# BOGDANKA

Reuters: LWB.WA Bloomberg: LWB PW

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## PSCMI1 Warrants Stellar Mid-Term Outlook

### Outperform, TP up to PLN81.9

**PSCMI1 index, Bogdanka's coal price benchmark, is 152% higher y/y, the regulated conventional generation returns should make generators indifferent for their variable cost, and demanding Upper Silesian mining trade unions might cement PSCMI1 price level. On this basis, we expect LWB will realize coal price growing to PLN406/t and PLN505/t in 2023/24E, offering stellar outlook for company's EBITDAs, potentially expanding to PLN2.6bn in 2024E. Investors should keep in mind, though, that ongoing LWB's geological force majeure should result in its EBITDA coming in negative in 4Q2022E and negligible in 1Q2023E, before high quarterly cash generation kicks off. We expect company's EBITDA at PLN1.1bn in 2023E and at PLN2.6bn in 2024E, generating potentially PLN0.4bn and PLN1.6bn cash these years. However, bearing in mind windfall tax ideas, we cautiously apply windfall tax to Bogdanka, totalling at PLN1.8bn (PLN39/share) in years 2023-25E. Still, the assumed volume rebound, coupled with expected coal price doubling in 2024E vs 2021, warrants decent 33% upside to our DCF valuation. Bogdanka should remain under lasting pressure of ESG approach, and it operates in highly regulated environment, both likely making it trade at discount to peers. Still, our blended TP at PLN81.9 (including windfall tax impact) offers stunning 116% share price upside, and LWB should likely come on top of all 2023/24E 'top FCF yield' rankings, warranting our Outperform rating for the stock.**

**Force majeure drives sour 4Q22-1Q23E results' outlook...** Two months ago, geological force majeure resulted in total 1.2mt cut to official 2022 coal production guidance, to 8.3mt from 9.5mt. Two weeks later the company cut its 2023 coal production outlook for the same rationale, down also 1.2mt to 8.3mt. In volume-driven business, weak 3Q22 volumes resulted in very weak EBITDA at PLN61mn, and we expect much weaker 4Q2022E volume to generate same-scale EBITDA loss in the last quarter of 2022, potentially followed by EBITDA at nil in 1Q2023E as well.

**...mid-term outlook turns stellar.** Polish August 2022 PSCMI1 index grew 86% m/m to PLN641/t, coming in 158% higher y/y. Also, PGE stated its 2H22E coal cost would double y/y, due to new pricing agreements with PGG, the Polish thermal coal price-setter. The Polish generators will have their variable costs fully covered until Dec2023, based on the government's decree, hence there should be no incentive to trim coal costs, we believe. The Eastern conflict highlighted Europe's energy resources' shortage, PGG's coal production remains on the slide, and the Polish energy system will rely on thermal coal-fired units at least until 1) massive on-shore / PV offensive (unlikely, given problems with grid connection), 2) off-shore kick-off in 2026-30 and 3) nuclear generation as of 2023E. Restored low-priced imports of Russian coal may exert pressure on PSCMI1 as of 2024E, yet the Ukrainian market represents an ample opportunity for LWB, we believe.

**Risks vs Upsides.** The EU pro-renewable policy and continued investors' ESG approach to asset allocation represent the key risks, yet their impact may be delayed by several years, we believe. New scalable renewable capacity may be built in 2026E at the earliest. Carve-out of LWB from Enea might take place via a call for all LWB shares, direct transfer of Enea's stake in LWB to State entity (neutral), or public placement (strong negative). Strong and lasting reduction of Polish electricity consumption could pose downside risk to coal-fired generation volumes. EU's heavy support to State-run PGG could make it reduce its coal price, high risk to LWB pricing, and potential legal claims from Enea for 2022/2023 coal under-deliverance may pose downside risk.

**Forecasts, Target Price, Recommendation.** We cut 2023E volumes to 8.3mt, in line with the official statement, keeping it unchanged at 9.5mt in 2024/25E. However, stellar market coal prices (and PSCMI1 index 150% higher y/y) makes us re-price LWB coal to PLN406/t in 2023E and PLN505/t in 2024E, which mitigates volume weakness in 2023E and offers 2.2x EBITDA upside in 2024E. Despite cautious application of windfall tax in 2023-25E (totalling PLN1.8bn, or PLN39/sh), our DCF grows 33% to PLN85.9, despite RFR and ERP upped in this report. With comparative valuation 35% higher at PLN72.6, our blended TP increases 34% to PLN81.9. A 116% share price upside, and expected FCF yield at 75% (post-WFT) warrant our keeping the Outperform recommendation.

**Bogdanka: Financial summary**

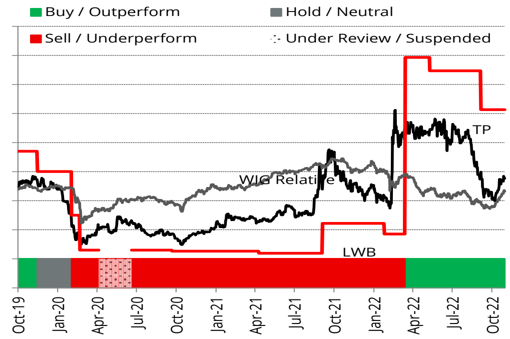
| Year to Dec, PLNmn | 2019 | 2020 | 2021 | 2022E | 2023E | 2024E |
|---|---|---|---|---|---|---|
| Sales | 2,158 | 1,822 | 2,371 | 2,264 | 3,432 | 4,857 |
| EBITDA | 767 | 466 | 798 | 596 | 1,095 | 2,568 |
| EBIT | 375 | 95 | 367 | 174 | 655 | 2,120 |
| Net profit | 309 | 73 | 288 | 133 | 329 | 769 |
| P/E (x) | 4.5 | 9.7 | 3.4 | 9.7 | 3.9 | 1.7 |
| EV/EBITDA* (x) | 1.9 | 2.0 | 1.0 | 2.2 | 1.0 | 0.1 |
| DY | 1.8% | 0.0% | 0.0% | 4.6% | 0.0% | 0.0% |

*Source: Company data, Santander Brokerage Poland estimates , * includes provisions*

| Recommendation | Outperform |
|---|---|
| Target Price [Dec2023, PLN] | 81.9 |
| Price (PLN, November 15, 2022) | 38.0 |
| Market cap. (PLNmn) | 1,271 |
| Free float (%) | 34.0 |
| Number of shares (mn) | 34.0 |

### What has changed

- TP upped 35% to PLN81.9 from PLN61.3, recommendation Outperform maintained
- PSCMI1 coal price index is 152% higher y/y, regulated generation returns should make generators indifferent for variable costs, and demanding Silesian miners might all cement Bogdanka's benchmark at current all-time high levels for longer, representing company's key investment driver
- Geological force majeure should keep company's EBITDA negative in 4Q2022E and negligible in 1Q2023E...
- ...before restored high volumes and coal price doubling by 2024E will trigger stellar quarterly cash generation as of 2Q2023E, yielding 2023/24E EBITDAs respectively at PLN1.1bn and PLN2.6bn
- These would imply total PLN2bn cash generation in 2023/24E, but keeping in mind extraordinary environment and regulatory inroads, we also build in windfall tax into our 2023-25E estimates, PLN1.8bn or PLN39 a share downside
- Warring environment remains supportive, but after the war Bogdanka may become Ukraine's first-choice coal supplier, regardless of Polish likely coal deficit...
- ...and Polish coal-replacing generation capacity may emerge in several years (on-shore) or at late 2020s (off-shore, SMR) at best
- The State signed intention letter for acquisition of LWB's 65% stake from Enea (effective in late 2023), its conditions and State's policy pose risks to Bogdanka, we believe
- Key risks: very strong and quick increase in LNG gas imports to Europe, de-regulation of PGG prices (benchmark to LWB), rapid expansion of Polish renewables, strong expansion in Asian coal production, strong recession in Europe




*The chart measures performance against the WIG index*

| Main shareholders | % of votes |
|---|---|
| Enea | 64.9 |

*Source: stooq.pl*

### Company description

Bogdanka is the most efficient thermal coal producer in Poland, with 2021 annual output at 10.0mt.

### Analyst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# Key Stories

## Company gives up semi-soft coking coal plans to boost thermal coal production

*[Flash note published on November 10, 2022]*

Acc. to its long-term strategy until 2030/2040 announced in late 2020, Bogdanka was planning initiation of selective production of semi-soft coking coal (grade 34). It was supposed to be initiated in 2026 (planned volume at 0.7mt), growing to 3.4mt p.a. in 2040, with 2026-2040 average annual semi-soft coking coal production at 1.9mt. Including 34 grade coal, Bogdanka was eyeing annual coal production at 8.8mt p.a. (average production until 2040);

Yesterday after close company informed it updated official strategy until 2030. Below we list key details:

- Bogdanka is giving up grade 34 coal production, due to 1) limited volume of coal and 2) high demand for thermal coal;
- Company expects it should let Bogdanka produce some 10% more thermal coal beyond 2026;
- Bogdanka also informed it is reviewing its long-term strategy in attempt to adjust it to changing environment. Potential changes might include 1) resource base, 2) development plans and 3) looking for opportunities beyond Bogdanka's current core business.

**Comment: Giving up semi-soft coal production as of 2026 is neutral in our view, upside to volumes represents Positive news, while resource base review might pose downside risk to company's multi-year cash flows.**

**Semi-soft coking coal – Neutral.** Semi-soft coking coal production was scheduled for kick-off in 2026, hence we believe the above-mentioned adjustment to strategy should have very limited impact on company's current valuation, we believe. Certainly, semi-soft coal could represent a minor divesture away from core thermal coal, but it was never meant to become Bogdanka's key product (potentially some 30% of total volume at the peak of 34 grade coal production), and we conclude that company would be always perceived as thermal coal producer.

**Volumes – Positive.** The suggestion of Bogdanka's long-term coal production higher by some 10% should result in company's thermal coal production at 9.6mt, a 0.8mt upside vs previous assumptions. In fixed-cost mining business volume is king, we ascertain, and increased volume should come supportive to Bogdanka results and cash generation as of 2026, we believe. Certainly, future coal prices will come of key importance, hence we believe it's too early to recalculate above-mentioned upside into any measurable valuation upside. We find upside at volumes to represent upside to the stock.

**Strategic review - Negative?** Finally, Bogdanka also suggests it is reviewing its resource base and development plans. Recently the Polish Climate Minister has been suggesting that new mines / shafts could be built in coal basin where Bogdanka operates, and Bogdanka announcing multi-billion investment into new shaft(s) would represent the worst-case scenario to the company, in our view. First coal could be produced in ten to dozen years, when demand for coal would diminish substantially, likely due to renewables, nuclear and inexpensive gas / hydrogen, all potentially turning Bogdanka's hypothetical new investment into sunk cost, as we see that.

## [+] August PSCMI1 index up 86% m/m, heralding exceptional 2023/24E results?

*[Flash note published on October 19, 2022]*

Yesterday ARP presented delayed data for average Polish thermal coal prices in August 2022, with the delay resulting from several coal producers adjusting their Aug2022 prices for invoices' adjustments (at prices).

- PSCMI1 index (coal for electricity generation) grew 86% m/m to PLN641/t, or PLN30.36/GJ;
- PSCMI2 index (coal for heating purposes) grew 194% m/m to PLN1,338/t, or PLN54.75/GJ;
- Adjusted for above-mentioned backward invoices' adjustments, PSCMI1 and PSCMI2 indexes would settle at respectively PLN475/t and PLN657/t.

**Fig. 1. PSCMI1 Polish thermal coal index**

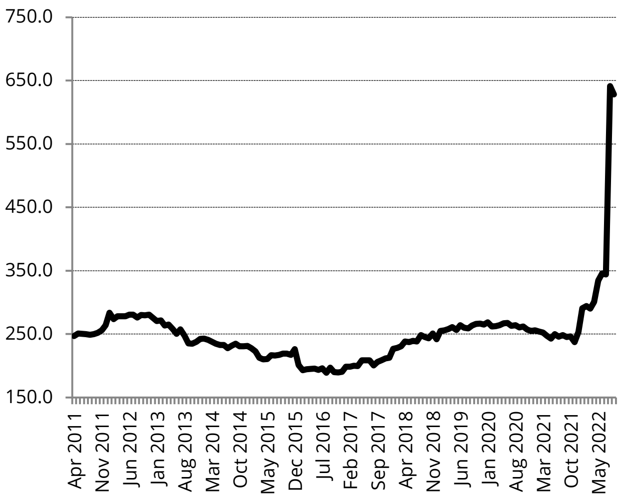
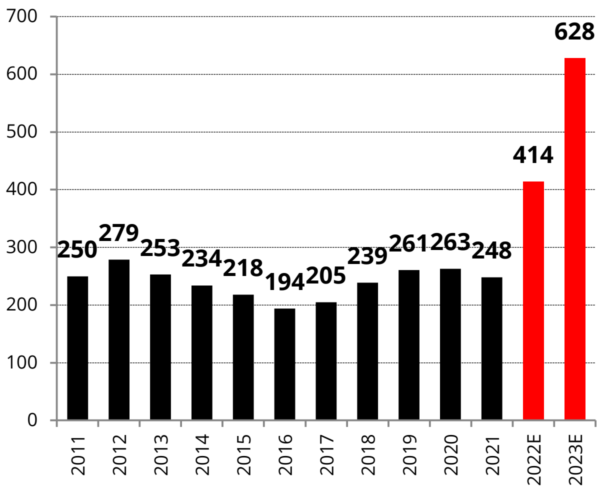



**Fig. 2. PSCMI1 Polish thermal coal index, annual averages [PLN/t]**




*Source for both graphs: ARE, Santander Brokerage Poland estimates*

**Comment: Strong Positive.** The PSCMI1 Index represents benchmark to Bogdanka's next-year realized coal prices in its long-term agreements with two key buyers, Enea's Kozienice and Polaniec generation complexes. The average PSCMI1 index settles at PLN356/t YTD, 43% higher y/y. Moreover, as 'adjusted August price' includes adjustments for September's pricing, assumption of Aug2022 prices remaining flat till year-end 2022 would imply FY2022 average PSCMI1 index at PLN451/t, stunning 82% higher y/y.

LWB's 2022/23E force majeure may result in LWB's missing 2022 coal volumes (0.9mt) potentially sold to Enea in 2023 (or NABE) at 2022 prices, we believe, which would represent partial compensation for generator's losses. Still, in our model we assume mere 38% y/y growth of LWB's realized coal price, up to PLN366/t. Application of 82%

y/y growth to realized coal price in 2023E would imply very strong upside to Bogdanka's 2023E EBITDA and cash generation, we calculate (with the adjustment for recently announced force majeure extending into 2023, reducing company's official coal output guidance to 8.3mt). Beyond 2023, high 2022/23E PSCMI1 index bodes very well for 2024E EBITDA / FCF, coming highly supportive of company's cash generation in the next decade, we ascertain. The above-mentioned receives yet additional support from the EU official statements, suggesting that European energy problems would last for next three winters (supportive of ARA and Polish coal prices).

Our back-of-the-envelope calculations (volumes 8.3mt in 2023E, 9.5mt in 2024E; prices PLN446/t in 2023E, PLN500/t in 2024E) would imply Bogdanka's EBITDA at PLN1.4bn in 2023E and PLN2.1bn in 2024E, respectively PLN0.6bn and PLN1.1bn above market consensus for 2023/24E. Such gains could be delivered only provided 1) opex remains under control, 2) geology does not worsen further, and 3) no change in formula will be applied following transfer of Enea assets to NABE. Also, these would likely be taxed with some PLN0.2bn (2023E) and PLN0.4bn (2024E) windfall tax. Nonetheless, we calculate August 2022 reading of PSCMI1 (and long-lasting, multi-season coal shortage) could potentially let Bogdanka generate PLN0.5bn cash in 2023E and PLN0.9bn in 2024E, totalling 135% of yesterday's Market Cap in two years, and making the company shine at any 2023/2024E FCF-to-Market Cap rankings or comparisons.

## [-] 3Q22P: Very low production, high price and high opex

*[Flash note published on October 18, 2022]*

Yesterday the company presented its 3Q2022 preliminary KPIs and results. Below we list key takeaways from these:

- Guidance. Company maintains its FY2022 volume guidance at 8.3mt unchanged (unchanged vs post-force majeure communique as of September 19, 2022);
- Volumes. Bogdanka produced 1.59mt thermal coal in 3Q2022P due to geological problems with one of its longwalls, substantially weaker (by over 1mt) q/q and y/y. Sales volume stood at 1.92mt, down 28% y/y and down 24% q/q, with company selling most of its coal from inventories;
- Coal prices (own calculations). We estimate Bogdanka coal price settled at PLN289/t in 3Q2022P, 26% higher y/y and 2% higher q/q;
- Coal Inventory (own calculations). We calculate the company's thermal coal inventory fell by 350k to some 70kt.

**Comment: Negative.** Our calculations concerning realized coal price imply Bogdanka was selling its coal at avg. price PLN289/t in 3Q2022, a 26% y/y increase and 2% higher q/q, despite lack of 2Q2022's external sales (realized at relatively high market prices). As most of coal was likely sold to Enea Group, we believe that Enea-Bogdanka pricing arrangements were quite favourable to the miner, adjusting relatively quickly for European / PGG prices.

On the downside, we calculate extra cost of inventory disposal at some PLN51mn in 3Q2022, while Bogdanka's realized costs (revenues – EBITDA) grew to all-time high PLN506mn (PLN114mn higher q/q), and inventory-adjusted costs grew to PLN476mn, PLN66mn higher y/y. We assume these may include additional load of underground works (in general, and faulty longwall repairs-related), but until this item is clarified, LWB 3Q2022P opex line represents negative surprise.

**Fig. 3. Bogdanka: 3Q2022P results' review**

| PLNmn | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22P | y/y | q/q | Cons. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sales | 504.4 | 468.7 | 543.7 | 502.9 | 621.9 | 702.8 | 731.8 | 730.8 | **567.5** | *-8.7%* | *-22.3%* | *478.0* |
| EBITDA | 96.6 | 144.3 | 170.2 | 160.4 | 207.7 | 258.7 | 276.5 | 338.9 | **61.0** | *-70.6%* | *-82.0%* | *102.0* |
| *EBITDA margin* | *19.2%* | *30.8%* | *31.3%* | *31.9%* | *33.4%* | *36.8%* | *37.8%* | *46.4%* | ***10.7%*** | *-22.6* | *-35.6* | *21.3%* |
| EBIT | 0.8 | 40.3 | 64.5 | 52.4 | 95.9 | 154.0 | 179.7 | 232.3 | **-38.0** | *n.m.* | *n.m.* | *-4.5* |
| *EBIT margin* | *0.2%* | *8.6%* | *11.9%* | *10.4%* | *15.4%* | *21.9%* | *24.6%* | *31.8%* | ***-6.7%*** | *-22.1* | *-38.5* | *-0.9%* |
| Net profit | -1.9 | 31.7 | 50.3 | 41.7 | 72.8 | 123.5 | 143.2 | 192.8 | **-25.7** | *n.m.* | *n.m.* | *-2.4* |
| *Net margin* | *-0.4%* | *6.8%* | *9.3%* | *8.3%* | *11.7%* | *17.6%* | *19.6%* | *26.4%* | ***-4.5%*** | *-16.2* | *-30.9* | *-0.5%* |

*Source: Company data, Santander Brokerage Poland estimates*

**Fig. 4. Bogdanka: KPIs**

| PLNmn | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22P | y/y | q/q |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Production [kt] | 1,841 | 2,074 | 2,612 | 2,335 | 2,556 | 2,397 | 2,800 | 2,770 | **1,590** | *-37.8%* | *-42.6%* |
| Sales [kt] | 2,178 | 1,970 | 2,383 | 2,207 | 2,654 | 2,776 | 2,700 | 2,540 | **1,920** | *-27.7%* | *-24.4%* |
| Inventory [kt] | 17 | 122 | 350 | 479 | 381 | 12 | 112 | 112 | **112** | *-70.6%* | *0.0%* |
| | | | | | | | | | | | |
| Total Sales | 504.5 | 468.6 | 543.7 | 502.9 | 621.9 | 702.8 | 731.8 | 730.8 | **567.5** | *-8.7%* | *-22.3%* |
| Assumed Coal Sales | 494.0 | 455.4 | 528.7 | 489.9 | 608.4 | 688.8 | 718.1 | 717.9 | **554.5** | *-8.9%* | *-22.8%* |
| Implied Coal Price [PLN/tonne] | 226.8 | 231.1 | 221.9 | 222.0 | 229.3 | 248.1 | 266.0 | 282.6 | **288.8** | *26.0%* | *2.2%* |
| | | | | | | | | | | | |
| Total opex* | 407.8 | 346.2 | 373.5 | 343.3 | 413.4 | 461.2 | 455.3 | 391.9 | **506.5** | *22.5%* | *29.2%* |
| Total opex per tonne [PLN/t] | 187.2 | 175.8 | 156.7 | 155.5 | 155.8 | 166.1 | 168.6 | 154.3 | **263.8** | *69.3%* | *71.0%* |
| | | | | | | | | | | | |
| Inventory-adjusted opex** | 385 | 352 | 385 | 350 | 408 | 435 | 462 | 410 | **476** | *16.7%* | *16.1%* |
| Adjusted opex per tonne [PLN/t] | 209 | 170 | 147 | 150 | 160 | 181 | 165 | 148 | **299** | *87.5%* | *102.3%* |
| | | | | | | | | | | | |
| Price-to-MCC spread*** [PLN/t] | 18 | 62 | 75 | 72 | 70 | 67 | 101 | 135 | **-10** | *n.m.* | *n.m.* |

*Source: Company data, Santander Brokerage Poland estimates, * Sales less EBITDA, ** adjusted for change in inventories, based on own calculations, *** realized coal price less inventory-adjusted opex per tonne*

*Below we present Flash Note concerning recent government's regulations of conventional generation and sales segment's results at utility segment. We see these regulations to broadly nullify conventional generation and sales segment's profits, also substantially trimming profits of renewable segment. We see it as hypothetical downside risk to coal* *mining segment profitability, if government decided to apply some regulations on mining segment. Also, due to these regulations we cautiously apply windfall tax profit to Bogdanka in years 2023-25E.*

## Polish Utilities: [-] 2023 generators' allowed revenue trimmed to 'variable cost +PLN70/MWh', renewables' allowed return trimmed to PLN270-320/MWh, sales segments' profitability undermined – government's decree

*[Flash note published on November 10, 2022]*

Yesterday the Polish government published decree on allowed maximum electricity prices to all-kind generators and electricity traders. Below we list key details:

- In force from December 2022 until December 2023, effectively regulating all generators' next year's allowed revenues;
- Renewable installations relying on auction prices, should receive auction prices adjusted for inflation (no change vs expected revenues);
- Renewable installations selling electricity at the market (at spot, or within any kind of short- to long-term agreements) would have their allowed prices limited to 'reference price', set by regulator for purpose of auctions. Today reference price settle at PLN270/MWh for on-shore wind and PLN320/MWh for photovoltaics. However, if regulator lowers Polish renewable 'reference price' next year, all renewable non-auction installations would be receiving new lower prices as of the next day;
- For all coal- and biomass-fired generation units, allowed maximum price was set on the basis of realized fuel / $CO_2$ costs (calculated separately for every installation), plus 3% margin calculated on mix 80% next-day TGeBase electricity price and 20% next-day TGePeak electricity price, plus PLN50/MWh (covering fixed costs and called investment bonus);
- For trading segments, margins were set in range from 1% to 1.5% for the wholesale market, and from 3.0% to 3.5% for electricity sales to final users.

**Comment: Negative to all generators' margins, Negative to all utilities' sales and renewable segments.** We believe this decree nullifies 2023 profits in sales / trading segments across Polish utilities. Also, all thermal coal, lignite and biomass-fired units should have its profitability at "zero minus".

For coal/biomass burning units, these should recover their variable costs (good news is that calculations are to be made for each installation separately), and additionally these would receive PLN50/MWh to cover fixed costs and 3% margin, seen today at PLN21/MWh. For renewable installations, allowed maximum prices were set at inflation-indexed auction prices (if project sold electricity via auction), PLN270/MWh for on-shore wind and PLN320/MWh for PV projects.

We believe the above-mentioned total PLN71/MWh premium (changing every day in line with changes at Base / Peak pricing) will not cover most units' fixed costs (especially in current inflationary environment), potentially cancelling out all profitability of coal and biomass-fired units. Certainly, the scale should matter, and the level of fixed costs per MWh produced is the lowest in large installations, hence potential loses of small units might come in relatively more substantial compared to potential losses of large generation complexes.

We assume all Polish renewable installations had their contracts set at much higher levels than PLN270/320/MWh, and State companies were taking advantage of spot prices in 2022 YTD. Therefore, this decree should represent decent cut to renewable installations' revenues, EBITDAs and cash generation in 2023E, we ascertain.

With respect to sales / trading segments, while allowed margins (from 1.0% to 1.5% at wholesale market, from 3.0% to 3.5% at final client sales) might seem reasonable, but these might not cover companies' own costs and relatively high balancing costs etc. Overall, we do not know the methodology of margin calculation, yet we see sales segment profitability at risk as well.

Low maximum allowed prices for Polish all-kind generators should keep Polish wholesale electricity prices under pressure, we believe. In short-to medium-term, all hedged contracts will have to be paid by electricity buyers, with excess price transferred by producers to the State-run funds. This decree may represent positive news to unhedged electricity buyers (KGHM case), which should see their 2023E electricity cost only insubstantially higher y/y, we calculate.

## Geological downside

### [-] LWB trims 2023 volume guidance to 8.3mt

*[excerpts from Flash note published on September 28, 2022]*

In mid-September 2022 Bogdanka informed that geological problems at one of the longwalls idled it, making company trim its 2022 coal production outlook from 9.2mt to 8.3mt. Yesterday Bogdanka announced that due to the above-mentioned event, company trims its 2023 coal production outlook to 8.3mt (vs 9.5mt as of official strategy and vs 9.0mt in our model).

**Comment: Cut to LWB's 2023 coal production is very substantial (1.2mt downside to official strategy, 0.7mt downside to our forecasts), downscaling 2023E EBITDA / cash generation by some PLN0.2-0.25bn vs our estimates. Additionally, we expect LWB's 1H2023E EBITDA / cash generation should come in insubstantial, as longwall may be inactive in 1H2023E. Valuation impact at negative PLN7/share still offers decent upside to the stock, but mid-term geological uncertainty should keep LWB under pressure, we believe.**

It seems problems at the longwall have turned more serious than the company had originally anticipated (company expected it might take some three months to restart that longwall), and this longwall may remain idle potentially terminally, we assume, and Bogdanka may probably compensate for missing coal vis kick-off of different longwall. In our recent research, we cautiously trimmed official 9.5mt guidance to 9.0mt, but it turns out that we were overly optimistic anyway.

The loss of 0.7mt in FY2023 (vs our estimates) volume should result in 2023E EBITDA lower by some PLN256mn, we calculate, trimming our PLN1.06bn estimate to some PLN0.8bn. Additionally, we believe that updated official production forecast may result in 1H2023E volumes not substantially different to 2H2022E's 3.3mt (implied by 1H2022 and official 2022 guidance). In this light, we believe Bogdanka might report negligible EBITDA in 1H2023E, and the most of 2023E should be delivered in 2H2023E. Geology represents both downside and upside here, because while we assume company may have presented cautious 2023E guidance, another geological issue may be never ruled out in mining business.

**LWB: Worst-case scenario**. In our previous Flash note we suggested that prolonged longwall idling could turn into LWB's worst-case scenario, with every month's production weaker by 0.25mt, It seems this scenario has just materialized, and company's communique says (as we read it) that longwall inactivity would last for six months in 2023E (0.25mt monthly volume loss X 6 months = 1.5mt downside to FY2023 9.5mt original guidance).

## [-] Geology hurts at Bogdanka

*[excerpts from Flash note published on September 14, 2022]*

Today morning Bogdanka announced that due to geological problems at one of the operating longwalls the company put coal production on hold there. It resulted in official FY2022 coal volume guidance cut to 8.3mt from 9.2mt previously. Please keep in mind that on September 2, 2022 Bogdanka trimmed its volume outlook to 9.2mt from original 9.5mt (also driven by geological issues).

**Comment:** Cut to LWB's production guidance is very substantial, total 1.2mt volume cut represents 30% of the original 2H2022 guidance. Strong negative to miner's EBITDA and FCF. The worst-case scenario (longwall idle in 2023) poses downside risk to 2023 volumes, we believe.

**Bogdanka: Negative.** 2022 volume guidance cut should depress FY22E EBITDA to some PLN0.6bn, below consensus. Moreover, the worst-case scenario (the longwall remaining idle in 2023) would depress 2023 volumes by 0.2mt per month, hypothetically substantial downside risk to 2023E volumes and results.

Following early-September guidance cut to 9.2mt, we trimmed our estimates for 3Q2022E coal production to 1.6mt, implying 4Q2022E volume at 2.0mt, with implied quarterly EBITDAs respectively at PLN72mn and PLN139mn. New substantial guidance cut makes us cut volumes further, respectively to 1.45mt in 3Q2022E and mere 1.28mt in 4Q2022E, which would imply 3Q2022E EBITDA at PLN32mn and 4Q2022E EBITDA potentially at neg. PLN58mn. If our forecasts are correct, and repairs of the new longwall prove unsuccessful till year-end 2022, Bogdanka's FY2022E EBITDA would fall to PLN590mn, substantially below consensus.

**LWB: Worst-case scenario.** Please note that the worst-case scenario would imply longwall inactivity prolonging till 2023. In such scenario, 0.9mt 2022 volume downside resulting from four-month inactivity could potentially depress 2023 volumes, with every month of idle longwall trimming 2023 volume outlook by 0.225mt, we calculate.

# Valuation

## DCF valuation

**Fig. 5. Bogdanka: WACC calculation**

| | Years 2023-25E | Years 2026E onwards | Years 2022-24E Previous report, Sept 2022 | Years 2025E onwards Previous report, Sept 2022 |
|---|---|---|---|---|
| Risk-free rate | 7.0% | 5.0% | 6.0% | 4.0% |
| Unlevered beta | 1.2 | 1.2 | 1.2 | 1.2 |
| Levered beta | 1.2 | 1.2 | 1.2 | 1.2 |
| Equity risk premium | 6.0% | 6.0% | 5.0% | 5.0% |
| **Cost of equity** | **14.2%** | **12.2%** | **12.0%** | **10.0%** |
| Risk-free rate | 7.0% | 5.0% | 6.0% | 4.0% |
| Debt risk premium | 1.0% | 1.0% | 1.0% | 1.0% |
| Tax rate | 19% | 19% | 19% | 19% |
| **After tax cost of debt** | 6.5% | 4.9% | **5.7%** | **4.1%** |
| %D | 0% | 0% | 0% | 0% |
| %E | 100% | 100% | 100% | 100% |
| **WACC** | **14.2%** | **12.2%** | **12.0%** | **10.0%** |

*Source: Company data, Santander Brokerage Poland estimates*

**Fig. 6. Bogdanka: DCF valuation**

| PLNmn | 2022E | 2023E | 2024E | 2025E | 2026E | 2027E | 2028E | 2029E | 2030E | 2031E |
|---|---|---|---|---|---|---|---|---|---|---|
| **Revenues** | **2,264** | **3,432** | **4,857** | **4,345** | **3,519** | **3,400** | **3,147** | **2,910** | **2,688** | **2,480** |
| EBIT | 174 | 655 | 2,120 | 1,649 | 979 | 784 | 550 | 327 | 136 | -64 |
| Cash taxes on EBIT*** | 33 | 314 | 1,328 | 1,006 | 186 | 149 | 105 | 62 | 26 | -12 |
| **NOPAT** | **141** | **340** | **792** | **643** | **793** | **635** | **446** | **265** | **111** | **-52** |
| Depreciation | 421 | 440 | 447 | 451 | 454 | 457 | 476 | 496 | 496 | 496 |
| Change in operating WC | 20 | 13 | -16 | -2 | -4 | -10 | 4 | 4 | 3 | 3 |
| **Capital expenditure*** | **700** | **550** | **500** | **500** | **500** | **734** | **780** | **500** | **500** | **500** |
| **Free cash flow** | **-157** | **217** | **755** | **596** | **751** | **368** | **137** | **257** | **103** | **-59** |
| WACC | 0.0% | 14.2% | 14.2% | 14.2% | 12.2% | 12.2% | 12.2% | 12.2% | 12.2% | 12.2% |
| PV FCF 2022-2031E | 1,853 | | | | | | | | | |
| Terminal growth | -2.0% | | | | | | | | | |
| *Terminal Value (TV)* | **-322** | | | | | | | | | |
| *PV TV* | -113 | | | | | | | | | |
| **Total EV** | **1,739** | | | | | | | | | |
| Net debt ** | **-579** | | | | | | | | | |
| **Equity value** | **2,319** | | | | | | | | | |
| Number of shares (mn) | 34.0 | | | | | | | | | |
| Value per share (PLN, Jan 2022) | 68.2 | | | | | | | | | |
| **12M target price (Dec23, PLN)** | **85.8** | | | | | | | | | |

*Source: Santander Brokerage Poland estimates, * assumed lack of capex on new shafts, ** no longer including coking coal-originated upside, due to change in company's strategy, *** includes own assumption of windfall tax paid in years 2023-25E, totaling three-year undiscounted cash outflow at PLN1.8bn*

## Comparable valuation

**Fig. 7. Bogdanka: Comparable valuation**

| Company | Market Cap (EURmn) | P/E 2022E | P/E 2023E | P/E 2024E | EV/EBITDA 2021E | EV/EBITDA 2022E | EV/EBITDA 2023E | P/CE 2021E | P/CE 2022E | P/CE 2023E |
|---|---|---|---|---|---|---|---|---|---|---|
| **JSW** | 1,172 | **1.1** | **1.4** | **3.9** | **0.3** | **0.2** | **0.2** | **0.7** | **1.2** | **2.2** |
| ***Developed countries*** | | | | | | | | | | |
| Alliance Resource Partners LP | 2,742 | 4.8 | 4.0 | 3.0 | n.a. | n.a. | n.a. | 3.3 | 2.8 | 2.3 |
| Peabody Energy Corp | 4,047 | 4.9 | 5.5 | 10.9 | 2.3 | 2.5 | 2.0 | 2.6 | 3.2 | 4.3 |
| CNX Resources Corp | 3,217 | 8.9 | 6.4 | 7.2 | 3.9 | 3.5 | 3.3 | 2.5 | 2.8 | 3.5 |
| New Hope Corp Ltd | 3,175 | 4.5 | 2.3 | 3.1 | 2.8 | 1.1 | 1.2 | 4.3 | 2.4 | 2.9 |
| Whitehaven Coal Ltd | 5,277 | 4.8 | 2.2 | 2.9 | 2.7 | 1.1 | 1.3 | 4.1 | 2.2 | 2.9 |
| ***Median*** | | ***4.8*** | ***4.0*** | ***3.1*** | ***2.7*** | ***1.8*** | ***1.7*** | ***3.3*** | ***2.8*** | ***2.9*** |
| ***Emerging Markets*** | | | | | | | | | | |
| Guizhou Panjiang Refined Coal | 2,077 | 6.8 | 5.7 | 5.3 | n.a. | n.a. | n.a. | 4.6 | 3.5 | 3.3 |
| China Coal Energy | 14,717 | 3.5 | 3.7 | 3.9 | 3.0 | 2.8 | 2.7 | 3.2 | 3.3 | 3.6 |
| Datong Coal Industry | 3,186 | 4.8 | 4.6 | 4.5 | 1.7 | 1.1 | 0.5 | 4.3 | 4.3 | 4.2 |
| Yang Quan Coal Industry Group | 5,757 | 6.7 | 6.4 | 5.7 | n.a. | n.a. | n.a. | 4.6 | 4.5 | 4.1 |
| Bukit Asam | 2,494 | 3.1 | 3.7 | 4.3 | 2.1 | 2.5 | 2.9 | 2.9 | 3.4 | 4.1 |
| Banpu | 2,852 | 2.3 | 3.6 | 5.8 | 2.5 | 3.6 | 3.2 | 1.5 | 1.7 | 1.9 |
| Coal India | 17,047 | 8.9 | 5.3 | 6.2 | 5.6 | 3.0 | 3.5 | 7.3 | 5.0 | 5.4 |
| ***Median*** | | ***4.8*** | ***4.6*** | ***5.3*** | ***2.5*** | ***2.8*** | ***2.9*** | ***4.3*** | ***3.5*** | ***4.1*** |

*Source: Bloomberg, Santander Brokerage Poland estimates, share prices as of November 16, 2022*

**Fig. 8. Bogdanka: Multiple-based valuation implications (PLN/share)**

| | Weight | P/E 2023-24E | EV/EBITDA 2023-24E | P/CE 2023-24E | Average 2023-24E |
|---|---|---|---|---|---|
| JSW | 50% | 51.1 | 25.8 | 53.7 | **43.5** |
| Developed Markets | 25% | 54.1 | 108.4 | 83.6 | **82.0** |
| Emerging Markets | 25% | 82.6 | 169.3 | 111.6 | **121.2** |
| **Weighted valuation** | | **59.7** | **82.3** | **75.6** | **72.6** |

*Source: Bloomberg, Santander Brokerage Poland estimates, values rounded*

## DDM valuation

Taking into account State Minister's statements on low dividends from the State-controlled companies and likely tough outlook for Polish coal segment, we keep the company's DPS and DDM at nil.

# Valuation summary

**Fig. 9. Bogdanka: Valuation changes ****

| PLN per share | New | Previous | Change |
|---|---|---|---|
| DCF valuation | 85.8 | 64.7 | *33%* |
| Comparable valuation (based on 2023-2024E) | 72.6 | 53.6 | *35%* |
| **Blended valuation *** | **81.9** | **61.3** | ***33%*** |

*Source: Company data, Santander Brokerage Poland estimates, * 70% DCF / 30% comparable valuation, ** rounded figures*

DCF remains our preferred valuation tool, as it relies more on the company's long-term outlook. As changes in financial results or changes in investors´ preferences drive the comparable valuation, which we see as supportive to the DCF valuation methodology.

**Fig. 10. Bogdanka: Forecasts changes**

| PLNmn | 2022E | | | 2023E | | | 2024E | | |
|---|---|---|---|---|---|---|---|---|---|
| | New | Previous | *Change* | New | Previous | *Change* | New | Previous | *Change* |
| Sales | 2,264 | 2,264 | *0%* | 3,432 | 3,355 | *2%* | 4,857 | 3,317 | *46%* |
| EBITDA | 596 | 595 | *0%* | 1,095 | 1,059 | *3%* | 2,568 | 1,120 | *129%* |
| EBIT | 174 | 174 | *0%* | 655 | 619 | *6%* | 2,120 | 672 | *215%* |
| Net profit | 133 | 132 | *0%* | 329 | 491 | *-33%* | 769 | 537 | *43%* |

*Source: Santander Brokerage Poland estimates*

**Fig. 11. Bogdanka: Santander forecasts vs. market consensus**

| PLNmn | 2022E | | | 2023E | | | 2024E | | |
|---|---|---|---|---|---|---|---|---|---|
| | Santander | Consensus | *Diff.* | Santander | Consensus | *Diff.* | Santander | Consensus | *Diff.* |
| Sales | 2,264 | 2,344 | *-3%* | 3,432 | 2,895 | *19%* | 4,857 | 3,250 | *49%* |
| EBITDA | 596 | 727 | *-18%* | 1,095 | 845 | *30%* | 2,568 | 1,079 | *138%* |
| EBIT | 174 | 294 | *-41%* | 655 | 421 | *56%* | 2,120 | 623 | *240%* |
| Net profit | 133 | 231 | *-43%* | 329 | 347 | *-5%* | 769 | 542 | *42%* |

*Source: Bloomberg, Santander Brokerage Poland estimates*

# Financials

**Fig. 12. Bogdanka: Income statement forecasts**

| PLNmn | 2019 | 2020 | 2021 | 2022E | 2023E | 2024E |
|---|---|---|---|---|---|---|
| Net sales | 2,158 | 1,822 | 2,371 | 2,264 | 3,432 | 4,857 |
| COGS, ex. depreciation | 1,254 | 1,209 | 1,399 | 1,495 | 2,159 | 2,101 |
| Depreciation | 393 | 371 | 431 | 421 | 440 | 447 |
| Gross profit | 512 | 242 | 542 | 347 | 833 | 2,309 |
| SG&A | 153 | 152 | 175 | 173 | 178 | 189 |
| Other operating income, net | 16 | 5 | 0 | 0 | 0 | 0 |
| **EBITDA** | **767** | **466** | **798** | **596** | **1,095** | **2,568** |
| Operating profit | 375 | 95 | 367 | 174 | 655 | 2,120 |
| Net financial income (costs) | 4 | -2 | -8 | -9 | -6 | -1 |
| Profit before tax | 379 | 93 | 359 | 166 | 649 | 2,119 |
| Income tax | 70 | 20 | 71 | 33 | 130 | 424 |
| ***Windfall tax*** | ***0*** | ***0*** | ***0*** | ***0*** | ***190*** | ***925*** |
| **Net profit** | **309** | **73** | **288** | **133** | **329** | **769** |
| | | | | | | |
| Gross margin | 23.7% | 13.3% | 22.8% | 15.3% | 24.3% | 47.5% |
| EBITDA margin | 35.5% | 25.6% | 33.6% | 26.3% | 31.9% | 52.9% |
| Operating margin | 17.4% | 5.2% | 15.5% | 7.7% | 19.1% | 43.7% |
| Net profit margin | 14.3% | 4.0% | 12.2% | 5.9% | 9.6% | 15.8% |

*Source: Company data, Santander Brokerage Poland estimates*

**Fig. 13. Bogdanka: Per share calculations, operating data, market ratios**

| per share | 2019 | 2020 | 2021 | 2022E | 2023E | 2024E |
|---|---|---|---|---|---|---|
| EPS | 9.0 | 2.1 | 8.4 | 3.9 | 9.6 | 22.6 |
| CEPS | 20.6 | 13.0 | 21.1 | 16.2 | 22.5 | 35.7 |
| BVPS | 94.4 | 96.5 | 105.1 | 106.5 | 116.1 | 138.7 |
| **DPS** | **0.7** | **-** | - | 2.5 | - | - |
| | | | | | | |
| Operating CF [PLNmn] | 641 | 478 | 709 | 534 | 756 | 1,233 |
| **OpCF Yield** | **45.8%** | **67.3%** | **72.6%** | **41.4%** | **58.5%** | **95.4%** |
| FCF [PLNmn] | 245 | -136 | 356 | -159 | 221 | 749 |
| **FCF Yield** | **17.5%** | **-19.2%** | **36.5%** | **-12.3%** | **17.1%** | **58.0%** |
| Capex to Market Cap | 28.3% | 86.6% | 36.2% | 53.7% | 41.4% | 37.4% |
| **Dividend Yield** | **1.8%** | **0.0%** | **0.0%** | **4.6%** | **0.0%** | **0.0%** |
| | | | | | | |
| Net debt [PLNmn] | -358 | -220 | -582 | -338 | -558 | -1,307 |
| Net debt/EBITDA [x] | -0.5 | -0.5 | -0.7 | -0.6 | -0.5 | -0.5 |
| | | | | | | |
| **P/E [x]** | 4.5 | 9.7 | 3.4 | 9.7 | 3.9 | 1.7 |
| **P/CE [x]** | 2.0 | 1.6 | 1.4 | 2.3 | 1.7 | 1.1 |
| **EV/EBITDA* [x]** | 1.9 | 2.0 | 1.0 | 2.2 | 1.0 | 0.1 |
| **EV/EBIT* [x]** | 3.8 | 9.7 | 2.1 | 7.6 | 1.7 | 0.2 |

*Source: Company data, Santander Brokerage Poland estimates, * includes provisions*

**Fig. 14. Bogdanka: Balance sheet forecasts**

| PLNmn | 2019 | 2020 | 2021 | 2022E | 2023E | 2024E |
|---|---|---|---|---|---|---|
| **Current assets** | **743** | **611** | **1,026** | **782** | **1,224** | **2,212** |
| cash and equivalents | 383 | 242 | 600 | 356 | 577 | 1,326 |
| other short term investments | 0 | 0 | 0 | 0 | 0 | 0 |
| accounts receivable | 239 | 268 | 326 | 311 | 471 | 667 |
| inventories | 104 | 91 | 100 | 115 | 176 | 219 |
| other | 17 | 10 | 0 | 0 | 0 | 0 |
| **Fixed assets** | **3,510** | **3,764** | **3,676** | **3,947** | **4,053** | **4,103** |
| PPE | 3,282 | 3,532 | 3,440 | 3,719 | 3,829 | 3,882 |
| long-term investments | 0 | 0 | 0 | 0 | 0 | 0 |
| intangibles | 82 | 84 | 82 | 82 | 82 | 82 |
| goodwill | 0 | 0 | 0 | 0 | 0 | 0 |
| other | 12 | 6 | 6 | 6 | 9 | 13 |
| deferred taxes | 134 | 142 | 148 | 140 | 133 | 127 |
| **Total assets** | **4,252** | **4,375** | **4,702** | **4,729** | **5,278** | **6,315** |
| **Current liabilities** | **374** | **360** | **516** | **495** | **715** | **982** |
| bank debt | 3 | 3 | 3 | 3 | 3 | 3 |
| accounts payable | 312 | 309 | 423 | 404 | 612 | 866 |
| other current liabilities | 2 | 5 | 22 | 21 | 32 | 46 |
| Provisions | 57 | 44 | 67 | 67 | 67 | 67 |
| **Long-term liabilities** | **650** | **715** | **593** | **593** | **593** | **593** |
| bank debt | 11 | 8 | 5 | 5 | 5 | 5 |
| other long-term liabilities | 308 | 316 | 289 | 289 | 289 | 289 |
| Provisions | 331 | 391 | 299 | 299 | 299 | 299 |
| **Equity** | **3,218** | **3,289** | **3,583** | **3,631** | **3,960** | **4,729** |
| share capital | 301 | 301 | 301 | 301 | 301 | 301 |
| capital reserves | 2,608 | 2,915 | 2,994 | 3,197 | 3,330 | 3,659 |
| net income | 309 | 73 | 288 | 133 | 329 | 769 |
| Minority Interest | 10 | 10 | **10** | **10** | **10** | **11** |
| **Total liabilities and equity** | **4,252** | **4,375** | **4,702** | **4,729** | **5,278** | **6,315** |
| Net debt | -358 | -220 | -582 | -338 | -558 | -1,307 |

*Source: Company data, Santander Brokerage Poland estimates*

**Fig. 15. Bogdanka: Cash flow statement forecasts**

| PLNmn | 2019 | 2020 | 2021 | 2022E | 2023E | 2024E |
|---|---|---|---|---|---|---|
| **Cash flow from operations** | **641** | **478** | **709** | **534** | **756** | **1,233** |
| Net profit | 309 | 73 | 288 | 133 | 329 | 769 |
| Provisions | 74 | 60 | -92 | 0 | 0 | 0 |
| Depreciation and amortization | 393 | 371 | 431 | 421 | 440 | 447 |
| Changes in WC, o/w | -75 | -19 | 48 | -20 | -13 | 16 |
| inventories | -21 | 13 | -9 | -15 | -61 | -43 |
| receivables | -36 | -29 | -57 | 15 | -160 | -196 |
| payables | -19 | -3 | 115 | -19 | 208 | 254 |
| Other, net | -60 | -7 | 33 | 0 | 0 | 0 |
| **Cash flow from investment** | **-396** | **-615** | **-353** | **-693** | **-535** | **-484** |
| Additions to PPE and intangibles | -428 | -623 | -337 | -700 | -550 | -500 |
| Change in long-term investments | 0 | 0 | 0 | 0 | 0 | 0 |
| Other, net | 32 | 8 | -16 | 7 | 15 | 16 |
| **Cash flow from financing** | **-33** | **-5** | **3** | **-85** | **0** | **1** |
| Change in long-term borrowing | -3 | -3 | -3 | 0 | 0 | 0 |
| Change in short-term borrowing | 0 | 0 | 0 | 0 | 0 | 0 |
| Change in equity and profit distribution | -5 | -2 | 6 | 0 | 0 | 0 |
| Dividends paid | -26 | 0 | 0 | -85 | 0 | 0 |
| Other, net | 0 | 0 | 0 | 0 | 0 | 1 |
| **Net change in cash and equivalents** | **212** | **-141** | **358** | **-244** | **221** | **750** |
| Beginning cash and equivalents | 171 | 383 | 242 | 600 | 356 | 577 |
| **Ending cash and equivalents** | 383 | 242 | 600 | 356 | 577 | 1,326 |

*Source: Santander Brokerage Poland estimates*

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Santander

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In preparing this report Santander Brokerage Poland applied at least one of the following valuation methods: discounted cash flows (DCF), comparative, mid-cycle, dividend discount model (DDM), residual income, warranted equity method (WEV), SOTP valuation, liquidation value.
**The discounted cash flows (DCF) valuation method** is based on expected future discounted cash flows. One advantage of the DCF valuation method is that it takes into account all cash streams reaching Issuer and the cost of money over time. Some disadvantages of the DCF valuation method are that a large number of parameters and assumptions need to be estimated; and the valuation is sensitive to changes in those parameters.
**The comparative valuation method** is based on the economic rule of "one price". Some advantages of the comparative valuation method are that the analyst need only estimate a small number of parameters; the valuation is based on current market conditions; the relatively large accessibility of indicators for companies being compared; and that there is an extensive knowledge of the comparative method among investors. Some disadvantages of valuation by the comparative method are the considerable sensitivity of the results of the valuation on the choice of companies to the comparative group; the method can lead to a simplification of the picture of the company which in turn can lead to omitting certain important factors (e.g. growth dynamics, extra-operational assets, corporate governance, the repeatability of results, differences in applied accounting standards); and the uncertainty of the effectiveness of a market valuation of companies being compared.
**The mid-cycle multiple valuation** is based on long-term average valuation multiples of a sector or a peer group. The methodology aims to calculate a fair, through the cycle value of the company. Among its shortfalls is that at peaks and/or troughs of the cycle, the implied fair value may deviate substantially from the market's value of an analysed stock as well as the methods' reliance on the quality of external data (we usually use Bloomberg or Damodaran databases). Simplicity and average through-cycle value allowing to capture over- as well as under-valuation of a given stock are the main advantages of this methodology.
**The dividend discount model (DDM) valuation** is based on the net present value of the future dividends that are expected to be paid out by the company. Some advantages of the DDM valuation method are that it takes into account real cash flows to equity-owners and that the methodology is used in respect to companies with long dividend payout history. Main disadvantage of the DDM valuation method is that dividend payouts are based on a large number of parameters and assumptions, including dividend payout ratio.
**Residual income method** is conceptually close to the discounted cash flows method (DCF) for non-financial stocks, the difference being that it is based on expected residual income (returns over COE) rather than expected future cash flows. One advantage of this valuation method is that it captures the excess of profit potentially available to shareholders and the cost of money over time. Main disadvantage of the valuation method is that a large number of parameters and assumptions need to be estimated; and the valuation is sensitive to changes in those parameters.
**The warranted equity method (WEV)** is based on the formula P/BV = (two year forward ROE less sustainable growth rate)/(Cost of equity less sustainable growth rate) which allows estimating a fair value (FV) of a given stock in two years' time. Subsequently the FV is discounted back to today. The main advantage of the WEV method is that it is a transparent one and based on relatively short term forecasts, hence substantially reducing the margin of forecasting error. The main disadvantage in our view is that the model is based on the principle that stock price should converge towards its fair value implied by company's ROE and COE.
**SOTP valuation** - different assets of a company are being valued according to different valuation methods, and the sum of these valuations represents the final valuation of the company. SOTP valuation advantages / disadvantages are identical to advantages and disadvantages of the specific valuation methods used.
**Liquidation value method –** liquidation value is the estimated amount of money that an asset or company could be quickly sold for, such as if it were to go out of business. Then, the estimated assets value is adjusted for liabilities and liquidation expenses. One advantage of this valuation method is its simplicity. This method does not account for intangible assets as goodwill, which is the main disadvantage.

In the opinion of Santander Brokerage Poland, this report has been prepared with all due diligence and excludes any conflict of interests which could influence its content. In Santander Bank Polska there are implemented internal regulations, which are designed to prevent conflicts of interest concerning recommendations. Physical and logic barriers are established, and the principles of documentation adequate to the type of Santander Bank Polska operations are implemented. Additionally, Santander Bank Polska introduced a number of obligations and restrictions relating to the protection of confidential information flow between organizational units.
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