

БУХГАЛТЕРСКИЙ УЧЕТ, АУДИТ И ЭКОНОМИЧЕСКАЯ СТАТИСТИКА

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ASSESSING INVESTMENT ATTRACTIVENESS OF COMMERCIAL MEDICAL ORGANIZATION BASED ON FINANCIAL MODELLING

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Subject: the subject of the research is commercial medical organizations «Mother and Child». *Purpose:* This article examines the potential of commercial medical organizations on the example of the company «Mother and Child», based on the strategic analysis and the compiled financial model. *Research design:* in this research we tried to design the valuation methodology of a commercial medical company based on well-known DCF approach which includes ESG factors, risks of the specific sector of economy, performed financial analysis and financial modeling, prepared recommendations for decision making. *Results:* there was offered the methodology of financial modelling based on internal and external factors in the article. The result of the financial modeling represents the perspective future for the «Mother and Child» in particular and private healthcare market as a whole. The results of the financial model may also indicate the strong investors' interest in the private healthcare market due to high returns potential.

Keywords: DCF-models construction method, commercial medicine, valuation.

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Introduction

The healthcare industry is an important component of the state budget all over the world, which largely affects the standard of living. Nowadays healthcare takes more than 10% of the GDP of most developed countries and 5,8% in Russia. Recent healthcare statistics show that it's one of the largest and fastest growing industries in the world. These facts contribute to the development of commercial organizations and increase the value of the business.

Bearing in mind the undoubted importance and prospects of the commercial healthcare industry, it should be noted that there are existing problems in assessing their financial solvency and investment attractiveness of economic entities, which is associated with the need to take into account the industry specifics of their activities and the risks and opportunities associated with them. In the proposed article a comprehensive analysis of the investment attractiveness of a medical company, including the development of a financial model, will be presented.

The research is based on fundamental works of A.Damodaran¹, A. Rappaport², P. Fernandez [6; 7], B. Graham, Richard A. Brealey, S. Myers, J. Kahn, P.D. Sonkin, M. van Biema, J. Montier, who made the significant contribution in the study of value creating factors and investment analysis methodology.

Such domestic scholars as V.R. Bank, I.A. Blank, P.L. Vilenskiy, I.V. Ivashkovskaya [8; 9], V.G.Kogdenko [10], N.S. Plaskova [14], V.N. Nesterov [13] also made a notable contribution to methodology development for shareholders value management and identification and analysis of the factors of its formation.

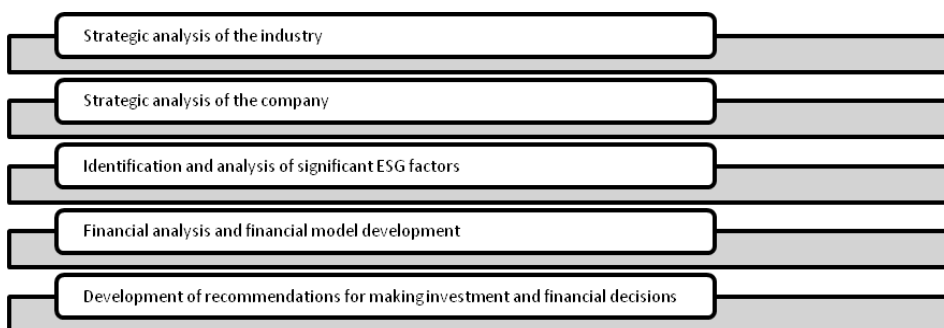
The subject of the most active research and scientific discussions of recent years are such aspects as confirmation of the relationship between ESG factors and financial performance in the works of Barnett, Salomon [1], Busch [2], Eccles [3], Khan [11], Lyubushin [12]. Of particular interest is the work of Schramade [15], whose author proposes to use the approach of adjusting financial cost drivers in the financial model, taking into account the influence of ESG factors on the business model and competitive positions.

Research methods and results

There were performed the following stages during the research.

¹ Damodaran, A. Investment Valuation: Tools and Techniques for Determining the Value of Any Asset / A. Damodaran. – 3rd Edition. – New York: Wiley Finance, 2012. – 992 p. – ISBN 978-1-118-20656-0.

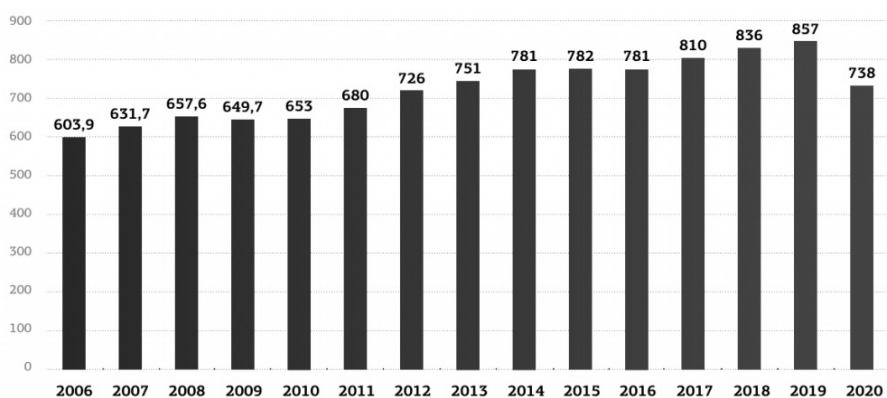
² Rappaport, A. Creating Shareholder Value: A Guide for Managers and Investors / A. Rappaport. – Revised and updated. – New York: Free Press, 1998. – 205 p. – ISBN 0684844109.



Pic. 1. Research methodology for valuation of the investment attractiveness assessment of a commercial medicine company

Strategic analysis of the industry

For the time being, the proportion of privately-owned clinics in Russia sticks around 38%. For comparison, in 2013 this indicator was at the level of 23,4%.



Pic. 2. Dynamics of the market and paid services in Russia for 2006-2020, billion rubles, %

This means that paid medicine is an interesting service for its patient. Nevertheless, until 2015, stagnation processes were observed in the market of paid services in Russia, but in the period from 2016 to the end of 2019, the demand for them grew by an average of 5-10% annually.

By the end of 2019, there were 46.8 thousand large medical institutions in Russia. They are extremely heterogeneous in terms of their activity area, number of employees and clients served.

The 2020 pandemic affected all sectors of the economy, both in the world and in Russia – commercial medicine market was not an exclusion. According to the statistics at the end of 2020 the commercial medical market was valued around 738-740 bln rubles in the healthcare system of the Russian Federation. This indicator corresponds to 2012 level. The growth rate showed a negative

trend, decreasing by 14% compared to the previous year. Clinics are planning to restore to pre-Covid levels in 2022.

In the era of digitalization, consumers have become more health-conscious and prefer private clinics, paying more attention on the service provided. The service component is becoming a primary criterion: patients require both high-quality medical care and a high level of service at all stages of contacting the clinic.

Experts note the following drivers for the further development of the commercial medicine sector:

- Consolidation and enlargement of network players. On the one hand, consolidation is facilitated by the closure of small clinics in the State Pharmacopoeia and the redistribution of their share in favor of market leaders.
- The growth of investments, including from large chains, is explained by the prospects to recoup them in the future by expanding their presence in the compulsory health insurance system, if the state meets private clinics in terms of increasing quotas and tariffs.
- On the other hand, large network players in the State Public Health Fund open new clinics of various formats or enter into acquisition deals (M&A) of other medical organizations, both within the current geography of presence and in other regions.

It is expected that traditional providers of medical services (clinics, hospitals) will be consolidated in the private medicine market, primarily in large cities. This process began even before the pandemic, and under the influence of the pandemic it may accelerate: it is becoming increasingly difficult for small clinics to compete with medical networks, and in the future with public medical institutions.

Private clinics are actively searching for new niches and directions for development. The vast majority – 80% of regional clinics – invest in development from 100 to 500 million rubles.

Thus, the commercial medicine sector is a promising area of development, in 2019 the total revenue of the 20 largest private medical companies amounted to more than 124 billion rubles, and current events in the Russian economy create great interest in industry trends.

For the purposes of analysis and prospects for the private medicine market as a whole, a financial model of the «Mother and Child» (hereinafter – «MDMG») company will be developed.

Strategic analysis of the company

MDMG is an investment holding company that provides private healthcare services, which include obstetrics and gynecology, pediatrics, fertility and in vitro fertilization (IVF) treatment, as well as other services. The Company operates 44 medical centers across Russia, which include 6 hospitals and 38 out-patient clinics. It offers both in-patient care hospitals as well as out-patient care clinics.

The Company has its own laboratory, stem cell bank and ambulance service.

MDMG is a public company, the IPO was held in 2012 on the London Stock Exchange. The company was able to raise \$311 million.

MDMG is one of the key players in the private healthcare market in Russia. Having started with the medical care for women's health and pediatrics only, the company has been successfully implementing a course towards diversification and expanding the range of directions in the treatment of patients every year. The Mother and Child Group of Companies is the largest regional network in Russia, operating in 27 cities and 25 regions.

MDMG is a fast-growing organization making impressive results in both intensive and extensive development. Throughout the 2016-2021 it has opened more than 10 new facilities in 10 regions summing up to 25 regions and 44 cutting-edge facilities. Company seeks to broaden the coverage of its medical services via adding up new regions and creating more clinics and hospitals. MDMG offers a wide range of medical service, including such popular areas as cardiology, oncology, traumatology, women's health, obstetrics and pediatrics, dentistry, urology and others. Company strives to constantly diversify its sphere of activity and provides high-quality personalized medical care to patients.

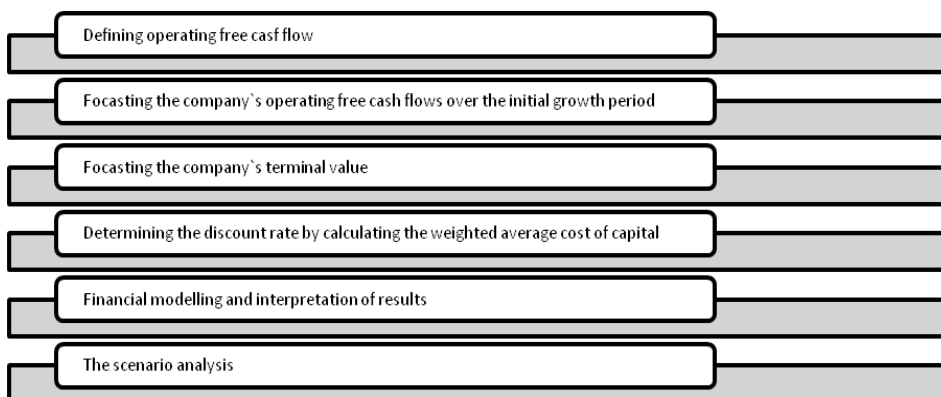
Identification and analysis of significant ESG factors

It is important to mention the ESG factors that may influence the investment decision. ESG factors should be integrated in the investment analysis of any company. Analysis of ESG factors helps to identify possible investment risks and indicate opportunities for the company for example, in resource efficiency [4, 5]. In our analysis of ESG factors of MDMG we rely on a public information published by the company in annual reports itself and public information on competitors' ESG policies.

Based on the information disclosure by MDMG ESG performance of the company is solid. It can be expected that MDMG's strong ESG standing to continue attracting ESG conscious investors who recognize and appreciate that the company poses a small ESG risk within their portfolio. Since 2017, sustainable development has its own section of the annual Report of MDMG and is prepared in accordance with the GRI Standards (102, 103, 205, 302, 303, 306, 404, 405, 406, 417, MD 1-5) and the 2014/95/EU directive.

Financial analysis and financial model development

The financial model of MDMG is based on the company's public data. The financial model and subsequent valuation of the company was made as of January 21, 2021 using data for three quarters of 2021. The forecast period of the model is five years (from 2022 to 2026). The financial figures for the fourth quarter were forecast based on data from the previous three quarters of 2021.



Pic. 3. Methodology of financial modeling

Financial modeling applying DCF model is based on the calculation of the future free cash flow (FCF) and discounting it at a rate that reflects the required rate of return.

FCF can be calculated using the following formula:

$$FCF = EBITDA - \Delta NWC - \text{Income tax} - CAPEX,$$

where EBITDA – earnings before interests, tax, depreciation and amortization; ΔNWC – change in net working capital; CAPEX – capital expenditures.

Thus, in order to develop financial model in is necessary to forecast revenue, cost of goods sold, other operating expenses, change in net working capital, income tax and CAPEX.

Initially, all revenue streams should be divided by main source of income based on the provided services. As it was mentioned above MDMG provide various services in the field of private healthcare: deliveries, in-vitro fertilization (IVF), different kinds of treatment, telemedicine services and so on. Thus, in order to forecast the future cash flow the revenue streams can should be divided as follows: deliveries, IVF, In-patient days, out-patient treatments and other income. Separation of revenue streams will help with further forecasting of the company's total revenue in the forecast period.

Further, it is important to indicate main supply and demand factors and the way how to forecast the future cash flows. The main demand drivers of commercial medical organization are average check size and workload of the clinics and hospitals. In is important to mentioned that since MDMG operates in different regions of Russia all revenue streams should also be divided by the regions of generated revenue. In case of MDMG it is reasonable to forecast revenue in Moscow (including Moscow region) and other regions separately, since the average check size and the nature of services differ. The supply driver is capacity of clinics and hospitals.

In order to forecast cost of goods sold and operating expenses it is reasonable to use the historical values of cost of goods sold and operating

expenses as a share of revenue, if it is assumed that the margin of the provided services will be stable.

Change in net working capital can be calculated through turnover of receivables, payables and inventory based on the historical figures.

The information below summarizes the process of forecasting of the company's free cash flows in the initial growth period.

Based on the company's information it is planned that the number of medical facilities will increase to 61 in 2024 from 44 in 2021. The total area of medical facilities in 2024 will be equal to 242 thousand sq. m increasing from 189 thousand sq. m in 2021. The planned by the Company capacity of deliveries, IVF circles, in-patient days and out-patient treatment will reach 17,198, 37,200, 352,000, and 4,395,000 in 2024 respectively. Based on the developed financial model capacity in 2025-2026 will grow at the same CAGR as in 2022-2024 due to the opening of new clinics and hospitals (including Lapino-6 and Lapino-7) and possible acquisitions.

The average check size for certain segments of the business of the company will be increased in the forecasted period due to increasing number of high value services (especially oncology treatment) and number of VIP clients. Introduction of new facilities (especially Lapino-3) will allow the company to perform full cycle in oncology treatment that will impact of the average check size. The average check size for deliveries will grow at an increased rate due to an increase in the number of VIP clients, especially in Moscow. For other segment (IVF and Out-patient treatment) the CAGR of the average check size in Moscow and Regions will be equal inflation indicator in the forecasted period.

The Company is developing the network of the labs for collection of analyzes that will be operating under the special brand «MD Lab». The company is planning to open 10-15 labs in Moscow and Moscow region. These labs will make it easier for clients to access the services of MDMG and contribute to the expansion of the client base. Moreover, the Company is engaged in development of telemedicine services under the «Doctis» brand. «Doctis» is one of the fastest growing companies in the telemedicine market. The revenue of the «Doctis» boomed from 3 mln rub in 2018 to 559 mln rub in 2020 and in will continue to increase. Development of «MD Labs» and telemedicine will help to boost the overall number of the company's client. Development of these services will affect the «other income».

It is planned that the CAPEX expenses from 2021-2024 will amount to 12,000 mln rub. The amount of CAPEX in the forecasted period calculated based on information of new facilities development. Such amount of CAPEX allows the Company to maintain the existing facilities, develop new facilities and make M&A deals.

We assume that workload of the existing and new facilities in the forecasted period will be stable and equals to the figures for 2021. The company in the forecasted period will be able to maintain such workload indicators due to

development of new facilities (including «MD Labs»), diversification of provided medical services and good reputation among the clients. Development of MD Labs and telemedicine ("Doctis») will allow MDMG to attract new client to ensure the workload at the certain level.

The strategy of the Company relies on financing of CAPEX and operational expenses mainly through equity of the company rather than issued debt. Strong cash reserves and stable operating results in the past allows the Company to finance expenses through equity. The company's estimated D/E and Net Debt/EBITDA indicators equals to 25,14% and 26,93% respectively in 2021, indicating strong financial position and ability to invest in development of new facilities and M&A. Moreover, for further financing, the company will be able to conduct an SPO to raise equity funds.

Based on the above, the following revenue drivers will boost the overall operating results of the company: (1) expansion strategy, suggesting new facilities creation, along with high potential for M&A deals in Russian regions; (2) development and diversification of services provided by the Company; (3) strong reputation and brand recognition among the clients. Strong financial position will allow the Company to invest in development of new facilities and have the stable CAPEX in forecasted period.

Our DCF valuation employs the Free Cash Flow to the Firm methodology. To calculate the discounted cash flow, we used WACC indicator. Equity value of the Company was calculated as an average equity value estimated using perpetuity method and exit multiple method. Certainly, we can't help to keep in mind current contradictory situation in the world and assess risks which may affect the company under study. These risks are listed below:

- currency risks;
- risks of supply interruptions, due to the imposition of sanctions which may lead to abrupt procurement reduction;
- declining purchasing power of citizens as prices surged up to 30% in the moment may cause demand squeeze;
- discontinuation of purchases of medical equipment and construction materials due to sanctions creates risk of a slowdown in the development as the company plans to invest 12 billion RUB throughout 2021-2024 into CAPEX, etc.

Though, we can assert that despite of high level of uncertainty the company as well as the industry as a whole will continue its active development and will be attractive for investors.

Conclusion

The healthcare industry is an important component of the state budget all over the world, which largely affects the standard of living. Nowadays healthcare takes more than 10% of the GDP of most developed countries and 5,8% in Russia. Recent healthcare statistics show that it's one of the largest and fastest

growing industries in the world. These facts contribute to the development of commercial organizations and increase the value of the private business. This article examined the potential of commercial medical organizations on the example of MDMG, based on the analysis and the compiled financial model.

To demonstrate the potential of the industry of the private healthcare market was developed the financial model of one of the biggest Russian private medical company. The calculation of the financial model was based on the public information of the forecasted supply and demand of the provided services of MDMG.

The result of the financial modeling represents the perspective future for the MDMG in particular and private healthcare market as a whole. Developed financial model of MDMG shows strong future cash flow and increasing demand and supply on the private healthcare market. The results of the financial model may also indicates the strong investors' interest in the private healthcare market due to high returns potential.

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ОЦЕНКА ИНВЕСТИЦИОННОЙ ПРИВЛЕКАТЕЛЬНОСТИ КОММЕРЧЕСКОЙ МЕДИЦИНСКОЙ ОРГАНИЗАЦИИ НА ОСНОВЕ ФИНАНСОВОГО МОДЕЛИРОВАНИЯ

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Предмет: коммерческая медицинская организация «Мать и Дитя». *Цель:* данная статья является оценкой потенциала коммерческих медицинских организаций на примере компании «Мать и дитя» с использованием методов стратегического анализа и финансового моделирования. *Дизайн исследования:* мы попытались разработать методологию оценки коммерческой медицинской компании на основе известного DCF-подхода, включающего ESG-факторы, риски конкретного сектора экономики, провели финансовый анализ и финансовое моделирование, подготовили рекомендации для принятия решения. *Результаты:* в статье предложена методология финансового моделирования на основе анализа внутренних и внешних факторов коммерческой медицинской организации. Результат финансового моделирования демонстрирует перспективу развития для компании «Мать и дитя», в частности, и рынка частной медицины в целом. Результаты финансовой модели также могут свидетельствовать о высоком интересе инвесторов к рынку частных медицинских услуг в связи с высоким потенциалом доходности.

Ключевые слова: метод построения DCF-моделей, коммерческая медицина, оценка.

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