05.2023       | -                 | 29.05.2023  | Not later than 29.05.2024   | 40.90                | -5%  |
| Sobiesław Pająk | -                       | →           | -                | 06.06.2023        | 07.06.2023  | -                           | 40.70                | -    |
| Sobiesław Pająk | -                       | →           | -                | 29.06.2023        | 29.06.2023  | -                           | 38.10                | -    |

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