

This is a selected fragment of DM BOŚ SA's research report.

21/2022/RP (112) October 25, 2022

Analyst: Tomasz Rodak, CFA,
t.rodak@bossa.pl, +48 797 487 381

Sector: TMT – media & entertainment
Fundamental rating: Sell (→)
Market relative: Underweight (→)
Price: PLN 118.26
12M EFV: PLN 106.0 (↑)

Market Cap: US\$ 2,490 m
Bloomberg code: CDR PW
Av. daily turnover: US\$ 13.3 m
Free float: 76%
12M range: PLN 77.89-204.00

CD Projekt

- ▲ **New strategy: very ambitious, but difficult to execute**
- ▲ **In spite of new titles' inclusion, 12M EFV grows to merely PLN 106 per share**
- ▲ **2022E-2024E average P/E at 40x (130% premium over peers)**
- ▲ **Sell + Underweight (unchanged)**

In the recent strategy update CD Projekt announced production plans encompassing a few previously unrevealed projects. It turned out that the plans were ambitious and a lot richer than anyone had expected. Enough to say that CDR intends to release six new AAA games in a 6-7 year time window (within next 10-11 years). The Company used to release c. 3 games per 10 years, therefore a new strategy means significant boost in efficiency.

In spite of an inclusion of newly announced projects in our model, which results in accumulation of big AAA games' releases starting in 2026, our 12M EFV for CD Projekt grows merely 19% to PLN 106 per share (from PLN 89 per share previously). It is worth stressing that our forecasts for new *Witcher*/ *Cyberpunk* games are achievable, but very ambitious (we assume 18-24 million units sold (depending on the game) in the release quarter). On the other hand, our forecasts for *The Witcher's* spin-off games are relatively conservative (2-3 million units sold in the release quarter) since little has been disclosed about these projects, with not so encouraging CDR's track record for non-core games (to mention rather unsuccessful (financially) debuts of *The Witcher Battle Arena*, *Gwent* or *Thronebreaker*).

In 2022/ 2023/ 2024 we expect the Company to generate PLN 0.3 billion/ PLN 0.5 billion/ PLN 0.2 billion of net profit (+14%/ +57%/ -40% vs prev. forecast) which implies a P/E multiple of 40x/ 22x/ 60x (vs 18x/ 18x/ 16x for peer companies). The Company currently trades at 2022-2024 average P/E of 40x (a 130% premium over peers).

Given (i) 10% valuation downside, (ii) very long period before the next big release, and (iii) ongoing negative sentiment towards growth companies in the current macro environment, we uphold our LT fundamental Sell/ ST market-relative Underweight recommendations.

Among the main risks to our recommended actions we name: (i) ST positive news flow supporting the share price (incl. W3 NG debut, announcement regarding *Canis Majoris*, *Cyberpunk* paid expansion debut), (ii) higher market expectations for *The Witcher's* spin-off projects, and (iii) improvement of market sentiment toward growth companies (incl. risk-free rate outlook).

Guide to adjusted profits
No factors necessitating adjustments.

Key data

IFRS consolidated		2021	2022E	2023E	2024E
Sales	PLN m	888.2	888.1	1,251.4	685.5
EBITDA	PLN m	337.6	462.1	752.4	317.6
EBIT	PLN m	232.9	333.7	570.1	201.3
Net profit	PLN m	208.9	299.0	544.3	195.1
EPS	PLN	2.07	2.99	5.45	1.95
EPS yoy chg	%	-83	44	82	-64
Net debt	PLN m	-937.5	-879.7	-1,242.8	-1,238.2
P/E	x	57.0	39.5	21.7	60.6
P/CE	x	38.0	27.6	16.3	37.9
EV/EBITDA	x	32.5	23.7	14.0	33.3
EV/EBIT	x	47.1	32.8	18.5	52.5
Gross dividend yield	%	4.2	0.9	0.8	0.8
DPS	PLN	5.00	1.02	1.00	1.00
No. of shares (eop)	m	100.7	99.9	99.9	99.9

Source: Company, DM BOŚ SA estimates

Stock performance



Source: Bloomberg

Upcoming events

1. Announcement of *Canis Majoris*: 4Q22 (our assumption)
2. Announcement of motivation program: 4Q22 (our assumption)
3. Release of 3Q22 financial results: November 28, 2022
4. Debut of *W3* next-gen version: 4Q22
5. Debuts of paid expansion to *Cyberpunk*: 2023
6. Debut of *Sinus*: 2026
7. Debut of *Witcher 4*: 2027 (our assumption)
8. Debut of *Canis Majoris*: 2028 (our assumption)
9. Debut of *Cyberpunk 2*: 2029 (our assumption)
10. Debut of *Witcher 5*: 2031 (our assumption)
11. Debut of *Witcher 6*: 2033 (our assumption)

Catalyst

1. Better than expected sale of new games
2. Newsflow regarding new titles
3. Good cash position
4. Switching to a 2-year publishing cycle
5. Strong USD vs PLN

Risk factors

1. Lost reputation after *Cyberpunk 2077's* failure
2. Lower than expected sale of new games
3. High valuation premium over peer companies (based on multiples)
4. Low frequency of new premiers
5. Weak sentiment of investors toward gaming companies
6. Failure/ cost increase/ delay of games

BASIC DEFINITIONS

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

DM 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	40	31	7	8	0	2
Percentage	45%	35%	8%	9%	0%	2%

Distribution of DM BOŚ's current market relative recommended weightings

	Overweight	Neutral	Underweight	Suspended	Under revision	Not rated
Numbers	39	28	11	8	0	2
Percentage	44%	32%	13%	9%	0%	2%

Banks

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

DM 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	9	4	0	1	0	2
Percentage	56%	25%	0%	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	8	3	2	1	0	2
Percentage	50%	19%	13%	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)	
CD Projekt										
-	Buy	11.12.2011	-	-	14.11.2012	8%	-5%	5.00	7.80	-
-	-	-	01.01.2012	-	-	-	-	5.27	7.80	→
-	-	-	25.01.2012	-	-	-	-	6.05	7.80	→
-	-	-	29.02.2012	-	-	-	-	5.87	7.80	→
-	-	-	20.03.2012	-	-	-	-	6.50	7.80	→
-	-	-	15.04.2012	-	-	-	-	6.35	7.80	→
-	-	-	01.05.2012	-	-	-	-	5.55	7.80	→
-	-	-	15.05.2012	-	-	-	-	4.80	7.80	→
-	-	-	21.06.2012	-	-	-	-	5.04	7.80	→
-	-	-	19.07.2012	-	-	-	-	4.71	7.80	→
-	-	-	02.09.2012	-	-	-	-	4.45	7.80	→
-	-	-	10.10.2012	-	-	-	-	5.31	7.80	→
-	Buy	14.11.2012	-	-	21.03.2013	32%	27%	5.40	7.80	→
-	-	-	13.12.2012	-	-	-	-	6.30	8.10	↑
-	-	-	23.01.2013	-	-	-	-	6.65	8.10	→
-	-	-	18.02.2013	-	-	-	-	7.43	8.10	→
-	Hold	21.03.2013	-	-	13.08.2013	55%	42%	7.12	8.10	→
-	-	-	17.04.2013	-	-	-	-	6.75	8.10	→
-	-	-	25.04.2013	-	-	-	-	6.80	8.10	→
-	-	-	15.05.2013	-	-	-	-	7.53	8.10	→
-	-	-	17.06.2013	-	-	-	-	9.49	8.10	→
-	-	-	25.07.2013	-	-	-	-	9.56	8.10	→
-	Buy	13.08.2013	-	-	02.02.2014	66%	62%	11.06	13.80	↑
-	-	-	01.09.2013	-	-	-	-	12.37	13.80	→
-	-	-	20.10.2013	-	-	-	-	14.20	19.70	↑
-	-	-	14.11.2013	-	-	-	-	15.60	19.70	→
-	-	-	12.12.2014	-	-	-	-	15.99	19.70	→
-	-	-	21.01.2014	-	-	-	-	17.26	19.70	→
-	Hold	02.02.2014	-	-	16.04.2014	-22%	-22%	18.34	19.70	→
-	-	-	17.02.2014	-	-	-	-	17.40	19.70	→
-	-	-	11.03.2014	-	-	-	-	16.75	19.70	→
-	-	-	23.03.2014	-	-	-	-	15.00	19.70	→
-	-	-	13.04.2014	-	-	-	-	14.77	19.70	→
-	Buy	16.04.2014	-	-	19.04.2015	49%	37%	14.24	19.70	→
-	-	-	15.05.2014	-	-	-	-	14.25	19.70	→
-	-	-	16.06.2014	-	-	-	-	16.25	19.70	→
-	-	-	20.07.2014	-	-	-	-	15.25	19.70	→
-	-	-	18.08.2014	-	-	-	-	15.25	19.70	→
-	-	-	01.09.2014	-	-	-	-	15.45	19.70	→
-	-	-	14.10.2014	-	-	-	-	15.46	19.70	→
-	-	-	16.11.2014	-	-	-	-	16.44	19.70	→
-	-	-	08.12.2014	-	-	-	-	17.30	19.70	→
-	-	-	14.12.2014	-	-	-	-	16.00	19.70	→
Tomasz Rodak	-	-	18.01.2015	19.01.2015	-	-	-	16.20	19.70	→
Tomasz Rodak	-	-	10.02.2015	11.02.2015	-	-	-	16.20	19.70	→
Tomasz Rodak	-	-	23.03.2015	24.03.2015	-	-	-	19.24	19.70	→
Tomasz Rodak	Hold	19.04.2015	-	20.04.2015	12.05.2015	9%	6%	21.24	23.20	↑
Tomasz Rodak	Buy	12.05.2015	-	13.05.2015	13.04.2016	10%	31%	23.24	30.00	↑
Tomasz Rodak	-	-	17.05.2015	18.05.2015	-	-	-	24.70	30.00	→
Tomasz Rodak	-	-	21.06.2015	22.06.2015	-	-	-	23.70	30.00	→
Tomasz Rodak	-	-	16.07.2015	17.07.2015	-	-	-	26.69	30.00	→
Tomasz Rodak	-	-	03.08.2015	04.08.2015	-	-	-	26.69	34.70	↑
Tomasz Rodak	-	-	31.08.2015	01.09.2015	-	-	-	24.30	34.70	→
Tomasz Rodak	-	-	15.10.2015	16.10.2015	-	-	-	27.00	34.70	→
Tomasz Rodak	-	-	16.11.2015	17.11.2015	-	-	-	23.00	34.70	→
Tomasz Rodak	-	-	13.12.2015	14.12.2015	-	-	-	22.40	31.20	↓
Tomasz Rodak	-	-	17.01.2016	18.01.2016	-	-	-	21.65	31.20	→
Tomasz Rodak	-	-	15.02.2016	16.02.2016	-	-	-	21.61	31.20	→
Tomasz Rodak	-	-	21.03.2016	22.03.2016	-	-	-	24.94	31.20	→
Tomasz Rodak	Buy	13.04.2016	-	14.04.2016	31.08.2016	66%	67%	25.60	31.20	→
Tomasz Rodak	-	-	16.05.2016	17.05.2016	-	-	-	26.70	31.20	→
Tomasz Rodak	-	-	27.06.2016	28.06.2016	-	-	-	26.30	31.20	→
Tomasz Rodak	-	-	14.07.2016	15.07.2016	-	-	-	29.18	37.80	↑
Tomasz Rodak	-	-	24.07.2016	25.07.2016	-	-	-	33.02	37.80	→
Tomasz Rodak	-	-	21.08.2016	22.08.2016	-	-	-	36.32	37.80	→
Tomasz Rodak	Hold	31.08.2016	-	31.08.2016	13.02.2017	63%	35%	42.50	42.90	↑
Tomasz Rodak	-	-	12.10.2016	13.10.2016	-	-	-	39.65	42.90	→
Tomasz Rodak	-	-	02.11.2016	03.11.2016	-	-	-	39.70	42.90	→
Tomasz Rodak	-	-	04.12.2016	05.12.2016	-	-	-	51.66	42.90	→
Tomasz Rodak	-	-	12.01.2017	13.01.2017	-	-	-	54.85	42.90	→
Tomasz Rodak	-	-	08.02.2017	09.02.2017	-	-	-	63.50	42.90	→
Tomasz Rodak	Buy	13.02.2017	-	14.02.2017	13.02.2018	59%	46%	69.44	81.30	↑
Tomasz Rodak	-	-	07.03.2017	08.03.2017	-	-	-	73.27	81.30	→
Tomasz Rodak	-	-	11.04.2017	12.04.2017	-	-	-	66.40	81.30	→
Tomasz Rodak	-	-	28.05.2017	29.05.2017	-	-	-	71.95	80.30	↓
Tomasz Rodak	-	-	30.05.2017	31.05.2017	-	-	-	77.60	80.30	→
Tomasz Rodak	-	-	12.07.2017	13.07.2017	-	-	-	82.79	80.30	→
Tomasz Rodak	-	-	23.07.2017	24.07.2017	-	-	-	87.00	103.40	↑
Tomasz Rodak	-	-	20.08.2017	21.08.2017	-	-	-	86.50	103.40	→
Tomasz Rodak	-	-	29.08.2017	30.08.2017	-	-	-	80.52	103.40	→
Tomasz Rodak	-	-	03.09.2017	04.09.2017	-	-	-	84.20	103.40	→
Tomasz Rodak	-	-	15.10.2017	16.10.2017	-	-	-	117.80	103.40	→
Tomasz Rodak	-	-	15.11.2017	16.11.2017	-	-	-	107.00	103.40	→

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)
Tomasz Rodak	-	-	10.12.2017	11.12.2017	-	-	-	94.00	138.20 ↑
Tomasz Rodak	-	-	10.01.2018	11.01.2018	-	-	-	98.15	138.20 →
Tomasz Rodak	Buy	13.02.2018	-	14.02.2018	04.02.2019	75%	82%	109.10	138.20 →
Tomasz Rodak	-	-	12.03.2018	13.03.2018	-	-	-	114.50	138.20 →
Tomasz Rodak	-	-	16.04.2018	17.04.2018	-	-	-	119.30	138.20 →
Tomasz Rodak	-	-	29.05.2018	30.05.2018	-	-	-	145.00	138.20 →
Tomasz Rodak	-	-	20.06.2018	21.06.2018	-	-	-	165.80	138.20 →
Tomasz Rodak	-	-	16.07.2018	17.07.2018	-	-	-	197.40	240.00 ↑
Tomasz Rodak	-	-	02.08.2018	03.08.2018	-	-	-	195.40	240.00 →
Tomasz Rodak	-	-	30.08.2018	31.08.2018	-	-	-	210.40	240.00 →
Tomasz Rodak	-	-	11.10.2018	12.10.2018	-	-	-	152.00	240.00 →
Tomasz Rodak	-	-	23.10.2018	24.10.2018	-	-	-	144.30	240.00 →
Tomasz Rodak	-	-	14.11.2018	15.11.2018	-	-	-	146.50	240.00 →
Tomasz Rodak	-	-	09.12.2018	10.12.2018	-	-	-	144.00	205.20 ↓
Tomasz Rodak	-	-	10.01.2019	11.01.2019	-	-	-	171.00	205.20 →
Tomasz Rodak	Buy	04.02.2019	-	05.02.2019	01.09.2019	33%	42%	190.70	205.20 →
Tomasz Rodak	-	-	26.02.2019	27.02.2019	-	-	-	185.70	205.20 →
Tomasz Rodak	-	-	26.03.2019	27.03.2019	-	-	-	185.80	205.20 →
Tomasz Rodak	-	-	22.04.2019	23.04.2019	-	-	-	202.00	250.10 ↑
Tomasz Rodak	-	-	24.04.2019	25.04.2019	-	-	-	211.20	250.10 →
Tomasz Rodak	-	-	29.05.2019	30.05.2019	-	-	-	208.70	249.00 ↓
Tomasz Rodak	-	-	30.05.2019	31.05.2019	-	-	-	214.30	249.00 →
Tomasz Rodak	-	-	20.06.2019	21.06.2019	-	-	-	207.60	249.00 →
Tomasz Rodak	-	-	17.07.2019	18.07.2019	-	-	-	219.30	249.00 →
Tomasz Rodak	-	-	22.07.2019	23.07.2019	-	-	-	224.90	258.00 ↑
Tomasz Rodak	-	-	30.07.2019	31.07.2019	-	-	-	225.90	258.00 →
Tomasz Rodak	-	-	27.08.2019	28.08.2019	-	-	-	245.20	258.00 →
Tomasz Rodak	Hold	01.09.2019	-	02.09.2019	01.09.2020	45%	71%	253.00	258.00 →
Tomasz Rodak	-	-	13.10.2019	14.10.2019	-	-	-	237.00	258.00 →
Tomasz Rodak	-	-	24.10.2019	25.10.2019	-	-	-	241.90	258.00 →
Tomasz Rodak	-	-	17.11.2019	18.11.2019	-	-	-	262.50	258.00 →
Tomasz Rodak	-	-	08.12.2019	09.12.2019	-	-	-	261.30	300.00 ↑
Tomasz Rodak	-	-	09.01.2020	10.01.2020	-	-	-	288.60	300.00 →
Tomasz Rodak	-	-	16.01.2020	17.01.2020	-	-	-	282.30	300.00 →
Tomasz Rodak	-	-	04.02.2020	05.02.2020	-	-	-	305.00	300.00 →
Tomasz Rodak	-	-	06.02.2020	07.02.2020	-	-	-	313.70	300.00 →
Tomasz Rodak	-	-	03.03.2020	04.03.2020	-	-	-	305.80	300.00 →
Tomasz Rodak	-	-	30.03.2020	31.03.2020	-	-	-	280.90	300.00 →
Tomasz Rodak	-	-	22.04.2020	23.04.2020	-	-	-	347.00	300.00 →
Tomasz Rodak	-	-	05.05.2020	06.05.2020	-	-	-	357.50	352.00 ↑
Tomasz Rodak	-	-	19.05.2020	20.05.2020	-	-	-	379.70	352.00 →
Tomasz Rodak	-	-	15.06.2020	16.06.2020	-	-	-	373.10	352.00 →
Tomasz Rodak	-	-	13.07.2020	14.07.2020	-	-	-	369.50	352.00 →
Tomasz Rodak	Hold	01.09.2020	-	02.09.2020	21.10.2020	-17%	-12%	440.70	352.00 →
Tomasz Rodak	-	-	08.10.2020	09.10.2020	-	-	-	388.90	352.00 →
Tomasz Rodak	Buy	21.10.2020	-	22.10.2020	06.12.2020	21%	5%	365.80	446.00 ↑
Tomasz Rodak	-	-	05.11.2020	06.11.2020	-	-	-	371.10	448.00 ↑
Tomasz Rodak	-	-	08.11.2020	09.11.2020	-	-	-	383.10	448.00 →
Tomasz Rodak	Hold	06.12.2020	-	07.12.2020	30.05.2021	-61%	-67%	443.00	461.00 ↑
Tomasz Rodak	-	-	13.12.2020	14.12.2020	-	-	-	320.50	461.00 →
Tomasz Rodak	-	-	22.12.2020	23.12.2020	-	-	-	267.70	461.00 →
Tomasz Rodak	-	-	05.01.2021	05.01.2021	-	-	-	265.70	461.00 →
Tomasz Rodak	-	-	28.01.2021	29.01.2021	-	-	-	365.00	461.00 →
Tomasz Rodak	-	-	28.02.2021	01.03.2021	-	-	-	241.30	461.00 →
Tomasz Rodak	-	-	15.03.2021	16.03.2021	-	-	-	229.90	231.00 ↓
Tomasz Rodak	-	-	30.03.2021	31.03.2021	-	-	-	217.90	231.00 →
Tomasz Rodak	-	-	16.04.2021	16.04.2021	-	-	-	176.76	231.00 →
Tomasz Rodak	-	-	10.05.2021	11.05.2021	-	-	-	156.66	142.00 ↓
Tomasz Rodak	Sell	30.05.2021	-	31.05.2021	05.12.2021	7%	5%	173.58	137.00 ↓
Tomasz Rodak	-	-	09.07.2021	09.07.2021	-	-	-	188.00	137.00 →
Tomasz Rodak	-	-	31.08.2021	31.08.2021	-	-	-	169.32	137.00 →
Tomasz Rodak	-	-	07.10.2021	07.10.2021	-	-	-	194.10	137.00 →
Tomasz Rodak	-	-	04.11.2021	04.11.2021	-	-	-	181.10	137.00 →
Tomasz Rodak	Hold	05.12.2021	-	06.12.2021	16.05.2022	-36%	-21%	181.46	167.00 ↑
Tomasz Rodak	-	-	16.01.2022	17.01.2022	-	-	-	191.00	167.00 →
Tomasz Rodak	-	-	07.02.2022	07.02.2022	-	-	-	179.56	167.00 →
Tomasz Rodak	-	-	28.02.2022	28.02.2022	-	-	-	168.40	167.00 →
Tomasz Rodak	-	-	14.04.2022	14.04.2022	-	-	-	167.00	167.00 →
Tomasz Rodak	Sell	16.05.2022	-	17.05.2022	Not later than 16.05.2023	2%	18%	116.88	90.00 ↓
Tomasz Rodak	-	-	26.05.2022	26.05.2022	-	-	-	110.62	90.00 →
Tomasz Rodak	-	-	03.07.2022	04.07.2022	-	-	-	96.96	89.00 ↓
Tomasz Rodak	-	-	15.07.2022	15.07.2022	-	-	-	93.32	89.00 →
Tomasz Rodak	-	-	16.08.2022	16.08.2022	-	-	-	92.55	89.00 →
Tomasz Rodak	-	-	02.09.2022	02.09.2022	-	-	-	82.00	89.00 →
Tomasz Rodak	-	-	07.10.2022	07.10.2022	-	-	-	116.22	89.00 →
Tomasz Rodak	-	-	25.10.2022	26.10.2022	-	-	-	118.26	106.00 ↑

* 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/reiteration*	Relative performance
CD Projekt							
-	Overweight	-	11.12.2011	-	-	5.00	-17%
-	-	-	-	01.01.2012	-	5.27	-
-	-	-	-	25.01.2012	-	6.05	-
-	-	-	-	29.02.2012	-	5.87	-
-	-	-	-	20.03.2012	-	6.50	-
-	-	-	-	15.04.2012	-	6.35	-
-	-	-	-	01.05.2012	-	5.55	-
-	-	-	-	15.05.2012	-	4.80	-
-	-	-	-	21.06.2012	-	5.04	-
-	-	-	-	19.07.2012	-	4.71	-
-	Neutral	02.09.2012	-	-	13.12.2012	4.45	26%
-	-	-	10.10.2012	-	-	5.31	-
-	-	-	14.11.2012	-	-	5.40	-
-	Overweight	13.12.2012	-	-	21.03.2013	6.30	16%
-	-	-	23.01.2013	-	-	6.65	-
-	-	-	18.02.2013	-	-	7.43	-
-	Neutral	21.03.2013	-	-	12.12.2013	7.12	97%
-	-	-	17.04.2013	-	-	6.75	-
-	-	-	25.04.2013	-	-	6.80	-
-	-	-	15.05.2013	-	-	7.53	-
-	-	-	17.06.2013	-	-	9.49	-
-	-	-	25.07.2013	-	-	9.56	-
-	-	-	13.08.2013	-	-	11.06	-
-	-	-	01.09.2013	-	-	12.37	-
-	-	-	20.10.2013	-	-	14.20	-
-	-	-	14.11.2013	-	-	15.60	-
-	Overweight	12.12.2013	-	-	11.03.2014	15.99	6%
-	-	-	21.01.2014	-	-	17.26	-
-	-	-	02.02.2014	-	-	18.34	-
-	-	-	17.02.2014	-	-	17.40	-
-	Underweight	11.03.2014	-	-	13.04.2014	16.75	-14%
-	-	-	23.03.2014	-	-	15.00	-
-	Overweight	13.04.2014	-	-	08.12.2014	14.77	15%
-	-	-	16.04.2014	-	-	14.24	-
-	-	-	15.05.2014	-	-	14.25	-
-	-	-	16.06.2014	-	-	16.25	-
-	-	-	20.07.2014	-	-	15.25	-
-	-	-	18.08.2014	-	-	15.25	-
-	-	-	01.09.2014	-	-	15.45	-
-	-	-	14.10.2014	-	-	15.46	-
-	-	-	16.11.2014	-	-	16.44	-
-	Neutral	08.12.2014	-	-	18.01.2015	17.30	0%
-	-	-	14.12.2014	-	-	16.00	-
Tomasz Rodak	Overweight	18.01.2015	-	19.01.2015	16.11.2015	16.20	47%
Tomasz Rodak	-	-	10.02.2015	11.02.2015	-	16.20	-
Tomasz Rodak	-	-	23.03.2015	24.03.2015	-	19.24	-
Tomasz Rodak	-	-	19.04.2015	20.04.2015	-	21.24	-
Tomasz Rodak	-	-	12.05.2015	13.05.2015	-	23.24	-
Tomasz Rodak	-	-	17.05.2015	18.05.2015	-	24.70	-
Tomasz Rodak	-	-	21.06.2015	22.06.2015	-	23.70	-
Tomasz Rodak	-	-	16.07.2015	17.07.2015	-	26.69	-
Tomasz Rodak	-	-	03.08.2015	04.08.2015	-	26.69	-
Tomasz Rodak	-	-	31.08.2015	01.09.2015	-	24.30	-
Tomasz Rodak	-	-	15.10.2015	16.10.2015	-	27.00	-
Tomasz Rodak	Neutral	16.11.2015	-	17.11.2015	15.02.2016	23.00	3%
Tomasz Rodak	-	-	13.12.2015	14.12.2015	-	22.40	-
Tomasz Rodak	-	-	17.01.2016	18.01.2016	-	21.65	-
Tomasz Rodak	Overweight	15.02.2016	-	16.02.2016	31.08.2016	21.61	82%
Tomasz Rodak	-	-	21.03.2016	22.03.2016	-	24.94	-
Tomasz Rodak	-	-	13.04.2016	14.04.2016	-	25.60	-
Tomasz Rodak	-	-	16.05.2016	17.05.2016	-	26.70	-
Tomasz Rodak	-	-	27.06.2016	28.06.2016	-	26.30	-
Tomasz Rodak	-	-	14.07.2016	15.07.2016	-	29.18	-
Tomasz Rodak	-	-	24.07.2016	25.07.2016	-	33.02	-
Tomasz Rodak	-	-	21.08.2016	22.08.2016	-	36.32	-
Tomasz Rodak	Neutral	31.08.2016	-	31.08.2016	08.02.2017	42.50	29%
Tomasz Rodak	-	-	12.10.2016	13.10.2016	-	39.65	-
Tomasz Rodak	-	-	02.11.2016	03.11.2016	-	39.70	-
Tomasz Rodak	-	-	04.12.2016	05.12.2016	-	51.66	-
Tomasz Rodak	-	-	12.01.2017	13.01.2017	-	54.85	-
Tomasz Rodak	Overweight	08.02.2017	-	09.02.2017	10.01.2018	63.50	34%
Tomasz Rodak	-	-	13.02.2017	14.02.2017	-	69.44	-
Tomasz Rodak	-	-	07.03.2017	08.03.2017	-	73.27	-
Tomasz Rodak	-	-	11.04.2017	12.04.2017	-	66.40	-
Tomasz Rodak	-	-	28.05.2017	29.05.2017	-	71.95	-
Tomasz Rodak	-	-	30.05.2017	31.05.2017	-	77.60	-
Tomasz Rodak	-	-	12.07.2017	13.07.2017	-	82.79	-
Tomasz Rodak	-	-	23.07.2017	24.07.2017	-	87.00	-
Tomasz Rodak	-	-	20.08.2017	21.08.2017	-	86.50	-
Tomasz Rodak	-	-	29.08.2017	30.08.2017	-	80.52	-
Tomasz Rodak	-	-	03.09.2017	04.09.2017	-	84.20	-
Tomasz Rodak	-	-	15.10.2017	16.10.2017	-	117.80	-
Tomasz Rodak	-	-	15.11.2017	16.11.2017	-	107.00	-

Market-relative recommendation tracker (continued)

Analyst	Relative Recommendation	Report date	Reiteration date	Distribution date	Expiry date	Price at issue/reiteration*	Relative performance
Tomasz Rodak	-	-	10.12.2017	11.12.2017	-	94.00	-
Tomasz Rodak	Overweight	10.01.2018	-	11.01.2018	10.01.2019	98.15	91%
Tomasz Rodak	-	-	13.02.2018	14.02.2018	-	109.10	-
Tomasz Rodak	-	-	12.03.2018	13.03.2018	-	114.50	-
Tomasz Rodak	-	-	16.04.2018	17.04.2018	-	119.30	-
Tomasz Rodak	-	-	29.05.2018	30.05.2018	-	145.00	-
Tomasz Rodak	-	-	20.06.2018	21.06.2018	-	165.80	-
Tomasz Rodak	-	-	16.07.2018	17.07.2018	-	197.40	-
Tomasz Rodak	-	-	02.08.2018	03.08.2018	-	195.40	-
Tomasz Rodak	-	-	30.08.2018	31.08.2018	-	210.40	-
Tomasz Rodak	-	-	11.10.2018	12.10.2018	-	152.00	-
Tomasz Rodak	-	-	23.10.2018	24.10.2018	-	144.30	-
Tomasz Rodak	-	-	14.11.2018	15.11.2018	-	146.50	-
Tomasz Rodak	-	-	09.12.2018	10.12.2018	-	144.00	-
Tomasz Rodak	Overweight	10.01.2019	-	11.01.2019	01.09.2019	171.00	55%
Tomasz Rodak	-	-	04.02.2019	05.02.2019	-	190.70	-
Tomasz Rodak	-	-	26.02.2019	27.02.2019	-	185.70	-
Tomasz Rodak	-	-	26.03.2019	27.03.2019	-	185.80	-
Tomasz Rodak	-	-	22.04.2019	23.04.2019	-	202.00	-
Tomasz Rodak	-	-	24.04.2019	25.04.2019	-	211.20	-
Tomasz Rodak	-	-	29.05.2019	30.05.2019	-	208.70	-
Tomasz Rodak	-	-	30.05.2019	31.05.2019	-	214.30	-
Tomasz Rodak	-	-	20.06.2019	21.06.2019	-	207.60	-
Tomasz Rodak	-	-	17.07.2019	18.07.2019	-	219.30	-
Tomasz Rodak	-	-	22.07.2019	23.07.2019	-	224.90	-
Tomasz Rodak	-	-	30.07.2019	31.07.2019	-	225.90	-
Tomasz Rodak	-	-	27.08.2019	28.08.2019	-	245.20	-
Tomasz Rodak	Neutral	01.09.2019	-	02.09.2019	08.12.2019	253.00	5%
Tomasz Rodak	-	-	13.10.2019	14.10.2019	-	237.00	-
Tomasz Rodak	-	-	24.10.2019	25.10.2019	-	241.90	-
Tomasz Rodak	-	-	17.11.2019	18.11.2019	-	262.50	-
Tomasz Rodak	Overweight	08.12.2019	-	09.12.2019	16.01.2020	261.30	3%
Tomasz Rodak	-	-	09.01.2020	10.01.2020	-	288.60	-
Tomasz Rodak	Neutral	16.01.2020	-	17.01.2020	03.03.2020	282.30	27%
Tomasz Rodak	-	-	04.02.2020	05.02.2020	-	305.00	-
Tomasz Rodak	-	-	06.02.2020	07.02.2020	-	313.70	-
Tomasz Rodak	Overweight	03.03.2020	-	04.03.2020	13.12.2020	305.80	-5%
Tomasz Rodak	-	-	30.03.2020	31.03.2020	-	280.90	-
Tomasz Rodak	-	-	22.04.2020	23.04.2020	-	347.00	-
Tomasz Rodak	-	-	05.05.2020	06.05.2020	-	357.50	-
Tomasz Rodak	-	-	19.05.2020	20.05.2020	-	379.70	-
Tomasz Rodak	-	-	15.06.2020	16.06.2020	-	373.10	-
Tomasz Rodak	-	-	13.07.2020	14.07.2020	-	369.50	-
Tomasz Rodak	-	-	01.09.2020	02.09.2020	-	440.70	-
Tomasz Rodak	-	-	08.10.2020	09.10.2020	-	388.90	-
Tomasz Rodak	-	-	21.10.2020	22.10.2020	-	365.80	-
Tomasz Rodak	-	-	05.11.2020	06.11.2020	-	371.10	-
Tomasz Rodak	-	-	08.11.2020	09.11.2020	-	383.10	-
Tomasz Rodak	-	-	06.12.2020	07.12.2020	-	443.00	-
Tomasz Rodak	Underweight	13.12.2020	-	14.12.2020	22.12.2020	320.50	-16%
Tomasz Rodak	Neutral	22.12.2020	-	23.12.2020	30.03.2021	267.70	-23%
Tomasz Rodak	-	-	05.01.2021	05.01.2021	-	265.70	-
Tomasz Rodak	-	-	28.01.2021	29.01.2021	-	365.00	-
Tomasz Rodak	-	-	28.02.2021	01.03.2021	-	241.30	-
Tomasz Rodak	-	-	15.03.2021	16.03.2021	-	229.90	-
Tomasz Rodak	Underweight	30.03.2021	-	31.03.2021	05.12.2021	217.90	-28%
Tomasz Rodak	-	-	16.04.2021	16.04.2021	-	176.76	-
Tomasz Rodak	-	-	10.05.2021	11.05.2021	-	156.66	-
Tomasz Rodak	-	-	30.05.2021	31.05.2021	-	173.58	-
Tomasz Rodak	-	-	09.07.2021	09.07.2021	-	188.00	-
Tomasz Rodak	-	-	31.08.2021	31.08.2021	-	169.32	-
Tomasz Rodak	-	-	07.10.2021	07.10.2021	-	194.10	-
Tomasz Rodak	-	-	04.11.2021	04.11.2021	-	181.10	-
Tomasz Rodak	Overweight	05.12.2021	-	06.12.2021	16.05.2022	181.46	-21%
Tomasz Rodak	-	-	16.01.2022	17.01.2022	-	191.00	-
Tomasz Rodak	-	-	07.02.2022	07.02.2022	-	179.56	-
Tomasz Rodak	-	-	28.02.2022	28.02.2022	-	168.40	-
Tomasz Rodak	-	-	14.04.2022	14.04.2022	-	167.00	-
Tomasz Rodak	Underweight	16.05.2022	-	17.05.2022	Not later than 16.05.2023	116.88	18%
Tomasz Rodak	-	-	26.05.2022	26.05.2022	-	110.62	-
Tomasz Rodak	-	-	03.07.2022	04.07.2022	-	96.96	-
Tomasz Rodak	-	-	15.07.2022	15.07.2022	-	93.32	-
Tomasz Rodak	-	-	16.08.2022	16.08.2022	-	92.55	-
Tomasz Rodak	-	-	02.09.2022	02.09.2022	-	82.00	-
Tomasz Rodak	-	-	07.10.2022	07.10.2022	-	116.22	-
Tomasz Rodak	-	-	25.10.2022	26.10.2022	-	118.26	-

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

Institutional sales

Bartosz Janczy
tel.: +48 (22) 504 32 46
b.janczy@bossa.pl

Michał Zawada
tel.: +48 (22) 504 33 36
m.zawada@bossa.pl

Maciej Bąk
tel.: +48 (22) 504 33 78
m.bak@bossa.pl

Bartosz Zieliński
tel.: +48 (22) 504 33 35
b.zielinski@bossa.pl

This material was produced by DM BOŚ based in Warsaw.

The production of the recommendation report was completed on October 26, 2022 at 7.20 a.m.
The recommendation was distributed on October 26, 2022 at 7.30 a.m.

The report is an investment research within the meaning of Commission Delegated Regulation (EU) 2017/565 of 25 April 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council as regards organisational requirements and operating conditions for investment firms and defined terms for the purposes of that Directive.

This report constitutes a recommendation within the meaning of Commission Delegated Regulation (EU) 2016/958 of 9 March 2016 supplementing Regulation (EU) No 596/2014 of the European Parliament and of the Council with regard to regulatory technical standards for the technical arrangements for objective presentation of investment recommendations or other information recommending or suggesting an investment strategy and for disclosure of particular interests or indications of conflicts of interest. This report is for information purposes only.

This report constitutes neither investment advice nor provides investment service as referred to in Article 76 of the Act on Financial Instruments Trading as of 29 July 2005 (Journal of Laws, 2017, Item 1768 as amended); it does not constitute any legal or tax advice, neither does it constitute an indication whether an investment is suitable or appropriate in an individual situation of an investor.

Neither the information nor the opinions expressed in the report constitute a solicitation or an offer to buy or sell any securities referred herein. The opinions expressed in the report reflect independent, current judgment of DM BOŚ. This report was prepared with due diligence and scrutiny. The information used in the report is based on all public sources such as press and branch publications, company's financial statements, current and periodic reports, as well as meetings and telephone conversations with company's representatives prior to the date of report's release. We believe the above mentioned sources of information to be reliable, however we do not guarantee their accuracy and completeness. All estimates and opinions included herein represent our judgment as of the date of the issue.

DM BOŚ SA is an investment firm within the meaning of the Act on Financial Instruments Trading as of 29 July 2005 (Journal of Laws, 2017, Item 1768 as amended). The legal entity supervising DM BOŚ is Polish Financial Supervision Authority in Warsaw (Komisja Nadzoru Finansowego, Pl. Powstańców Warszawy 1, 00-950 Warszawa, KNF in Polish abbreviation).

DM BOŚ, its management and supervisory bodies and employees do not take any responsibility for decisions taken on the basis of this report and opinions stated herein. Investors bear all responsibility for investment decisions taken on the basis of the contents of this report. The report is intended exclusively for private use of investors – retail and professional clients of DM BOŚ. No part or excerpt of the report may be redistributed, reproduced or conveyed in any manner or form written or oral without the prior written consent of DM BOŚ.

This report is released on the day it is issued to retail and professional clients of DM BOŚ upon the Agreement on providing the recommendations prepared by DM BOŚ or any agreement containing the commitment of DM BOŚ to providing recommendations on behalf of those clients. This report can be made available to other clients of DM BOŚ within time limits and upon terms as indicated by the General Manager of DM BOŚ. The short version of the report is made available to the public no sooner than 7 days after the first release.

DM BOŚ follows internal regulations for handling of conflicts of interest which include in particular internal organizational and administration arrangements as well as information barriers established for prevention and avoidance of conflicts of interest related to recommendations. A special organizational arrangement that constitutes an information barrier is so called Chinese walls prohibiting an uncontrolled flow of information among particular organizational units or employees of DM BOŚ. Where justified, DM BOŚ can create Chinese walls upon the realization of a particular project. Potential conflicts of interests referring to a specific recommendation which is made available to the public or to a wide range of persons are disclosed either in the recommendation or in the document attached.

The person(s) responsible for covering the securities referred to in this report receives compensation based upon the overall profitability of DM BOŚ which includes profits derived from investment banking activities, although the analyst compensation is not directly related thereto.

DM BOŚ releases analytical reports via mail or electronic mail to selected clients (professional clients) and via indicated software of DM BOŚ for logged customer pursuant to the notation as entered in the appropriate agreement on provision of the brokerage services.

DM BOŚ has not held any long or short position net exceeding 0.5% of the issuer's basic capital in total for the companies indicated.

DM BOŚ S.A. is the market maker for the stock and the futures contracts of CD Projekt.

Apart from the mentioned above, there are neither ties of any kind between DM BOŚ, the analyst/ analysts involved in the preparation of the report and the issuer(s) of securities as referred to in the report nor circumstances that can justifiably be expected to have a negative impact on objectivity of the recommendation with regard to interests or conflicts of interests on their part or on the part of any natural person or legal entity which pertains to the security or the issuer.

DM BOŚ has not signed with the company/ companies any contracts for recommendation writing.

The report was not shown to the analyzed company/companies before the distribution of the report to clients.

Research

Sobiesław Pająk, CFA
(Equity strategy, TMT)
tel.: +48 (22) 504 32 72
s.pajak@bossa.pl

Sylwia Jaśkiewicz, CFA
(Construction materials,
Consumer staples & discretionary,
Health care & biotechnology)
tel.: +48 571 232 030
s.jaskiewicz@bossa.pl

Tomasz Rodak, CFA
(Consumer discretionary, Video games)
tel.: +48 797 487 381
t.rodak@bossa.pl

Łukasz Prokopiuk, CFA
(Chemicals, Mining,
Mining – machinery, Oil & gas)
tel.: +48 (22) 504 32 59
l.prokopiuk@bossa.pl

Michał Sobolewski, CFA, FRM
(Financials)
tel.: +48 (22) 504 33 06
m.sobolewski@bossa.pl

Jakub Viscardi
(Telco, Consumer staples & discretionary,
IT – hardware distribution, Utilities)
tel.: +48 (22) 504 32 58
j.viscardi@bossa.pl

Maciej Wewiórski
(Residential construction,
Construction, Real estate)
tel.: +48 (22) 504 33 07
m.wewiorski@bossa.pl

Mikołaj Stepien
Associate
tel.: +48 504 949 345
m.stepien@bossa.pl

Michał Zamel
Associate
tel.: +48 504 948 203
m.zamel@bossa.pl

Copyright © 2022 by DM BOŚ S.A.

**Dom Maklerski Banku Ochrony
Środowiska Spółka Akcyjna**
ul. Marszałkowska 78/80
00-517 Warszawa
www.bossa.pl
Information: (+48) 0 801 104 104