## Alpha Bank Romania SA

### Concepts and methods which are used in the valuation process

Target price of a security is the fair price usually expected to be met within a 12-month investment horizon (if not state otherwise) derived by employing either absolute valuation tools & methods such as Discounted Cash-Flow model (DCF), Discounted Dividend model (DDM), Residual income (RI), sum-of-parts method or relative models such as peer group multiples.

All valuation methods are based on either top-down or bottom-up integrated models for every stock included in AFR coverage universe and imply a minimum 5-year period of detailed forecasts (Income Statement, Balance Sheet, Cash Flow Statement) constructed based on a comprehensive analysis of all relevant publicly available information and analyst's best judgment at the date of the report. Frequently used assumptions refer to (and are by no means exhaustive) earnings KPIs (prices/tariffs, volumes, market positioning, sector evolution, investment plans, working capital needs etc.) which may differ depending on the companies' specifics. However, by using Excel standardized modeling tools we ensure consistency and comparability within our coverage and peer group. Valuation conclusions are not disclosed prior to the public issuance of AFR research reports.

### Most commonly used valuation methods

#### 1. Discounted Cash-flow Model (DCF)

DCF valuation tool is used to derive the value of a firm and asses the attractiveness of the investment. The tool takes into consideration time value of money and, thus, discounts future cash flow projections using an appropriate discount factor – usually the weighted average cost of capital (WACC)- to arrive at a present value, frequently compared to the cost of an immediate investment. Should fair value of the firm be higher than current cost of the investment, it may prove to be a good investment opportunity.

As a standard model, we use a Free Cash Flow to Firm (FCFF) model. FCFFs are modeled based on financial theoretical guidelines:

Free Cash Flow = NOPLAT + Depreciation & Amortization - gross investment in PPE & Intangibles +/- change in Working Capital
+/- change in long-term provisions

Net operating profit less adjusted taxes (NOPLAT) is a financial metric that refers to total operating profits generated by the company's core operations after adjusting for income taxes related to those operations.

We compute terminal value as:

Terminal value (TV) = Last explicitly forecast FCFF*(1+sustainable earnings growth)/(WACC – sustainable earnings growth).

The discount factor is based on the cost of capital, most specifically on the cost of each component weighted by its relative market value (Weighted Average Cost of Capital – WACC). Please note that the company may choose to finance its operations via either own capital or a mix of equity and debt.

For modeling the company's cost of debt, we usually consider the market rate that it currently pays on its long-term debt and base our longer term assumptions on the underlying yield curve.

Cost of equity, on the other hand, is based on the Capital Asset Pricing Model (CAPM), a model that describes the relationship between systematic risk (Beta) and expected returns of the stocks. Based on CAPM guidelines, we add to our risk free rate assumption an equity market premium adjusted with the company's levered beta. Risk free rates used reflect Romanian benchmark government bond yield curve at the time of the report. Furthermore, we base our beta (β) assumption on a Blume-adjusted twoyear weekly benchmarked-to-BET assessment. Levered beta is adjusted for the company's specific financing structure.

An alternative to Free Cash Flow to the Firm model is Free Cash Flow to Equity. This version discounts all future cash flow projections available to equity holders at the cost of equity (not weighted average cost of capital).

## 2. Dividend Discounted Model (DDM)

DDM is a valuation tool based on the general principle that the value of the stock should be the present value of expected dividends. The model requires two basic inputs – expected dividends and cost of equity used as discount factor. Projected dividends rely on assumptions of future earnings' growth rates and payout ratios whereas the cost of equity is based on CAPM model. Furthermore, we estimate terminal values (after our explicitly forecast period) based on Gordon Growth Model:

Terminal value (TV) = Last explicitly forecast DPS*(1+ sustainable earnings growth)/(cost of equity – sustainable earnings growth).

## 3. Sum-of-parts valuation method

The sum-of-parts valuation method is the process of valuing the company by aggregating the standalone value of its business units/divisions/lines in order to determine a single total enterprise value (EV) which is afterwards adjusted for net debt, other nonoperation assets and minorities. Each division can be separately valued using a different valuation model/method. The method is recommended for conglomerates comprised of business units in different industries or performing different core operations. It can be used as a defense tool against a hostile takeover by highlighting that the company's value exceeds its sum-of-parts value due to presence of synergies and economies of scale.

## 4. Relative valuation

Relative valuation method uses current valuation ratios of comparable companies (in terms of size, financing structure, operations etc.) to derive a fair value estimate for a company. Most frequently, valuation ratios refer to trading multiples which are compared with those of the peer group. Peer group companies are listed companies which analysts see as a comparable proxy of the company under review. Usually companies from the same industry are seen as peers although there can be a wide range of criteria used in the selection process: size, growth prospects, financing structure, similar end-customer markets etc.

*Price multiples*

Price multiples refer to any ratio that uses the share price of the company in conjunction with any other per-share financial metric. Most frequently used price multiples are P/E (Price-to-earnings), P/B (Price-to-book), P/S (Price-to-sales), P/CF (Price-to-Cash Flow).

*Price-to-Earnings (P/E)* is a valuation ratio comparing the stock price of a company to its earnings per share, underscoring how much investors are willing to pay for the company's earnings. The fair value per share is derived by multiplying the estimated earnings per share by the peer group P/E (average peers' P/E).

*Price-to-Book (P/B)* is a valuation ratio comparing the price stock of a company to its book value per share, indicating how much investors are willing to pay for the book value of a company. The fair value per share is derived by multiplying the estimated book value per share by the peer group P/B.

*Enterprise Value (EV) multiples*

Enterprise Value multiples consider the impact of a company's financing structure (leverage). Most frequently used Enterprise Value (EV) multiples are EV/Sales (Enterprise Value-to-Sales), EV/EBITDA (Enterprise value-to-Earnings before Interest, Tax, Depreciation and Amortization) or EV/EBIT (Enterprise Value-to- Earnings before Interest and Tax). The multiples are computed by dividing Enterprise Value by the respective Sales, EBIDTA and EBIT figures and indicate how many times an investor are willing to pay for the company's sales, EBITDA and EBIT. In any of the three cases, the fair value per share is derived by multiplying the estimated Sales, EBITDA or EBIT by the respective peer group EV multiple (deducting the market value of net debt, minority interests and other adjustments) and dividing by the total number of shares outstanding.

### Frequently used Abbreviations

| Abbreviations | Full Name | Description |
|---|---|---|
| Beta | Beta | Measure of volatility (systematic risk) used frequently in CAPM models calculated using regression analysis. Beta =1 indicates that security's price moves in line with the market Beta < 1 indicates that a security has a lower volatility than the market Beta > 1 indicates that a security has a higher volatility than the market. |
| BVPS | Book Value Per Share | Total shareholders' equity / Number of shares outstanding |
| CAGR | Compound Annual Growth Rate | Mean annual growth rate over a specified period of time longer than one year. CAGR is determined by the formula: (Ending value / Beginning Value) ^ (1/number of years-1) |
| CAPEX | Capital Expenditures | Funds used by companies to acquire new assets (property, equipment etc.) or to upgrade assets in order to maintain or increase activity. |
| CDS | Credit Default Swap | |
| CEO | Chief Executive Officer | |
| CFO | Chief Financial Officer | |
| COE | Cost of Equity | Represents return on equity required by investors in exchange of owning the assets and bearing the risk of ownership. |
| DPS | Dividend per Share | Dividends declared by the company for each share outstanding. Determined by dividing total dividends by total shares outstanding. |
| DY | Dividend Yield | Dividend per share/End of period closing price unless otherwise stated |
| EBIT | Earnings Before Interest and Taxes | |
| EBITDA | Earnings Before Interest, Taxes, Depreciations and Amortization | |
| EBT | Earnings Before Tax | |
| EOP | End of Period | |
| EPS | Earnings per Share | Net profit after minorities/Weighted number of shares during a period |
| EV | Enterprise Value | Total company value determined as market capitalization plus net debt (Total debt less cash and cash |

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| | | equivalents) plus minority interests. |
| FCFF | Free Cash Flow to the Firm | Represents cash available to investors after the company has paid all costs incurred during normal activity, working capital and investments in long term assets. |
| FY | Financial/Fiscal Year | |
| FX | Foreign Exchange | Other currency than the local or reporting currency |
| Net Debt | | Total debt of a company (long and short term interest bearing liabilities) less cash and cash equivalents |
| NOPLAT | Net operating profit less adjusted taxes | Financial metric that refers to total operating profits generated by the company's core operations after adjusting for income taxes related to those operations. |
| OPEX | Operating Expenditures | Total operating expenditures related to normal business operations. |
| PBT | Profit Before Tax | |
| P/B | Price Book Value | Price/Book Value per Share |
| P/E | Price Earnings Ratio | Price/Earnings per Share |
| P/S | Price to Sales | Price/Sales |
| PPE | Property Plant and Equipment | |
| ROaA | Return on average Assets | Net profit TTM / Average Assets over a period |
| ROaE | Return on average Equity | Net profit TTM / Average Shareholders' Equity over a period |
| TP | Target Price | Fair share price established via different valuation models with a 12 month horizon |
| TTM | Trailing Twelve Months | Past 12 months |
| TV | Terminal Value | Present value of all future cash flows that will occur after the forecasted period, determined at a future point in time, usually considering a stable growth rate. |
| WACC | Weighted Average Cost of Capital | Firm cost of capital computed based on the weight and cost of each source of capital (common stock, preferred stock, debt). |
| YTD | YTD | Measuring performance from the first day of current year |
| Y/Y | Year to Year | Measuring performance over the last 12 month horizon |