Valuation multiples in the context of Bucharest Stock Exchange and local M&A market

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Content

Foreword

Valuation and Economics department of PricewaterhouseCoopers Romania is pleased to present the first edition of this study focused on the analysis of listed companies on the Regulated Market of Bucharest Stock Exchange and of the Romanian local M&A market.

- The study presents the valuation multiples trend for 79 listed companies covering the period between 2007 and 2017 with a focus on the consumer, oil & gas, financial services, healthcare, industrial, materials and electricity sectors. We have also performed an analysis of valuation multiples trend based on 50 closed transactions between 2007 and 2017 for which robust financial data were readily available.
- PwC V&E Romanian practice envisages that potential users of the study will gain insights on:
  - Overall equity market performance between 2007 and 2017 (BET, BET-Div.Adj.Value, BET-TR compared to the yield of Romanian government bonds);
  - The performance of valuation multiples on different sectors for listed companies over the shifting phases of the economy;
  - The analysis of valuation multiples derived from local transactions.
- Such studies increase in value due to recurrence, while data from various years and sectors add to existing analysis with each new edition. We express our commitment to update this study, on an annual basis, in order to provide higher value added for our readers.

Valuation and Economics,
PwC Romania, Advisory - Deals

Executive summary

Takeaway

Macroeconomic outlook and Stock market performance

- Despite the political uncertainties determined by frictions over the judicial independence fuelled by public protests against the ruling coalition, the GDP growth in 2017 reached 7%, the highest GDP rate achieved in 8 years. The main driver was private consumption, which grew by 10.2%, boosted by expansionary fiscal policies, public and private wage increases and low inflation rates.
- The evolution of BET, BET–TR, BET-Div.Adj.Value as compared with the evolution of CDS over 2007-2017 shows that BVB is very sensitive to the country risk, which also influences foreign capital investments.
- The Romanian stock market recorded one of the highest dividend yields in the world in 2016 and 2017. BET total return index, which includes the dividends granted by the blue chips listed on BVB has increased by over 19% in RON terms in 2017.
- A median excess return of up to 12% of the indices over the Risk free rate was estimated for the period 2012-2017 and compensates investors for taking on the relatively higher risk of equity investment.

Valuation multiples based on listed companies

- Analysis conducted on companies listed on the Bucharest Stock Exchange displays the evolution of multiples across economic cycles and industries.
- The trend analysis performed at an aggregated level, over the period 2007 – 2017, revealed that financial multiples tend to decrease when the economy contracts. This finding confirms that financial multiples are a relatively good proxy for investors expectations.
- In 2017, out of the 7 industries analysed, the electricity sector recorded the highest median market capitalisation and the highest PER, whereas the lowest PER was displayed by the financial services sector.
- During 2007 – 2017, the market cap of the companies operating in the oil & gas and materials sectors were the least influenced by the economic cycles, whereas consumer, healthcare and financial services sectors were the most affected.
- Over the same period of time, the smallest variance in the PER of companies was displayed by the oil & gas and healthcare.

Valuation multiples based on disclosed transactions

- Analysis on the local M&A market activity includes a number of 50 transactions completed over the period 2007-2017, for which robust financials have been reported.
- The historical average EV/EBITDA multiple for transactions closed over the period 2007-2017 is 8.3x, with the highest EV/EBITDA multiple recorded in 2008 (11.2x) and 2010 being the year with the lowest multiple (2.6x).
- The average EV/EBITDA multiple for 2017 is 7.5x.
- Over the analysed period, the most active sector has been Consumer, which accounted for 49% of the total transaction value.
- The highest median EV/EBITDA multiple of 8.0x has been reported in Healthcare and the lowest median EV/EBITDA multiple of 6.8x has been reported in the Industrial sector, displaying a relatively narrow multiple range across the local industries.
- Most active sectors were Industrial and Consumer with 15 and 12 deals closed during 2007 – 2017.

Scope and methodology

The Romanian equity market performance is an indicator of the prosperity and stability of the economic context. The increasing investment appetite for the listed companies on Bucharest Stock Exchange (BSE) enabled the evolution of the most important index of BSE, Bucharest Exchange Trading index (BET) that exceeded the threshold of 8,000 points during 2017, level which has not been reached since 2008.

The purpose of the study is to provide a comprehensive analysis of the equity market, from a valuation perspective, over a ten year period, covering the following sectors:

Top performing sectors over the analysed period were identified

Equity market return → **Multiples based on transactions** → **Multiples based on listed companies**

BET, BET-Div. Adj. Value and BET-TR vs Rfr over the period 2007-2017

A trend analysis of valuation multiples observed over the period covering 2007 – 2017 was correlated with the shifting phases in the economy (economic cycles)

Consumer | **Industrial** | **Materials** | **Financial Services** | **Oil & gas** | **Electricity**

Healthcare | **Aggregated**

Understanding the results

- The financial information used in the present study was sourced from S&P CapitalIQ, Mergermarket and Bloomberg. PwC has not verified, validated or audited the data and cannot therefore give any undertaking as to the accuracy of the study results. The timeframe selected for the present analysis included a 10-year period, from January 2007 to December 2017 and encompassed the performance of the stock market sectors over the business cycles.
- The key conclusions of our study were drawn following the comparative analysis between the results of the trading multiples paid for listed companies and those derived from private transactions.

Listed companies valuation multiples

- Following the initial company screening that resulted in 86 listed companies on the Regulated Market of BSE (85 local companies and 1 international), we have eliminated 4 companies which were suspended from trading and another 3 companies for which no robust data was available. As a result, our analysis is based on a sample of 79 companies.
- The selected sample is covering the following sectors according to the S&P CapitalIQ industry classification: consumer, industrial, materials, financial services, oil & gas, electricity, healthcare.

M&A valuation multiples

- We have selected all transactions closed in Romania for which meaningful financial information was available, sourced from S&P CapitalIQ, Mergermarket and/or from PwC own research. The same sectors as the ones selected in the analysis of the listed companies were considered.
- Following the initial screening that resulted in 463 transactions, we have restricted our sample to 27 closed deals for which we had consistent and reliable information. Additionally, we have analysed 23 transactions that took place in 2017 and for which the financial details of the deal was derived based on PwC's database.

The general methodology analysis of the multiples was based on a business cycle approach, where we have identified the different shifting phases of the Romanian economy and assessed the performance of different sectors over the intermediate term.

Business cycles approach

Listed companies valuation multiples

The analysis included the companies listed on the Regulated Market of BSE and the financial data covering the period 2007 – 2017.

M&A transactions valuation multiples

The study covered transactions that took place in the Romanian market between 2007 and 2017, for which financial information was available.

Business cycles approach

- The business cycle approach offers an indication of the outperformance/ underperformance of sectors at a given shift in phase of the economy. It is a useful tool for investors because it provides the context for advantages in sectors with prominent financial returns while adjusting risk exposure to underperforming sectors.

Recession

- Contraction in economic activity
- Corporate profits are declining
- Scarce credit
- Rising corporate defaults
- Inventory level is gradually falling and sales are decreasing.

Early-Cycle Phase

- Economy rebounds (GDP growth, Industrial production, profits)
- Credit become looser
- Corporate profits grow fast
- Inventories are low
- Sales are increasing.

Late-Cycle Phase

- Weaker economy
- Inflationary pressure
- Tighten credit conditions
- Deterioration of corporate profit margins
- Inventories build up and sales level slows down.

Myd-Cycle Phase

- Economic consolidation
- Strong credit growth
- Healthy profitability
- Inventories and sales level on an increasing path.

EV
Enterprise Value

1 **EV/Total Revenues**

2 **EV/EBITDA**

3 **EV/EBIT**

Price
Market capitalization

1 **P/Bv.**

2 **PER**

Multiples approach

- Market multiples are valuation metrics widely used to value businesses. Assuming that the selected peer companies have similar valuation multiples, appraisers may conclude that, by applying the industry multiple to a specific company's financial metrics, they can arrive to the company's market value (enterprise value or equity value, depending on the selected multiple).
- For the multiples analysis of the selected sample of listed companies, we have considered the following metrics:

  (a) Number of observations represents the number of listed companies that constituted the sample on which the multiples calculations is based. If the number of observations was insufficient, multiples estimations are considered non meaningful and substituted by "n.a";

  (b) Quartiles – 1st, 2nd (median) and 3rd – a quartile is a statistical metric describing a division of observations into four defined intervals based on the values in the sample. Each quartile contains 25% of the total observations.

  Quartiles have been determined by sorting the date from the lowest to the highest values and taken the data point at ¼ of the sequence for the 1st quartile, at ½ for the 2nd quartile (median) and at ¾ for the 3rd quartile.

  c) Mean is the sum of the values divided by the total number of the companies included in the data set. It is one of the most commonly used measures of central tendency and it is the preferred multiples proxy when the distribution is set to be normal. Otherwise, the median is the preferred central tendency measure (because it is not influenced by outliers).

  (d) Coefficient of variation equals the standard deviation divided by the mean and it is a measure of the dispersion of a data set from its own mean. The more spread-out the data, the higher the deviation. When the deviation is too high, the mean multiple is not relevant.
- The multiples selection considers the robustness of the data information available within the data set while focusing on the multiple that best represents the sector/subindustries. Given the exhaustive analysis of the seven sectors, the selection of the best indicator amongst the median and the mean considers the dispersion test. Outliers, defined for the purpose of the present report as multiples exceeding 50, were excluded from our analysis.
- A company can be valued by using different methods. In practice, business valuation is often a combination of different approaches. Market approach (comparable listed companies and comparable transactions) is generally used in addition to other valuation approaches, mainly as a cross-check of the applied estimation procedures. Put simply, this method multiplies the sales or profits of a business (or other financial indicator) by an industry-averaged multiplier in order to estimate the Market Value of the business.

  Current financial multiples include:

  - Historical multiples based on standardized financials for the last completed fiscal period: Last Twelve Months (LTM);
  - Forward multiples based on consensus estimates for the current fiscal period and next ones: Next Twelve Months (NTM), FY0, FY1.

  Current multiples based on per-share metrics (such as earnings per share or book value per share) are computed using the last closing price, while current multiples based on company-level metrics (such as net sales, EBIT or EBITDA) are computed using the Enterprise Value (EV).

  It must be stressed, however, that any conclusions that might be derived from use of such multiples could be misleading and would need to be thoroughly reviewed, primarily for the following reasons:

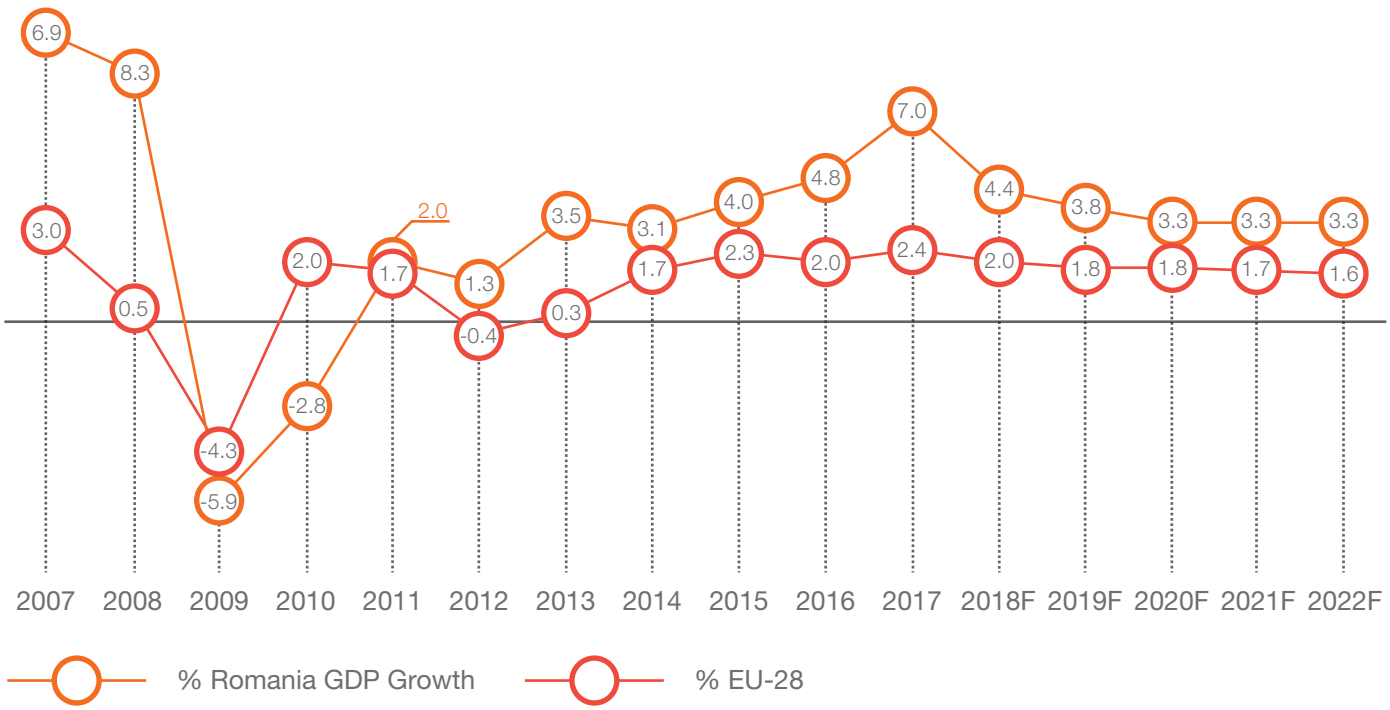
  - In reality, there is no such thing as a "twin-security" i.e. a perfect comparable company with the same risk exposure as the valuation target. In essence, this means that companies with differing risk profiles compared to the valuation target are used to estimate its value;
  - Usually, there are a number of strategic reasons for acquiring a particular company in a specific market: these considerations lead to prices that are out of line with typical values of most frequently used multiples such as price to sales ratio, price earnings ratio (PER) and price/book value of equity ratio (P/BV).

Macroeconomic outlook

Romania is a large European market with an economy sized at EUR 183.8bn in GDP terms in 2017 and a population of 19.6m. The diversified and competitive industrial landscape, low unit labour costs, significant agricultural potential and low energy dependence can ensure a stable long term path of growth and development.

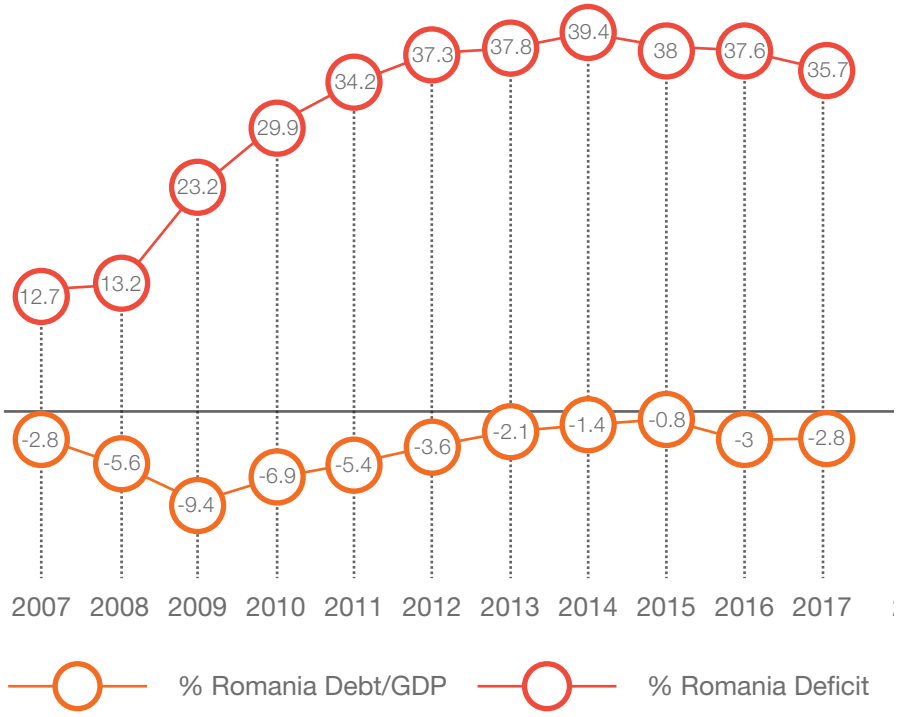
- Romania's GDP growth in 2017 was 7.0%, the highest GDP rate achieved in 8 years. The main driver was private consumption, which grew by 10.2%, boosted by expansionary fiscal policies, public and private wage increases and low inflation rates.
- According to the IMF, GDP growth is forecasted to march on, albeit at a slightly lower pace of 4.4% and 3.8% in 2018 and 2019, respectively, as the tailwinds of fiscal relaxation and the higher wages lose their momentum and inflation increases as the output gap increases.
- Romania has consistently achieved higher GDP growth rates than the EU28, which creates the premise for economic convergence. While, in terms of GDP per capita PPP, life standards in 2016 were at 56.8% compared to EU28, this figure is expected to reach 64.6% by 2022.
- On the other hand, investments fell, as percentage of GDP, from 23.0% in 2016 to 22.7% in 2017, on the backdrop of lower absorption of EU funds. Capital formation was most prominent in construction, manufacture of machinery and equipment, manufacture of vehicles and the manufacture of computer, electronic and optical products.
- It is expected that private consumption will continue to be the main contributor to a slowing pace of growth, as the closing of the output gap in 2017 is expected to increase inflationary pressures, which will subsequently erode real disposable income.
- In the context of strong real GDP growth in 2017, unemployment dropped to 4.7% in 2017Q3, a historically low figure. Combined with (1) a diminishing labour force and (2) skills shortages caused by emigration, (3) comparatively low wages, (4) minimum wage increases, and (5) an aging population, wages have experienced a 28.1% increase between 2016Q1 and 2017Q4, the highest growth observed in the EU28. At the same time, Romania had unit labour costs below the EU28 average.

GDP growth rate - Romania vs. EU28

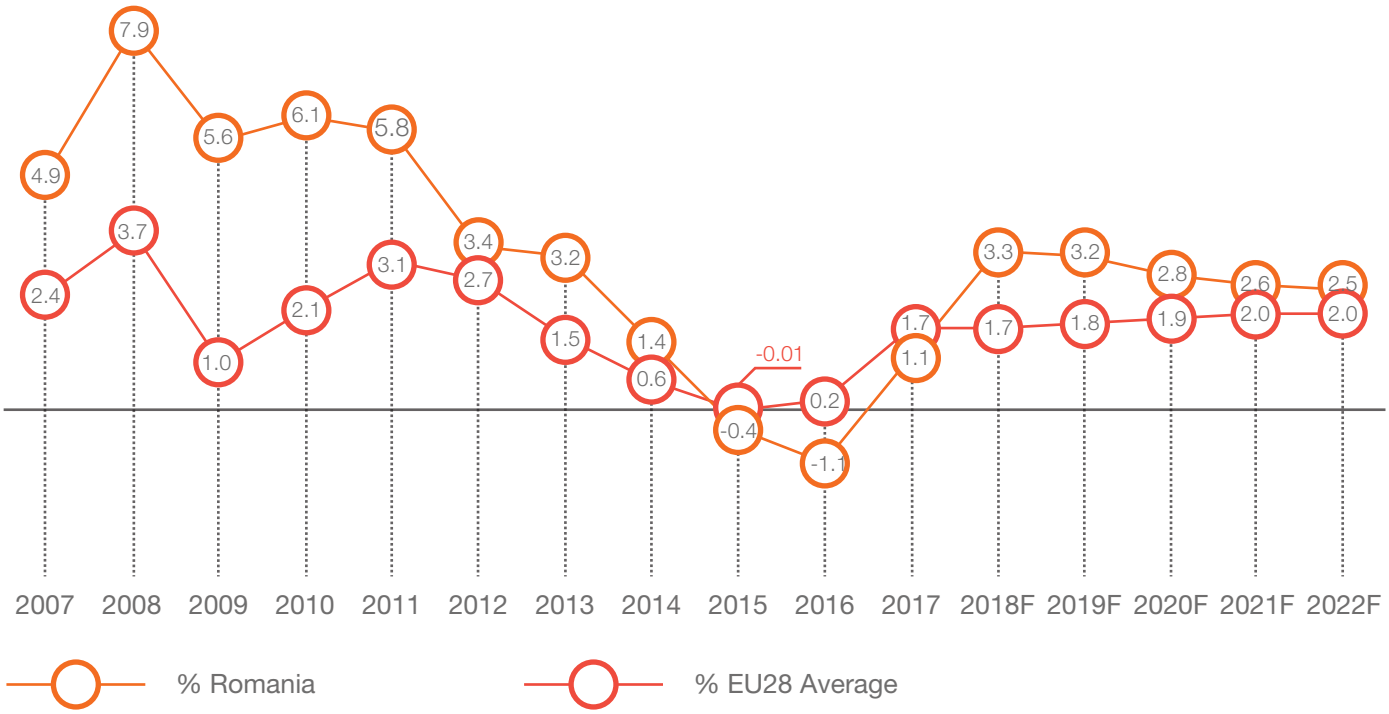


- Exports reached 41.4% of GDP in 2017, being driven largely by sales of cars and tyres (which account for over 20% of exports), as well as by wood, fertilizers, machines, medicines. These sectors are expected to continue to benefit from increasing EU demand. Imports are still larger than exports, with the trade balance gap reaching -2.2% of GDP in 2017. As a result, net exports had a negative contribution to GDP growth. In the first nine months of 2017, although exports grew at 9.5%, due to a higher volume of imports, the balance of payments deficit grew 5% to EUR 3bn. Still, the trade balance gap has decreased significantly since 2007, due to the growth of exports at an annual pace of 4.9%, while imports only grew by 0.9% annually (as proportion of GDP).
- The budget deficit increased from 0.8% in 2015 to 3.0% in 2016 and decreased to 2.8% at the end of 2017. As experienced between 2015 and 2016 when gross capital formation dropped from 5.2% to 3.6% of GDP, the government limited the deficit below 3% through capital expenditure cuts, which hurt long-term economic prospects. Public debt has slightly decreased around the 36% of GDP value from 38% registered in 2016 and 2015, since rapidly increasing from 13.2% of GDP in 2008 to 37.3% of GDP in 2012, driven by high budget deficits observed during 2009-2011 in response to the economic contraction.
- Since 2012, however, the public debt has been hovering around the 37%-38% of GDP range, below the Maastricht Treaty public debt limit of 60.0% of GDP and the average public debt of EU28 member states of 83.5%.
- The average consumer price index is starting to accelerate, as prices rebound from the successive reductions in VAT and as the fiscal impulse wears out. According to Eurostat, during 2017, increases in both domestic demand and wages increased the inflationary pressures (inflation was positive in 2017 and, starting with 2018, above the EU28 average inflation as per IMF forecasts).

Romania's Debt/GDP and government deficit evolution

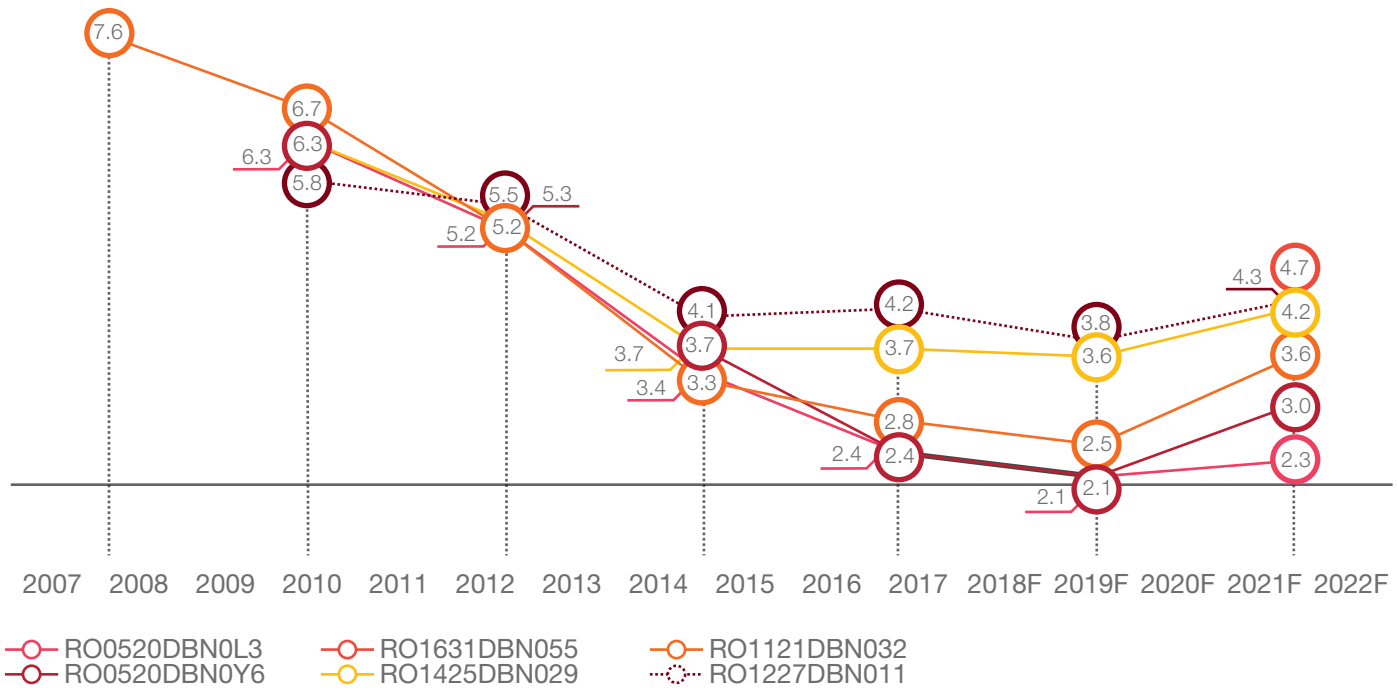


Inflation rate (avg. index) - Romania vs. EU28



- The risk free rate (Rfr) is the expected yield to maturity (YTM) of a risk free asset, defined as an asset whose expected returns are known with certainty by investors. For the purpose of this analysis we have considered the common proxy for Rfr to be the yield of liquid long-term Romanian Government Bond less CDS.
- The domestic government debt (including issuance, redemption, interest payments, etc.) is handled by the Ministry of Public Finance (MPF). The National Bank of Romania (NBR), acting as the agent of the Ministry of Public Finance (MPF), is in charge of the management of government securities, in both national and foreign currencies, on the domestic market.
- Based on the information sourced from S&P CapitalIQ, there are 28 sovereign bonds denominated in local currency, that have been issued starting with 2005, with maturities ranging from 1 year to 16 years. Out of all 28 sovereign bonds, only six bonds have long-term yield to maturity higher than 10 years.
- According to data published by MFP, amongst the most tradable government bonds in 2017 that are denominated in local currency and have 10 years to maturity (maturity date July 2027), was the bond with ISIN number RO1227DBN011 issued in July 2011. A summary of the evolution of the yields to maturity for the six bonds available is presented by the opposite graph.

YTM evolution for long term bonds denominated in RON



Bucharest Stock Exchange

2017 updates

Romania has been added to the Watch List since September 2016 for a possible upgrade from "Frontier Market" to "Secondary Emerging Market" status. The only criterion that has yet to be met is the liquidity level, a factor that FTSE acknowledges given the recent efforts of the Bucharest Stock Exchange to bring new initial public offerings (IPOs). BSE is the 2nd capital market in Central and Eastern Europe by the number of IPO successfully concluded in 2017 with a cumulative value of EUR 256m, being outperformed by Warsaw Stock Exchange that successfully completed eight IPOs amounting to EUR 1,811m.

1. Athens Stock Exchange
2. Belgrade Stock Exchange
3. Bratislava Stock Exchange
4. Budapest Stock Exchange
5. Bulgarian Stock Exchange
6. Zagreb Stock Exchange
7. Ljubljana Stock Exchange
8. Prague Stock Exchange

Bucharest Stock Exchange

Overview

- According to Morgan Stanley Capital International ("MSCI"), global equity markets are classified into developed, emerging and frontier markets based on three main criteria: economic development, size, liquidity and market accessibility.
- Bucharest Stock Exchange is classified as a frontier equity market due to liquidity level, free float and limited number of successful IPOs and it is part of a regional stock market block including: Greece (Athens Stock Exchange), Serbia (Belgrade Stock Exchange), Slovakia (Bratislava Stock Exchange), Hungary (Budapest Stock Exchange), Bulgaria (Bulgarian Stock Exchange Sofia), Cyprus (Cyprus Stock Exchange), Slovenia (Ljubljana Stock Exchange), Czech Republic (Prague Stock Exchange) and Croatia (Zagreb Stock Exchange).

Milestones

In Romania, BSE is the platform for the largest part of the capital market transactions. BSE was established on 21 June 1995 as a public non-profit institution, based on the Decision of the National Securities Commission (NSC) no. 20/1995 and, starting July 2005, it became a joint stock company.

- BSE is the leading stock exchange market in Romania and operates several markets:

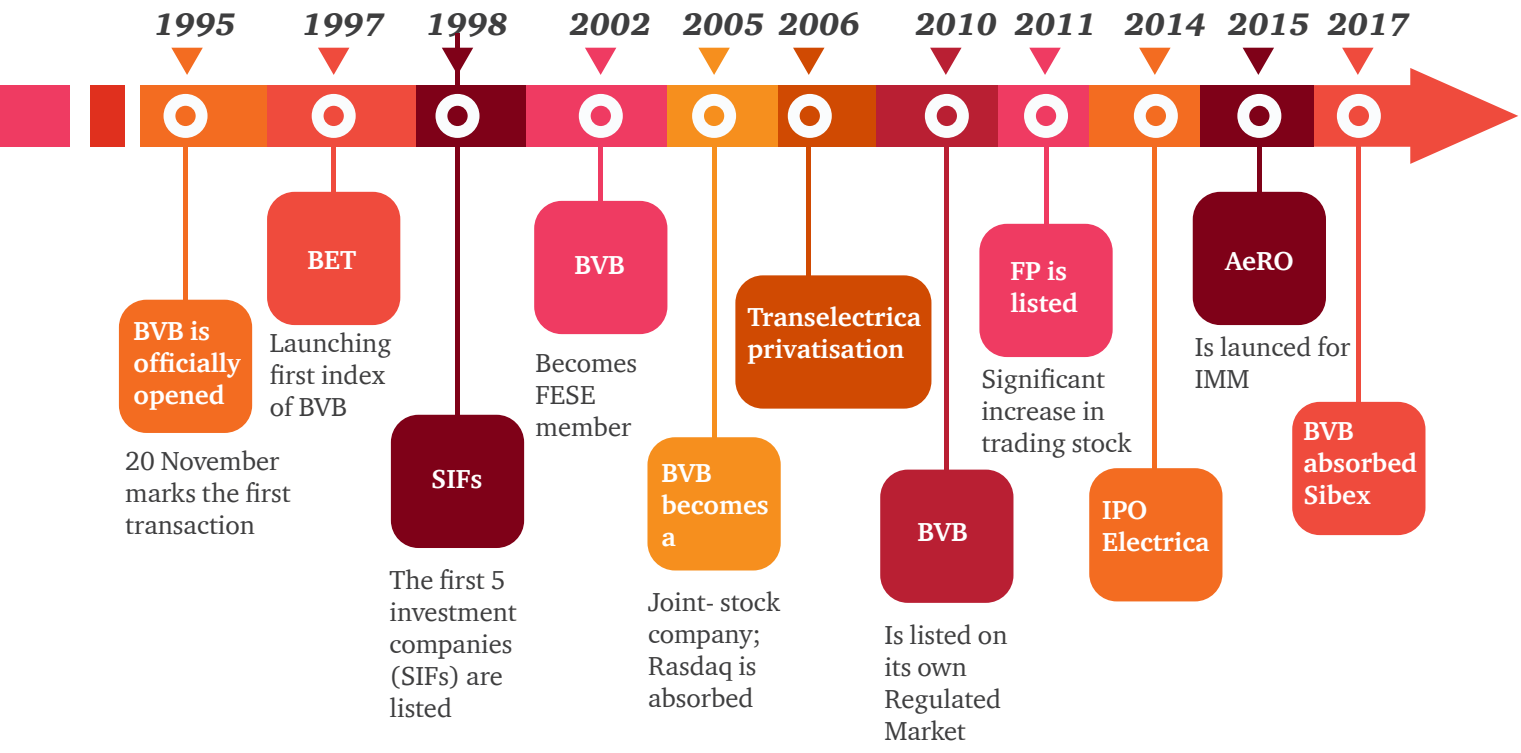
  (a)The Regulated Market where financial instruments like shares and rights issued by international and Romanian entities, debt instruments (corporate, municipality and government bonds issued by Romanian entities and international corporate bonds), UCITs (shares and fund units), structured products, tradable UCITS (ETFs) are traded; as of December 2017, there are 86 companies listed on the Regulated Market.

(b) AeRO Market, designed for start-ups and SMEs, was launched in February 2015; this platform provides alternative trading system for trading foreign stocks listed on other markets; as of December 2017, there are 299 companies listed on AeRO.

(c) RASDAQ market ensures the platform where shares and rights issued by Romanian entities were traded until October 2015, most of them coming from the mass privatization program. According to the Law no. 151/2014 and subsequent FSA regulations, companies listed on RASDAQ market had 12 months to choose between a transfer to a regulated market, migration to an alternative trading system or delisting from the exchange. The process was finalized on 26 October 2015, when BSE, as a market operator, is responsible for organizing and administering the conditions for listing and trading of financial instruments.

Trading activity represents the primary source of revenue for BSE.

- BET, the first index developed by the BSE in 1997, is the reference index of the local stock exchange. It is blue chip index, tracking the performance of the first 13 most traded companies at BSE. Furthermore, BSE calculates and distributes in real time eight indices including: BET, BET-TR, BET-XT, BET-XT-TR, BET-FI, BET-NG, BET-Plus, as well an index developed in co-operation with Vienna Stock Exchange – ROTX.
- BET Index is a price index, weighted by free-float capitalization[1] and reflects the overall trend of the shares issued by the top 13 companies, ranked according to their liquidity. In December 2017, the constituent companies whose shares are taken into account to determine the BET are: Property Fund 20.24%; Banca Transilvania 19.75%, OMV Petrom SA 14.91%; Romgaz SA 11.10%; BRD - Groupe Societe Generale SA 11.03%; Transgaz SA 6.93%; Electrica SA 4.80%; Digi Communications N.V. 4.66%; Transelectrica 2.21%; Nuclearelectrica SA 1.33%; Conpet SA 1.32%; MedLife SA 1.05%; Bucharest Stock Exchange SA 0.65%.
- BET-TR is the first total return index launched by BVB, based on the structure of BET. BET-TR tracks the price changes of its component shares and it is adjusted to also reflect the dividends paid by constituent companies. Similarly, to BET, the main selection criterion for BET-TR is liquidity. Starting July 2017, the index includes the 13 most traded companies listed on BVB, excluding the financial investment companies (SIFs). According to the IR Update report published by BVB in February 2018, BET-TR has increased by more than 19% in RON terms in 2017, reporting one of the fastest growth among all 23 MSCI Frontier Market Index countries.
- BET-Div.Adj.Value is the index estimated for the BET constituents by Bloomberg on the basis of reinvesting the dividends. We have sourced this information from Bloomberg platform for a 10-year period to 31 December 2017.



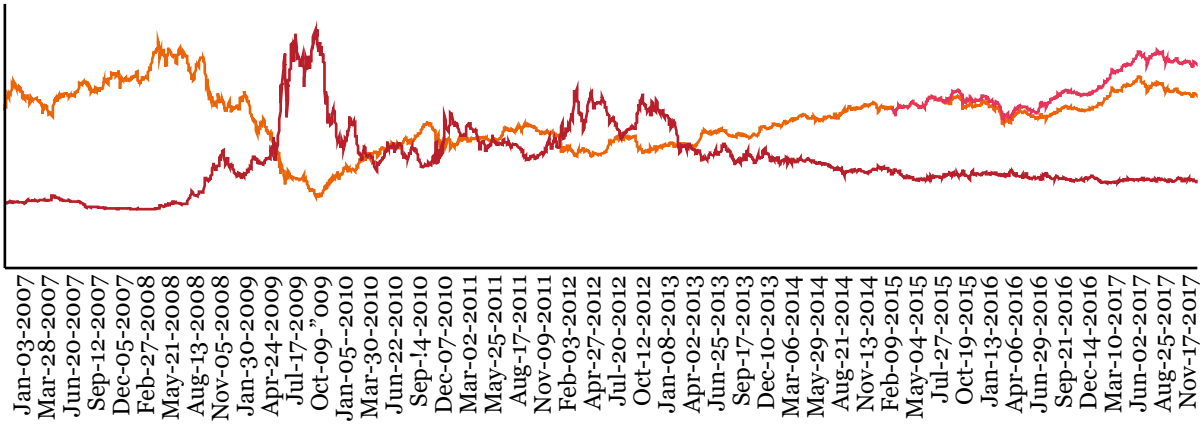
1. In free float market capitalization, the value of the company is calculated by excluding shares held by the promoters

Romanian Stock market performance

The sovereign CDS spread is expected to compensate investors for bearing the sovereign default risk that is driven by the local economic fundamentals. A country's stock market has long been viewed as the economic barometer.

- Stocks market return was analysed based on the performance of BET and BET-TR as compared to Risk free rate (RfR) and Credit default spread (CDS). We have analysed the indices along with the CDS given the backward correlation between the evolution of BET and the cost of non-payment state debt (represented by CDS). The evolution of BET, BET–TR and CDS, as depicted in the graph to the right, shows that BVB is very sensitive to the country risk, which also influences foreign capital investments.
- In June 2007, when BET come close to 10,000 points, the CDS for Romanian government bond reached historical minimum levels of 60-70 basis points. Once the financial crisis started to take its toll, the CDS mid-price reached historical highs reaching levels of over 800 points in February 2009 while the BET index reached multi-annual minimums, collapsing by over 70% to less than 2,000 points.
- Between 2010 and the end of 2011, the local capital market become accustomed to a level of CDS of 300 points and a normalized level for BET. However, the beginning of 2012 brought some tensions amid the worsening economic conditions of EU zone and Romania's CDS jumped to 460 points although the domestic economic situation did not indicate any danger to external financing mechanisms. Given the strong backward correlation with BET indices, the market returns decreased at the levels registered in July 2008 and brought a further increase in the cost of financing perceived in the market. The context has improved in the fall of 2012, with CDS moving downwards but steadily to a level of 200 points. In April 2014, the CDS quotes went below 170 points, reaching a level of 150 points with BET level showing the increasing interest of investors in Romanian capital market.
- In order to ensure that its indices are better representing the stock market and are

Stock performance BET, BET-TR vs. CDS

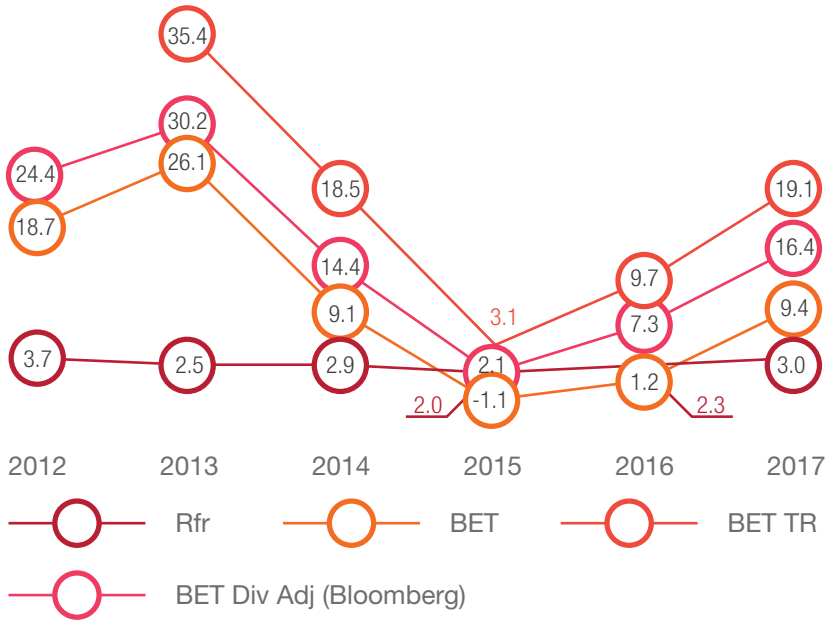


- Credit Default Spread
- Bucharest Exchange Tranding Index (BET)
- Bucharest Exchange Tranding Total Return Index (BET-TR)

more relevant, BVB decided to launch in September 2014 the BET-Total Return index (BET-TR). This index provides investors with more information about the capital market, accounting not only for the capital gains, but the total return of its constituents. Based on the information available on BVB website, in 2014, six constituents of the index paid dividends from the previous year profits, resulting in an average dividend yield of 9%. According to IR Update published by BVB, the average dividend yield for companies in BET index was approx. 8% for the year 2016 (highest yield in the world, above Kuwait with 7.6% and Bahrain with 7.2%) and 7.9% in 2017.

- In the light of the above analysis, we performed an in-depth analysis of the returns considered in the bond market, namely the yield to maturity (YTM) of the Risk free Rate (RfR) starting from 10-year to maturity Romanian Governmental Bonds issued annually. As depicted in the graph to the right, the RfR showed a declining trend over 2012-2015 mainly because investors' reduced interest in long-maturity government securities corroborated with their demand for rising interest rates.
- As far as for the analysis of the Romanian capital market, we have considered the performance of the most representative indices, BET and BET-TR sourced from BSE and BET-Div.Adj.Value sourced from Bloomberg, in relation to the Rfr (estimated as the YTM of the selected government bond less CDS).
- The performance of the indices over the period 2012 - 2014 indicates a high degree of confidence in the local equity market translated into potential recovery to levels prior to the crisis. After the reduced levels registered by the indices between 2015 – 2016, significant improvement was noticed during year 2017 mainly due to the successful IPOs concluded in H2 2017 and the entrance of Digi Communications in BET composition.
- Based on the above analysis, we can assert that the median excess return of 6.1%, 12.1% and 15.2% of the indices BET, BET-Div.Adj.Value and BET-TR over Rfr estimated for the period between 2012 and 2017 represents a proxy for the excess return that investing in the stock market provided over the risk-free rate. This excess return compensates investors for taking on the relatively higher risk of equity investing. The size of the premium varies depending on the level of risk in a particular portfolio and changes over time as market risk fluctuates. As a rule, high-risk investments are compensated with a higher premium.

Median excess return of indices vs Rfr 6.1% BET, 15.2% BET-TR and 12.1% BET-Div.Adj.Value over 2012 - 2017



Listed companies valuation multiples

The entire listed companies have improved their market capitalization as at 31 December 2017 by 20.4% compared to 31 December 2016, while the BET-Div. Adj.Value index (Bloomberg) increase slightly less, by 16.4% during the same period.

As of 31 December 2017, the leading sectors with a significant weight in market capitalization were:

Oil & gas (40.3%)

Financial services (35.2%)

Electricity (8.8%)

Key events

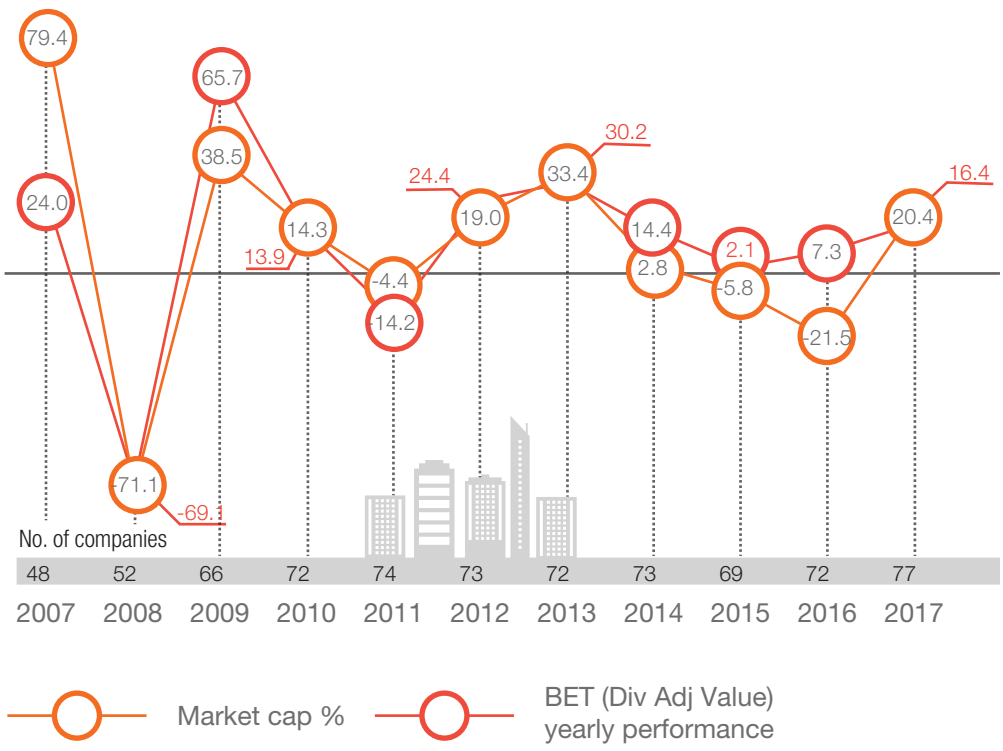
- BET is a relevant proxy of the entire stock exchange, this being confirmed by the fact that the total market capitalization and BET index (on a dividend adjusted basis) performance display a strong correlation coefficient of 0.8.
- In 2017, BVB reached a market cap of RON 90.0b, still below the record market capitalization reached in 2007 of RON 141.5b.
- Number of stock-listed companies has gradually increased between 2007 and 2011, reaching a peak of 77 listed equities as of the end of 2017 (only considered companies with market capitalization as of December).
- Recently, important listing such as DIGI Communications and Medlife took place, companies that became constituents of the BET index.
- Over the analyzed period, the highest yearly return on BET-Div. Adj. Value (Bloomberg) was achieved in 2009, a bounce back from the 2008 drop of 69.1%.

Market cap by sector

Sector	No. of companies	Market Cap (RON mn.)
Materials	12	3,617
Consumer	16	6,107
Healthcare	4	2,768
Oil & Gas	10	36,225
Financial	12	31,668
Industrial	19	1,688
Electricity	4	7,886
Total	**77***	**89,959**

* Market Cap available only for 77 out of 79 companies analysed, Sourced from BSE

Evolution of number of companies, market cap and BET performance over 2007 - 2017



Electricity

Top 3 by market cap: Societatea Energetica Electrica S.A., S.N. Nuclearelectrica S.A., CNTEE Transelectrica S.A.

Net profit margin: 2% to 8% (quartiles), with a median of 3%

PER multiple ranges between 12.4x and 19.3x, with a median of 15.9x

Oil & gas

Top 5 by market cap: OMV Petrom S.A., S.N.G.N.Romgaz, S.N.T.G.N. Transgaz, Rompetrol Rafinare S.A., S.C. Conpet S.A.

Net profit margin: 5% to 25% (quartiles), with a median of 14%

PER multiple ranges between 6.6x and 22.9x, with a median of 11.7x

Healthcare

Top 4 by market cap: S.C. Zentiva S.A., Med Life S.A., Biofarm S.A., Antibiotice S.A.,

Net profit margin: 8% to 19% (quartiles), with a median of 14%

PER multiple ranges between 9.3x and 13.7x, with a median of 10.8x

Financial Services

Top 5 by market cap: Banca Transilvania S.A., BRD - Groupe Société Générale, Fondul Proprietatea, SIF Moldova, SIF Banat Crisana

Net profit margin: 39% to 74% (quartiles), with a median of 44%

PER multiple ranges between 7.6x and 15.3x, with a median of 9.3x

In 2017, electricity sector recorded the highest median market capitalization. The highest median PER multiple was reported in the electricity sector and the lowest in the financial services sector.

Materials

Top 5 by market cap: Alro S.A, TMK-Artrom S.A., Teraplast S.A., Vrancart S.A., Oltchim S.A.

Net profit margin: 4% to 9% (quartiles), with a median of 6%

PER multiple ranges between 7.9x and 13.4x, with a median of 9.8x

Consumer

Top 5 by market cap: Digi Communications, Sphera Franchise Group, Compa SA, S.C. Ropharma S.A., S.C. Turism Felix S.A.

Net profit margin: 4% to 7% (quartiles), with a median of 6%

PER multiple ranges between 8.1x and 14.3x, with a median of 12.9x

Industrial

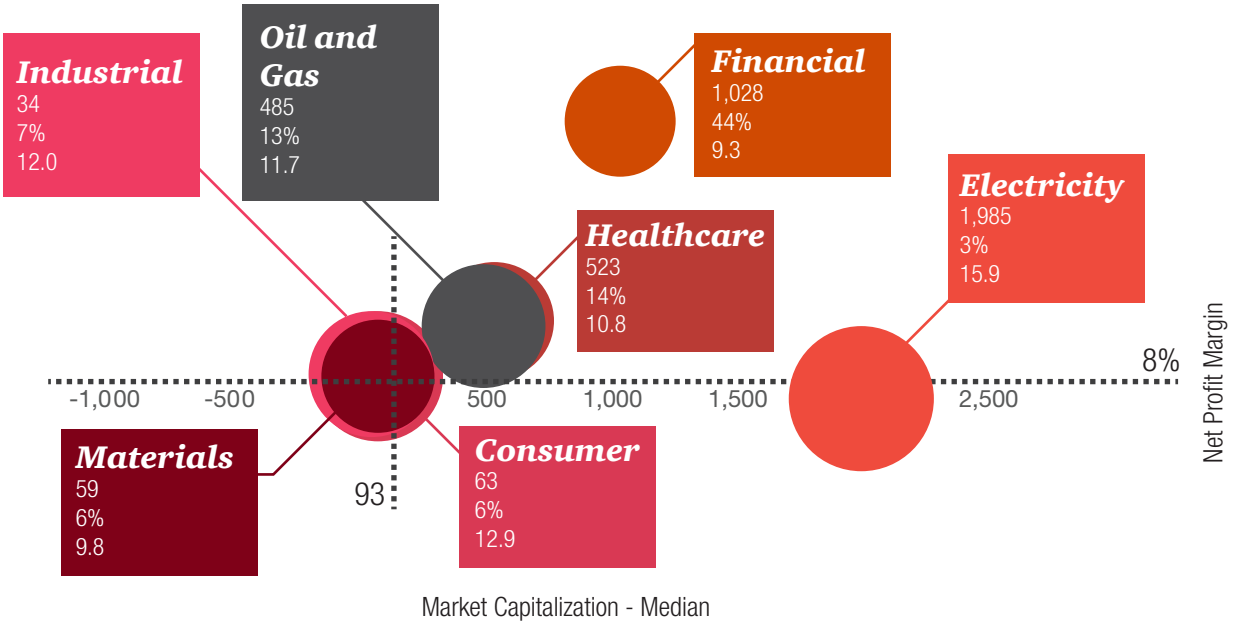
Top 5 by market cap: S.C. Aerostar S.A., Electroputere S.A., Impact Developer & Contractor S.A., S.C. Turbomecanica S.A., Transilvania Constructii S.A.

Net profit margin: 3% to 15% (quartiles), with a median of 7%

PER multiple ranges between 7.5x and 13.7x, with a median of 12.0x

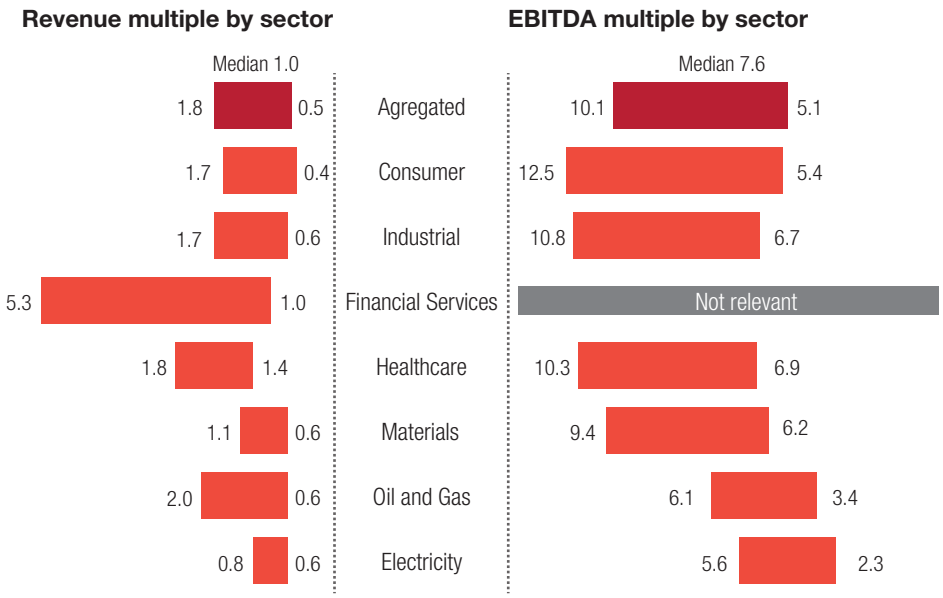
- Market cap on BVB ranges between 31.0m RON and 715.7m RON (quartiles), with a median value of 92.9m RON.
- Net profit margin on the exchange ranges between 4% and 16% (quartiles), with a median value of 8%.

2017 Sector Snapshot



*Note: label information: Sector Type, Market Capitalization median RON mn, Net profit margin, PER median

Revenue and EBITDA multiple analysis in 2017



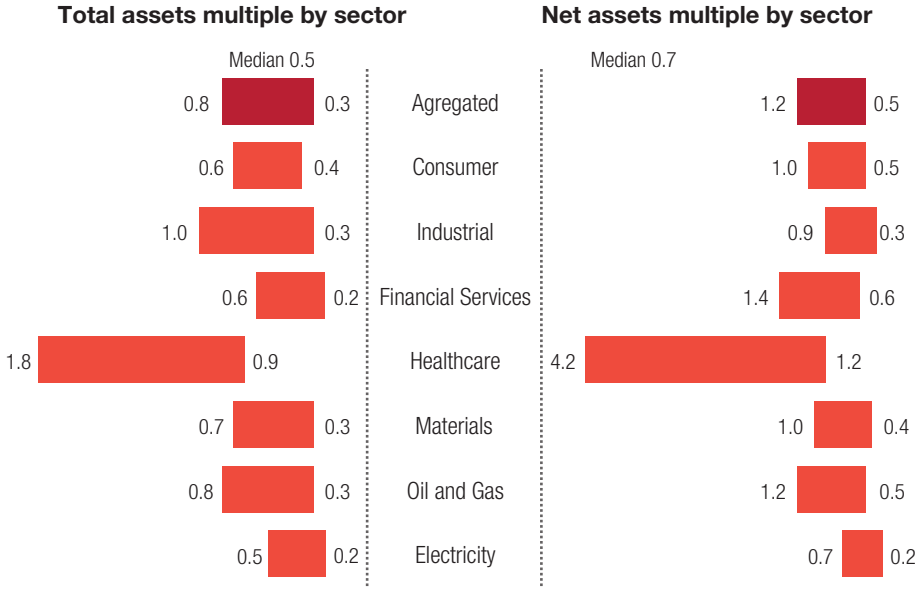
Revenue multiple

- The aggregated median for Revenue multiple is 1.0x
- Top performing sector is Financial services, with a median multiple of 3.5x
- The lowest revenue multiple is recorded by Electricity sector, with a median of 0.7x
- Revenue multiple is a reliable metric as it is less volatile than PER or EBITDA multiples and less susceptible to accounting manipulation
- It is highly used by troubled or young and small companies, with a low or negative EBITDA figure
- However, it should be used with caution in cases where some product/services intermediaries could count revenue as either the commission charged or the products/services they intermediate

EBITDA multiple

- The aggregated median for EBITDA multiple is 7.6x
- Top performing sector is industrial, with a median multiple of 9.1x
- The lowest EBITDA multiple is recorded by the Electricity sector, with a median of 3.8x
- This multiple is not meaningful for financial sector because it is difficult to isolate the financing requirements of a financial institution from its operational activities
- It can be utilized to directly compare corporations in the same industry regardless of their debt level and it is not impacted by accounting choices with regards to amortization and depreciation
- Good proxy for cash, the drawback is that it cannot be used for company comparison across industries, given varying capital expenditure requirements

Total assets and Net assets multiple analysis in 2017



Total assets multiple

- The aggregated median for Total assets multiple is 0.5x
- Top performing sector is healthcare industry, with a median multiple of 1.2x
- The lowest Total assets multiple is recorded by the Electricity sector, with a median of 0.3x
- Relevant especially for capital intensive or financial services sector
- Should be applied with caution in case of companies with high intangible assets, as presumably, they do not fully capture future growth opportunities.

Net assets multiple

- The aggregated median for Net assets multiple is 0.7x
- Top performing sector is healthcare, with a median Net assets multiple of 2.7x
- The lowest Net assets multiple is recorded by the Electricity sector, with a median of 0.5x
- Relevant especially for financial services sector and real estate sector
- It can be utilized to compare companies operating within the same industry
- It should be used with caution in case of companies with significant level of intangible assets.

Key findings

- Oil & Gas and Healthcare sectors, generally perceived as sectors with more stable financial performance, display lower volatility (deviation from average) in their PER ratio, whereas electricity sector display highest volatility in their PER ratio.
- For Financial Services and Healthcare sectors the PER ratios as of 31 December 2017 are at their minimum 5 years levels. The stock prices of these companies have increased at a slower pace than their corporate profits.
- Financial multiples recorded highest levels in 2007, reflecting the general optimism in the market; for the purpose of the volatility analysis 2007 was not included.

PER ratio - 2017

- The aggregate median in 2017 for PER ratio is 11.7x
- Electricity sector has the highest median PER multiple of 15.9x
- Financial services sector has the lowest median PER multiple of 9.3x.
- 2017 was an atypical year for the electricity sector, as prices were very high which reflected in higher profits of electricity producers and drops in profitability for grid operators
- Very popular metric amongst investors
- One limitation of the PER ratio is that earnings are subject to non-cash figures such as depreciation and amortization, which can vary depending on accounting choices

Industry	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Volatility of P/E ratio	Last 5 yr max	Last 5 yr min
Consumer	22.1	14.4	6.2	12.8	10.7	6.3	17.7	8.1	11.8	13.0	12.9	32%	17.7	8.1
Financial services	16.7	3.6	7.1	12.5	5.4	7.1	11.5	10.5	9.6	12.5	9.3	34%	12.5	9.3
Oil & Gas	15.8	6.0	10.3	8.6	8.7	6.9	10.3	9.3	8.8	9.5	11.7	18%	11.7	8.8
Healthcare	25.4	10.2	14.7	15.6	11.0	10.1	11.9	12.1	13.1	11.1	10.8	16%	13.1	10.8
Industrial	30.6	7.2	7.6	10.1	15.3	8.1	12.1	11.0	8.6	9.4	12.0	25%	12.1	8.6
Materials	27.5	6.4	11.8	14.0	6.8	10.2	13.1	7.3	5.7	10.7	9.8	30%	13.1	5.7
Electricity	46.6	9.1	2.7	25.0	9.3	19.4	5.6	13.0	11.4	12.5	15.9	53%	15.9	5.6
All sectors	24.8	7.0	8.4	12.5	9.5	7.8	11.3	9.5	9.3	10.9	11.7	18%	11.7	9.3
GDP growth	6.9%	8.3%	-5.9%	-2.8%	2.0%	1.3%	3.5%	3.1%	4.0%	4.8%	7.0%	169.5%	7.0%	3.1%
Industrial production growth	10.1%	1.9%	-5.0%	4.9%	7.9%	2.6%	7.4%	6.3%	3.0%	1.7%	8.2%	103.3%	8.2%	1.7%

Exhibit 5 - Evolution of financial multiples (Total assets and P/Bv) and industrial production growth

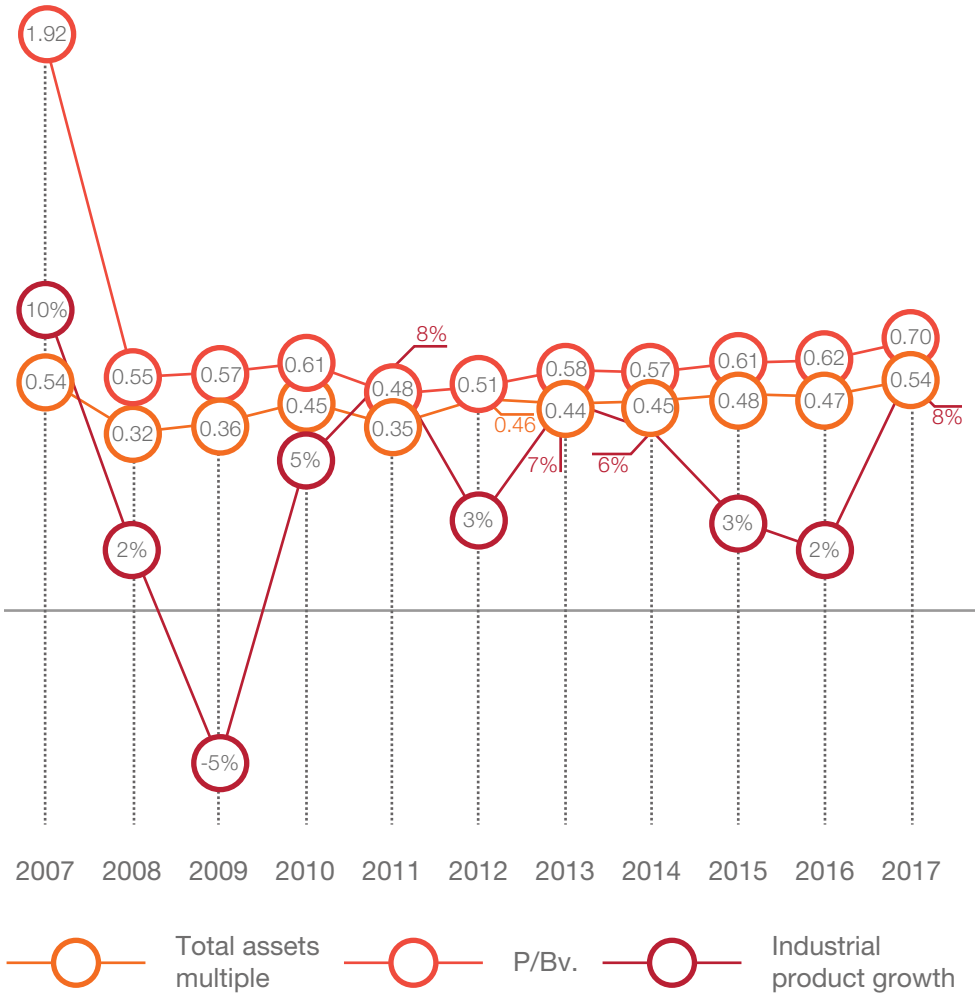
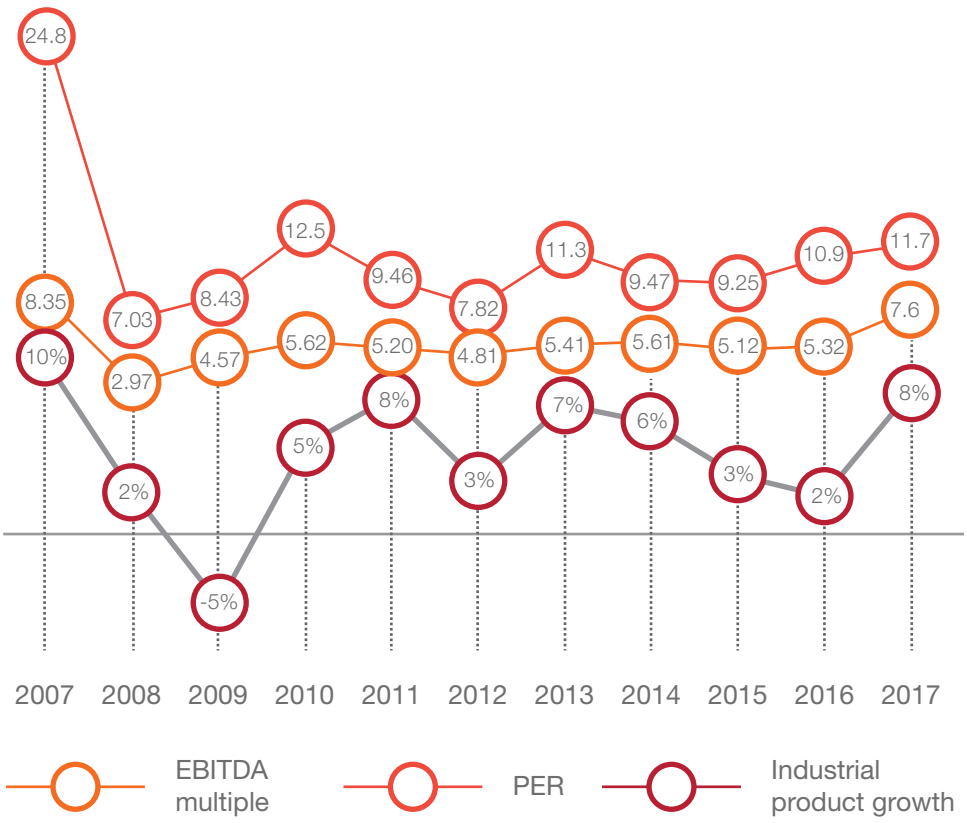


Exhibit 6 - Evolution of financial multiples (EBITDA and PER) and industrial production growth



Our main finding from the trend analysis reveals that, in the past 10 years, financial multiples were a good proxy for investors expectations, which tend to be optimistic during expansion (higher financial multiples) and pessimistic during recession (lower financial multiples).

- The correlation analysis is performed to examine the relationship amongst the industrial production growth and GDP growth rates and the selected variables during the period – EBITDA, Total assets, Net assets (Book value) and PER multiples. A coefficient of 1 indicates a perfect positive correlation between variables, while nil value indicates no correlation between variables.

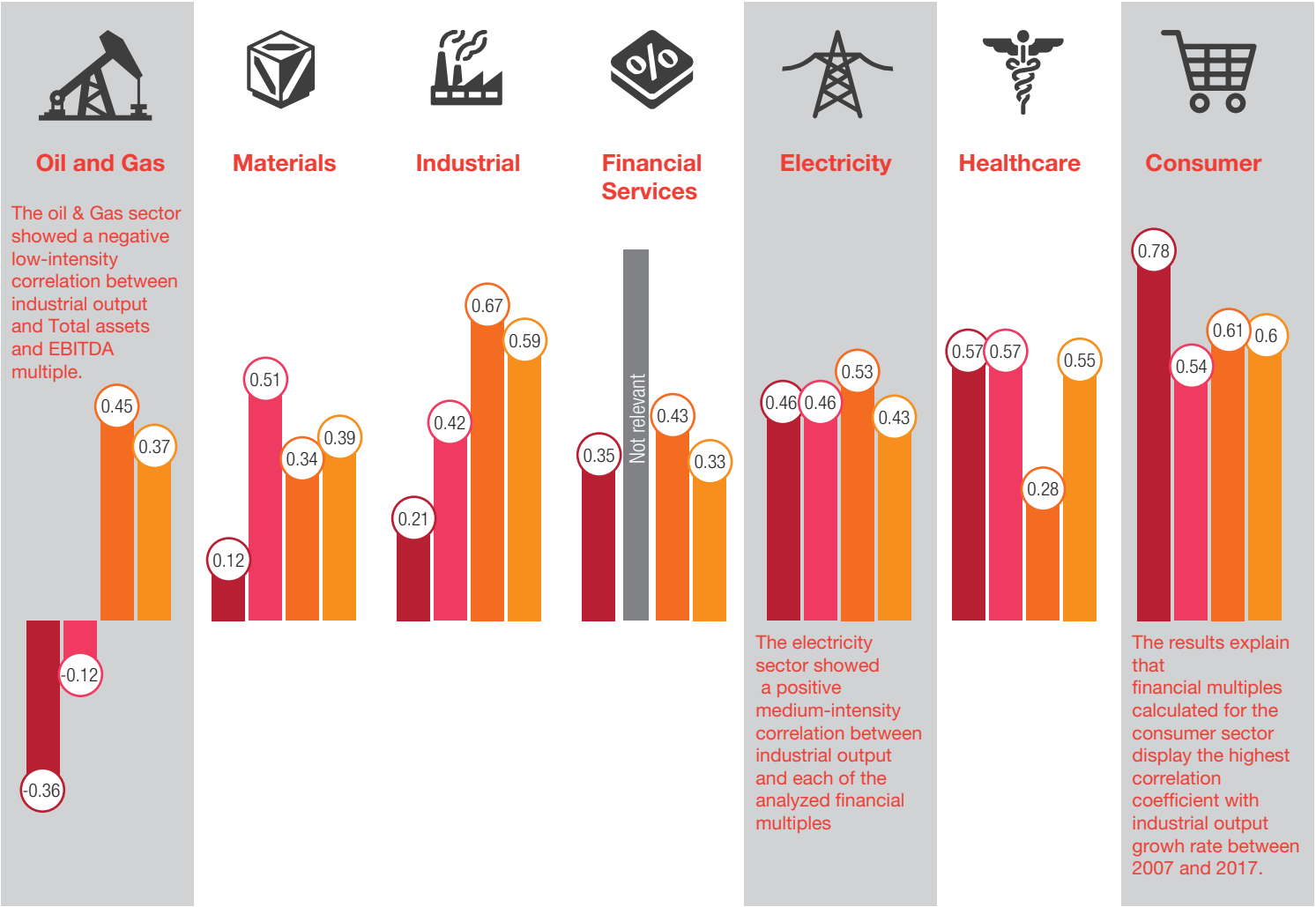
- Exhibit 7 illustrates the results of the correlation analysis. A positive, medium-intensity relationship can be observed between industrial output and EBITDA, Total assets, P/BV and PER multiples. This result translates into the idea that financial multiples are influenced by economic cycle and they are positively associated with industrial production growth and Gross Domestic Product (GDP) growth (relative value of the companies tends to increase when the economy is doing well). Financial multiples are influenced more by the industrial production growth as opposed with GDP growth. For the correlation with GDP growth, the results of the analysis show a positive weak-intensity relationship with the Total assets, P/BV, EBITDA and PER multiples.

Exhibit 7. Correlation analysis conclusions

Correlation coefficient	Industrial production growth	GDP growth
EBITDA multiple	0.66	0.23
Total assets multiple	0.49	0.32
P/Bv. multiple	0.44	0.34
PER	0.57	0.27

At a sectorial level, the main finding of the trend analysis reveals that, in the past 10 years, financial multiples of different sectors are differently influenced by the economic cycle, still the intensity of the relationship is generally medium, with the exception of Total assets multiple for the consumer sector where a strong positive relationship was found.

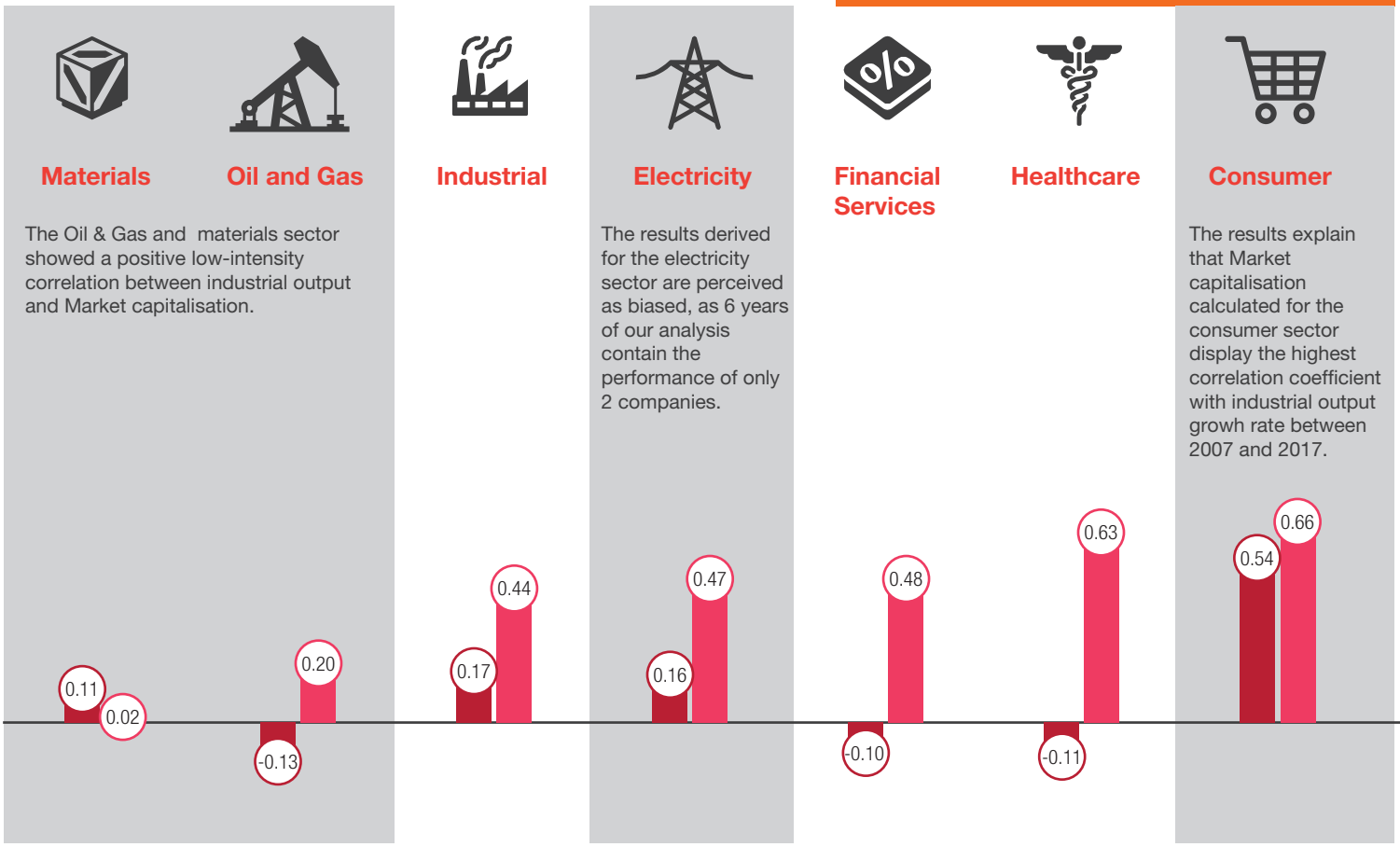
Exhibit 8. Sectorial trend analysis over 2007-2017



Analysis based on the correlation coefficient, computed for the period 2007 – 2017 between industrial output and P/BV, EBITDA, Total assets and PER multiples.

Exhibit 9. Sectorial trend analysis over 2007 - 2017 (correlation coefficient between industrial output, net profit margin and market capitalisation)

The market capitalization for companies operating in the materials and oil & gas sectors was least impacted by the economic cycles, whereas companies operating in the consumer, healthcare and financial services sectors were the most affected by adverse economic changes.



Analysis of PER ratios across industries from the perspective of cyclical and defensive sectors: for the last ten years, for Romania, the sectors whose market capitalisation was less influenced by the economic cycles were Oil & Gas and materials.

Cyclical stock

Performance has a stronger correlation to economic activity

- In recession, profits are falling and share price drops
- In expansion, the profits and share prices go up

Cyclical sectors & PER ratios: Consumer (12.9), Healthcare (10.8), Financial services (9.3)

- A cyclical equity is a stock that has a higher correlation with the economic activity. When the economy declines/expands, revenues and profits of a cyclical company tend to drop/increase and so its share price;
- Companies are more reluctant to invest in the middle of an economic turmoil and facing a declining activity.

Defensive Stock

Performance has a weaker correlation to economic activity

- Disregarding the economic cycle, revenues, profits, share prices and cash flows remain relatively stable

Defensive sectors & PER ratios: Materials (9.8), Oil & gas (11.7)

- A defensive equity is a stock that has stable revenues and profits. It has a lower correlation with economic cycles and thus is less impacted by economic booms or busts.
- Defensive stocks tend to outperform cyclical stocks in hard times, but are not so popular during economic growth stages. Typically, defensive equities have lower beta compared to their cyclical counterparties.

As per the trend analysis performed for Romania, both the Industrial (PER of 12.0) and Electricity (15.9) sector are borderline

Key highlights

In 2017, electricity sector recorded the highest median market capitalisation

In 2017, financial services sector revealed the lowest PER multiples

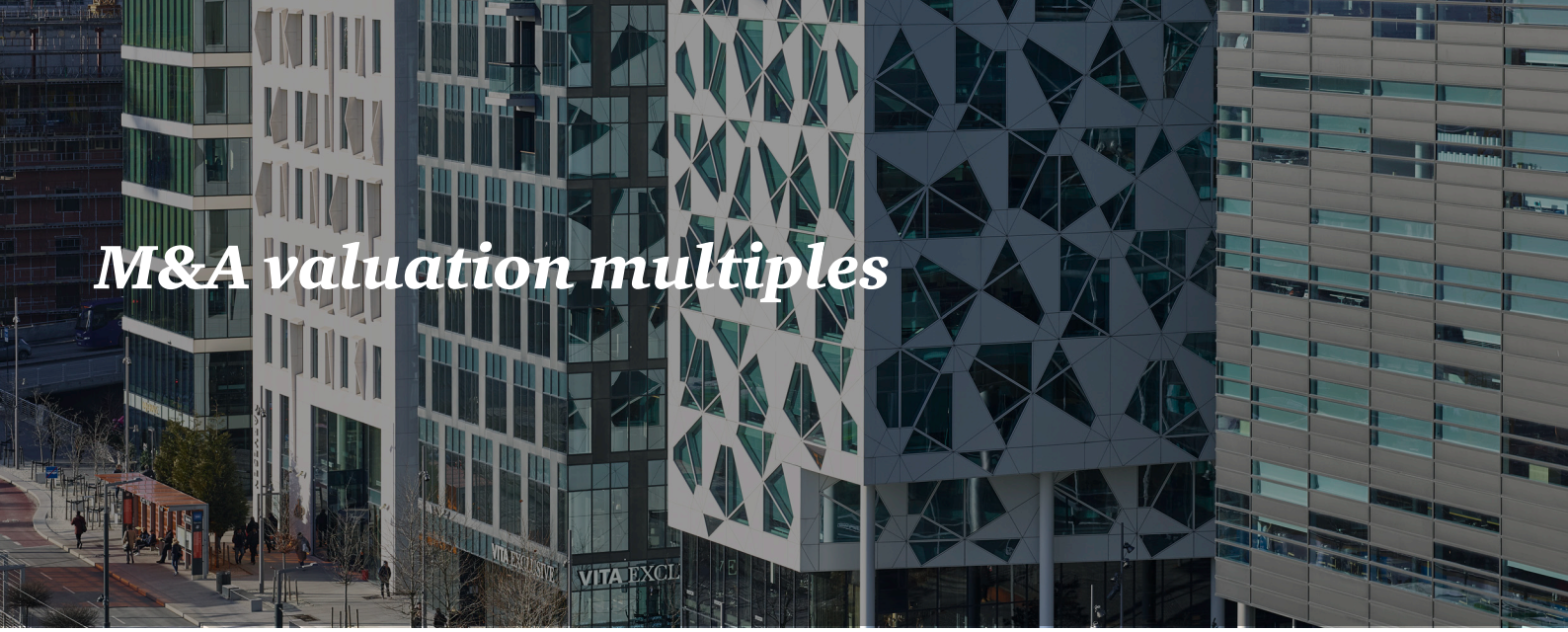
Highest PER multiple in 2017 was revealed by electricity sector

During 2007 – 2017, the lowest variance of PER was noticed for companies operating in oil & gas and healthcare sector.

Financial multiples tend to decrease when economy contracts

During 2007 – 2017, value of the companies operating in the oil & gas and materials were least impacted by economic cycles.

During 2007 – 2017, value of the companies operating in the financial services, healthcare and consumer sectors were mostly influenced by economic cycles.



M&A valuation multiples

- As per the information published by Mergermarket, within the Romanian market, there were 463 closed transactions from 2007 to 2017 in the following sectors: Industrial, Consumer, Healthcare, Information Technology, Materials, Telecommunication Services, Financial services etc. Our sample analysis includes 50 transactions for which relevant financial information was found and is based on:

  (a)27 transactions (for which robust and relevant financial data were sourced from S&P Capital IQ)

  (b)Additional 23 transactions, which took place in 2017, for which information was sourced from ISI Emerging Markets or by individual research, at each entity level.

- Outliers were excluded from the initial group of transactions in order to avoid distortions in the sample analysis. Based on the analysis, the number of completed transactions with significant financial information reached a peak in 2014, with 9 deals being closed, while in the following years there was a decrease in the volume of deals.

- The number of closed transaction in 2014 surpassed the pre-crisis level, while in the period 2015-2016 the number of transactions fell back to the levels observed during 2009 – 2011. The main driver behind the fall in the number of deals was the competition of the sectors corroborated with the industry fragmentation.

- The historical average multiple for closed transactions during 2007-17 is 8.3x EV/EBITDA while for the year 2017 the average is 7.5x (please note that this information is computed solely for those transactions for which reliable financial information was available).

- The exhibit 2 on the following section is showing the annual average EV/EBITDA multiple for the closed deals considered in this analysis, with EBITDA multiples presented as aggregates for all industry sectors analyzed.

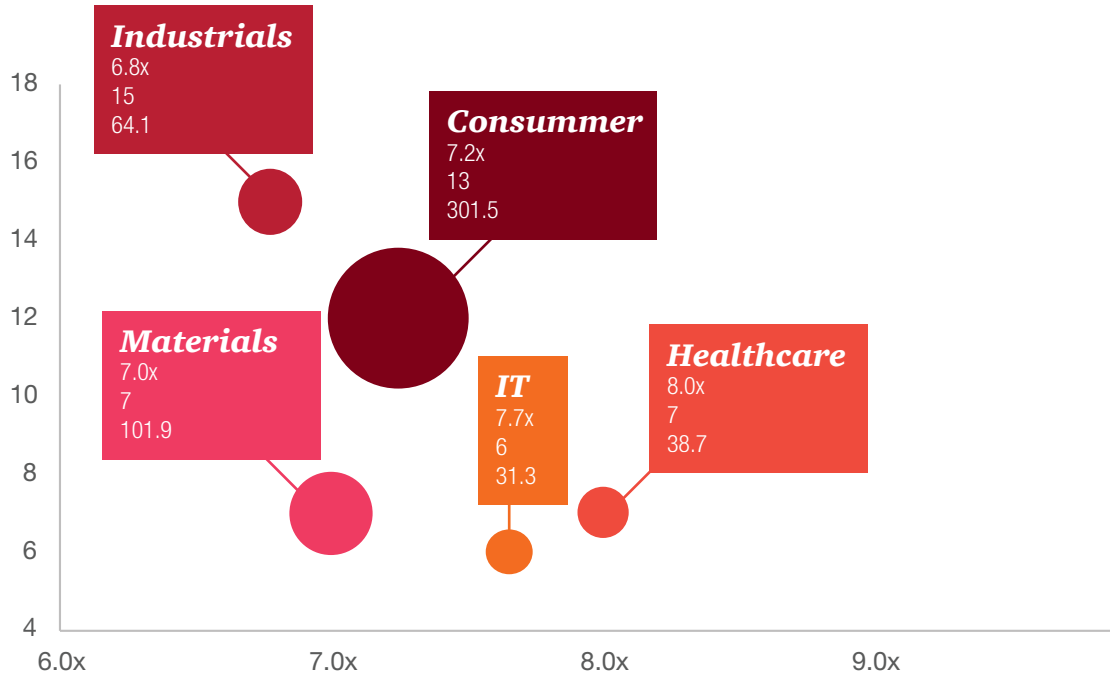
- Our selection, considering only the information available, includes 23 transactions that were closed during 2017, having the target based in Romania.

- The sector with the highest number of transactions over the 2007 - 2017 is Industrial (15 closed transactions), followed closely by consumer (12 transactions), healthcare and materials (7 transactions each). In terms of deal value, over the analyzed period, the Consumer sector accounted for 49% of the total transaction value, followed by materials and financials sectors accounting for 17% and 13%, respectively.

- The highest median EV/EBITDA multiple is in the Healthcare sector with 8.0x, followed by the IT sector with 7.7x multiple and Consumer with a 7.2x multiple

During 2007 - 2017, the highest number of closed transactions was recorded in the Industrial sector (15 transactions closed)

M&A market 2007 - 20117



Note:label information: Sector Type, EBITDA multiple median, No of transactions, Transaction value

- The top leading sectors by median transaction value are presented in the exhibit to the right.
- All our findings are based on the transaction sample for which information was available.

Consumer

Top 3 deal value: Albalact, Bricostore Romania, Media Pro Entertainment Business

EBITDA multiple falls between 6.8x and 14.3x.

Financial Services

Top 3 Deal value: City Insurance, Top Factoring and Glasro and Bucharest Stock Exchange

EBITDA multiple – not relevant

Materials

Top 3 Deal value: Cromsteel Industries, Policolor, Star East Pet

EBITDA multiple falls between 5.1x and 9.7x.

Industrial

Top 3 Deal value: Brikston Construction Solutions, Retrasib, Transilvania Constructii

EBITDA multiple falls between 4.8x and 7.0x.

Healthcare

Top 3 Deal value: Sun Wave Pharma, Biofarm, Santomar Oncodjagnostic

EBITDA multiple falls between 7.6x and 8.7x.

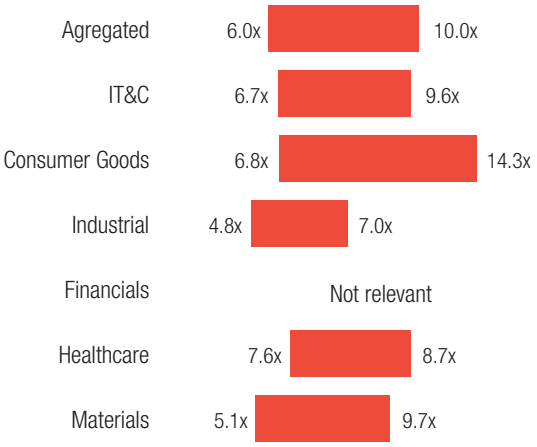
IT

Top 3 Deal value: IT Six Global Services, LikeIT Solution, CyberGhost

EBITDA multiple falls between 6.7x and 9.6x.

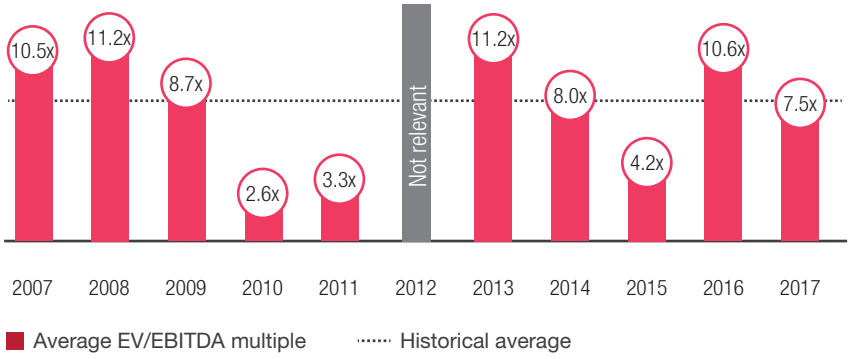
EBITDA multiple, by industry during 2007 - 2017

Ev/EBITDA multiple by sector



Aggregated average EBITDA multiple, 2007 - 2017

Average EV/EBITDA multiple



EBITDA multiple by industry

- The aggregated median for EBITDA multiple is 7.0x.
- Top performing sector is healthcare, with a median multiple of 8.0x.
- The lowest sector by EBITDA multiple is the industrial sector, with a median of 6.8x.

EBITDA multiple by year

- The year with the highest average EBITDA multiple are 2008 and 2013 with 11.2x for both followed by 2016 with a multiple of 10.6x
- The years with the lowest EBITDA multiples are 2010 with 2.6x and 2011 with 3.3x.
- For year 2012 no transactions were considered as there was no reliable available information

General considerations about EBITDA multiple

- It is not meaningful for financial sector because it is difficult to isolate the financing requirements of a financial institution to its operational activities
- It can be utilized to directly compare corporations in the same industry regardless of their debt level and it is not impacted by accounting choices with regards to amortization and depreciation
- Good proxy for cash, the drawback is that it cannot be used for company comparison across industries, given varying capital expenditure requirements

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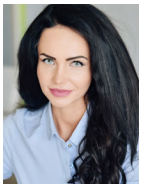

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