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 third edition of the analysis of listed companies on the Regulated Market of Bucharest Stock Exchange and local M&A market.

- The study presents the valuation multiples trend for **79 listed companies on BSE** covering the period between 2007 and 2019, 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 in these sectors based on a selection of 198 closed transactions between 2007 and 2019 for which robust financial data were readily available.

- The overall economy is currently facing new challenges due to COVID-19 pandemic outbreak and its global spread, challenges that have brought along more volatility to market perspectives. Although the long-term magnitude of the economic shock cannot yet be quantified, it is more likely that the economic activity will be contracted across all sectors - including capital markets. Please take into consideration that it is not possible for PwC to assess with any certainty the implications of COVID-19 neither on the Romanian economy as a whole nor on the local capital market or M&A market - both in terms of how long the current crisis may last and more specifically in terms of its impact on business activity. At a sectorial level, there are companies likely to face significant supply issues if its supply chain includes companies in regions where the authorities have implemented, or may implement, measures to contain and/or prevent the spread of COVID-19.

- We envisage that the readers of the current report will gain insights on:

  - Overall equity market performance between 2007 and 2019 (BET, BET- TR performance against Risk Free Rate of Romanian government bonds);

  - The performance of valuation multiples on different sectors based on an analysis of the 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,

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Executive summary

Macroeconomic outlook and Stock market performance

- Romanian's GDP growth during 2017 maintained a fast pace reaching 7%, however the growth declined at 4.1% in 2018 and maintained the same pace in 2019. The main driver for the economic growth remained private consumption, which grew by 7.9% in 2019 on the back of tax reductions as well as on public and private wage increases.
- In comparison with 2019, year 2020 brings to spotlight the COVID-19 pandemic that reaches alarming levels of spread thus causing economic disruptions around the world. It is expected that a contraction of the Romanian economy will follow in the upcoming period due to reduced levels of private consumption, which is basically the main driver of the economic growth; however, the degree of severity will depend upon how long COVID-19 pandemic persists. Romania enters COVID-19 outbreak after 9 consecutive years of economic growth.
- Romania had a market capitalization estimated at 17.9% of GDP in 2019, which is below the level observed in Hungary, Czech Republic and Bulgaria. The local capital market has been hit by COVID-19 pandemic and the impact between December vs. March was of approx. EUR 13bn loss in market capitalization (34%).
- The evolution of BET, BET–TR against CDS over the period January 2007 - March 2020 has shown that BSE is very sensitive to the country risk perception. As concerns the 5-year CDS evolution, including the cost against non-payment, it is noticed a significant increase of 30% between February and March amid the sanitary crisis driven by coronavirus.
- The actual context of COVID-19 had directly impacted the evolution of BET index, which ended 2019 with an increase of 46.9% vs. 2018, followed by a sharp fall (25%) during Q1 2020 as a result of investor concerns regarding COVID-19 pandemic.
- It is perhaps more important than ever to consider the long-term perspective. Thus, if we analyse the period from January 2012 to March 2020, the median excess return of BSE indices exceeded Risk free rate by 4.8% for BET and 13.9% for BET-TR. This return compensates investors for taking on the relatively higher risk when investing on the stock exchange.

Valuation multiples

Listed companies on BSE

- The analysis based on the listed companies on Bucharest Stock Exchange displays the evolution of the valuation multiples across economic cycles and industries.
- The trend analysis performed at an aggregated level, over the last 13 years, revealed that financial multiples tend to decrease when the economy contracts. This finding confirms that financial multiples are a relatively good proxy to investors' expectations.
- The 2019 analysis performed over the 7 industries revealed that the Healthcare sector recorded the highest median market capitalisation. The highest P/E was displayed by the Healthcare sector, whereas the lowest P/E was estimated for the Industrial sector.
- For the financial services and industrial sectors, the downward trend observed in the last years continued and the valuation multiples of the companies listed on the BSE have decreased significantly and are now at the minimum level of the last five years. The Healthcare sector shows the highest P/E ratio observed in the last five years.
- During 2007 – 2019, the market capitalization for companies operating in Materials, Industrial and Healthcare sectors were least influenced by the economic cycles, whereas Consumer and Oil and Gas were the most affected. Over the same period of time, the smallest variance in the P/E of companies was observed within Oil & Gas sector.

M&A multiples

- The analysis of the local M&A market was based on a selected sample of 198 transactions completed over the period 2007-2019 and for which financial information was publicly available. Out of the 198 transaction, 81 deals have been successfully closed during 2019.
- The highest EBITDA multiple was recorded in 2019 (13.1x) and the lowest in 2010 (2.6x).
- In 2019, the average EBITDA multiple derived based on closed transactions (13.1x) is significantly higher compared to the average EBITDA multiple observed on the Bucharest Stock Exchange (7.1x).

Scope and methodology

The Romanian capital market performance is an indicator of the prosperity and stability of the economic outlook. 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 9,977.30 points during 2019, level which has not been reached since 2007. Furthermore, on the back of coronavirus (COVID-19) outbreak, BET index has dropped by 25% in March 2020 vs. December 2019, thus reaching a level of 7,483.17 points.

The purpose of the study is to provide a comprehensive analysis of (1) the capital market and (2) M&A market, from a valuation perspective, over a 13 year period, with a focus on:

Analiza trendului multiplilor de evaluare observați în perioada 2007 – 2019 a fost corelată cu schimbările din economie (ciclurile economice).

Au fost identificate sectoarele cu cele mai bune performanțe pe durata perioadei analizate.

Consumer

Industrial

Materials

Financial Services

Oil & gas

Electricity

Healthcare

Aggregated

Listed companies valuation multiples

- Following the initial company screening that resulted in 83 listed companies on the Regulated Market of BSE (80 local companies and 3 international), we have eliminated 3 companies which were suspended from trading as well as Erste Group Bank AG because it does not have a ticker available on BSE in S&P Platform, the only data available is for all transactions on Vienna Stock Exchange – "WBAG:EBS". As a result, our analysis is based on a sample of 79 companies.
- The selected sample is covering the following sectors according to S&P CapitalIQ industry classification: consumer, industrial, materials, financial services, oil & gas, electricity, healthcare.

Understanding the results

- All financial data used in the present study was sourced from S&P Capital IQ, Mergermarket, ISI Emerging Markets 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 13-year period, from January 2007 to March 2020 and encompassed the performance of the selected sectors over the economic business cycles.
- The main conclusions of our study were drawn following the comparative analysis between the results of trading multiples for listed companies and those derived from private transactions.

M&A valuation multiples

- We have selected all deals closed in Romania for which meaningful financial information was available, sourced from S&P CapitalIQ, Mergermarket and/or from PwC internal data. To provide a similar analysis as the one for multiples based on publicly listed companies, the same sectors were considered.
- Following the initial screening that resulted in 851 transactions, we have restricted our sample to only 198 closed deals for which we had consistent and reliable information over 2007-2019, out of which 81 deals were closed during 2019 and data was sourced from Mergermarket, EMIS or PwC internal data.

Business cycles approach

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

Listed companies valuation multiples

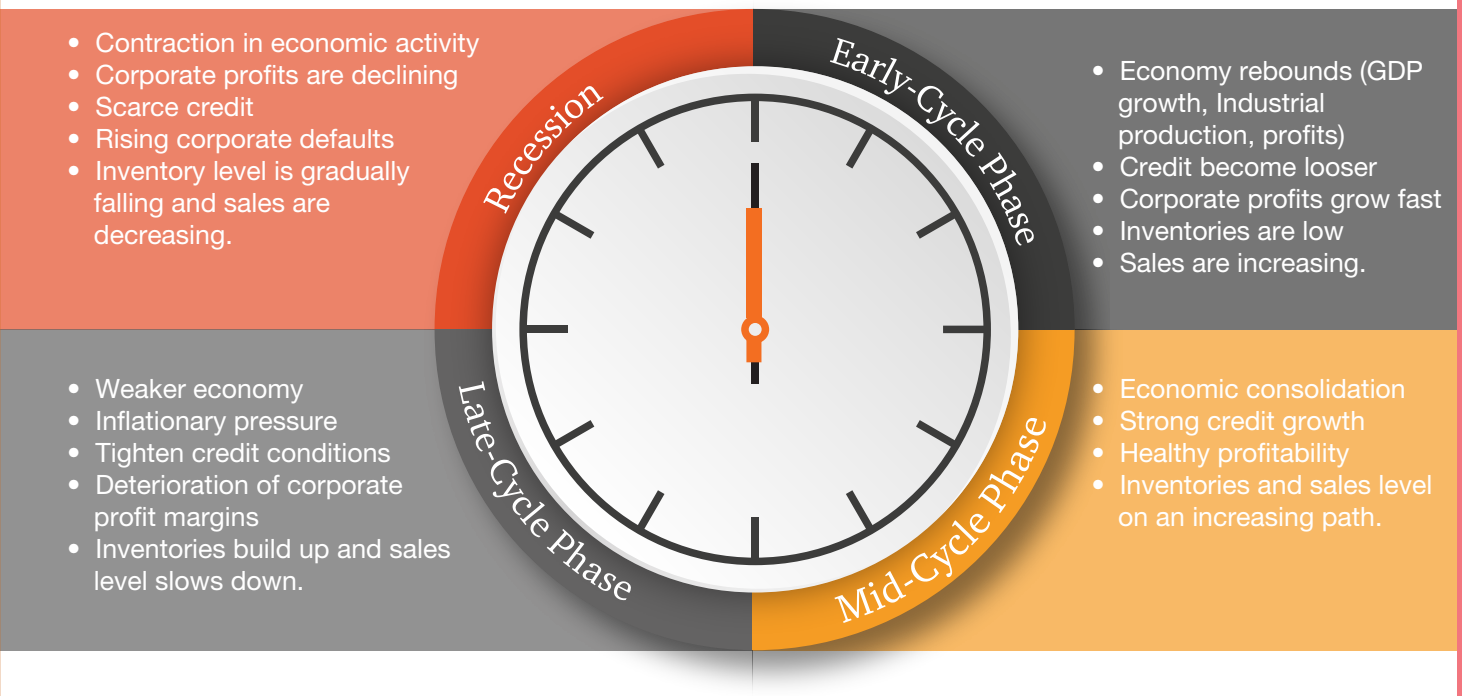
The analysis included the companies listed on the Regulated Market of BSE and the financial data covering the period 2007 – 2019.

M&A transactions valuation multiples

The study covered transactions that took place within the Romanian market between 2007 and 2019 and for which robust 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 an useful tool for investors because it provides the context for advantages in sectors with prominent financial returns while adjusting risk exposure to those sectors underperforming.



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).

EV Enterprise Value	Price Market capitalization
1 EV/Total Revenues	
2 EV/EBITDA	1 P/BV.
3 EV/EBIT	2 P/E

- 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 not considered meaningful and are 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 multiples 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.

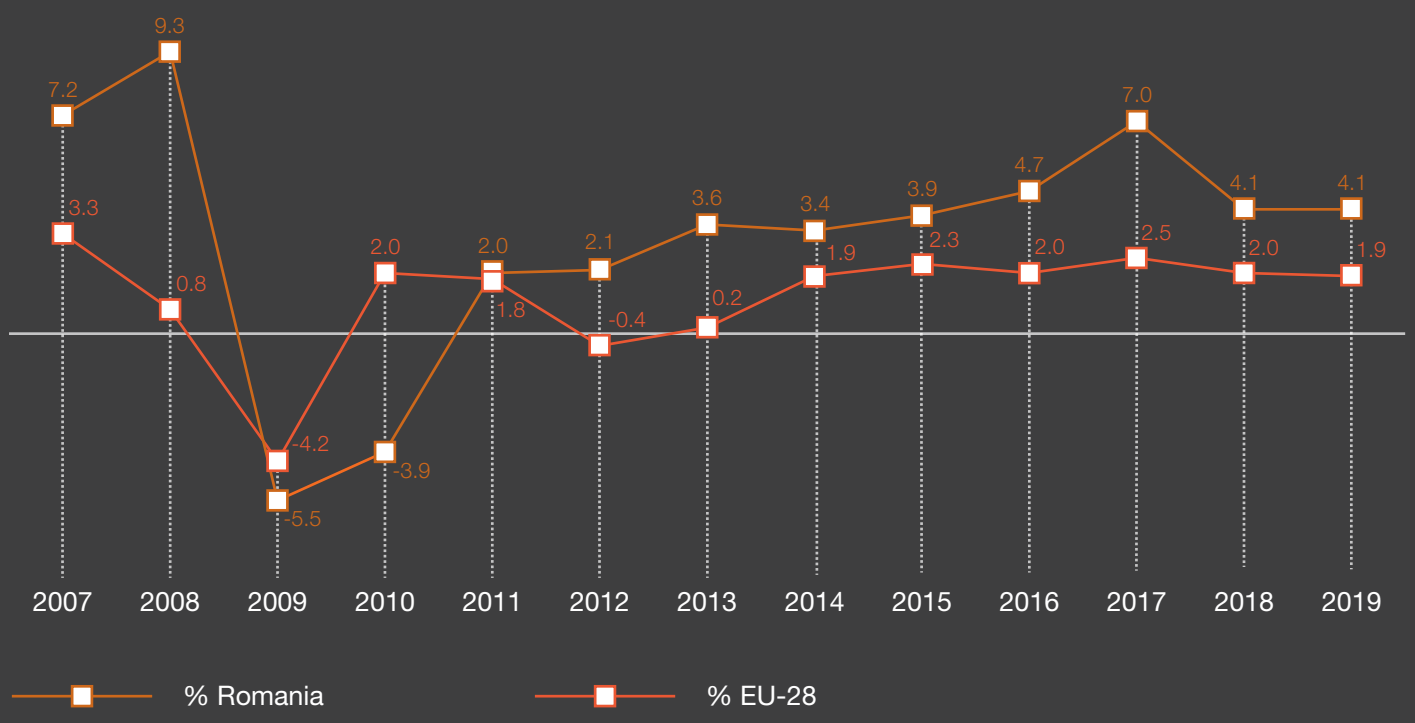
- Current financial multiples include:
  - Historical multiples based on standardized financials for the last completed fiscal period: Last Twelve Months (LTM);
  - Forward multiples based on consensus estimates for the current fiscal period and next ones: Next Twelve Months (NTM), FY0, FY1.
- Current 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 risk profiles that are different as 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 (P/E) and price/book value of equity ratio (P/BV).

Macroeconomic outlook

Romania is a large European market with a GDP of EUR 222.1bn in 2019 and a population of 19.4m. 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. Recently, this context has changed due to COVID-19 epidemic outbreak reaching alarming levels of spread and, as a result, Romania's sustainable development is frozen for the time being. Due to this epidemic crisis, employees have to remain in isolation thus leaving entire branches of economy without activity (tourism, HoReCa, transportation, retail), private consumption is falling, distribution and supply chains in regions affected by COVID-19 are shut-down and restrictive measures have been taken with regards to mobility and goods transportation.

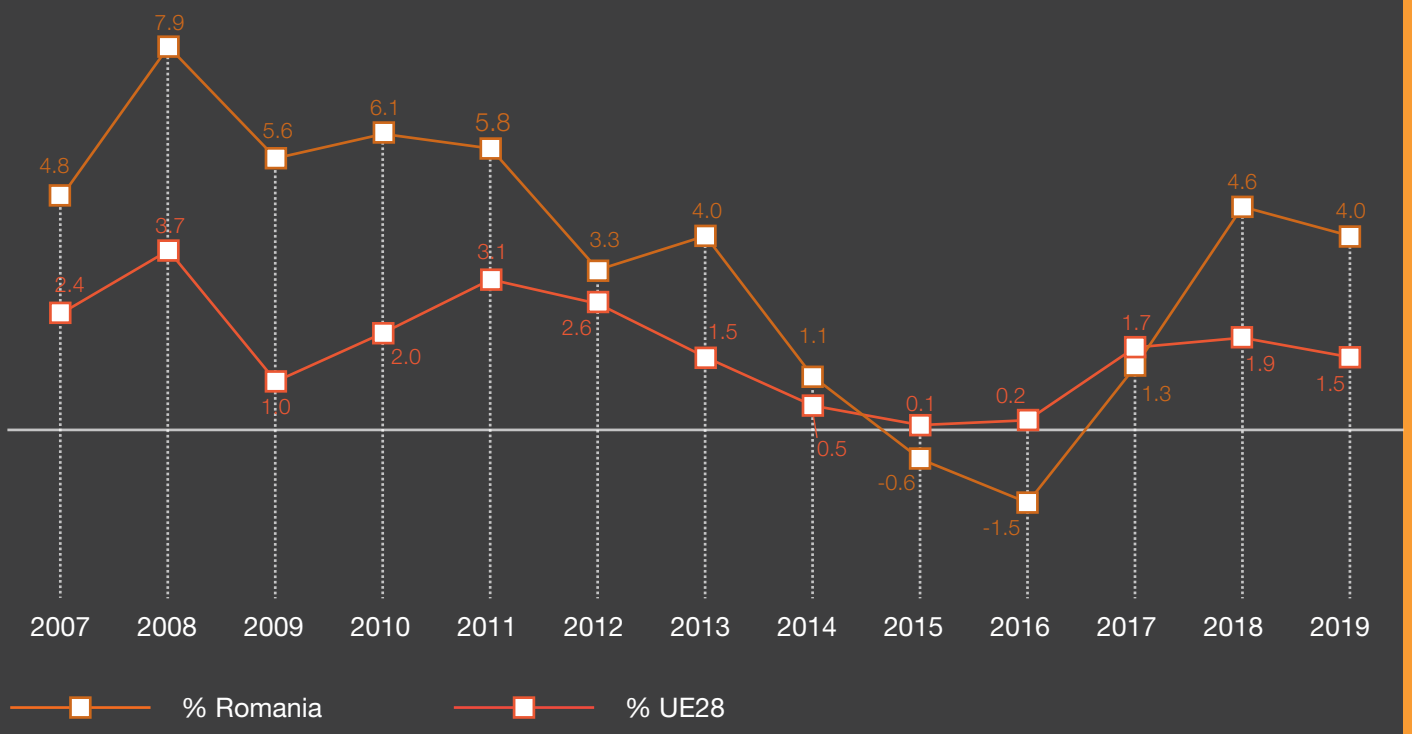
- Although the economic growth from 2019 has been significantly lower compared to previous years, it still remains robust given the 4.1% GDP growth rate achieved, which is with 2.9% lower compared to the growth recorded in 2017 (7.0%) that marked the highest GDP growth rate achieved in the last 10 years. The main driver for this economic expansion was private consumption, which grew by 7.9% in 2019 vs. 2018 on the back of tax reductions as well as public and private wage increases. Year 2020 brings to spotlight the COVID-19 pandemic that reaches alarming levels of spread thus causing economic disruptions around the world. It is believed that a contraction of the Romanian economy will follow in the upcoming period due to reduced levels of private consumption, which is basically the main driver of the economy; however, the degree of severity will depend upon how long COVID-19 pandemic persists.
- Even though Romania has consistently achieved higher GDP growth rates than the EU28 (and such situation creates the premise for long term economic convergence), the current expectations are uncertain amid the context of COVID-19 outbreak. The specific nature of this crisis is given by its sanitary dimension and by the simultaneous existence of a shock on supply and demand. This reduces the level of predictability even more than in the case of a classic recession driven by the logic of economic cycles.
- Investments, as percentage of GDP, fell from 24.8% in 2017 to 21.2% of GDP in 2018 on the backdrop of lower absorption of EU funds. Based on Eurostat data, fixed capital formation increased by 11.3% in 2019 compared to 2018, thus reaching 23.3% of GDP.

Real GDP - Romania vb. EU28



Source: Eurostat, INSSE

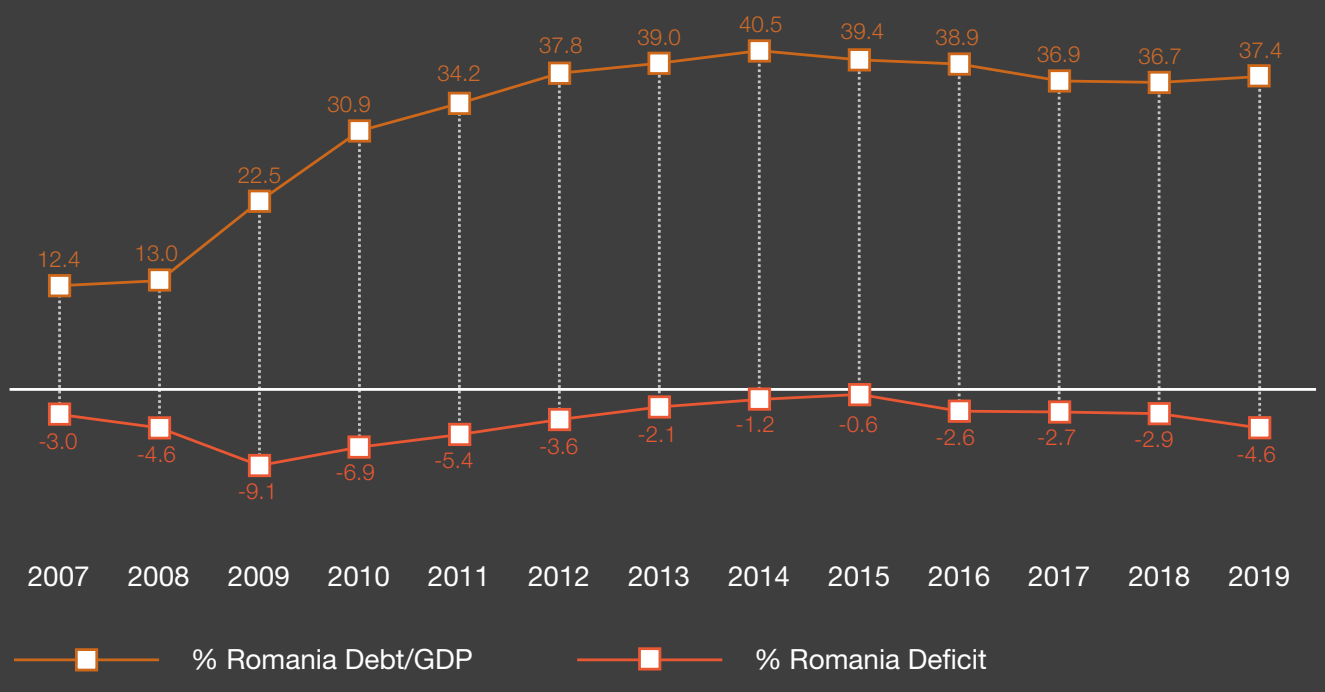
Inflation rate (avg.) - Romania vs. EU28



Source: Eurostat, INSSE

- Private consumption remained in 2019 the main contributor to a slowing pace of growth. This, combined with increased inflationary pressures, ate away real disposable income. In the context of strong real GDP growth in 2018, unemployment rate dropped to 4.1% in Q4 2018, declining further to 3.9% in Q4 2019. Combined with (1) a diminishing labour force and (2) skills shortages caused by emigration, (3) an aging population, (4) minimum wage increases, wages have experienced a 13.1% increase between 2018 and 2019, the second highest growth observed in the EU28. At the same time, Romania had unit labour costs well below the EU28 average. In the current context of the sanitary crisis, part of labour contracts have already been suspended and the unemployment is expected to rise significantly. Furthermore, authorities have announced that are ready to support up to 1m requests for technical unemployment.
- Exports reached 40.1% of GDP in 2019, increasing by 5.4% as compared to 2018. Imports, accounting for 44.1% of GDP in 2019 (displayed 7.6% increase when compared to 2018) yet being larger than exports with the trade balance gap reaching 4.0% of GDP in 2019. As a result, net exports had a negative contribution to GDP growth. In the context of COVID-19, both exports and imports will suffer shocks, depending on the general economic evolution of Romania's trading partners. For example, four out of the five most important Romania's trading partners are Germany, Italy, France and the United Kingdom, countries strongly affected by COVID-19 which have imposed restrictive measures on mobility thus generating a contraction of the economic growth and appetite for consumption.
- The budget deficit increased from 0.6% in 2015 to 4.6% in 2019, over the Maastricht Treaty limit of 3%. As experienced between 2015 and 2018 when gross capital formation dropped from 5.3% to 2.7%, the government limited the deficit below 3% in 2020 through capital expenditure cuts, which hurt long-term economic prospects. In terms of absolute amounts, the public debt has increased with approx. EUR 8bn over the period 2015-2019. Moreover, Romania was preparing for the excessive deficit procedure, after exceeding in 2019 the limit imposed by the Maastricht Treaty on fiscal discipline (3%) corroborated with the estimates for 2020 budget that also included a deficit greater than 3%. The European Commission decided to lift the deficit limit to its Member States due to the current COVID-19 outbreak.

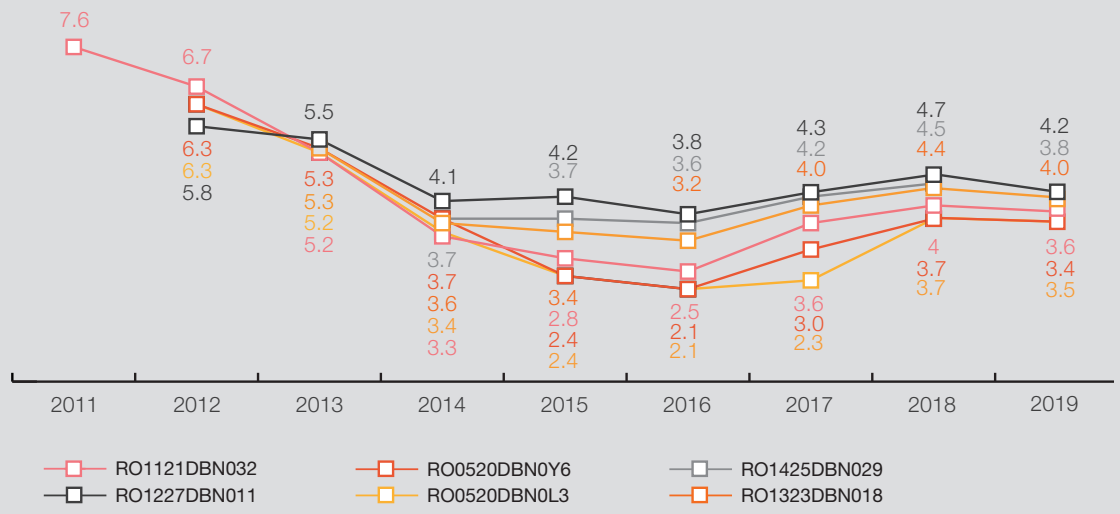
Romania's Debt/GDP and government deficit evolution (%)



Source: Eurostat

- Since 2012, however, the public debt has been hovering around the range 37%-41% of GDP, below the Maastricht Treaty public debt limit of 60% of GDP and the average public debt of EU28 (80% in 2018).
- In 2018, the consumer price index reached one of the highest levels after the 2008 economic crisis. Inflation became positive in 2017 and continued to grow throughout 2018, reaching an annual average of 4.6% due to both internal and external factors. Domestically, the consumer price index accelerated in 2018 after the effects of local tax cuts from January 2017 vanished. Furthermore, the upward trend was also influenced by the increases in excise revenues for energy products during the fall of 2017. Moreover, external factors such as increased food prices and rise in energy prices, have further stimulated the inflation rate. In 2019, the average rate of consumer prices reached 4.0%, decreasing from the average rate of inflation of 4.6% observed in 2018.
- The risk-free rate (Rfr) represents the return expected by an investor of a risk-free asset. The common proxy used for RfR is the yield to maturity of liquid long-term Romanian Government Bond. The domestic government debt (including issuance, redemption, interest payments, etc.) is handled by the Ministry of Public Finance (MPF). National bank of Romania (NBR), acting as the agent of the Ministry of Public Finance (MPF), oversees the management of government securities, in both national and foreign currencies, on the domestic market.
- Based on the information sourced from S&P CapitalIQ platform, there are 27 sovereign bonds denominated in local currency, being issued starting 2005 and with maturities ranging from 1 year to 15 years. Based on data published by MFP the most traded government bond in 2019 denominated in local currency and with a 7-year maturity (maturity date July 2027), is the bond with ISIN number RO1227DBN011 issued in July 2011. A summary of yields evolution for the six government bonds selected in our analysis is depicted in the graph below.

Risk free rate evolution for long term bonds denominated in RON

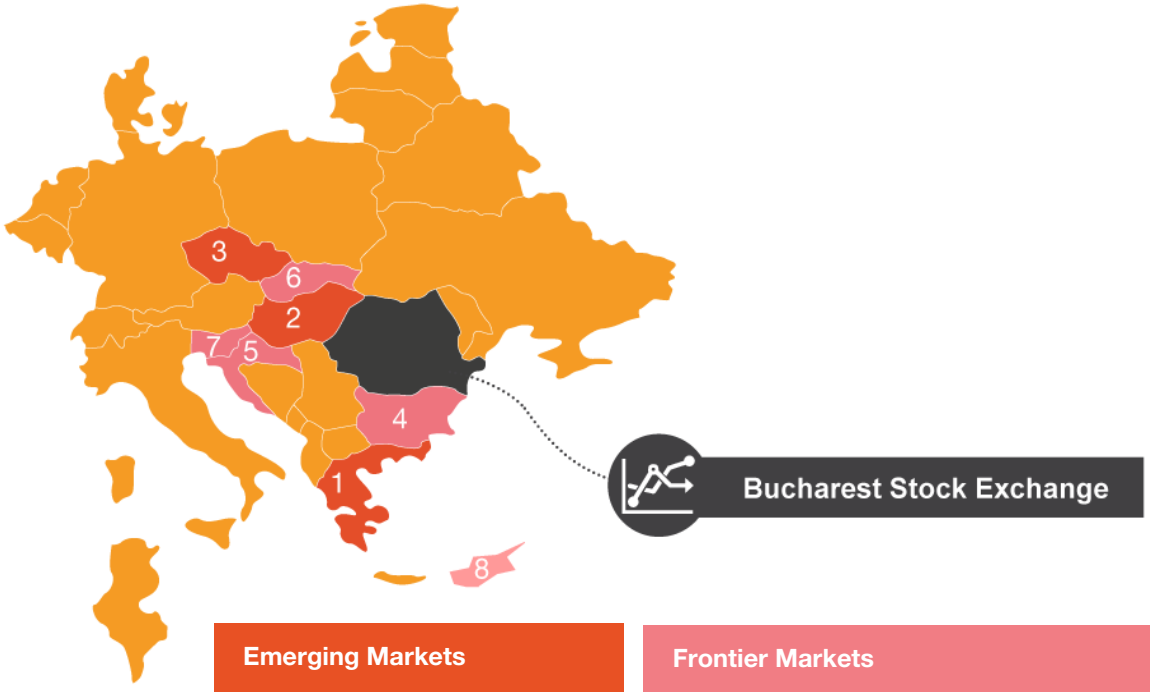


Source: MFP, S&P CapitalIQ, PwC analysis

Bucharest Stock Exchange ("BSE") – at a glance

Key events

March 2020 brings to spotlight a sanitary crisis due to COVID-19 pandemic which has frozen strong economies such as China, US or Italy. Given this situation, the Romanian economy is expected to show signs of contraction during 2020 but the level of severity will depend upon how long this sanitary crisis persists.
The local capital market has been hit by COVID-19 pandemic and the impact between 1 December 2019 and 30 March 2020 is estimated at EUR 13 bn loss in market capitalization, approx. 34% drop on the back of COVID-19 concerns.
The end of October 2019 marked a historical moment for the Bucharest Stock Exchange. FTSE Russell announced that Romania is promoted to Emerging Market status, after being on the watch list in the last three years. The reclassification of the status will become effective on 26 September 2002, bringing along new opportunities for larger funds that have investment restrictions on frontier markets.
The legal provisions of the E.O. 114, adopted in December 2018 that led to strong corrections on the capital market at the end of the year, were changed during 2019 in favour of the issuers listed on the BSE.
Another event that will have a positive impact on the development of the local capital market is the establishment of the local Central Counterparty (CCP) with a view to counterparty risk, which may lead to product diversification and increase in liquidity



Emerging Markets

1. Athens Stock Exchange (Greece)
2. Budapest Stock Exchange (Hungary)
3. Prague Stock Exchange (Chzech Republic)

Frontier Markets

4. Bulgaria Stock Exchange (Bulgaria)
5. Zagreb Stock Exchange (Croatia)
6. Bratislava Stock Exchange (Slovakia)
7. Ljubljiana Stock Exchange (Slovenia)
8. Cyprus Stock Exchange (Cyprus)

Overview

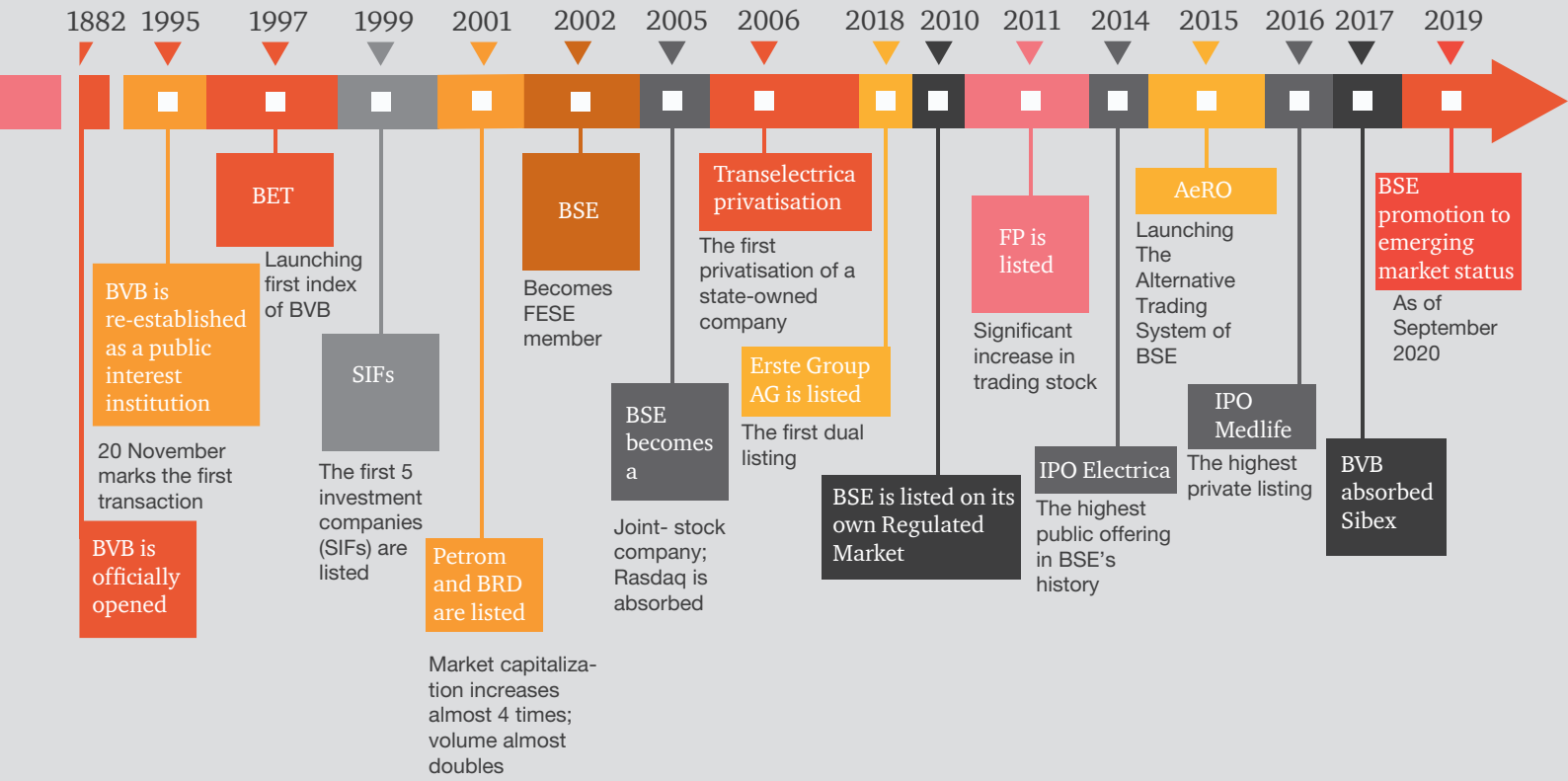
- According to FTSE Russel, global capital markets are classified into developed, emerging and frontier markets based on criteria such as economic development, size, liquidity and market accessibility.
- For a more comprehensive analysis of BSE's regional position, we have looked at similar capital markets in terms of their volatility and the correlation between economic growth and value indexes. The capital markets included in our analysis were (a) emerging markets such as Greece, Hungary and Czech Republic (b) frontier markets – Bulgaria, Croatia, Slovakia, Slovenia and Cyprus.
- Romania had an equity market capitalization (including regulated market and ATS) estimated at 17.9% of GDP in 2019, which is below the level observed in Hungary, Czech Republic and Bulgaria. The market capitalization on BVB regulated segment stepped-up by 23.4% in 2019 and reached to EUR 37.8bn amid positive market perspectives. In order to analyse the market capitalization of comparable exchanges, we have selected the main and the ATS segments, however each stock exchange has a different structure. Based on BVB information for 2019, no IPOs were conlcuded on the main segment even though in 2018 one company was listed, namely Purcari Wineries and in 2017 DIGI Communications, Sphera Franchise Group, AAGES și Transilvania Broker de Asigurare opted out for IPOs.
- According to BVB data from 30 March 2020, the main stock market indexes opened the trading session in depreciation - so BET index went down by 0.4% compared to 27 March 2020, being quoted at 7,498.66 points (from 7,528.93). Furthermore, BET-TR index has lost 0.4% during the same period analyzed and reached to 12,003.38 points from a level of 12,051.87 points recorded on 27 March 2020.

Country	Stock Exchange	GDP per capita (EUR)	Market capitalization as % of GDP, 2019
Croatia	Zagreb Stock Exchange	12.900	36.9%
Greece	Athens Stock Exchange	17.500	32.7%
Bulgaria	Bulgarian Stock Exchange	8.680	23.5%
Czech Republic	Prague Stock Exchange	20.610	22.3%
Hungary	Budapest Stock Exchange	14.720	20.4%
Romania	Bucharest Stock Exchange	11.440	17.9%
Slovenia	Ljubljana Stock Exchange	22.980	14.7%
Cyprus	Cyprus Stock Exchange	24.920	8.6%
Slovakia	Bratislava Stock Exchange	17.270	3.0%

Source: Eurostat, S&P Capital IQ, Official website for each Stock Exchange
Note: The market capitalization for Czech Republic (Prague Stock Exchange) does not include free market

- Bucharest Stock Exchange has a very long history that traces back to 1839 when commodities-trade exchanges were established. Due to some unstable social and political events, BSE was closed and re-established in June 1995 as a public non-profit institution, after almost 50 years of suspension following the establishment of the communist regime in Romania.

BSE Milestones



- BSE operates two markets:
  - Regulated Market where financial instruments, 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; according to information published by BSE (IR Update), a total of 87 companies were registered on the regulated market at the end of 2018. 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. According to information published by BSE (IR Update), a total of 298 companies were operating on AeRO market at the end of 2019.

BSE Indices - overview

- BSE calculates and distributes in real time nine indices including: BET, BET-TR, BET-XT, BET-XT-TR, BET-FI, BET-NG, BET-Plus, BET-BK ROTX.
- BET, the first index developed by BSE in 1997, represents the reference index for the local capital market, including Blue Chip Companies; it reflects the performance of the top 16 most traded companies listed on BSE in 2019 and respectively of the top 17 most traded companies as of march 2020. A summary of the analysis of BET constituents for both periods is presented in the table below.
- In 2019, BET index closed 35.1% higher compared to 2018 mainly because of (1) the adjustments applied to legislative provisions that led to the major corrections in December 2018, (2) high dividend yields, (3) strong local economic growth exceeding the European Union average and, in the end of 2019, (4) the long-awaited announcement regarding BSE's reclassification to Emerging market. However, BET index recorded a significant decrease of approx. 25% between 30 December 2019 (9,977.30 points) and 30 March 2020 (7,483.17 points) amid the COVID-19 outbreak that has taken root starting February when coronavirus cases are confirmed and the Government imposes restrictive measures at economic and social level.
- BET-TR is the first total return index launched by BSE based on BET structure. This index tracks price changes of component shares and is adjusted to also reflect the dividends paid by its constituent companies. In 2020, BET-TR includes the first 17 most traded companies listed on BSE (same constituents included in BET). According to BSE representatives, BET-TR has increased by 46.9% in 2019 considering that it pays one of the highest worldwide dividends yields.

Liquidity analysis

- The graph from below displays the evolution of market capitalisation and value traded of all companies listed on regulated market over the period 2007 – 2019 based on data sourced from BSE. Market capitalization has reached a historical maximum of RON 181bn (EUR 38bn) in 2019 as a result of (1) the appreciation of the securities following the adjustments applied to E.O. 114 in favour of the issuers listed on the BSE, (2) reclassification of the BSE as Emerging market, (3) attractive yields and, last but not least, the good results of listed companies in a positive macroeconomic context.
- In 2019, no IPOs were concluded on the Bucharest Stock Exchange. Furthemore, the number of companies listed on the main market fell from 87 in 2018 to only 83 in 2019 following the delisting process of Oltchim, Boromir Prod, Amonil Slobozia and Petrolexportimport. Furthermore, BSE market capitalization decreased in March 2020 with approx. EUR 13bn from the level recorded in December 2019 while the traded value increased by 1.98 times in the same period (and the volume by 1.92 times) - thus indicating that the stock prices have depreciated sharply during this period.
- The weakest performance for BSE from the last 13 years was recorded in 2008 when, due to recession, the level of market capitalization amounted to RON 46bn (almost 4 times lower compared to peak level from 2019).
- Based on the reports published by BSE, the trading value in local currency in 2019 stood at RON 9.7bn, by 15.5% lower vs. 2018. If we consider only trading values exceeding a threshold of RON 100m, than the market liquidity in 2018 has been driven mainly by the offers of Purcari Winery, Property Fund, Zentiva and Alro - whose cumulative value amounted to RON 1.7bn; as far as for 2019, the market liquidity was mainly attributable to the purchase offer made by Property Fund amounting to RON 109m. If we exclude the aforementioned offers, the overall trading value in 2019 is similar to the level recorded in 2017 (-2%). In the last 13 years, the lowest traded value was recorded in 2009 (RON 5.1bn) when investor confidence was strongly affected by the large corrections from 2008 while the highest level was reached in 2007 (RON 13,8bn) at the beginning of the financial crisis.
- Based on information provided by S&P CapitalIQ, top five most traded shares on BSE's regulated market from the last 12 months remain: Banca Transilvania (BVB: TVL), Property Fund (BVB: FP), BRD - Groupe Société Générale SA (BVB: BRD), Romgaz (BVB: SNG) and OMV Petrom (BVB: SNP).

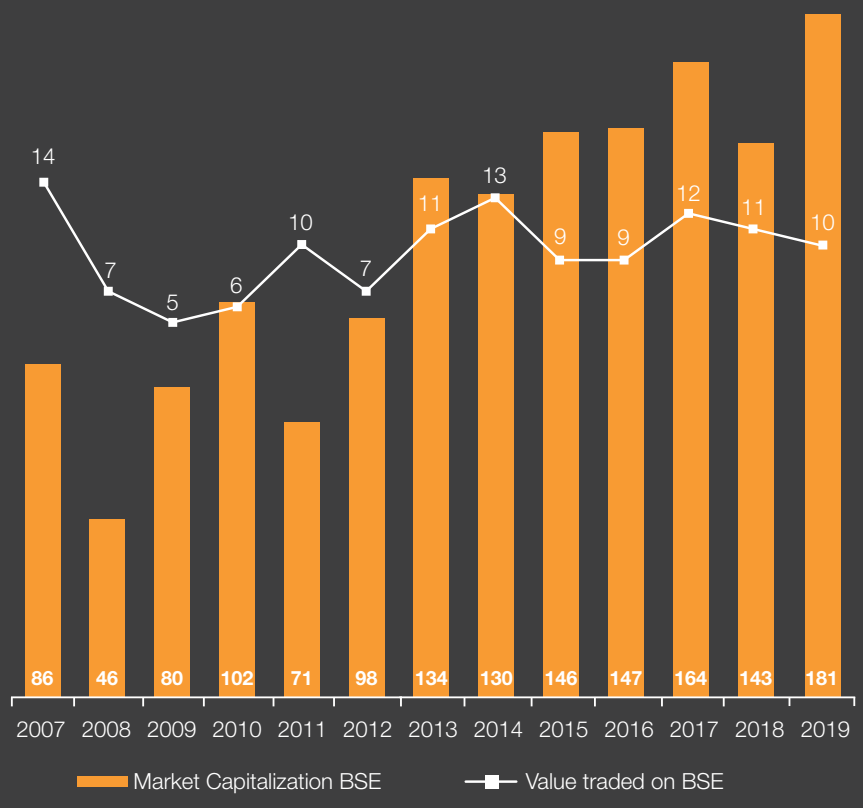
BET constituents	% BET as at 31.12.2019	% BET as at 13.03.2020
Banca Transilvania S.A.	20.00%	19.98%
Fondul Proprietatea	19.99%	19.99%
Omv Petrom S.A.	18.36%	16.55%
S.N.G.N Romgaz S.A.	10.69%	10.58%
Brd - Groupe Societe Generale S.A.	10.55%	11.48%
S.N.T.G.N. Transgaz S.A.	5.32%	4.33%
Societatea Energica Electrica S.A	3.69%	3.96%
Digi Communications N.V	3.09%	3.53%
S.N. Nuclearelectrica S.A	2.12%	1.56%
C.N.T.E.E. Transelectrica	1.42%	1.56%
Alro S.A	1.12%	0.93%
Medlife S.A	1.09%	1.38%
Purcari Wineries Public Company Limited	0.87%	1.03%
Conpet S.A.	0.67%	0.67%
Sphera Franchise Group	0.53%	0.59%
Bursa De Vlaori Bucuresti	0.51%	0.58%
Teraplast SA	n.a	0.57%

Source: BSE website

Company	Sector	Ticker	Total traded value in 2019 (RON)
Banca Transilvania S.A.	Financiar	BVB:TLV	2.482.098.390
Fondul Proprietatea	Financiar	BVB:FP	1.239.985.070
BRD - Groupe Societe Generale S.A.	Financiar	S BVB:BRD	1.076.279.780
S.N.G.N Romgaz S.A.	Petrol and gas	BVB:SNG	945.963.840
OMV Petrom S.A.	Petrol and gas	BVB:SNP	801.652.120

Source: S&P CapitalIQ, PwC Analysis

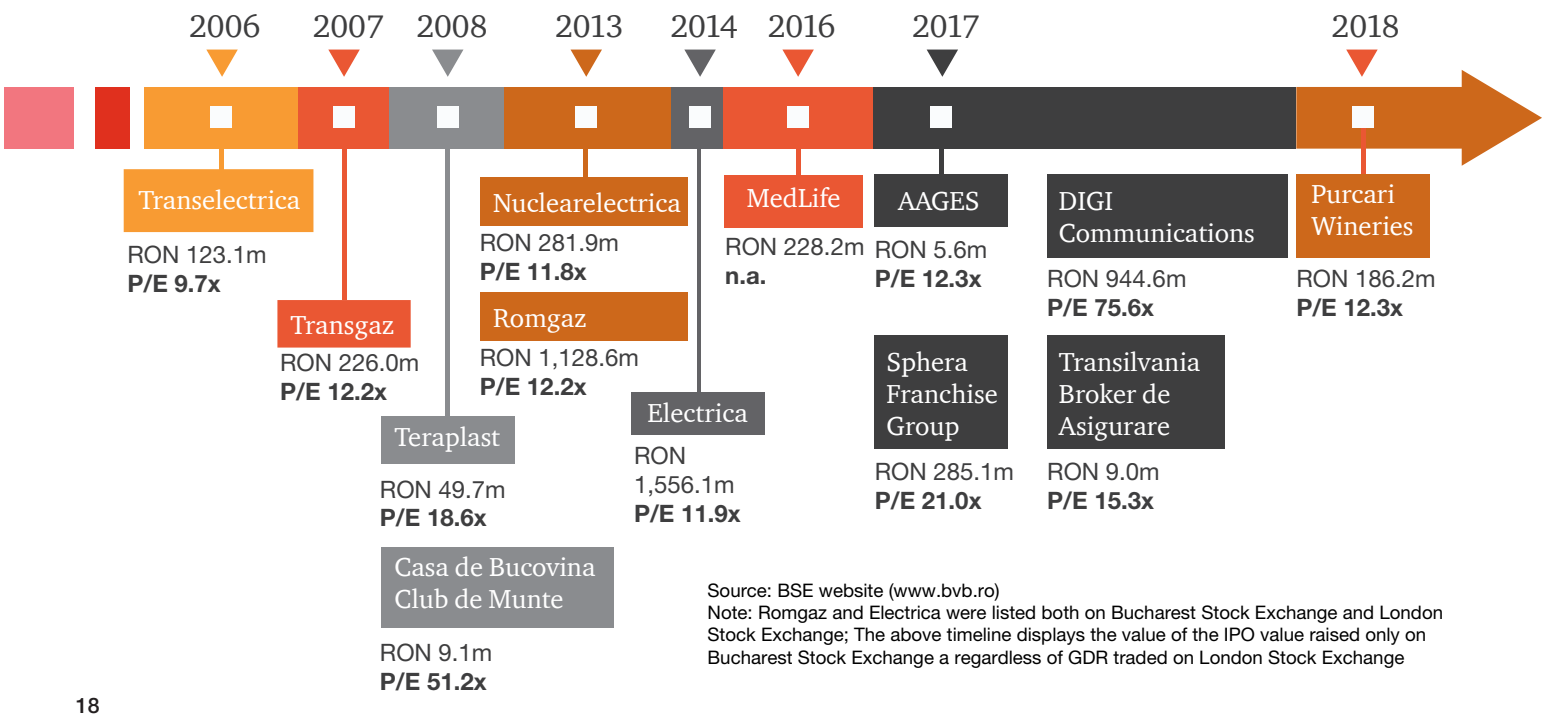
Evolution of market capitalization vs. Total value traded, RON bn.



Source: BVB

Overview of Romanian IPOs - a retrospective analysis

- The scarcity of IPOs in Romania might be explained by factors such as low appetite for transactions in the context of international uncertainties especially in the period of 2008-2012, the postponing of public listings for state-owned companies as well as lack of experience and knowledge about financing through primary capital markets. Mass privatization process from 1995-1996 was preferred for accelerating the privatization of state-owned companies which helped, at that time, building the foundation of a local IPO culture. In the context of alternative equity providers (i.e. private equity and venture capital equity funds), some companies decided not to go public on BSE thus keeping the number of domestic IPOs at low levels. In recent years, BSE has been committed to holding financial seminars and campaigns for increasing awareness of trading on a capital market and pinpoint the advantages of being present on the capital market. BSE's main goal, both on mid and long term, is to reach the liquidity criterion and be classified as Emerging market.
- The timeline presents all successfully IPOs of the present listed companies on BSE over the period 2006 – 2019 along with the value obtained and an estimated P/E ratio computed at the IPO price. As far as for year 2019, no IPOs have been concluded.



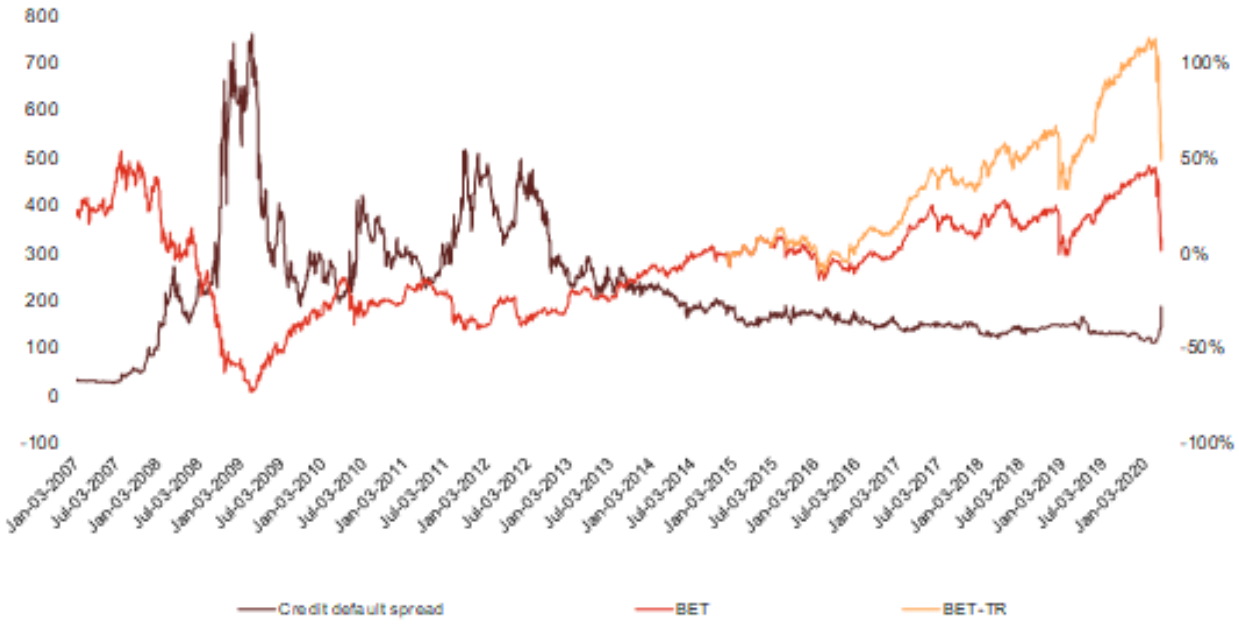
Source: BSE website (www.bvb.ro)
Note: Romgaz and Electrica were listed both on Bucharest Stock Exchange and London Stock Exchange; The above timeline displays the value of the IPO value raised only on Bucharest Stock Exchange a regardless of GDR traded on London Stock Exchange

Romanian Stock market performance

Stock market indices performance vs Credit Default Swap (CDS). A country's stock market has long been viewed as the economic barometer. 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 Credit Default Swap (CDS). The evolution of BET, BET–TR and CDS, as depicted in the following graph, shows that BSE indices are sensitive to the country risk, which also influences foreign capital investments.
- In July 2007, when BET index reached a maximum of 10,813 points, the CDS for Romanian government bond reached a historical minimum level of 30 basis points. Once the financial crisis started to take its toll, the CDS mid-price recorded a historical high of 762 points in February 2009 while the BET index reached a minimum of 1,887 points, collapsing by over 80% compared to its maximum from 2007.
- Between 2010 and 2011, CDS recorded an average level of 300 points and less fluctuations. The beginning of 2012 brought some tensions amid the worsening economic conditions of EU28 zone and Romania's CDS jumped to approximately 500 points. The context has improved at the end of 2012, with CDS moving downwards to almost 500 points, representing half of its value from the beginning of the year. In April 2014, the CDS quotes reached a level of 160 points, while the positive evolution of BET index showed the increasing investors' appetite in the Romanian capital market. From 2015 until 2019, CDS volatility was lower, thus presenting a downward trend. During 2018 and 2019, CDS averaged 135 points, although Romania has been considered riskier than the rest of the countries from the region. On 19 December 2019, BET dropped by 11.2%, wiping out the entire growth achieved during 2018. BET-TR (index adjusted for dividends) stayed positive throughout 2018 and reached a 4.3% increase on the back of high dividends yields. This decrease was the second largest fall after 2009, when Romania entered recession.
- In order to ensure that its indices are representative and relevant to the stock market, BSE launched 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. In 2019 the average dividend yield for BET index was approx. 8%, based on closing prices at the end of 2018 and BET index adjustments from December 2019.
- A detailed analysis of daily historical data for

Stock performance BET, BET-TR vs. CDS



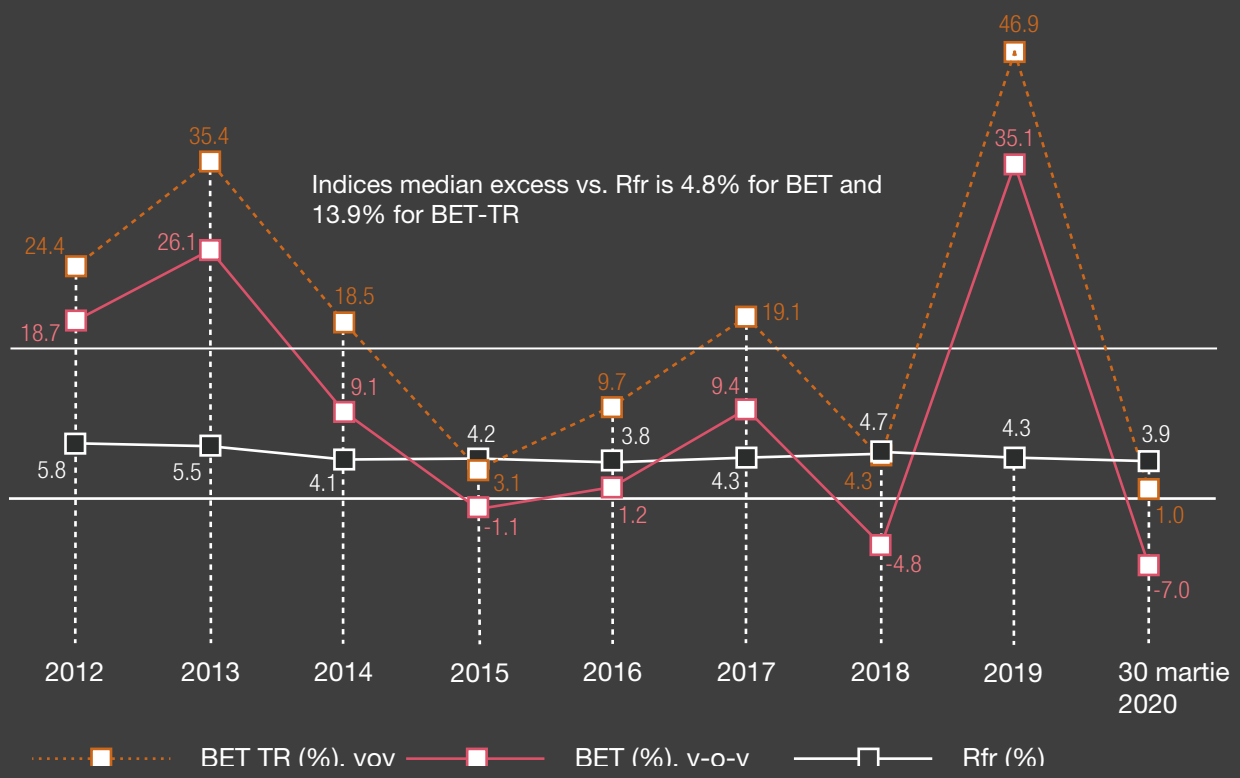
Source: S&P CapitalIQ, PwC Analysis

BET and BET-TR indices vs. CDS, over the period 1 December 2019 – 30 March 2020, was performed in order to capture the impact of the sanitary crisis of COVID-19 on BSE.

- BET and BET-TR indices have significantly decreased in February and March 2020, while the CDS (insurance against non-payment of Romania's debt) has increased, in the context of the global economic impact of coronavirus outbreak. Moreover, even if BET closed at 10,028 points in January, up by 0.5% vs. December 2019, on 28 February and 30 March it plunged by 9% and respectively 18%.
- From the perspective of CDS evolution an increase in the risk associated to non-payment is noticed, triggered by the deepening of COVID-19 outbreak. Based on the information available on the S&P CapitalIQ platform for 5-year CDS data points, the insurance cost paid for Romania's debt amounting to USD 1m was USD 7,600 (76 basis points) in February, while in March the same cost increased to USD 10,831 (108 basis points), up by 30% compared to the previous month.
- BET index fell sharply (by 25%) in the first 3 months of 2020 amid market increasing concerns caused by coronavirus. In the banking sector, the share price of Banca Transilvania (symbol: TLV) and BRD-SG (symbol: BRD) was corrected by 32% and 28%, respectively, while the largest oil and gas producers, Petrom (symbol: SNP) and Romgaz (symbol: SNG) recorded corrections of 36% and 26% respectively. Smaller corrections are noted in the utilities sector, where the share prices of Electrica (symbol: EL) and Transelectrica (symbol: TEL) decreased by 12% and 14% respectively.
- In light of the above, we have performed an in-depth analysis of the returns on capital invested in bonds market, focusing on the evolution of Risk free rate (Rfr) of long-term Romanian Governmental Bonds denominated in local currency. The graph presents the evolution of Rfr of the most traded Romanian bond (RO1227DBN011), that slightly declined over 2012-2016 due to investors' reduced interest in long-maturity government securities.
- We have also analysed the performance of the two most representative indices –namely BET and BET-TR against Rfr for the period covering 2012 –30 March 2020 (to capture the impact of COVID-19).
- The performance of the indices over the period covering 2012 - 2014 indicates a strong degree of confidence in the local equity market translated into potential recovery of BSE to levels prior to the crisis. After the reduced levels registered by the indices between 2015 – 2016, significant improvement was noticed during 2017 as a result of successful IPOs and high dividend yields. Moreover, even though the local indices continued to show positive evolution during 2018, the year end results were negative due to the significant corrections applied after 18 December 2018 following the rumours regarding additional taxation in banking, energy and telecom sectors, as well as changes in the Pillar II pension system. As a result, on 19 December 2018, BET dropped by 11.2%, wiping out in just one day the entire growth achieved during 2018. BET-TR (index adjusted for dividends) managed to stay positive in 2018, up to 4.3% based on the dividends yields.
- In 2019, the stock market indices hit the highest level in the last 10 years, with BET-TR dividend yield averaging 8% - still at a significant level. Although 2019 brought favorable premises for BSE, the analysis of the last 12 months (until 30 March 2020) has indicated a decrease of BET index by 7 pp and a symbolic increase of the BET-TR index by only 1% in the context of COVID-19. Furthermore, BSE market capitalization decreased in March 2020 with approx. EUR 13bn from the level recorded in December 2019 whereas BET decreased by approx. 25% between 30 December 2019 (9,977.30 points) and 30 March 2020 (7,483.17 points) amid the pandemic outbreak.
- Based on the above analysis, we can assert that the median excess return of 4.8% for BET and 13.9% for BET–TR over Risk free rate (estimated for the period 1 January 2012 to 30 March 2020) represents a proxy for the excess return when investing in the stock market compared to the government bond market. 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. As a rule, high-risk investments are compensated with a higher premium.
- Romanian CDS dynamic has been closely

linked to he regional evolution over the period covering 1 December 2007 – 30 March 2020. Risk premiums have increased considerably in the onset of financial crises, both in frontier and emerging markets. Between 2017-2018, CDS was on a slightly decreasing trend in many of the analysed countries, including Romania, thus reaching to minimum levels after the financial crisis in 2007. Furthermore, in the current context of COVID-19 outbreak, CDS has leapt to 149,197 basis points on 30 March 2020 from the level of 116,38 bp recorded in December 2019 (mid-price, 10 years). However, as of 2019, out of the countries analysed, Romania is perceived riskier as compared to Slovakia, Czech Republic and Bulgaria and on the same risk category as Hungary, Serbia, Croatia and Slovenia.

BET, BET-TR vs. Rfr



Source: BSE website (www.bvb.ro)
Note: Romgaz and Electrica were listed both on Bucharest Stock Exchange and London Stock Exchange; The above timeline displays the value of the IPO value raised only on Bucharest Stock Exchange a regardless of GDR traded on London Stock Exchange

Listed companies valuation multiples

The total market capitalization of the 79 analyzed listed companies (for which financial information were readily available) jumped by 33.4% in 2019 as compared to previous year, thus achieving one of the most significant growth rates post financial crisis from 2007. Moreover, BET-TR index closed 2019 by 46.9% higher vs. 2018, reaching a maximum in the last 6 years.

Top 3 sectors by market capitalization, as of 31 December 2019, were:
1. Oil & Gas (42.6%)
2. Financial services (35.7%)
3. Electricity (8.5%).

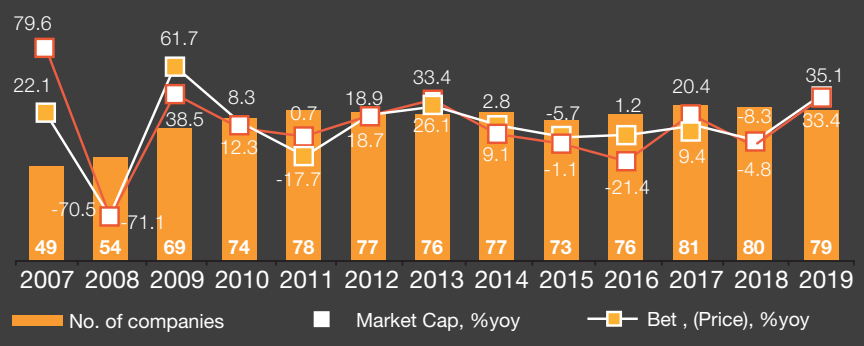
Market cap. and value traded (%) by sectors, 2019

Sector	No. of Companies	Market Cap. (RON m.)	% Total Values Traded
Oil & Gas	9	47,031	23.5%
Financial Services	12	39,380	61.7%
Electricity	4	9,382	8.7%
Consumer	17	5,230	3.5%
Health	4	3,674	0.8%
Materials	12	3,252	1.0%
Industrial	21	2,426	0.8%
Total	**79**	**110,375**	**100%**

Key events

- There is a high concentration of listed issuers on BSE regulated segment, with top 5 listed companies accounting for 65% of the total market capitalization at the end of 2019. At the top level, companies are active in the Oil & Gas, Financial Services and Electricity sectors. Therefore, the degree of representation of the economic sectors on the local capital market is low in the absence of several industry leaders.
- BET index is a relevant proxy for the capital market performance, this being confirmed by the fact that total market capitalization and BET index performance displays a strong correlation coefficient of 0.82.
- Based on 2019 available data, the market capitalization of the analysed companies amounted to RON 110.4bn, significantly higher compared to the level observed in 2018.
- The number of listed companies has fluctuated over the analysed period as a result of suspending and/ or delisting procedures undertaken by some companies included in the study – consequently, 79 listed companies were selected in the present analysis as at 2019.
- BET index exceeded 10,000 points in January 2020, being very close to reaching the maximum from 24 July 2007, of 10,814 points.

Evolution of number of companies, market cap and BET performance over 2007-2019



Source: S&P Capital IQ, PwC analysis

Electricity

Top 4 by market cap: S.N. Nuclearelectrica S.A., Societatea Energetica Electrica S.A., CNTEE Transelectrica S.A, Natura Quattuor Energia Holdings S.A

Net profit margin: 1.8 % to 12.7% (quartiles), with a median of 3.3%

P/E multiple ranges between 10.6x and 15.2x, with a median of 12.9x

Financial Services

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

Net profit margin: 32.5% to 73.0% (quartiles), with a median of 44%

P/E multiple ranges between 5.6x and 12.2x, with a median of 7.5x

Oil & gas

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

Net profit margin: 3.8% to 15.9% (quartiles), with a median of 13.5%

P/E multiple ranges between 7.5x and 12.0x, with a median of 10.0x

Healthcare

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

Net profit margin: 6.3% to 13.0% (quartiles), with a median of 8.2%

P/E multiple ranges between 10.1x and 44.7x, with a median of 27.3x

Consumer

Top 4 by market cap: Digi Communications N.V., Sphera Franchise Group S.A., Purcari Wineries, S.C. Compa S.A., S.C. TurismFelix S.A.

Net profit margin: 2.7% to 10.4% (quartiles), with a median of 5%

P/E multiple ranges between 11.5x and 16.1x, with a median of 14.3x

Materials

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

Net profit margin: 3.3% to 10.1% (quartiles), with a median of 4.2%

P/E multiple ranges between 7.5x and 14.0x, with a median of 8.9x

Industrial

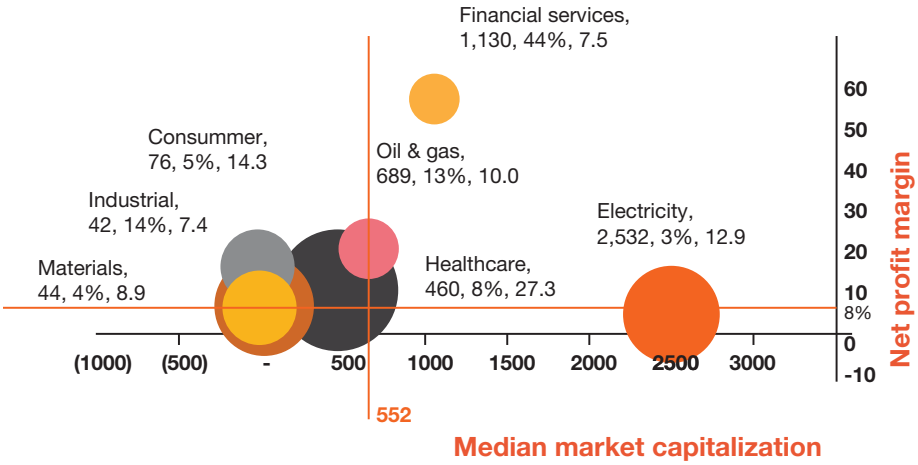
Top 5 by market cap: S.C. Aerostar S.A., Impact Developer & Contractor S.A.., IAR S.A., SOCEP S.A., S.C. Turbomecanica S.A.

Net profit margin: 4.1% to 17.0% (quartiles), with a median of 13.7%

P/E multiple ranges between 5.9x and 15.3x, with a median of 7.4x

BSE's market cap. ranges between RON 29m and 709m (quartiles), with a median value of RON 112m.
Net profit margin observed on local capital market ranges between 3.5% and 20.6% (quartiles), with a median value of 12%.

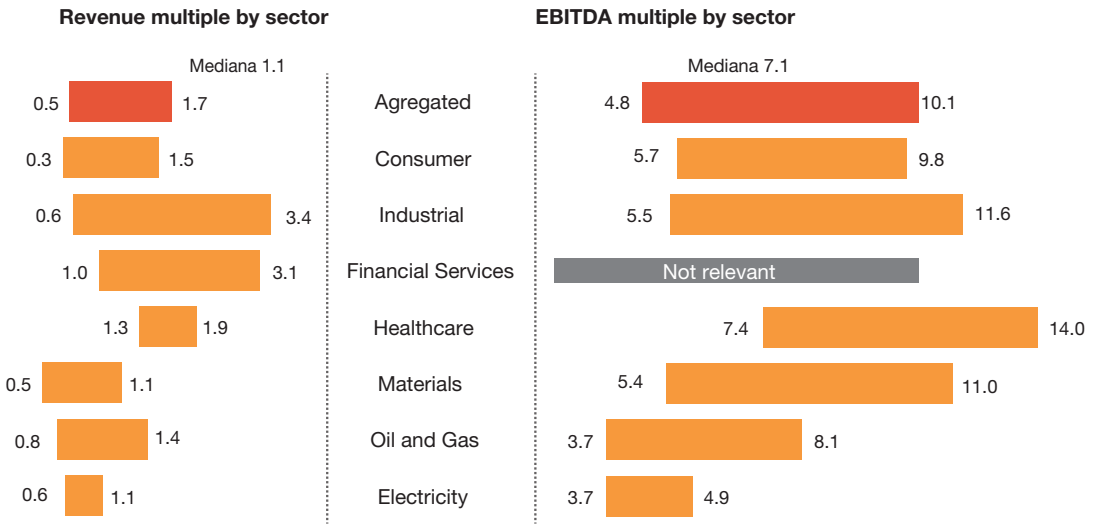
Note: the results observed in Healthcare sector were impacted by the financial performance of Zentiva, that recorded significant fluctuations between 2018 and 2019 both in terms of market capitalization level and profitability margin.



Source: PwC Analysis
Note: Label information: Sector, Market capitalization in RON m., Net profit margin and P/E multiple (median)

In 2019, Oil & Gas sector recorded the highest market capitalization (average RON 5,225.7m). The highest P/E multiple was reported in the Healthcare sector (27.3x) whilst the lowest were in Industrial sector (7.4x) and the Financial services sector (7.5x).

Revenue and EBITDA multiple analysis in 2019



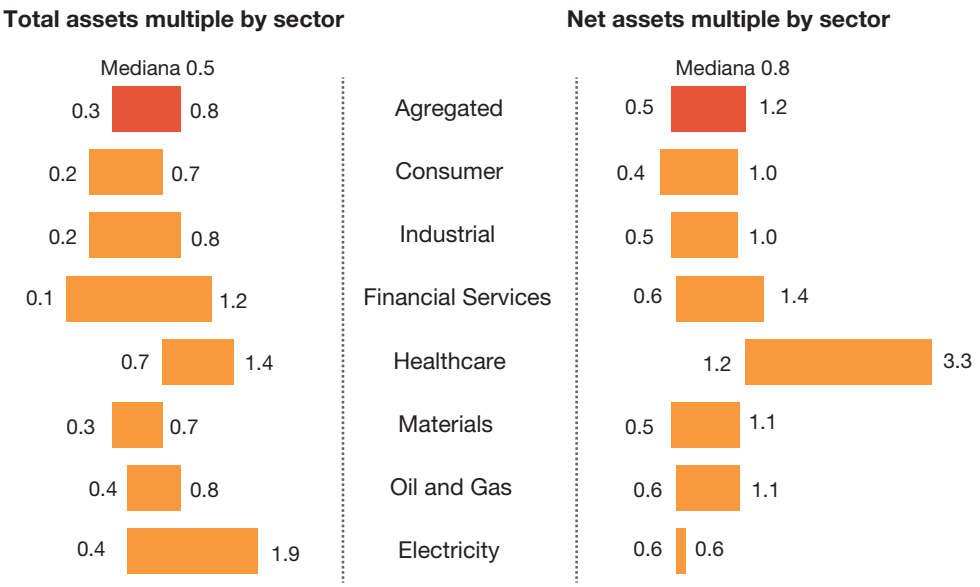
Revenue multiple

- The aggregated median for Revenue multiple is 1.1x
- Top performing sector is Financial Services, with a median multiple of 2.0x
- The lowest revenue multiple is recorded in the Electricity sector, with a median of 0.6x
- Revenue multiple is a reliable metric as it is less volatile than P/E or EBITDA multiples and less susceptible to accounting manipulation
- It is highly used by distressed or start-up 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 7.1x
- Top performing sector is Healthcare, with a median multiple of 8.5x
- The lowest EBITDA multiple is recorded by the Electricity sector, with a median of 4.5x
- 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 selected to directly compare companies operating 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 2019



Total assets multiple

- The aggregated median for Total assets multiple is 0.5x
- Top performing sector is Healthcare industry, with a median multiple of 1.0x
- The lowest Total assets multiple is recorded in Financial Services sector, with a median of 0.4x
- Relevant especially for capital intensive sectors
- Should be applied with caution in case of companies with significant intangible asset base, as presumably they do not fully capture future growth opportunities.

Net assets multiple

- The aggregated median for Net assets multiple is 0.8x
- Top performing sector is Healthcare, with a median of the Net assets multiple of 2.3x
- The lowest Net assets multiple is recorded by the Electricity sector, with a median of 0.6x
- Relevant especially for financial services sector and real estate sector
- It can be used for comparing companies operating within the same industry
- It should be used with caution in case of companies with significant intangible asset base.

Key findings

- Oil & Gas sector, generally perceived as a sector with more stable financial performance, displays a lower volatility (deviation from average) in their P/E ratio, whereas Electricity sector display highest volatility in their P/E ratio. Furthermore, the Healthcare sector displays the highest volatility observed in the last 5 years as a result of significant increase in P/E multiple in 2019 (27.3x).
- For Financial Services and Industrial sectors, the P/E ratios as of 31 December 2019 are at their minimum 5 years levels. The stock prices of these companies have increased at a slower pace than their corporate profits. For Financial Services sector it is the second consecutive year in which the P/E multiple registers a minimum level.
- Financial multiples recorded highest levels in 2007, reflecting the general optimism in the market; for the purpose of the volatility analysis 2007 was excluded.

P/E ratio - 2019

- The aggregate median in 2019 for P/E ratio is 10.5x
- Healthcare sector has the highest P/E multiple of 27.3x
- Industrial sector has the lowest median P/E multiple of 7.4x
- P/E ratio for the Financial Services sector is at the minimum 5 years level, thus being still impacted by the E.O. 114/2018
- In 2019, the P/E ratio for the Healthcare sector is at their maximum 5 years levels
- Very popular metric amongst investors
- One limitation of the P/E 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	2018	2019	Volatility P/E ratio	Last 5 yr max	Last 5 yr min
Consumer	22.1	14.4	6.2	12.8	10.7	6.5	15.7	8.1	10.6	13.0	12.9	14.5	14.3	28%	14.5	10.6
Financial services	16.7	3.6	7.1	12.5	5.4	7.1	11.5	10.5	9.6	12.5	9.3	7.6	7.5	32%	12.5	7.5
Oil & Gas	15.8	6.0	10.3	8.6	8.7	6.9	10.3	9.3	8.8	9.5	11.7	7.5	10.0	18%	11.7	7.5
Healthcare	25.4	10.2	14.7	15.6	11.0	10.1	11.9	12.1	13.1	11.1	10.8	8.7	27.3	38%	27.3	8.7
Industrial	31.3	7.2	8.5	9.3	13.6	8.1	12.6	7.8	9.3	9.8	11.8	8.5	7.4	22%	11.8	7.4
Materials	27.5	6.4	11.8	14.0	6.8	10.2	13.1	7.3	5.7	10.7	9.8	9.0	8,9	28%	10.7	5.7
Electrricity	46.6	9.1	2.7	25.0	9.3	19.4	5.6	13.0	11.4	12.5	15.9	14.3	12.9	47%	15.9	11.4
All sectors	**27.5**	**7.0**	**8.5**	**11.9**	**9.4**	**8.0**	**11.8**	**9.5**	**9.5**	**10.9**	**11.2**	**9.0**	**10.5**	**0.2%**	**11.2**	**9.0**
GDP growth	**6.9%**	**8.3%**	**-5.9%**	**-2.8%**	**2.0%**	**1.3%**	**3.6%**	**3.4%**	**3.9%**	**4.7%**	**7.0%**	**4.1%**	**4.1%**	**139.6%**	**7.0%**	**3.9%**
Industrial production growth	**10.1%**	**1.9%**	**-5.0%**	**4.9%**	**7.9%**	**2.6%**	**7.4%**	**6.3%**	**3.0%**	**3.1%**	**7.9%**	**3.5%**	**-2.3%**	**115.7%**	**7.9%**	**-2.3%**

Source: PwC Analysis
Note: the results observed in Healthcare sector were impacted by the financial performance of Zentiva, that recorded significant fluctuations between 2018 and 2019 both in terms of market capitalization level and profitability margin.

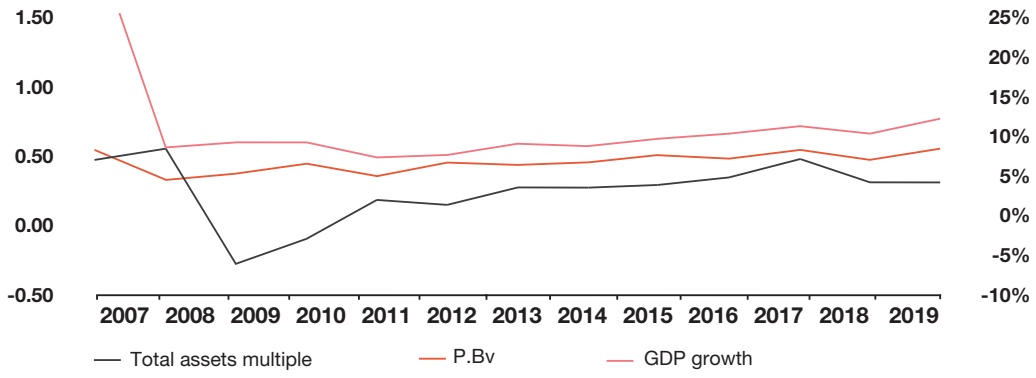
Our main finding from the trend analysis reveals that, in the past 13 years, financial multiples were a good proxy for investors' expectations, which tend to be optimistic during expansion (higher financial multiples) and pessimistic during recession (lower financial multiples).

- 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 P/E multiples. A coefficient of 1 indicates a perfect positive correlation between variables, while a null value indicates no correlation.
- The graph presented below illustrates the results of the correlation analysis. A positive, medium-intensity relationship can be observed between GDP growth and EBITDA, Total assets, P/BV and P/E multiples. This result translates into the idea that financial multiples are influenced by economic cycles and they are positively associated with GDP growth (relative value of the companies tends to increase when the economy is doing well). In 2019, although the financial multiples increased, it occurred against the industrial production trend but and in-line with GDP growth, which led to an adjustment of the correlation coefficient.

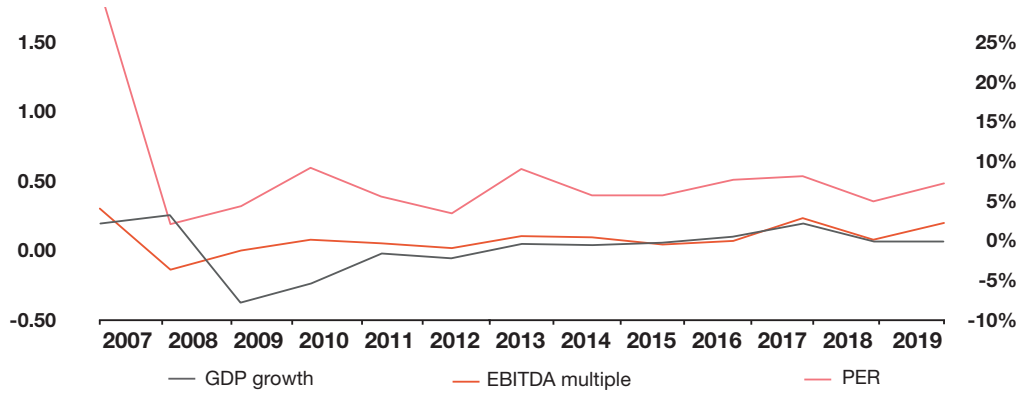
Correlation coefficient	Industrial production growth	GDP growth
EBITDA multiple	0.44	0.24
Total Assets multiple	0.21	0.34
P/Bv. multiple	0.38	0.33
PER	0.52	0.26

Source: PwC Analysis

Evolution of financial multiples (Total assets and P/Bv) and GDP growth

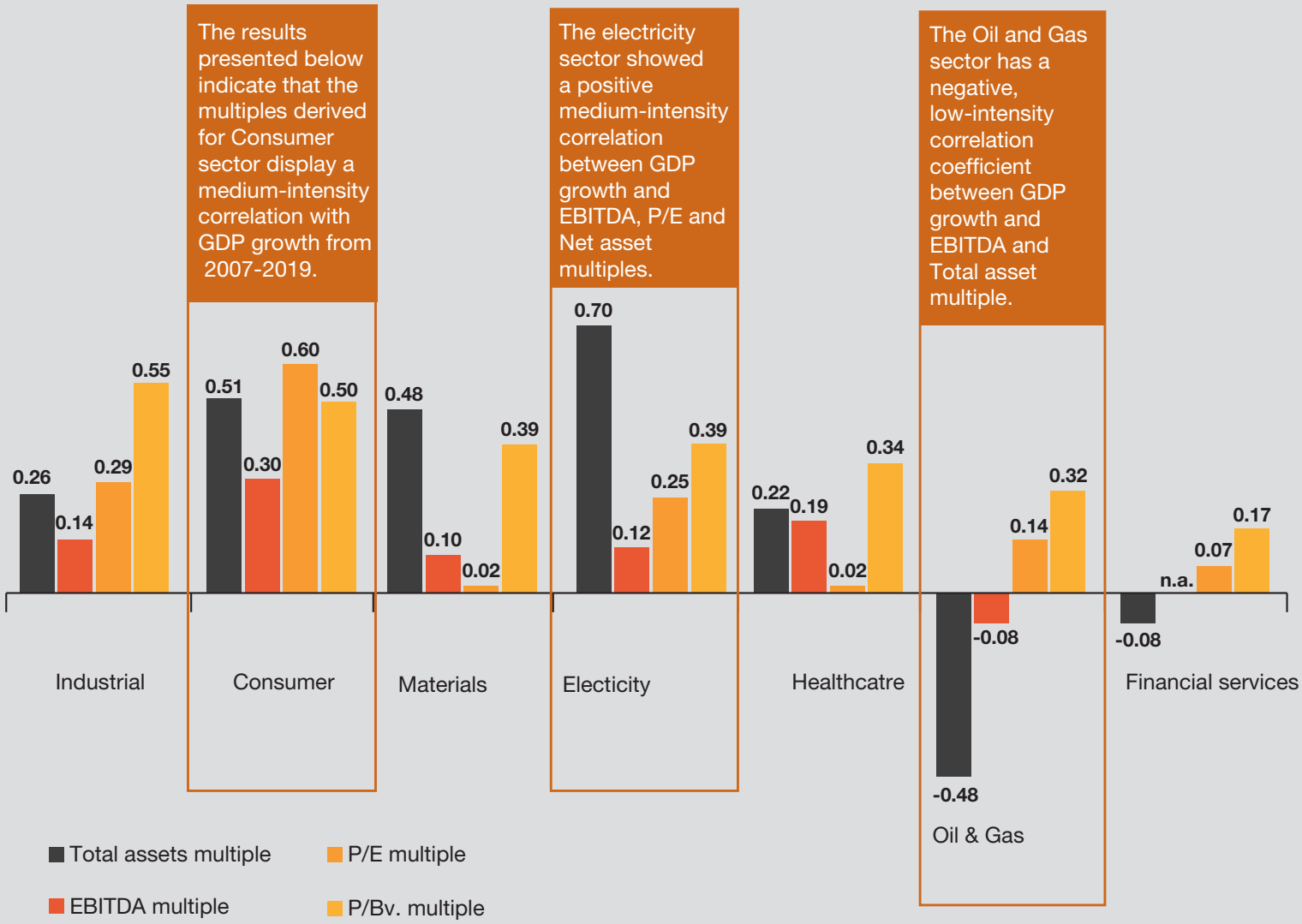


Evolution of financial multiples (EBITDA and P/E) and GDP growth



The main findings based on the sectorial trend analysis over the last 13 years, indicate that financial multiples are differently affected by the economic cycles, however the intensity of the relationship is generally medium, except for Total assets multiple for Financial services and Oil & Gas where a negative relationship was found.

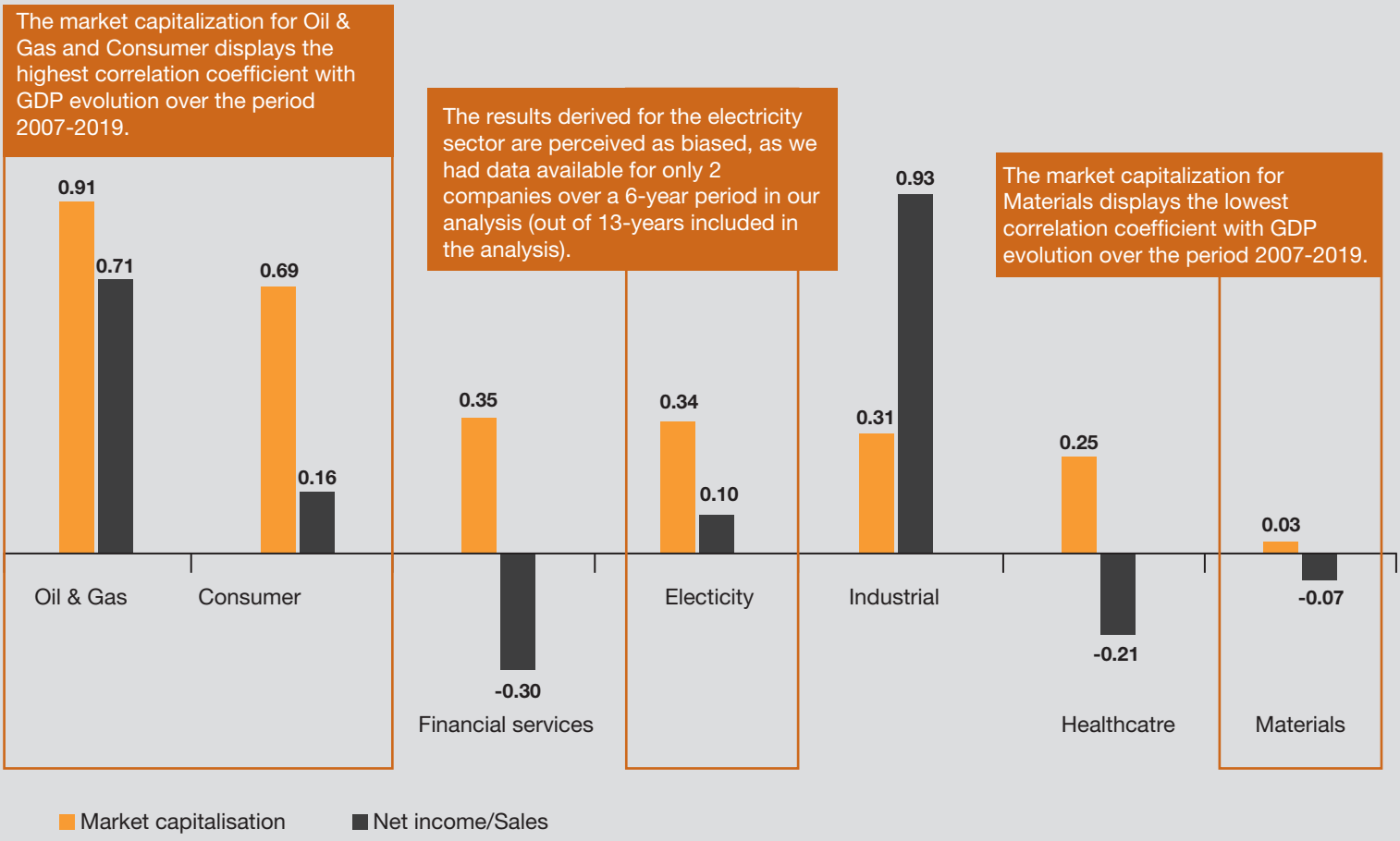
Sectorial trend analysis over 2007-2019



Analysis based on the correlation coefficient, computed for the period 2007 – 2019 between GDP growth and P/Book Value, EBITDA, Total assets and P/E multiples.

The market capitalization for companies operating in Materials, Industrial and Healthcare sectors was least impacted by the economic cycles, whereas companies operating in Consumer sector were the most affected by adverse economic changes.

Sectorial trend analysis over 2007-2019 (correlation coefficient between GDP, net profit margin and market capitalisation)



Analysis of P/E ratios across the 7 industries from the perspective of cyclical and defensive sectors: for the last thirteen years, the Romanian sectors whose market capitalization was least impacted by the economic cycles were Materials, Industrial and Healthcare.

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 & P/E ratios: Consumer (14.3x) and Oil & Gas (10.0x)

- 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

Defensive sectors & P/E ratios: Industrial (7.4x), Materials (8.9x) and Healthcare (27.3x)

- 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.

Key highlights

In 2019, Electricity sector recorded the highest median market capitalisation.

In 2019, Industrial sector revealed the lowest P/E multiples.

Highest P/E multiple in 2019 was recorded by Healthcare sector.

During 2008 – 2019, the lowest variance of P/E was noticed for companies operating in Oil & Gas sector.

Financial multiples tend to decrease when economy contracts.

During 2007 – 2019, the value of the companies operating in the Materials, Industrial and Healthcare sectors was least impacted by economic cycles.

During 2007 – 2019, the value of the companies operating in Consumer and Oil & Gas sectors was mostly influenced by economic cycles.

M&A valuation multiples

- Based on data sourced from Mergermarket, ISI Emerging Markets, S&P CapitalIQ and PwC internal database, a number of about 851 transactions were disclosed over the period 2007 - 2019, with domestic companies operating in the following sectors: Industrial, Consumer, Healthcare, Information Technology & Communications ("IT&C"), Materials, Financial services etc. Furthermore, the screening was adjusted to only those transactions with (1) disclosed deal value and (2) robust financial information available, thus the present study is based on a set of 198 selected transactions including 49 deals covering the period 2007-2017 (27 deals extracted from S&P Capital IQ and 22 from ISI Emerging Markets or obtained based on individual research of the target), 68 transactions closed in 2018 and 81 deals closed in 2019 (data was sourced from S&P Capital IQ, Mergermarket, ISI Emerging Markets).
- Outliers were excluded from the initial screening in order to avoid distortions in the sample extract. Based on the analysis over 2007 - 2016, the number of completed transactions with robust financial information reached a peak in 2014, while in the following years there was a decrease in total volume of deals. The number of closed transactions 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 M&A market has shown signs of recovery over 2017 and 2019, as the number of closed transactions selected in our analysis reached 149 deals (90 deals in 2018 and 102 in 2019).

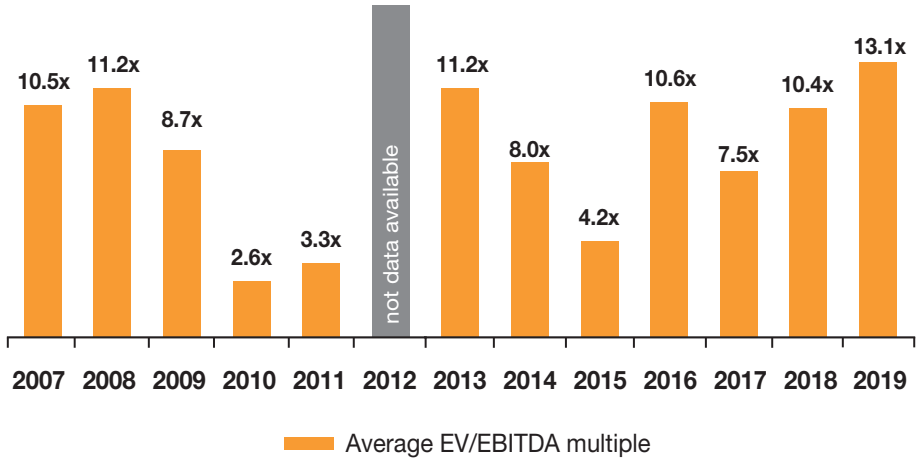
EBITDA multiple analysis

- The highest EBITDA multiple of 13.1x was recorded in 2019, followed by EBITDA multiple of 11.2x in 2008 and 2013
- The lowest level for EBITDA multiple was recorded in 2010 and 2011, of 2.6x and respectively 3.3x
- Because there was no reliable information for transactions concluded in 2012, we have excluded this year in the current analysis.

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 used to directly compare companies 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.

Average EBITDA multiple



Note: *The above graph depicts solely the transactions included in the present analysis; selection criteria were based on the availability of data and robustness of the financial information

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