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IMPROVEMENT OF METHODOLOGICAL TOOLS FOR FINANCIAL MANAGEMENT OF THE METALLURGICAL ENTERPRISES VALUE

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INTRODUCTION

Relevance of the research topic. The increasing conditions of economic turbulence today require further adjustment of the mechanism of strategic management of enterprises based on effective financial management tools. And in this sense, the strategic plans of the enterprise as the most important structural unit of any industry reflect the possibility of its dynamic development, taking into account various financial and non-financial factors. In modern economic conditions of economic entities characterized by systematic and unsystematic risks of doing business, the issue of organic development of industrial enterprises, taking into account the strategic and tactical goals of the company, becomes relevant. Such management is achievable if there is an effective financial management system based on the value of the company and the assessment of the factors that shape it.

In the context of the changing landscape of market management, enterprises strive to use innovative and more modern methods to increase their competitiveness. The problem of managing the company's value is relevant for enterprises implementing the principles of long-term strategic development.

The activity of enterprises in the conditions of market relations implies a paradigm shift in relation to the management goals of enterprises. And in this context, it is worth highlighting the specifics of the domestic economy based on the activities of manufacturing industries, which, according to Rosstat, make a significant contribution to the development of the economy, providing about 14.0% of the country's GVA. On the other hand, the key feature of the industrial sector of the Russian economy is the insufficient development of corporate governance, which hinders the attraction of investments and the development of the capital market. The metallurgical industry is one of the basic sectors of the economy, providing raw materials and materials to a number of other sectors of the economy. The key driver of the development of metallurgical enterprises in the future will be the ability to build effective management solutions that take into account current trends in the development of the corporate sector.

Cost management is a company's value management system based on key drivers of value creation, taking into account a combination of expectations of stakeholders (shareholders, investors, suppliers and buyers, staff, government agencies, etc.). The success of implementing such a concept in developed markets is an example of wide practical application with specific quantitative effects for the economy. It is worth noting that its use in emerging markets is not characterized by high activity, although some cost indicators are fragmentally used in financial management.

For domestic industrial enterprises, this philosophy of company management is very relevant in the context of increasing risks of uncertainty in the external and internal environment, taking into account the limitations of business activity of enterprises in the international arena, as well as in the search for new regional growth centers and building a new system of global economic relations.

This issue is especially important for metallurgical enterprises, since the industry makes a significant contribution to the creation of added value of manufacturing industries, creates a raw material base for the creation of products in other industries, and also performs a socially significant role for a number of cities due to the fact that the enterprises of the industry are mainly city-forming. The development of models for the strategic growth of the value of metallurgical enterprises is one of the primary tasks of financial management, since the economic environment of the functioning of domestic enterprises is very vulnerable and subject to global risks of uncertainty and geopolitical challenges.

At the same time, the study of individual management features at the industry level requires the need to develop an effective financial management model, which can be considered as a tool to increase the value of the company. For enterprises in the metallurgical sector of the Russian economy, the need to achieve technological sovereignty and further develop international cooperation, including within the framework of cooperation between the BRICS countries, where the metallurgical industry is one of the priorities, attaches additional importance to its application.

The degree of scientific elaboration of the topic of the dissertation research. Theoretical aspects of value-based management are reflected in the works of domestic and foreign scientists. In the scientific literature, issues related to the problems of the development of value theories have been worked out in sufficient detail and thoroughly, for example, in the works of foreign scientists: A. Smith[1], D. Ricardo[2], K. Marx[3], W. Jevons[4], L. Walras[5], K. Menger[6], A. Marshall[7], G. Markowitz[8] and others. The problems of value-based management are revealed in the works of A. Rappoport[9], T. Copeland[10], T.

[1]Smith A. Research on the nature and causes of the wealth of nations [Electronic resource]. -Access mode: URL: https://viewer.rusneb.ru/ru/000199_000009_005145794?page=22&rotate=0&theme=black.

[2] Ricardo D. Essays [Electronic resource] / D. Ricardo // Translated by a corresponding member of the USSR Academy of Sciences. Moscow. - 1955 - Vol. 1. - p. 43. - Access mode: URL: https://djvu.online/file/8YSa2jKYFTEb9

[3] Marx K. Essays [Electronic resource] / K. Marx, F. Engels // State Publishing House of Political Literature. Moscow, 1962. – Vol. 26. - 476 p.- Access mode: URL: https://www.marxists.org/russkij/marx/cw/t26-1.pdf.

[4] Jevons V. Political economy / V. Jevons // Translated by R. Markovich, edited and with a preface. Printing house "National benefit", 1905. – 120 p.

[5] Walras L. Elements of pure political economy or the Theory of Social wealth [Electronic resource] / L.Walras // Translated into Russian by I. Egorov, A. Belyanin, 2000. - p. 35. Access mode: URL: https://www.biznesbooks.com/components/com_jshopping/files/demo_products/valras-l-elementy-chistoj-politicheskoj-ekonomii.pdf.

[6] Menger K. The foundations of political economy. Research on the methods of social sciences and political economy in particular" / K. Menger // Publishing House "Territory of the Future", 2005 – 494 p.

[7] Marshall A. Principles of economic science // A. Marshall, 1993. 309 p. [Electronic resource].- Access mode:URL: https://kniga-online.com/books/knigi-o-biznese/jekonomika/page-5-4657-alfred-marshall-principy-ekonomicheskoi-nauki.html.

[8] Markowitz H. Portfolio Selection / H. Markowitz // The Journal of Financ. - 1952. - Vol. 7. - Issue 1. – pp. 77-91.

[9] Rappaport A. Creating shareholder value: The new standard for business performance / A. Rappaport // New York, Free Press, 1986. - 270 p.

[10] Copeland T. Valuation: measuring and managing the value of companies / T. Copeland, T. Koller, J. Murrin // New York, John Wiley & Sons, 1995. - 576 p.

Koller[11], J. Murrin[12], G. Arnold[13], A. Damodaran[14], R. Brayley[15], S. Myers [16], B. Graham[17] and others. Among Russian researchers, D. L. Volkov made a significant contribution to the development of the theory of corporate finance and enterprise valuation[18], S. V. Valdaytsev[19], V. V. Kovalev[20] [21], I.Y. Lukasevich[22], T.V. Teplova[23], I.V. Berezinets[24], I. V. Kosorukova[25], A.G. Gryaznova[26], I.V. Ivashkovskaya[27], M. A. Fedotova[28], M. A. Eskindarov[29] and others. However, there are no works combining a comprehensive analysis of value-based management in terms of financial and non-financial factors influencing the value of the company.

Thus, despite the existing theoretical and practical developments in this field of knowledge, the issues of practical integrated implementation of value-based management remain open, taking into account the specifics of the domestic economy, which is considered to be developing today. In value-oriented management, as a separate scientific field, a number of theoretical and methodological issues of the development and implementation of value-based management in enterprises remain unexplored.

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[11] Ibid.
[12] Ibid.
[13]Arnold G. Value-Based Management: Context and Application/ G. Arnold, M. Davies//John Wiley & Sons.: Chichester. UK, 2000. – 384 p.
[14] Damodaran A. Investment assessment / A. Damodaran // Alpina Business Books, 2008. – 1323 p.
[15] Brayley R. Principles of corporate finance / R. Brayley, S. Myers // translated from English by N. Baryshnikova. M.: Olymp-Business CJSC, 2007. - 1008 p.
[16] Ibid.
[17] Graham B. A Reasonable Investor: A complete guide to value investing / B. Graham // Additions and comments by Jason Zweig. Moscow: Alpina Publisher, 2020. – 568 p.
[18] Volkov D. L. Theory of value-based management: financial and accounting aspects / D. L. Volkov // Higher School of Management of St. Petersburg State University. — St. Petersburg. Publishing house "Higher School of Management"; Publisher. House of St. Petersburg State University, 2008. — pp.27-36.
[19] Valdaytsev S.V. Business assessment: textbook–3rd ed., reprint. and additional / S.V. Valdaytsev // M.: TK Velbi, Prospect Publishing House, 2008. – 576 p.
[20] Kovalev V. V. Financial science in Russia (XVIII-XIX centuries). The history of finance and accounting. [electronic resource].- Access mode: URL: https://finbiz.spb.ru/wp-content/uploads/2011/04/kovalev.pdf
[21] Kovalev V. V. Financial management: theory and practice / V. V. Kovalev // Moscow: TK Velbi, Publishing House Prospect, 2007. – 1024 p.
[22] Lukasevich I. Ya. Financial management: textbook and practicum for universities // I.Ya. Lukasevich // Yurayt. Moscow, 2024. –680 p.
[23] Teplova T. V. Effective financial director/ T. V. Teplova // Effective financial director: textbook for undergraduate and graduate studies, 2018. — 507 p.
[24] Volkov D. L. Value management: analysis of equity valuation models based on accounting indicators/ D. L. Volkov, I.V. Berezinets // Scientific reports. St. Petersburg: St. Petersburg State University Research Institute of Management. - 2006. - p. 14.
[25] Kosorukova I. V. / Methodological problems of business valuation: theory and practice. Monograph / I. V. Kosorukova // M. LLC "Synergiyapress", 2012. - p. 40.
[26] Gryaznova A. G. Valuation of the enterprise (business) / A. G. Gryaznova, M. A. Fedotova, M.A. Eskindarov, T.V. Tazikhina, E. N. Ivanova, O. N. Shcherbakova. — M.: INTERREKLAMA, 2003. — 544 p.
[27] Ivashkovskaya I. V. Managing the value of a company as an innovation/ Corporate finance: prospects and reality / I. V. Ivashkovskaya // Managing the value of a company: collection of articles of the participants of the Third International Conference of Young Scientists / under scientific ed. T. V. Teplovoy; State University — Higher School of Economics. — M.: Ed. the house of the Higher School of Economics. - 2006. — 256 p.
[28] Gryaznova A. G. Valuation of the enterprise (business) / A. G. Gryaznova, M. A. Fedotova, M.A. Eskindarov, T.V. Tazikhina, E. N. Ivanova, O. N. Shcherbakova. — M.: INTERREKLAMA, 2003. — 544 p.
[29] Eskindarov M. A. Business valuation: textbook / M.A. Eskindarov, M. A. Fedotova // edited by M. A. Eskindarova, M. A. Fedotova // M.: KNORUS, 2016. — 320 p.

The purpose of the dissertation research is to improve the methodological tools for business value management based on the development and justification of a conceptual approach to its assessment for metallurgical enterprises, taking into account fundamental and market factors influencing value.

During the work, the following tasks were set for the dissertation research:

1. To present the periodization of the evolution of the concept of "company value" through the disclosure of the main stages of the formation of schools of economic thought, depending on the type of value.
2. Determine the criteria for the transition from the traditional management model to a value-oriented one.
3. Formulate a step-by-step methodology for assessing the value of the company based on the methodological development of the residual net profit model and justify its application, as well as establish criteria for the effectiveness of value-based management for enterprises in the metallurgical industry.
4. To develop and test an econometric model for accounting for enlarged factors of changes in the total market capitalization of public metallurgical enterprises.
5. To propose a value-based management model for metallurgical enterprises, taking into account the study of the factors of change in fundamental and market value.

The field of study. The dissertation research was carried out in the specialty 5.2.4 − Finance (economic sciences) and corresponds to the following areas: 15. Corporate finance. Financial strategy of corporations. Financial management. 16. Evaluation activities. Valuation of the enterprise (business), assets and rights.

The object of the dissertation research is the domestic enterprises of the metallurgical industry, whose shares are represented on the public capital market.

The subject of the dissertation research is the process of financial management in an enterprise through the application of value-oriented management.

The theoretical and methodological base is based on the works of domestic and foreign scientists in the field of enterprise finance, financial management and business evaluation in terms of value-oriented management and theory of development of schools of economic thought. The methodological basis consists of generally recognized scientific methods and techniques: a systematic approach to the object and subject of research, modeling, econometric analysis, historical and logical analysis of theoretical and practical material, which ensures the integrity, comprehensiveness and reliability of the results of the dissertation work. Econometric modeling was carried out based on the analysis of panel data in the GRETL applied statistical package using the least squares method on the example of the largest metallurgical enterprises of the Russian Federation with historical data for 10 years (2011-2020).

The information base of the study consists of: data from the Statista information and analytical database, official company websites, Aswat Damodaran's website, official data from the Central Bank of the Russian Federation, official data from Rosstat, data from the Refinintiv Eikon information and analytical database.

The scientific novelty of the dissertation research consists in the substantiation and development of theoretical and practical provisions that form the conceptual foundations of business value management and take into account both fundamental and market factors of the functioning of metallurgical enterprises.

The practical significance of the dissertation research is explained in the possibility of translating scientific results into practical terms both at the state level – when the Government of the Russian Federation develops practical recommendations for the development of the metallurgical industry in the context of global trends to solve the problem of strategic development of the corporate sector, and at the level of long–term enterprise development - when solving issues of using complex tools for assessing the value of the company.

The theoretical significance of this study lies in complementing existing scientific developments in the field of value-based management, improving methodological tools for financial management of enterprise value, systematizing scientific concepts from the point of view of modern industry-wide development trends that contribute to the effective use of the concept at domestic metallurgical enterprises.

Approbation of the research results. The results of the dissertation research are presented at various scientific venues of the All-Russian and international scale, including: The International Scientific and Practical Conference of Young Scientists «Development of Modern Economy» dated June 27, 2020.[30], held within the framework of the International Economic Symposium 2020, the International Annual Scientific Conference Lomonosov Readings 2021 «Generations of economic ideas»[31], International Scientific and practical conference of young scientists «Development of modern Economy» dated April 20-22, 2023, held within the framework of the VII International Economic Symposium – 2023[32]. Articles on the topic of the dissertation research have been published in Russian and international journals. The main provisions and results of the research are reflected in 8 publications,

[30] Chupanova H. A. The relationship of the market value of a Russian insurance company with accounting indicators. / Kh. A. Chupanova // Development of modern economics: a collection of materials of the International Conference of Young Scientists and Economists. St. Petersburg, June 27, 2020. – pp. 217-225.

[31] Chupanova Kh. A. Ways to increase the competitiveness of an insurance company in the context of value-based management. The international annual scientific conference Lomonosov Readings-2021. Section of Economic Sciences. «Generations of economic ideas»: a collection of the best reports. — M.: Faculty of Economics of Lomonosov Moscow State University. - 2021. - p. 300.

[32] Chupanova Kh. A. The main stages of the development of the concept of sustainable development / Kh. A. Chupanova // Materials of international scientific conferences: X International scientific and practical conference, XX International Conference, XXIX International scientific and practical Conference, VIII International Scientific Conference, International Conference of Young Scientists and Economists. St. Petersburg, April 20-22, 2023. – pp. 1698-1702.

including articles in publications included in the List of leading peer-reviewed scientific publications of the Higher Attestation Commission of the Russian Federation for publishing the results of dissertation research and a foreign publication (WoS).

The scope and structure of the dissertation research. The logic and structure of the work are built in accordance with the set goal and formulated tasks. The dissertation consists of an introduction, three chapters, conclusions on the relevant chapters of this study, a conclusion, a list of references in Russian and English, as well as supporting materials set out in the appendices.

The introduction reveals the relevance of the dissertation research, formulates the object and subject of the study, the purpose and objectives, shows the scientific novelty, practical and theoretical significance, highlights the main scientific results submitted for defense.

The first chapter reveals the theoretical aspects of value-based management in an enterprise, reveals the content of the concept of "value" through the relevant stages of the formation of schools of economic thought, presents a detailed (detailed) analysis of the theory of value in historical intervals, reveals the essence of the theory of value in the historical aspect, outlines the conceptual foundations of the application of models of the value-based management system at the present stage.

The second chapter proposes a methodology for assessing the value of a company from two positions: fundamental and market. The application of the residual net profit model as a model for assessing the fundamental value of enterprises in the metallurgical industry is justified. At the same time, an econometric model of the relationship between market value and indicators of corporate financial policy, dividend policy, sustainable development factors and industry specifics is proposed for assessing and forecasting market value.

In the third chapter, the approbation of the developed methods is carried out on the example of the largest Russian metallurgical enterprises. It is proposed to use a practice-oriented model of financial management of the value of a metallurgical enterprise, covering the dynamics of market and fundamental factors of value creation. This model is designed to increase the value of the company by influencing the value of the company of enlarged groupings of various factors.

In conclusion, a generalization of the scientific results obtained, their significance for the development of the scientific field, and generalized final conclusions on the topic of the dissertation research are made.

The appendices contain key downloads of data for dissertation research from the information and analytical database, reference materials.

Main **scientific results:**

1. An algorithm for evaluating financial efficiency for metallurgical enterprises has been developed based on the study of the relationship between the market and fundamental value of

metallurgical enterprises through a comparison of actual and calculated capitalization parameters[33,34,35,36].

2. The financial resulting indicator of the efficiency of the enterprise "added rate of residual net profit" (RORI) within the framework of value-oriented management is proposed, appealing to the model of residual net profit and characterizing the added value of the enterprise per 1 ruble of products sold[37,38].

3. An aggregated indicator of the dynamism of strategic growth of an enterprise (SGRI) is proposed, expressing the degree of reaction of market value to changes in the fundamental value of assets [39,40].

4. An econometric model for forecasting the market value of a metallurgical enterprise has been developed and tested, taking into account the enlarged groupings of influence factors that are formed when determining dividend and financial policies, intellectual capital management, as well as in the context of following the principles of sustainable development and taking into account industry specifics[41,42].

5. A model [43] of financial management of the value of a metallurgical enterprise is proposed, based on taking into account fundamental and market factors of influence[44], allowing to identify the drivers of market capitalization dynamics[45,46].

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[33] Chupanova Kh. A. The relationship of market capitalization with indicators of the value of high-tech companies / Kh. A. Chupanova // Economics, entrepreneurship and Law. – 2019. – Volume 9. – No. 3. – pp. 191-206.
[34] Chupanova Kh. A. Value-based management of an insurance company in the context of innovative development/ Kh. A. Chupanova// Issues of innovative economics. - 2022. – Volume 12. – No. 1. – pp. 391-410.
[35] Chupanova Kh. A. IPO as a source of financing for the company's activities: on the example of Kazakhstan / H.A. Chupanova, U.A. Murtazaeva // The economy of Central Asia. — 2020. — Volume 4. — No. 3. — pp. 233-242.
[36] Kalayda S.A. Theoretical foundations of the formation of the category «company value» and modern practical aspects of value-based management / Kalayda S.A., Chupanova Kh. A. // Economics, entrepreneurship and law. – 2024. – Volume 14. – No. 6. ¬– P. 3243–3262.
[37]Chupanova Kh. A. The relationship of market capitalization with indicators of the value of high-tech companies / Kh. A. Chupanova // Economics, entrepreneurship and Law. – 2019. – Volume 9. – No. 3. – pp. 191-206.
[38] Chupanova Kh. A. Value-based management of an insurance company in the context of innovative development/ Kh. A. Chupanova// Issues of innovative economics. - 2022. – Volume 12. – No. 1. – pp. 391-410.
[39] Chupanova Kh. A. The relationship of market capitalization with indicators of the value of high-tech companies / Kh. A. Chupanova // Economics, entrepreneurship and Law. – 2019. – Volume 9. – No. 3. – pp. 191-206.
[40] Chupanova Kh. A. Value-based management of an insurance company in the context of innovative development/ Kh. A. Chupanova// Issues of innovative economics. - 2022. – Volume 12. – No. 1. – pp. 391-410.
[41] Chupanova Kh. A. The relationship of corporate governance with the value of the company: on the example of American insurance companies / Kh. A. Chupanova // Bulletin of the RMAT. – 2021. - No.1.- pp. 9-14.
[42] Kalayda S.A. Verbal model of financial management of the value of an enterprise in the metallurgical industry/ Kalayda S.A., Chupanova H. A. // Economic security. - 2024. – Volume 7. – No. 5. – pp. 1189-1206.
[43] Kalayda S.A. Verbal model of financial management of the value of an enterprise in the metallurgical industry/ Kalayda S.A., Chupanova H. A. // Economic security. - 2024. – Volume 7. – No. 5. – pp. 1189-1206.
[44] Chupanova Kh. A. The causes of unemployment in the modern labor market and ways to overcome it / Kh. A. Chupanova // Bulletin of the RMAT. - 2018. - № 4. - 2018. - p.44.
[45] Chupanova Kh. Supply Chain Management Concept and Digital Economy: Digital Supply Chain Technological Innovation // Kh.A. Chupanova, Y. Otrokov, N. Mosina, V. Sekerin, A. Zharov, S. Garnik//Indian Journal of Economics and Development. - 2021. - Volume 17. - No. 4. – pp. 928-933.
[46] Chupanova Kh. A. The relationship of corporate governance with the value of the company: on the example of American insurance companies / Kh. A. Chupanova // Bulletin of the RMAT. – 2021. - No.1.- pp. 9-14.

Provisions to be defended:

1. The tools of value-based management should be used in the practice of metallurgical enterprises as an additional factor in improving the efficiency of activities, the logic of calculation of which consists in correlating fundamental and market value estimates, taking into account strategic plans for long-term development, including the interests of shareholders and stakeholders.

2. The model of financial management of the value of a metallurgical enterprise, which includes as mandatory elements such as "cost parameters", "level of debt financing", "intellectual capital", "dividend policy, "sustainable development policy", "industry scale", takes into account fundamental and market factors of influence and allows you to manage key drivers dynamics of market capitalization, which generally ensures the implementation of a conceptual approach to value management in order to increase it.

3. When evaluating the financial and economic efficiency of a metallurgical enterprise in the paradigm of following the strategic goal of increasing the company's value, it is necessary to use an evaluation algorithm that includes: (1) correct accounting of industry risks; (2) the use of relevant theoretical estimates based on residual income and consistent with the actual market value of the company; (3) calculation of key indicators efficiency.

4. The use in coefficient analysis of the indicator of the added rate of residual net profit (RORI), which describes the value created at the enterprise based on each ruble of revenue received, provides the management of a metallurgical enterprise with information about the periods of destruction and value creation of the company and can be used to develop management decisions for strategic planning. As an indicator of assessing the dynamics of fundamental value, it is necessary to calculate the strategic growth coefficient of an enterprise (SGRI), which reflects the degree of reaction of market value to changes in the fundamental value of assets.

5. The market value of a metallurgical enterprise is influenced by determinants, which can be represented in the form of enlarged groupings of influence factors (intellectual capital, the share of debt financing in equity, dividend policy, adherence to the principles of sustainable development and the scale of the industry), identified on the basis of an industry econometric analysis. Taking into account these enlarged groupings of factors together with cost parameters forms effective elements of enterprise value management provided for in the financial management model.

CHAPTER 1. THEORETICAL ASPECTS OF THE DEVELOPMENT OF VALUE-BASED MANAGEMENT

1.1 The concept of «company value»: content and types in the context of the evolution of financial science

The development of financial science and finance as an element of commodity-money relations is inextricably linked with such a concept as «company value», since the content and essence of any financial and economic activity contains one or another value. The formation of financial science into an independent scientific direction occurred in the middle of the XVIII century at the stage of development of classical economic theory (the middle of the XVIII - the end of the XIX centuries).

The economic meaning of the concept of «value» should be attributed to one of the fundamental problems of financial science. It forms ideas about economic benefits and influences the decision-making by business entities on the production, distribution and consumption of goods. At different stages of the development of economic thought, such a category as the value of a company was interpreted in different ways, starting from the times of Ancient Greece and Ancient Rome[47], when the theoretical description of economic processes has not been formed.

The periodization of schools of economic thought has been the subject of research by domestic and foreign scientists. For example, the German economist Karl Heinrich Rau reflected the formation of financial science in the form of a process consisting of three key stages: 1) unscientific state; 2) scientific processing; 3) scientific (rational period)[48]. The Russian economist-financier V. V. Kovalev noted the existence of two major stages of the science of finance: 1) classical theory (when the importance of the

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[47] *Ancient scientists (before the 5th century AD) touched upon problems in the field of economics in the broader context of discussing issues of social structure. Such an important economic concept as "value" is reflected in the writings of Xenophon (430-350 BC), who identified the concept of value and utility. The development of ancient economic thought can also be found in the writings of Aristotle (384-322 BC), which traces the development of ancient economic thought. The general contribution of Aristotle's works to the development of the ancient understanding of economic thought lies in the formation of such important economic categories: price, money, property. The concept of "value" was considered as a category based not only on the usefulness of the product, but also on the amount of labor spent on its production. Such an interpretation, as is known, was made in the conditions of an ideal economy, where there is no usury, credit. The economic thought of the Middle Ages (V–XVI centuries) was influenced by Christian ideas and the church due to the special role of such an institution as the church in the dissemination of knowledge. The philosophical judgments of the Middle Ages, based on formal logical arguments in order to theoretically substantiate the dogmas of the church, were called scholasticism. The Church was the institution that ensured the preservation of scientific knowledge and its development, and the main figures who contributed to the development of economic thought of that era were the clergy. In their reasoning, they relied on the moral rules and regulations from the Holy Scriptures and operated with the terms of Christian discourse. The philosopher Thomas Aquinas (XIII century) contributes to the development of the concept of fair value, considering it in the context of Aristotelian judgments, as a price that ensures the equivalence of exchange and a price that provides people with well-being befitting their class. Justice in the exchange worked for people with the same status. Such interpretations were characteristic of the society of the early Middle Ages, when it was driven by the idea of fair value at every level of formation. Later scholastics, for example, such as Lessia Molina and de Lugo (XVI century.) contributed to the increase of knowledge in the field of value theory, which, in addition to utility as the main factor in value formation, emphasized the importance of production costs and a subjective assessment of utility.*

[48] Posrednikova D. V. Ocherki po istorii finansovoj nauki. Monografiya / D. V. Posrednikova // SPbGTURP-SPb, 2012. – 102 c.

state in financial management is the most significant component); 2) neoclassical theory (private sector finance is the core of economic relations).[49] N. V. Basova also records three main stages:[50]: 1) the stage of the unscientific state, where the key prerequisites for the development of finance as an independent direction appear; 2) the stage of reorientation to scientific processing, which subsequently formed the classical theory of finance; 3) the stage of the scientific period, at which the foundations for the development of the neoclassical theory of finance, based on the socio-economic needs of society, originated.

Based on this, when embedding the concept of "company value" directly into financial science, the neoclassical theory of finance becomes important, in which finance of the private sector of the economy plays a dominant role. They characterize the economic strength of the state, the financial system, and corporate units – companies become the subject of scientific research with their wide practical application. This should include the problems that arise regarding the concept of "company value", while the author of the dissertation research presents the periodization of the concept of "company value" through the stages of formation of various economic theories.

The author's approach to understanding the place of the concept of «company value» in the evolution of the development of economic theories is presented in Table 1. This approach highlights the problems of value in a broader understanding of the social structure.

Table 1 – Evolution of the concept of «company value» in the development of financial science

Criteria	**Stages**	
	Until the middle of the XVIII — late XIX centuries	**Since the first half of the XX century**
Stage Characteristics	Classical economic theory	Neoclassical economic theory
The dominant role in the economy	Public finance and treasury	The business sector
Key representatives	A. Smith, D. Ricardo, K. Marx, W. Jevons, L. Walras, K. Menger	A. Marshall, G. Markowitz, A. Rappaport, T. Copeland, T. Koller, J. Murrin, G. Arnold, etc.
Basic value theories	«Labor theory of value», «Labor theory of relative prices», «Theory of surplus value», «Theory of marginal utility».	«Theory of equilibrium value», «Theory of portfolio investments», «Theory of value creation for shareholders».
The main economic concepts appealing to the value model of management	use value, exchange value, surplus value, marginal utility.	equilibrium value, fair value, fundamental value.
Types of company value	-	market value, investment value, liquidation value, fundamental value.

Compiled by the author[51].

[49] Kovalev V. V. Financial science in Russia (XVIII-XIX centuries). The history of finance and accounting. [electronic resource].- Access mode: URL: https://finbiz.spb.ru/wp-content/uploads/2011/04/kovalev.pdf

[50] Basova N. V. Evolutionary development of financial science: from the unscientific state to the state of modern development of the theory of finance / N. V. Basova // Audit and financial analysis. - 2013. - No. 4. - p. 302.

[51] Kalayda S.A. Theoretical foundations of the formation of the category "company value" and modern practical aspects of value-based management / Kalayda S.A., Chupanova Kh. A. // Economics, entrepreneurship and law. – 2024. – Volume 14. – No. 6. . - P. 3243-3262.

The classical school of economic thought began to form with the appearance in 1776 of the study by Adam Smith (1723-1790) «Research on the nature and causes of the wealth of nations»[52]. For the first time, the concept of «division of labor» was introduced into the system of economic relations by A. Smith, then he formed the labor theory of value, where labor spent on production is recognized as the core value of the product. The concepts of use and exchange value are also associated with his name. The first concept in his understanding is the usefulness of the manufactured product and its ability to meet human needs. And the second is the value of the product in terms of the possibility of purchasing other goods at its expense.[53]

David Ricardo (1772-1823) is a follower of these ideas, he also distinguishes two types of value: consumer and exchange. But he emphasizes that they cannot correspond to each other, since goods that do not have utility do not have value. D. Ricardo's view largely overlaps with the ideas of A. Smith. At the same time, D. Ricardo subsequently focuses on the study of the problems of capital and its impact on value. The labor theory of value, which D. Ricardo adheres to, draws attention to the primary role of tools in production. The interpretation of capital as an instrument of labor in his understanding is based, among other things, on the value of labor directed to the possession of this instrument ("without any weapon, neither beaver nor deer can be killed").[54] Ricardo also developed the labor theory of relative prices, in which he laid the idea of the proportionality of the cost of labor, adjusted for the time difference in the periods of production of the final product[55]

The impact of the evolution of society on the economic system was shown by K. Marx (1818-1883) in terms of radical political economy. The author put the research not on the pricing mechanism, but on the socio-philosophical aspect of the social structure, the core of which is the economy. The theory of value, like that of previous authors, is also the subject of his arguments. But here it should be emphasized that the author considers the amount of labor required for production from the point of view of society. The theory of surplus value, in which surplus value is the measure of a commodity that is created by workers and retained by a capitalist, was also founded by K. Marx. [56]

The second half of the 19th century was marked by the emergence of the marginalist theory of marginal utility, which is based on the consideration of marginal values. The main provisions of the theory were laid down by such scientists as William Jevons (1835-1882), Leon Walras (1834-1910) and Karl Menger (1840-1921). The peculiarity of this theory was that value was determined by utility

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[52] Smith A. Research on the nature and causes of the wealth of nations" [Electronic resource]. -Access mode: URL: https://viewer.rusneb.ru/ru/000199_000009_005145794?page=22&rotate=0&theme=black .
[53] Ibid.
[54] Ricardo D. Essays [Electronic resource] / D. Ricardo // Translated by a corresponding member of the USSR Academy of Sciences. Moscow. - 1955 - Vol. 1. - p. 43. - Access mode: URL: https://djvu.online/file/8YSa2jKYFTEb9
[55] Shishkin M. V. The history of economic studies: a textbook for bachelors / M. V. Shishkin, G. V. Borisov, S. F. Sutyrin // 3rd ed., ispr. and add. — Moscow: Yurait Publishing House, 2019. – 376 p.
[56] Marx K. Essays [Electronic resource] / K. Marx, F. Engels // State Publishing House of Political Literature. Moscow, 1962. – Vol. 26. - 476 p.- Access mode: URL: https://www.marxists.org/russkij/marx/cw/t26-1.pdf .

(subjective utility for each individual). W. Jevons, for example, states: «Wealth is something that, firstly, is conveniently transferable, secondly, exists in limited quantities, and thirdly, is useful. »[57] According to L. Walras, the value is limited by two important criteria: rarity and usefulness. Thus, goods that have value and are able to perform the function of exchange act as useful and limited in quantity products. In these terms, by exchange value, the author understands «the property of certain things, which consists in the fact that they cannot be obtained or ceded for free, but can be bought and sold, received and given in a certain quantitative proportion in exchange for other things.»[58]

K. Menger also influenced the development of the theory of marginal utility, in particular, reflecting in his scientific work «The Foundations of political Economy. A study on the methods of social sciences and especially about political economy» a logical interpretation of value, by which he understood the subjective assessment of a particular good: «Value is a judgment that business people have about the importance of the goods at their disposal to maintain their lives and their well—being, and therefore does not exist outside their consciousness. Therefore, it is also certainly a mistake to call a good that has value for economic entities a «value», or to talk about «values» as independent real objects, as economists do, thanks to which value is objectified. » [59]

Classical economic theory, as noted above, covered the problems of public finance and, accordingly, all scientific research of that period, which described methods and techniques for replenishing the state treasury through the improvement of the state tax system. «Since the end of the 20th century, scientists and practitioners have come to the conclusion that it is necessary to understand the theory of finance at the firm level as the main backbone of any economic system. A number of reasons contributed to this: the decline in the role of the state and public unions in the economy; the global development of the capital market; the increasing role of multinational companies, the strengthening of concentration processes in the field of production, the importance of financial resources in ensuring the company's activities. »[60]

In the 20th century, neoclassical economic thought began to develop actively. The development of value theory is associated with the name of Alfred Marshall (1842-1924), who in 1890 published the work «Principles of Economic Theory». A. Marshall's significant contribution to the development of economic theory lies in the interpretation of the value of any product as a category formed under the

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[57] Jevons V. Political economy / V. Jevons // Translated by R. Markovich, edited and with a preface. Printing house "National benefit", 1905. – 120 p.

[58] Walras L. Elements of pure political economy or the Theory of Social wealth [Electronic resource] / L.Walras // Translated into Russian by I. Egorov, A. Belyanin, 2000. - p. 35. Access mode: URL: https://www.biznesbooks.com/components/com_jshopping/files/demo_products/valras-l-elementy-chistoj-politicheskoj-ekonomii.pdf.

[59] Menger K. The foundations of political economy. Research on the methods of social sciences and political economy in particular" / K. Menger // Publishing House "Territory of the Future", 2005 – 494 p.

[60] Kovalev V. V. Financial science in Russia (XVIII-XIX centuries). The history of finance and accounting. [electronic resource].- Access mode: URL: https://finbiz.spb.ru/wp-content/uploads/2011/04/kovalev.pdf

influence of supply and demand (in the short term, the supply of goods is a constant value, since it cannot respond to current demand, and in the long term, demand and supply for goods are interrelated).[61] This gives rise to the interpretation of A. Marshall's theory of equilibrium price, where value is the ratio of supply and demand.

Thus, the category of «value» in a broad sense is contained in the processes of social structure since ancient times and is undergoing changes at every stage of its development. Over time, it is the value that remains the reliable source of information about economic benefits, goods, or corporate units. In terms of the latter, it should be noted that the current interpretation of the enterprise value and its estimates have laid down previously established theories of value and are largely related to the modern understanding of these terms.

The value of a company in its modern understanding has a variety of types that give the user information depending on the purpose of its use.

In the current economic system, the value of a company can be interpreted as a key resultant indicator reflecting the potential for long-term development, the degree of stability in the public capital market, as well as competitiveness in comparison with other enterprises in the industry.

At the same time, there are many different types of value, the appearance of which is predetermined by the need that arises under certain circumstances (the purpose of the interested party forms the type of value).

The calculation of the company's value carries a very important information function, which is a source of information about its position in the market for all users of reporting. Business valuation becomes particularly relevant in various circumstances aimed at making decisions on the purchase or sale of a company, expanding the composition of business partners, the bank's lending to customers, the requirements of tax authorities, etc.[62] The valuation of a company may be of wide interest to various business entities. For example, investors seek to invest resources in a company with high value and growth potential, banks seek to obtain the most accurate assessment of the enterprise in mortgage lending, i.e. collateral value, etc.[63]

Thus, a correctly set assessment goal, depending on the field of use, affects the reliability and validity of the results obtained. In addition, separate valuation methods or a balanced combination of them are applicable for each type of value.[64]

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[61] Shishkin M. V. The history of economic studies: a textbook for bachelors / M. V. Shishkin, G. V. Borisov, S. F. Sutyrin // 3rd ed., ispr. and add. — Moscow: Yurait Publishing House, 2019. – 376 p.

[62] Roche J. The cost of the company: from the desired to the actual / J. Roche – Minsk: Grevtsov Publisher, 2008. – 341 p. 18. Verkhovtseva E.A., Grebenik V.V. Valuation of the company: empirical and theoretical aspects // Online journal "Science STUDIES". - 2016. Volume 8. - No. 1. – pp. 1-9.

[63] Verkhovtseva E.A., Grebenik V.V. Company valuation: empirical and theoretical aspects // Online journal "Science STUDIES". - 2016. Volume 8. - No. 1. – pp. 1-9.

[64] Kosorukova I. V. / Methodological problems of business valuation: theory and practice. Monograph / I. V. Kosorukova // M. LLC «Synergiyapress», 2012. - p. 40.

«The valuation of an enterprise (business) is the calculation and justification of the value of an enterprise at a certain date. Business valuation, like any other property, is a purposeful, orderly process of determining the value of an object in monetary terms, taking into account the factors affecting it at a particular time in a particular market.» [65]

«Taking into account the long-term interests of stakeholders and shareholders makes value the most important tool for evaluating and measuring the success of a business. Especially in a market economy and the combination of various risks of its functioning, solving the measurement problem based on modern assessment methods acquires significant value for the development of a market economy. And in modern conditions of the entry of the economy into the stage of turbulence, the need to measure value is a very important managerial aspect for an enterprise, including in connection with the entry of the world economy into the stage of turbulence».[66]

Different types of value are formed in the market due to the presence of different goals of business entities in relation to the object of valuation. The regulation of the evaluation process, although subjective in nature, has a certain outline of regulatory legal acts that consolidate the implementation of evaluation activities in the domestic market. In the Federal Assessment Standard (FSO) No. 2 [67] and the Federal Law of July 29, 1998 «On Valuation Activities in the Russian Federation» [68] contains 4 key types of value: market, investment, liquidation and cadastral.

- *Market* value– forms an idea of the company, taking into account the competitive market conditions peculiar to a particular market, as well as reasonable actions of persons with information about the object of evaluation. Article 7 of the Federal Law of July 29, 1998 «On Valuation and Appraisal Activities in the Russian Federation» indicates the possibility of reflecting the market value, except in cases established by law.[69] Its value is especially valuable for strategic investors who have data on the cash flows generated by the business, unlike portfolio investors.[70]
- *Investment* value – represents the value calculated for a specific interested person of a group of persons, taking into account all investment purposes of using the valuation object.[71] It is characterized

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[65] Gryaznova A. G. Valuation of the enterprise (business) / A. G. Gryaznova, M. A. Fedotova, M.A. Eskindarov, T.V. Tazikhina, E. N. Ivanova, O. N. Shcherbakova. — M.: INTERREKLAMA, 2003. — 544 p.

[66] Eskindarov M. A. Business valuation: textbook / M.A. Eskindarov, M. A. Fedotova // edited by M. A. Eskindarova, M. A. Fedotova // M.: KNORUS, 2016. — 320 p.

[67]Order of the Ministry of Economic Development dated May 20, 2015 No. 298 "The purpose of valuation and types of value (FSO No. 2)" [Electronic resource] .- Access mode: URL: http://www.ceae.ru/FSO_2.html

[68] Federal Law No. 135-FZ dated 07/29/1998 (as amended on 11/28/2018) "On Valuation Activities in the Russian Federation" [Electronic resource]. – Access mode: URL:http://www.consultant.ru/document/cons_doc_LAW_19586/010969a54af6f2ea4b4cb3cf4a1adaf4e6b3f4e3/

[69]Ibid.

[70] Valdaytsev S.V. On the accuracy of practical estimates of the market value of companies / S.V. Valdaytsev // Bulletin of St. Petersburg State University. – 2012. - Ser.5.2012.- Issue 3. - p. 116.

[71] Federal Law No. 135-FZ dated 07/29/1998 (as amended on 11/28/2018) "On Valuation Activities in the Russian Federation" [Electronic resource]. – Access mode: URL:http://www.consultant.ru/document/cons_doc_LAW_19586/010969a54af6f2ea4b4cb3cf4a1adaf4e6b3f4e3/

as a value for a specific person or group of persons in accordance with the investment objectives of using the object of assessment, i.e. it reflects the benefits of owning the object.[72]

- *The liquidation* value – the type of value used for valuation in order to complete a transaction on the alienation of property and reflecting the most likely price at the moment, taking into account extraordinary circumstances that force the sale of an object not on market conditions. [73]
- *Cadastral* value – presents a value determined and used by government agencies primarily for tax purposes, based on all information about the object, including economic characteristics. [74]

Stakeholders are usually considered in terms of the goals they pursue in relation to the object of assessment. For example, there is a point of view that potential consumers in the assessment belong to three groups[75]:

1) creditors – for this group of users of the evaluation results, the value is a criterion for expert assessments in terms of determining the quality of collateral, making a decision to expand credit limits, as well as assignment of claim rights;

2) possible investors are interested in obtaining the most objective information about the object of assessment;

3) owners – here the interests depend on the situation in which the assessment is carried out (for example, the sale of a property complex and the liquidation of a legal entity, mergers and acquisitions, etc.).

Russian researchers note the relevance of market value assessment, including due to legislative regulation, which in the context of crisis phenomena stimulates the need to assess the market value of enterprises.[76]

At the same time, the role of valuation depends on the specifics of the industry, the goals of stakeholders (banks, the state, shareholders, investors, etc.), as well as a subjective factor that is manifested by analysts in the form of professional judgment.[77]

It should be noted that in practice, you may encounter a number of problems in estimating the value. Thus, the ambiguity of the interpretation of concepts is attributed to modern problems of a

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[72] Order of the Ministry of Economic Development dated May 20, 2015 No. 298 «The purpose of valuation and types of value (FSO No. 2)» [Electronic resource] .- Access mode: URL: http://www.ceae.ru/FSO_2.htm

[73]Federal Law No. 135-FZ dated 07/29/1998 (as amended on 11/28/2018) «On Valuation Activities in the Russian Federation» [Electronic resource]. – Access mode: URL:http://www.consultant.ru/document/cons_doc_LAW_19586/010969a54af6f2ea4b4cb3cf4a1adaf4e6b3f4e3/ .

[74]Ibid.

[75] Malakhov R. G. Property complexes: features of the application of approaches in assessing market value / R. G. Malakhov, D. G. Malakhov // Economic problems of regions and industrial complexes. Problems of the modern economy. - 2015. – pp. 272-276.

[76] Karpova O. K. On the issue of assessing the market value of enterprises / O. K. Karpova, N.A. Lobakhina, A.A. Yurkov // Bulletin of the Rostov State University of Economics (RINH). – 2015. - № 2. – 50. P. 85.

[77] Damodaran A. Investment assessment / A. Damodaran // Alpina Business Books, 2008. – 1323 p.

methodological and applied nature [78] (for example, business, enterprise, value, value), therefore it is important to correctly determine the purpose of the assessment. Also, the Russian market is characterized by a more pronounced negative market reaction to information about hostile takeovers than for European ones, which makes it necessary to avoid hostile takeovers that are perceived negatively by investors.[79]

The implementation of financial and managerial functions in the field of increasing the value of the enterprise is aimed at creating the fundamental value of capital formed under the influence of inflows and outflows of resources for the financial and economic activities of the enterprise.[80] Accordingly, financial management in terms of value-based management is aimed at maximizing the fundamental value of the enterprise, taking into account the current market situation. This determines the need for a comprehensive assessment of the financial and non-financial factors of the enterprise value, covering in an enlarged form all kinds of business risks arising in the operating environment of the enterprise.

Western financiers, adherents of neoclassical theory, paid attention to the logical side of corporate finance of enterprises as the main players in the capital market, later at the intersection of neoclassical theory of finance, general theory of financial management and accounting, a new scientific direction was formed, called financial management, or corporate finance. [81] Among the wide range of financial management tools [82] to achieve the goal of creating added value in the company, it is necessary to choose the most effective and based on the study of various aspects of corporate finance management in modern conditions. In the middle of the 20th century, there was a rapid development of the theory of value-based management (at the core of this approach lies the idea of obtaining added value for the company and its long-term growth in the future). Its other name is the theory of value creation for shareholders, while it is worth emphasizing its versatility and focus, among other things, on harmonizing the interests of all other stakeholders.[83]

An essential criterion of the neoclassical theory of financial development is the increasing role of financial markets, which subsequently led to the mathematization of various aspects of financial decision-making.[84] It was at this time that the formation of key theories for financial management took place.

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[78] Akhmadeeva O. A. Problems of business valuation / O.A. Akhmadeeva, I.A. Koshkina// Modern research of social problems (electronic scientific journal), Modern Research of Social Problems. – 2014. - № 2 (34). - Pp. 1-16.

[79] Maricheva N. N. The impact of hostile takeovers on the share price of acquiring companies: Russian and European practice / N. N. Maricheva, E. M. Rogova // Journal of Corporate Finance Research / Corporate finance. - 2016. - No. 4. p. 86.

[80]Volkov D. L. Models for assessing the fundamental cost of equity: the problem of compatibility / D. L. Volkov // Bulletin of St. Petersburg University. - 2004. - Series 8. - Management. - Issue 3 (No. 24) - p.7.

[81]Kovalev V. V. Financial science in Russia (XVIII-XIX centuries). The history of finance and accounting. [electronic resource]. - Access mode: URL: https://finbiz.spb.ru/wp-content/uploads/2011/04/kovalev.pdf

[82]Within the framework of this study, the concepts of «company value management» and «value-based management» are identical.

[83] Kalayda S.A. Theoretical foundations of the formation of the category «company value» and modern practical aspects of value-oriented management / Kalayda S.A., Chupanova H. A. // Economics, entrepreneurship and law. – 2024. – Volume 14. – No. 6. - pp. 3243-3262.

[84]Kovalev V. V. Financial science in Russia (XVIII-XIX centuries). The history of finance and accounting. [electronic resource]. - Access mode: URL: https://finbiz.spb.ru/wp-content/uploads/2011/04/kovalev.pdf

The appearance of G. Markowitz's portfolio investment theory[85] in finance in 1952 was an important step in the development of the fundamental value of equity, then there was an analytical substantiation of this theory in the works of W. Sharp, J. Lintner[86], etc., which in academic and practical circles became the benchmark of financial management. Portfolio theory recognizes an optimal portfolio in which the variance of the expected return contains a minimum value.

For the neoclassical theory of finance, the theory of value management itself can be considered as a broad practical application.

The English-language, generally accepted in Western practice, name of the value-based management concept is Value-based management (hereinafter referred to as VBM). It is based on creating the most maximum value of equity based on value thinking and ideology, as well as an effective measurement system. Such a scheme of the company's development within the framework of VBM is considered as one of the main goals of its functioning.

The concept of «fundamental value» exists within VBM and can be interpreted as the internal value of the company, formed on the basis of the value of assets, taking into account the strategic potential of the company. The popularity of the VBM concept was associated with the publication of Alfred Rappaport's work «Creating Shareholder Value: a New Standard for Business Efficiency».[87] In this paper, the author presented a management method for assessing the value of an enterprise that takes into account the interests of shareholders and stakeholders. The practical implementation of the concept is impossible without the introduction of a system of remuneration for staff and managers, measuring and evaluating aspects of corporate culture, taking into account shareholder value.[88]

The utmost importance of financial management of enterprise value is emphasized by leading foreign scientists. T. Copeland, T. Koller and J. Murrin presented the theory of value-based management in the form of a scientific direction pursuing a wide range of goals, objectives, and various tools, which together are aimed at achieving strategic growth in the value of the enterprise. [89] For example, in the scientific work «Company Value: valuation and management», the authors pay special attention to the importance of increasing the value of the company for shareholders in conjunction with the interests of other stakeholders. The authors refer to the reflections of A. Smith, who, in particular, writes those high-performance enterprises attract promising employees without a conflict of interest. They provide an example of assessing the relationship between labor productivity, shareholder welfare, and employment

[85]Markowitz H. Portfolio Selection / H. Markowitz // The Journal of Financ. - 1952. - Vol. 7. - Issue 1. – pp. 77-91.
[86]The essence of the work is disclosed in paragraph 2.2. within the framework of the fundamental assessment of the cost of capital.
[87] Rappaport A. Creating shareholder value: The new standard for business performance / A. Rappaport // New York, Free Press, 1986. - 270 p.
[88] Arnold G. Value-Based Management: Context and Application/ G. Arnold, M. Davies//John Wiley & Sons.: Chichester. UK, 2000. – 384 p.
[89] Copeland T. Valuation: measuring and managing the value of companies / T. Copeland, T. Koller, J. Murrin // New York, John Wiley & Sons, 1995. - 576 p.

levels for countries such as the United States, Japan, and Germany. Their conclusion boils down to the fact that the highest value is created by companies with high productivity.

Among Russian scientists, this position is supported by D. Volkov, who believes that VBM is a powerful tool for management consulting, while noting its practical value among the existing extensive methods of consulting in the field of financial management, but at the same time there are disputes about its applicability in various markets. [90]

The emergence of value-based management is considered by A. Potapov and I. Tkachenko as an innovation in management. The authors attribute it to the Pull model (a demand-driven innovation model, i.e. based on an existing need in the market). Accordingly, the principles, approaches and methods existing within the framework of VBM are attributed by the authors to the field of innovation in management.[91]

The formation of the VBM concept and its modern practical application is generally based on conceptual principles that are of particular importance in its interpretation.

First, the growth of shareholder value should be accompanied by consideration of the interests of other stakeholders, while methods of financial incentives are widely used to reduce the inconsistency of the interests of management and shareholders. The use of VBM frees management from a number of managerial shortcomings that arise when using traditional assessment methods and management tools. The criterion for the success of the VBM application can be considered a positive return on invested capital (investments). In this sense, capital costs represent the costs associated specifically with equity. At the same time, the assessment of investment risk involves the measurement of all systematic and non-systematic risks affecting the object of assessment. The capital asset pricing model has gained some credibility and practical value in business valuation, thus it is widely used both in academic and practical work.[92] Against the background of achieving the goal of ensuring return on capital, this approach is of great value, since it takes into account risk and profitability together and in the long term leads to the most rational allocation of resources in comparison with the abstract task of returning the value of invested capital.

Secondly, strategic plans in the field of investment decisions of the enterprise and the investment strategy require making informed decisions taking into account the life cycle of investments. At the same time, the time factor should be considered from the point of view of different periods: retrospective and prospective. This logic reduces the risks of adverse events and provides the user with information about

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[90] Volkov D. L. Theory of value-based management: financial and accounting aspects / D. L. Volkov // Higher School of Management of St. Petersburg State University. — St. Petersburg. Publishing house «Higher School of Management»; Publisher. House of St. Petersburg State University, 2008. — P.26.

[91] Potapov A.V. The concept of value-based management. / A.V. Potapov, I. N. Tkachenko // The theory of management. USUE News. - № 5 (31). 2010. – P.36.

[92] Boda M. Linearity of the Sharpe-Lintner Version of the Capital Asset Pricing Model / M. Boda, M. Kanderova// Procedia - Social and Behavioral Sciences. - 2014. - №110. – pp. 1136 – 1147.

the value of the company, about potential losses that can be prevented with the help of management decisions.

Based on the above-mentioned judgments, long-term strategic value growth should lead to a departure from the formal perception of the financial management process to a more meaningful and quantified one from the perspective of the stock market and fundamentals.

This approach seems to us conceptually applicable to any company when it is being adjusted depending on the conditions of its business: the development of the stock market, the priority of development of a particular industry, the specifics of the perception of the population of this area of activity, etc.

However, in scientific circles, the issue of accounting for financial and non-financial factors remains open and is largely debatable, since it requires adaptation of tools to the vulnerability of certain markets, which also creates risks of unforeseen losses and weakens prompt response in achieving the goal of creating added value for the company.[93]

Despite the fact that the literature describes various new approaches to management, not all of them are applicable to sectors of the economy. In most cases, the problem lies in the uncertainty of the approaches used and the discrepancy between the final goal of the enterprise and the value-based concept.[94].

Value-based management can be perceived as a solution to this problem. In an ever-changing competitive environment, accompanied by various kinds of transformations for enterprises, there is a need to reorient resources from less profitable areas of activity to more profitable ones. Thus, the solution to this problem is not possible without correctly formulated models of financial management.[95] At the same time, value-based management provides an accurate and unambiguous metric on the basis of which the entire company can be built[96]. And the value itself is determined based on the discounted cash flow achieved by the enterprise[97].

Value-based management is based on the company's overall aspirations, analytical methods and management processes, paying special attention to the management decision-making process on key value creation factors and consideration of unforeseen factors affecting the effectiveness of VBM. The conclusion about the importance of making managerial decisions based on an empirical analysis of key

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[93] Kozlova N. I. Maximizing shareholder value in the dynamic Russian capital market / N. I. Kozlova // Russian entrepreneurship. - 2016. — vol. 17. — No. 18. — pp. 2351-2370.

[94] Mitan A. Value-based management: A case study of Visegrad Four countries / A. Mitan, A. Siekelova, M. Rusu, M. Rovnak // Ekonomicko-manazerske spektrum. - 2021. - 15(2). - pp. 87-98.

[95] Papatya G. Value-based management applications in business: Amodel study for Turkey business/ G. Papatya // Journal of Mehmet Akif Ersoy University Economics and Administrative Sciences. - 2020. - No 7, pp. 1194-1210.

[96] Watts R. Towards a positive theory of the determination of accounting standards / R. Watts, J.L. Zimmerman // The Accounting Review. - 1978. - No 53. - pp. 34-62.

[97] Ausloos M. Valuation models applied to value-based management-application to the case of UK / M. Ausloos // Forecasting. - 2020. – pp. 549-565.

factors of value creation can be found in the works of foreign authors (Frik[98] and others; Ittner и Larcker [99]; Zimmerman[100]).

The long-term strategic development of the enterprise and its sustainable growth require the development of such financial management tools that would ensure the growth of the company's value for shareholders and stakeholders. For long-term development and sustainable growth, the company needs to take into account long-term risks in the future and form a transition from traditional accounting indicators to value-oriented ones. The change of priorities in the management model from traditional indicators to financial ones dictates the management to solve a number of new tasks, covering both financial and intellectual resources.[101]

Value-based management differs from the planning systems of the 1960s in that it is mainly based on value creation, as a set of well-known management methods aimed at maximizing shareholder value. In the decision-making process, managers focus on creating value for shareholders. Hou and Zhang[102] argued that value creation should be considered as a central strategic task of management, including the general market situation, the supply chain, the enterprise itself, the product offered, as well as the potential consumer and their corresponding strategies aimed at increasing the value of the business.

A. Mitan[103] et al. investigated the relationship between the indicators of Economic Value Added (EVA), which reflects the successful implementation of the value creation process in companies. There was a slight correlation between the EVA indicator and non-current assets, current financial assets and income tax. There was also a moderate relationship between EVA and inventories, accounts receivable, interest expenses and other liabilities, and a high relationship between EVA and bank loans.

Financial management of the company's value in terms of this dissertation is a managerial approach that includes a complex of diverse factors in the formation of the fundamental value of capital and market capitalization, which are influenced by external and internal risks of doing business.

For financial management of the company's value in the context of value-oriented management, it seems logical for us to consider a set of external and internal factors that potentially affect both the fundamental and market value of the company. It seems advisable to evaluate an asset with value on the

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[98] Frik S. Drivers of value creation – the role of value-based management and underlying institutions / S. Frik, S. Scharpp, M. Wolff// Management Accounting Research. - 2016. – No 33. - pp. 42-60.

[99] Ittner C.D. Assessing empirical research in managerial accounting: a value-based management perspective/ C.D. Ittner, D.F. Larcker // J. Account. – 2001. - pp. 349–410.

[100] Zimmerman J.L., Conjectures regarding empirical managerial accounting research/ J.L. Zimmerman // J. Account. - 2001. - Econ. 32. - pp. 411–427.

[101] Chupanova Kh. A. The concept of value-based management: a theoretical analysis / Kh. A. Chupanova, A.A. Chupanov // Innovations. Science. Education. - 2021. - No.37. - pp.273-277.

[102] Hou R. Y. Value based management and strategic planning / R.Y. Hou, A. Zhang // Proceedings of the 2nd International Conference on Product Innovation Management & The 3rd International Conference On Value Engineering, Peoples R China. - 2017. - pp. 38-40.

[103] Mitan A. Value-based management: A case study of Visegrad Four countries / A. Mitan, A. Siekelova, M. Rusu, M. Rovnak // Ekonomicko-manazerske spektrum. - 2021. - 15(2). - pp. 87-98.

stock market, taking into account external and internal factors. The coverage of the most important cost factors for financial management requires the development and integration into the financial management system of an enterprise of a number of performance criteria that can characterize the creation of value in the company, taking into account external and internal operating conditions.

Methodological tools should be able to be used in practice in an imperfect capital market. To achieve the purpose of the study, it is necessary to develop an economically sound algorithm that forms an integral toolkit for evaluating the value of a company from the point of view of VBM. The author proposes the following scheme for the implementation of such an algorithm (Figure 1).

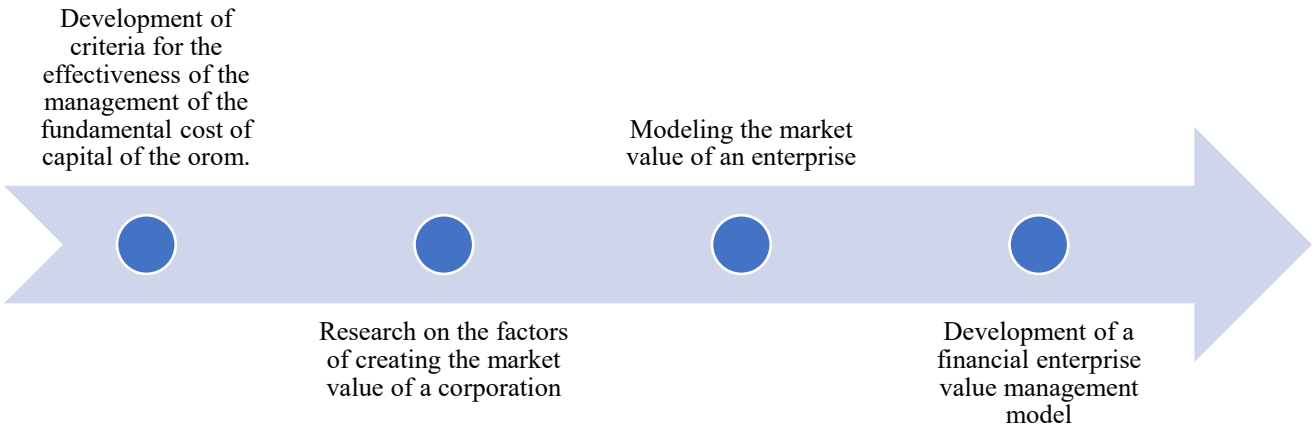

Figure 1. Algorithm for the development of economically sound tools for financial management of enterprise value.
Compiled by the author.

The scheme presented by the author is aimed at covering the key stages of creating a financial management model, the conceptual meaning of which is to use factors of enterprise value growth in financial management. To achieve this goal, it is necessary to consistently study the fundamental and market conditions of the company's operation. This algorithm is the basis for identifying scientific results and using them in practice in order to create a comprehensive model of financial management of enterprise value. The economic and mathematical justification of the formulated approach will be presented in the following chapters of the study.

The estimates obtained can serve as a basis for the inclusion of certain performance criteria in a conceptual approach to financial management of enterprise value.

1.2 Key elements of financial management of the company's value

Within the framework of VBM, the financial strategy of the company is aimed at finding such tools to achieve the tactical goals of the company that contribute to increasing the value of the company. Building a company's financial strategy based on the company's tactical goals determines the choice of management decision-making tools. Since management is ultimately responsible to investors, the goal of corporate financial management should be to implement investment and financial decisions that should satisfy the interests of shareholders, putting them all in an equal, optimal financial position. The satisfaction of shareholders' interests should be perceived as a means to achieve the goal, namely, maximizing the welfare of shareholders.

Strategic financial management is an integral part of the corporate strategic plan, which includes optimal investment and financial decisions necessary to achieve common goals. In this regard, it is necessary to take into account the difference between strategic, tactical and operational financial planning. The financial strategy of the company in this context is based on the financial policy of the company. At the same time, there are many definitions of the company's financial policy in the academic literature.

Russian researchers in the field of corporate finance note that the creation of a company management methodology should include not only short-term, but also long-term threats and opportunities. T. V. Teplova notes that focusing on traditional accounting indicators does not take into account the long-term goals of the company, but considers it only based on the current situation[104]. M. V. Kudina believes that when building a company management model, it is necessary to focus on the fundamental value of the company, taking into account its growth in relation to market capitalization [105]. V. V. Kovalev proceeds from the triad, which is based on such key components as: «financial resources, financial relations and financial solutions», the essence of the latter lies at the heart of corporate financial policy.

The concept of «financial decisions regarding the company's funds» includes enlarged groups of decisions in the field of sources of financing for the company's activities, the cost and structure of sources of financing, as well as dividend payment policy. [106] I. Y. Lukasevich includes such structural

[104] Teplova T. V. Effective financial director/ T. V. Teplova // Effective financial director: textbook for undergraduate and graduate studies, 2018. — 507 p.
[105] Kudina M. V. Fundamental and market value of the company / M. V. Kudina // Russian entrepreneurship. – 2010. - №1(2). - P.35.
[106] Kovalev V. V. Financial management: theory and practice / V. V. Kovalev // Moscow: TK Velbi, Publishing House Prospect, 2007. – 1024 p.

components in the financial policy of the company as: business financing, structure and cost of capital, as well as dividend policy.[107]

V. G. Kogdenko writes that corporate financial policy should be understood as a set of actions aimed at the effective formation and use of financial resources, effectively distributed taking into account the strategic and tactical goals of the company. Under these conditions, the company's strategic goals are aimed at maximizing the value of the company, and tactical goals are aimed at increasing profits, profitability of invested capital, forming an optimal capital structure, ensuring financial stability, etc.[108]

R. Brayley and S. Myers in their work «Principles of Corporate Finance» draw attention to the key role of analyzing retrospective data based on financial statements of companies. «Financial reports serve managers as a source of information for solving several tasks: with their help, managers monitor the performance of their own companies, identify the positions and policies of competitors, monitor the financial health of customers.»[109]

In terms of the value philosophy of the company's development, the transformation of the accounting and analytical model into a value model (priority is given to the company's value indicators) translates management thinking from a vision of a short-term development picture to a long-term one.

The specifics of the evolution of value concepts are related to the fact that the classical idea of the evolution process is based on the emergence of new approaches that are more relevant and perfect, however, in the context of value-oriented management, this condition is not always fulfilled: early management concepts have a larger scope than new ones. Nevertheless, the very formation of value-based management has gone through several stages: at an early stage, practical foundations were laid, and at a later stage, theoretical ones.

Thus, it is possible to formulate some features of the transition from the traditional financial management model to a value-oriented one (in Table 2).

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[107] Lukasevich I. Ya. Financial management: textbook and practicum for universities // I.Ya. Lukasevich // Yurayt. Moscow, 2024. – 680 p.

[108] Kogdenko V.G. Corporate financial policy: features of development and implementation/ V.G. Kogdenko // Financial analytics: problems and solutions, 2013. - p. 2.

[109] Brayley R. Principles of corporate finance / R. Brayley, S. Myers // translated from English by N. Baryshnikova. M.: Olymp-Business CJSC, 2007. - 1008 p.

Table 2 – Formulation of the features of the transition from a traditional management model to a value-based one according to criteria

№	Criteria	The traditional model	A value-based model
1.	Characteristics of indicators	Short-term	Long-term
2.	The base for the calculation	Accounting (financial statements)	Accounting (financial statements), macroeconomic indicators, stock market indicators.
3.	Planning horizon	Actual indicators, retrospective	Actual indicators, retrospective, perspective
4.	Return required by investors	It is not taken into account	It is taken into account in the discount rate
5.	The basis for making managerial decisions	Enterprise reporting	Analytical industry reviews, strategic development plan of the enterprise, analysis of the competitive environment, financial and non-financial reporting of the enterprise
6.	The ultimate goal of management	Maximizing the company's profits	Maximizing enterprise value

Compiled by the author on the basis of: E. A. Spiridonova «Business value assessment and management: textbook and workshop for universities»/E. A. Spiridonova – Moscow: Yurayt Publishing House, 2023. - 257 p.

According to the author of this study, traditional accounting indicators have a number of imperfections that could be eliminated in the cost paradigm of functioning and take into account, among other things, modern market conditions of management. There are several reasons for this. Here are some key disadvantages of using traditional accounting indicators[110]:

- the profit of the reporting period does not reflect the company's real cash resources needed to create shareholder value;
- profit does not take into account financial risks: the financial statements reflect an indicator that means that «has already happened», but does not take into account «what could have happened»;
- the specifics of the formation of financial results in accounting statements do not take into account the return on invested capital required by investors;
- when calculating the value of a company, its growth potential is taken into account, while events over the past period are included in the accounting profit.

Thus, cost financial management is a set of tactical goals within the framework of the company's financial policy aimed at achieving strategic goals in the long term, taking into account the time factor.

[110] Purlik V.M. Management of a company with a focus on business value growth / V.M. Purlik // Public administration. Electronic bulletin. - 2018. - No. 69. - p. 138.

VBM is considered by I.V. Ivashkovskaya as a versatile innovation, representing at the conceptual level new principles of financial analysis by tracking a new type of profit – economic profit. At the same time, the classical principles of modern financial analysis and corporate finance are also embodied in the new management system.[111]

Within the framework of value-oriented management, D.L. Volkov presents value-oriented management in the form of 4 key management modules (Figure 2): 1) evaluation (selection of an adequate evaluation model and appropriate value measurement procedures); 2) strategy (the relationship between the value of the company and business strategies); 3) finance (description of financial policies aimed at creating value); 4) corporate governance (coordination of the interests of owners and managers). Russian researchers A.V. Potapov and I. N. Tkachenko propose to consider the key modules of D. L. Volkov in complex interrelation with such factors as uncertainty, risk, profitability and competition in order to take into account the peculiarities of the influence of the cyclical economy and the peculiarities of current business conditions.[112]

D. L. Volkov suggests considering VBM through an organically combined system of the above modules working at organizational levels and contributing to the final value of the company)[113]:

- the evaluation module encourages management to define a value model that measures all possible factors of creating shareholder value and the possibility of periodically monitoring such indicators in order to identify factors of destruction/value creation for shareholders;
- the strategy module implies the adoption of value thinking and value ideology, which consists in following a single goal of creating value in the company, taking into account the efficiency of all departments of the enterprise;
- the finance module addresses the key corporate financial policies of the firm, which contain the basic prerequisites for creating value, that is, consistent with the company's value enhancement strategy;
- the corporate governance module covers tasks related to solving the agency problem, when the interests of managers and owners may not coincide, which requires coordination through various financial incentive systems for managers and employees.

[111] Ivashkovskaya I. V. Managing the value of a company as an innovation/ Corporate finance: prospects and reality / I. V. Ivashkovskaya // Managing the value of a company: collection of articles of the participants of the Third International Conference of Young Scientists / under scientific ed. T. V. Teplovoy; State University — Higher School of Economics. — M.: Ed. the house of the Higher School of Economics. - 2006. — 256 p.

[112] Potapov A.V. The concept of value-based management/ A.V. Potapov, I. N. Tkachenko // The theory of management. USUE News. - 2010. - № 5 (31). - P. 37.

[113] Volkov D. L. Theory of value-based management: financial and accounting aspects / D. L. Volkov // Higher School of Management of St. Petersburg State University. — St. Petersburg. Publishing house "Higher School of Management"; Publisher. House of St. Petersburg State University, 2008. — pp.27-36.

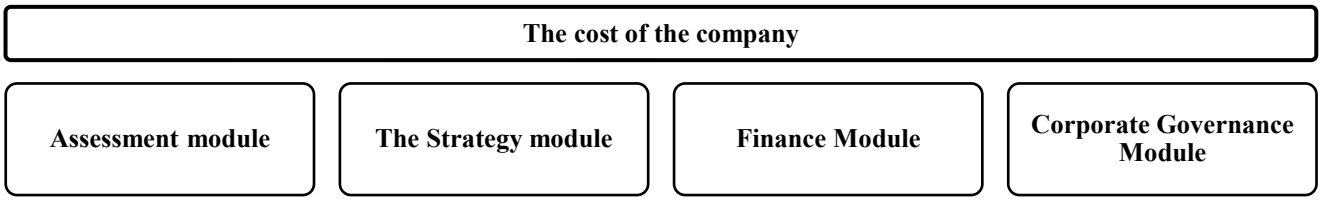

Figure 2 - Key modules of value-based management according to D. Volkov [114]

According to the author of the dissertation research, modern trends in the development of the corporate sector require the creation of an integrated approach to value-oriented enterprise management, covering enlarged groupings of various elements of influence. The following are supposed to be considered as such elements in this study (Figure 3).

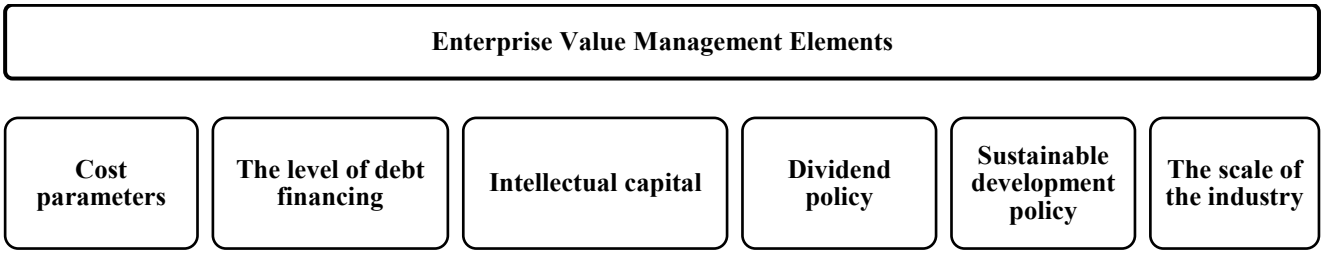

Figure 3. Diagram of the key elements of financial management of the company's value

Compiled by the author

These elements were grouped in a single logic - according to the most important element of enterprise management. Within the framework of these elements, it is proposed, along with the existing methods of evaluating the financial performance of the company, to provide for the development of such indicators that would allow assessing the increase in value in the company. At the same time, the strategy proceeds from cost considerations related to the fundamental and market value of the company.

The fundamental value of the company is mainly focused on creating shareholder value, and the market value is aimed at creating value for all stakeholders, while we do not exclude the mutual influence of the first value on the other and their relationship: shareholder value should not contradict the goals of stakeholders. Financial policy is based on cost attitudes and value creation strategies for owners and stakeholders: in the first case, we can talk about mainly traditional risk-adjusted performance indicators, and in the second, there is an analysis of current and forecast cost indicators.

Let's take a closer look at the key elements of financial management of the company's value highlighted by the author:

[114]Volkov D. L. Theory of value-based management: financial and accounting aspects / D. L. Volkov // Higher School of Management of St. Petersburg State University. — St. Petersburg. Publishing house "Higher School of Management"; Publisher. House of St. Petersburg State University, 2008. — p.26.

1. Parameters of value

The company's position in the most general sense can be determined at the micro and macro levels. At the micro level, such an assessment can be presented to us by the fundamental value of the company. On the other hand, a company's position at the macro level, from the stock market perspective, can be determined by its market value. Since strategic financial management is an integral part of the corporate strategic plan, which includes optimal investment and financial decisions necessary to achieve the goal of long-term growth in the value of the enterprise, it is necessary to cover the enlarged elements of value creation. In this regard, it is necessary to determine the determinants of the company's value creation in terms of fundamental and market assessments.

2. The level of debt burden

At the same time, the economic essence of the considered interpretations of the concept of "financial policy" indicates the relationship between corporate financial policy and its financial strategy. The company's debt burden is a key parameter determining financial stability and further strategic development, as well as the implementation of planned investment projects. Thus, one of the main factors in financial institutions' decision to issue new loans is the level of debt burden and the ability to service debt.

3. Intellectual capital

Intellectual capital is a possible tool for long-term growth in the value of an enterprise that contains a sign of competitive advantage, especially in the context of the transition of the economy to the rails of innovative development. His assessment consists of human, structural and client capital. Building intellectual capital in a company requires the development of individual solutions at the level of corporate strategic planning documents. For example, stimulating the development of human capital requires the creation of a set of measures for the development and training of employees (knowledge, skills and creativity). Structural capital determines the availability of the company's own intellectual property results, technical means, and software. In terms of client capital, it is of great importance to work with the company's brand, improve the image and relationships with key customers and product sales markets.

4. Dividend policy

In matters of market value formation, one of the priorities should be given to the dividend policy, which ensures the formation and distribution of profits among shareholders. From the perspective of investors, the desire to reduce financial risk in relation to invested funds is of great importance. Therefore, the dividend payment policy reduces the risk of investors' uncertainty about the expediency and profitability of investing. Thus, it is assumed that within the framework of cost management, the dividend policy established by internal documents should ensure maximum transparency for the owners of the company and other interested parties of the mechanism for determining the amount and payment

of dividends. At the same time, the dividend policy of companies (both in developing and developed markets) is determined by the following parameters: business efficiency, company size, and development prospects.

5. Sustainable development policy

The global vector of development today is aimed at achieving global goals in the field of sustainable development. The main trend in the development of the modern economy is the concept of sustainable finance, which is based on the idea of involving the company in the implementation of the principles of sustainable development. Sustainable development refers to activities aimed at development that does not harm future generations. If such activities are carried out at the corporate level, the results of them are published in the non-financial statements of the enterprise.

The company's policy in the field of environmental, social and corporate responsibility can be reflected in the non-financial reporting of the enterprise, which provides users with previously "hidden" information about the company's activities and development prospects in terms of impact on achieving global sustainable development goals.

6. The scale of the industry

Taking into account the average industry development indicators, due to which value added increases, may indicate key trends in its development and industry drivers of development. The industry specifics in the formation of the company's market value characterize the development opportunities in terms of increasing the main parameters that create added value in the industry. Such information implies a more thorough analysis of competing enterprises and their development strategies.

The proposed approach to financial management of the company's value requires the selection of correct valuation indicators, as well as mathematical justification. In this regard, this study will attempt to explore the fundamental and market determinants of value creation in a company in the context of its long-term strategic development. Based on the mathematical justification of this approach on the example of the manufacturing industry of the Russian Federation, it seems possible to extrapolate it to other public enterprises of the domestic economy.

The primary step in the formation of a comprehensive strategic management of a company is the assessment of its fundamental and market value of the company, since the implementation of all other modules directly depends on the possibility of evaluating the company. Therefore, the set of existing approaches to cost estimation will be analyzed further, including taking into account the author's industry research.

1.3 Approaches to valuation within the framework of VBM: advantages of the residual net profit model

The practical application of value-based management in the context of development at the industry level has been confirmed in scientific works since the 2000s of the XXI century. The formation of value-oriented management is preceded by a number of fundamental works that formed the basis of modern scientific research in the field of value management. Within the framework of this concept, in relation to public companies, in the context of value management, the fundamental (shareholder) value of equity arises, based on the projected revenues associated with it.[115]

The actual and calculated indicators of the company's value are theoretically closely interrelated, but this assumption can be clearly traced in relation to companies of the XIX–XX centuries, when there is a relationship between the company's assets and the revenue generated by it. But with the advent of such types of activities in the XXI century, where assets have a «hidden» character (for example, leased property reflected on the lessor's balance sheet, goodwill, etc.), some indicators are artificially veiled, thereby there is no clear relationship between the assets of the company and the revenue generated by it.

It is worth noting that the concept has gained its practical relevance and applicability only in countries with developed economies, and in emerging markets and markets with economies in transition it is only fragmentary.

Value-based management approaches are aimed at maximizing shareholder welfare, which is why they became widespread in developed markets with a high proportion of public companies at the turn of the XX-XXI centuries. The concept of value-based management covers a number of tasks aimed at strategic development. This is, first of all, the choice of an adequate valuation model, monitoring changes in its value, identifying drivers of its development, taking into account the relationship with corporate business development strategies, approving financial plans for the company's development, developing a comprehensive system for evaluating the company's performance and employee motivation tools.

The primary classification of VBM indicators is presented by D. Volkov, who divides the indicators into three groups depending on the calculation base of the indicator: a) based on accounting data (estimates and indicators); b) based on cash flows; c) based on market estimates. At the same time, various intermediate options are possible, when the indicator may include a mixed base. The choice of a group of certain cost indicators contributes to the transition from cost ideology and cost thinking to practical aspects of cost management.

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[115] Volkov D. L. Models for assessing the fundamental cost of equity: the problem of compatibility / D. L. Volkov // Bulletin of St. Petersburg University. - 2004. - Series 8. - Management. - Issue 3 (No. 24) - p.7.

It seems logical for the author to focus on the key elements of the assessment, as well as the problems of choosing tools for its assessment.

The fundamental value of capital characterizes the internal value of an enterprise, which is formed as a result of various types of company activities. Further, under the influence of various factors, such as investor relations, employee competence, modern business processes, etc., it turns into a market economy.[116]

The fundamental value of a company in terms of a management concept is identified with a shareholder value and means measuring the projected value of capital based on all possible inflows and outflows from an asset.

D. L. Volkov made a significant contribution to the creation of the theory of value-based management after the publication of his dissertation research.[117] The author proposes a comprehensive toolkit for assessing the value of a company, providing, on the one hand, the choice of a way to assess the fundamental value of the company, and on the other, accounting for cash flows that create value for the company. This toolkit allows you to take into account the resulting indicators, measurement methods and evaluation models. The measurement of the cost of equity can be carried out, according to the author, using an operational or capital approach. The first (operational) involves calculating the discounted value of receipts minus debt obligations. The second (capital) one is based on calculating the discounted value of future receipts at a given rate of return[118]. As for cash inflows, their role can be performed by future cash flows or flows of residual income of the company (profit flows).

Table 3 shows the primary classification of models proposed by D. L. Volkov. The author divides the models depending on the evaluation criteria presented above. Table 3 – Traditional approaches to assessing the fundamental value of equity according to D.L. Volkov

		Approaches to assessing the fundamental value of equity	
		Operational	Capital
Value-creating	Cash flows	Value-creating streams	
		Discounted Free Cash Flows Model (DFCFM)	Dividend Discount Model (DDM)
	Residual profit	Residual income models (the Residual Income Model in the following two forms:	
		The Residual Operating Income Discount Model (ReOIM)	Residual net profit discounting Model (Residual Earnings Model — REM)

Source: Volkov D. L. Theory of value-based management: financial and accounting aspects. — 2nd ed. — D. J. Volkov; St. Petersburg State University Graduate School of Management. — St. Petersburg. Publishing house «Higher School of Management»; Publisher. House of St. Petersburg State University, 2008. — p.26.

[116] Kudina M. V. Fundamental and market value of the company / M. V. Kudina // Russian entrepreneurship. – 2010. - №1(2). - P.35.
[117] Volkov D. L. Models for assessing the fundamental cost of equity: the problem of compatibility / D. L. Volkov // Bulletin of St. Petersburg University. - 2004. - Series 8. - Management. - Issue 3 (No. 24) - p.7.
[118] Ibid.

Please note that, depending on the approaches used to assess the value of the company (capital or operational), the models for assessing the fundamental value may differ. When using the operating approach, based on calculating the amount of future income discounted at a certain rate, minus the cost of debt obligations, there are two valuation models.

The first model (discounting free cash flows, DCF), which determines the fundamental cost of capital based on the discounted value of cash flows generated over a specific period of time, is widely used by practicing appraisers. The second model (ReOI) calculates the fundamental cost of capital through the book value obtained at the time of valuation and exceeding the equity for the increase in fundamental value.

When using the capital approach, based on determining the fundamental cost of capital by discounting future earnings for shareholders, models are highlighted:

- dividend Discounting (DDM), which was proposed by J. Williams in the first half of the twentieth century. The works of E. Shapiro and M. Gordon were devoted to its theoretical development and practical application. Its adherents define the logic of the model by the fact that the value of the share must correspond to the discounted value of the proceeds expected from it.

- residual net profit (REM), the logic of which is identical to ReOI, with only one correction – here the book value of capital is an endless stream of residual net profits.[119]

It is also necessary to take into account that the fundamental value of a company forms the basis of its market value. The formation of market value occurs due to the influence of various external factors on the fundamental cost of capital.[120]

Based on the theoretical analysis carried out, in order to compare the calculated and actual indicators, the cost will be calculated using the Residual net profit discounting model (Residual Earnings Model REM). The founders of the research area in the field of development of the residual net profit model were James Olson, Edgar Edwards and Philip Bell. An alternative name is found in the scientific literature – the Edwards-Bell-Olson model. Section 2.3. provides a detailed formulation of the models for further research.

S.V. Valdaytsev distinguishes two temporary options for calculating the residual value, depending on the moment of assessment. In the first case, we are talking about the assessment from the current period in the year of the assessment, and in the second – about the future assessment, i.e. the year

[119]Volkov D. L. Theory of value-based management: financial and accounting aspects / D. L. Volkov // Higher School of Management of St. Petersburg State University. — St. Petersburg. Publishing house "Higher School of Management"; Publisher. House of St. Petersburg State University, 2008. — pp.27-36.

[120]Graham B. A Reasonable Investor: A complete guide to value investing / B. Graham // Additions and comments by Jason Zweig. Moscow: Alpina Publisher, 2020. – 568 p.

increased by one.[121] In this study, we proceed from the cost estimates at the current time for each year under consideration in dynamics over several years.

Today, in domestic and foreign practice, a variety of models are used to assess the value of companies, which may not always be applicable from the point of view of the specifics of a particular business. Moreover, the experience of using modern foreign methods of assessing the value of a company gives reliable results at minimal cost both for implementation and for collecting and processing information. In this regard, it should be emphasized that the company's valuation model chosen by the author of the dissertation study takes into account cost indicators most fully.[122]

It is worth noting the advantages of the residual net profit model over other methods of valuation within the framework of VBM.

1. The residual net profit model combines the varieties of traditional methods of valuation. This allows you to assess the value of a company not only at a specific point in time, but also to take into account future risks associated with activities in this industry, country or stock exchange. There is a certain subjectivity in calculating the discount rate, since the company's analysts can calculate the discount rate based on best practices, investment preferences, and various information and analytical bases. Practicing appraisers often use a calculation based on the pricing model of capital assets as the rate of required return on capital. However, the development of a specific algorithm for calculating indicators based on publicly available data sources makes this method of assessment less time-consuming than existing ones.

2. The obvious advantage of the model over others is the simplicity of calculations. Technically, all the necessary data for calculations can be downloaded from open data of published financial statements of enterprises, information and analytical sources on industry-wide and market indicators on the official websites of agencies. The calculation of the residual net profit does not seem to be very laborious, since it is based on publicly available data from public financial statements, open databases and information and analytical sources.

3. The calculation of excess profits shows the periods in which the value of the enterprise is created and destroyed. This information encourages management to make decisions to ensure the profitability required by the market. In order to minimize future losses, such monitoring of the model component will help management to develop new management decisions in a timely manner in the context of value-based management. In general, a company using this indicator can form an idea of those periods in which the creation and destruction of the company's value is observed, which in the long term affects the formation of future strategic goals.

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[121]Valdaytsev S.V. Business assessment: textbook–3rd ed., reprint. and additional / S.V. Valdaytsev // M.: TK Velbi, Prospect Publishing House, 2008. – 576 p.

[122]Chupanova Kh. A. The relationship of market capitalization with indicators of the value of high-tech companies / Kh. A. Chupanova // Economics, entrepreneurship and Law. – 2019. – Volume 9. – No. 3. – pp. 191-206.

Conclusions on Chapter 1

The theoretical analysis of the concept of value-based management carried out in this chapter allows us to formulate a number of scientific results important for the development of theoretical research areas in the field of financial management of enterprises:

- This chapter presents the author's approach to the periodization of the evolutionary development of the concept of «company value» through the stages of development of economic theories. The modern interpretation of the concept of «company value» as applied to corporate finance is formed by signs that existed in Ancient Greece and Ancient Rome. It is based on key value theories that arose in the classical period and subsequently became the basis of neoclassical economic theory, within the framework of which there was a scientific understanding of the concept of «company value» in connection with the rapid development of financial science and the significant importance of private capital in the economy, as well as enterprises in the role of economic entities forming the basis of economic relations, and the beginning of the formation of financial science and value theory refers to the works of A. Marshall, G. Markowitz, A. Rappaport, T. Copeland, T. Koller, J. Murrin, G. Arnold et al.
- The features of the transformation of the traditional accounting model to a cost model are presented, reflecting the transition of the company's tactical goals into strategic long-term plans.
- Within the framework of value-based management, the author proposes key elements of enterprise value management, covering fundamental and market assessments.
- The advantages of the residual net profit model over other valuation methods are highlighted: a combination of traditional valuation methods, ease of calculation and efficiency in tracking value creation indicators at all levels.

CHAPTER 2. FINANCIAL MANAGEMENT OF THE VALUE OF METALLURGICAL ENTERPRISES BASED ON THE ASSESSMENT OF THE IMPACT OF THE DETERMINANTS OF ENTERPRISE VALUE

2.1 Metallurgical industry: current status and directions of development

The metallurgical industry in Russia is a part of the manufacturing industry, which occupies one of the leading places among the branches of the Russian economy. Metallurgy provides the country with such important products as cast iron, steel, rolled products, non-ferrous metals, as well as their numerous alloys, thereby determining the economic potential of the country.

The industry is one of the backbone sectors for the Russian economy, as it provides other industries with the raw materials necessary for production. It is one of the key industries in Russia and makes a significant contribution to the country's economy. And most of the industry's enterprises are city-forming, thereby determining the stability of the development of many regions of the country.

The ongoing macroeconomic shocks and crisis phenomena dictate the need to revise the strategic guidelines for the development of metallurgical enterprises. The relevance of the study of strategic factors in the development of the metallurgical industry is caused, first of all, by its intersectoral specifics, which affect the development of other sectors of the domestic economy.

«The total contribution of metallurgical production to the GDP of the Russian Federation does not exceed 5 percent, in the GVA – 17 percent. As for foreign markets, metallurgy accounts for 10 percent of total exports, and about 29 percent in the manufacturing industry specifically, which demonstrates the export orientation of this type of manufacturing industry. The contribution to the country's workforce is about 2.6 percent. On the world stage, Russia ranks 2nd in the production of steel pipes and aluminum, and 3rd in titanium».[123]

The domestic metallurgical industry faced serious problems and challenges in 2022. First of all, the restriction of exports of Russian products to unfriendly countries, the reorientation of supplies to friendly countries, as well as the need for rapid reorientation to the domestic market.

It is worth emphasizing that the loss of the main sales markets by Russian metallurgists had a significant impact on the further development of the industry, including prices for non-ferrous and ferrous metals.[124] The main reason for the negative impact on the industry was, first of all, the closure

[123]Decree of the Government of the Russian Federation dated December 28, 2022 No. 4260-r "On approval of the Strategy for the development of the metallurgical industry of the Russian Federation for the period up to 2030" [Electronic resource].- Access mode: URL: https://www.garant.ru/products/ipo/prime/doc/405963845 /.

[124]Measures to support the metallurgical industry in 2023 [Electronic resource].- Access mode: URL: https://gebelpartners.com/articles/mery-podderzhki-metallurgicheskoy-otrasli-v-2023-godu /?ysclid=lmq2mzqfdc264194291 .

of markets for Russian metals to unfriendly countries, which made it necessary for enterprises to search for opportunities for rapid reorientation to the domestic market. In the context of a significant reduction in exports of metallurgical industry products, large-scale metal-intensive infrastructure projects in transport, energy, construction, etc. are gaining a key role.

The key directions for the development of the Russian metallurgical industry in the long term are fixed at the state level in the strategic planning document approved by the decree of the Government of the Russian Federation dated December 28, 2022. No. 4260-r «Strategy for the development of the metallurgical industry of the Russian Federation until 2030» (hereinafter – the Strategy)[125].

Among the main goals aimed at the development of the metallurgical industry, the Strategy specifies such as: increasing the consumption of metal products in the domestic market, increasing the level of its processing, as well as uninterrupted supply of enterprises with critically important raw materials.

Achieving these goals should naturally contribute to the development of Russian enterprises in this industry. Measures to support the industry provided at the state level will contribute to the inflow of investments into enterprises.

At the same time, employment in the industry should be stimulated by forming a perfect model of youth policy, taking into account the key challenges and trends related to the youth labor market, as well as relevant problems that need to be solved in the medium and long term. It is necessary to clearly understand the strategic goals, objectives, effective tools and priorities for the development of state support for youth policy that meet the current conditions of the youth labor market and their interest in acquiring knowledge and skills in the field of industry.[126]

Of great importance in the modern conditions of the enterprise's functioning is its ability to meet domestic demand with high-quality products in the shortest possible time, thereby becoming the main competitive advantage of organizations. This problem is solved by the implementation of an effective supply chain management system, including the management of operations, procurement, production, information technology and logistics. In terms of optimizing business processes, we note that today the industry is rapidly improving business processes, including using artificial intelligence, which makes it possible to build production processes more efficiently, improve procurement planning, and actively manage procurement risks.[127]

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[125] Decree of the Government of the Russian Federation dated December 28, 2022 No. 4260-r "On approval of the Strategy for the development of the metallurgical industry of the Russian Federation for the period up to 2030" [Electronic resource].- Access mode: URL: https://www.garant.ru/products/ipo/prime/doc/405963845 /.

[126] Chupanova Kh. A. The causes of unemployment in the modern labor market and ways to overcome it / Kh. A. Chupanova // Bulletin of the RMAT. - 2018. - № 4. - 2018. - p.44.

[127] Chupanova Kh. Supply Chain Management Concept and Digital Economy: Digital Supply Chain Technological Innovation // Kh.A. Chupanova, Y. Otrokov, N. Mosina, V. Sekerin, A. Zharov, S. Garnik//Indian Journal of Economics and Development. - 2021. - Volume 17. - No. 4. – pp. 928-933.

It is worth noting that maintaining the positions of Russian companies in foreign markets, which is one of the key objectives of the Strategy, requires the development of sound recommendations, improvement of existing methods and approaches to effective enterprise management, taking into account industry-wide and global trends in the development of the industry.

As the largest producer, China is also the largest exporter of steel, and the country is also one of the leading importing countries due to the high demand for these products (Figure 4). In 2021, China was the leading country of origin for steel exports, exporting 66.2 million tons of its products. This significantly exceeded the level of exports in other countries, including Japan, which took second place, shipping 33.8 million tons of steel.

China has the world's largest steel industry, producing about half of all crude steel produced in the world. The steel industry has expanded significantly over the past few decades and still controls most of the world's steel production. According to Statista, in 2021, six of the ten largest steel companies were Chinese.

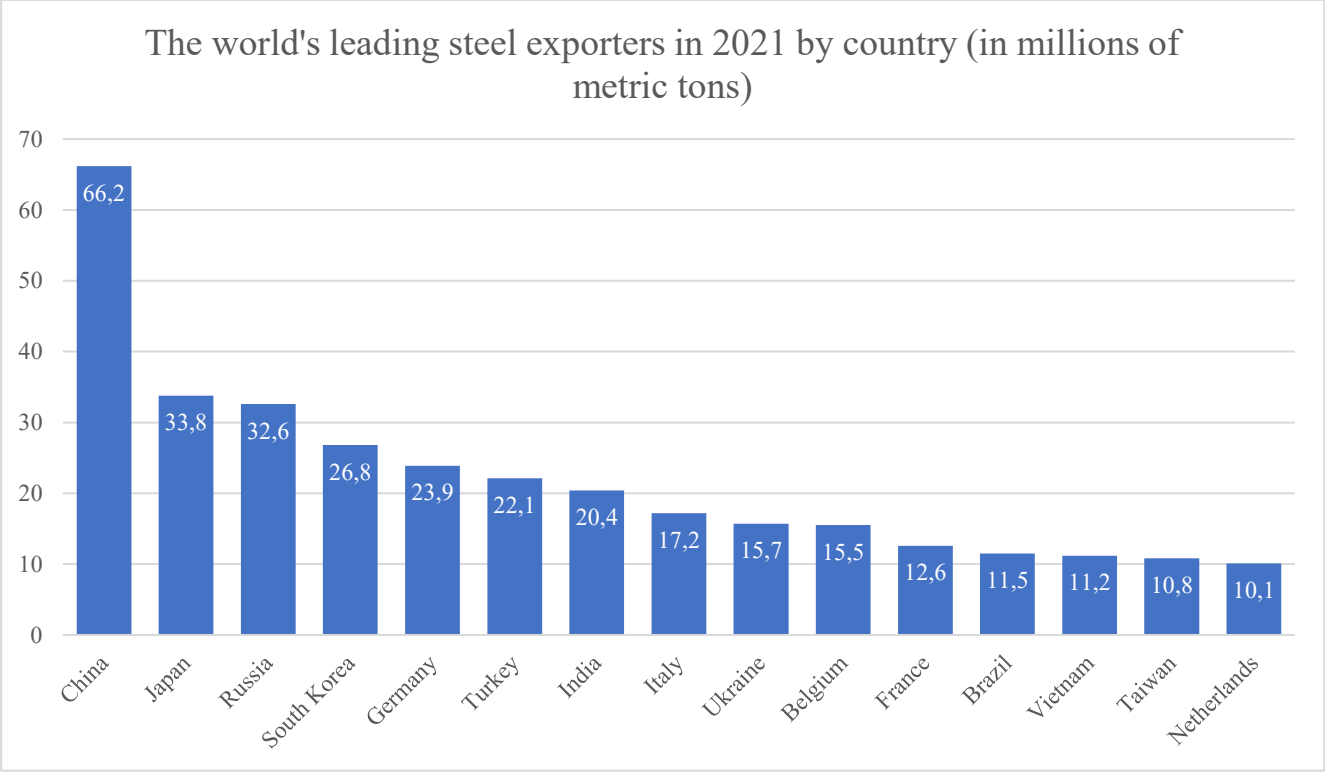

Figure 4 - The world's leading steel exporters in 2021 by country (in millions of metric tons)

Compiled by the author according to Statista.

In the former Soviet Union, Russia is the largest producer of crude steel with a production volume of almost 71.5 million tons in 2022, followed by Ukraine with about 6.3 million tons. Crude steel production in Kazakhstan took the third place, exceeding 4.1 thousand tons in 2022. The rest of the countries (Belarus, Uzbekistan, Moldova, Azerbaijan) occupied a small share in the total volume of production.

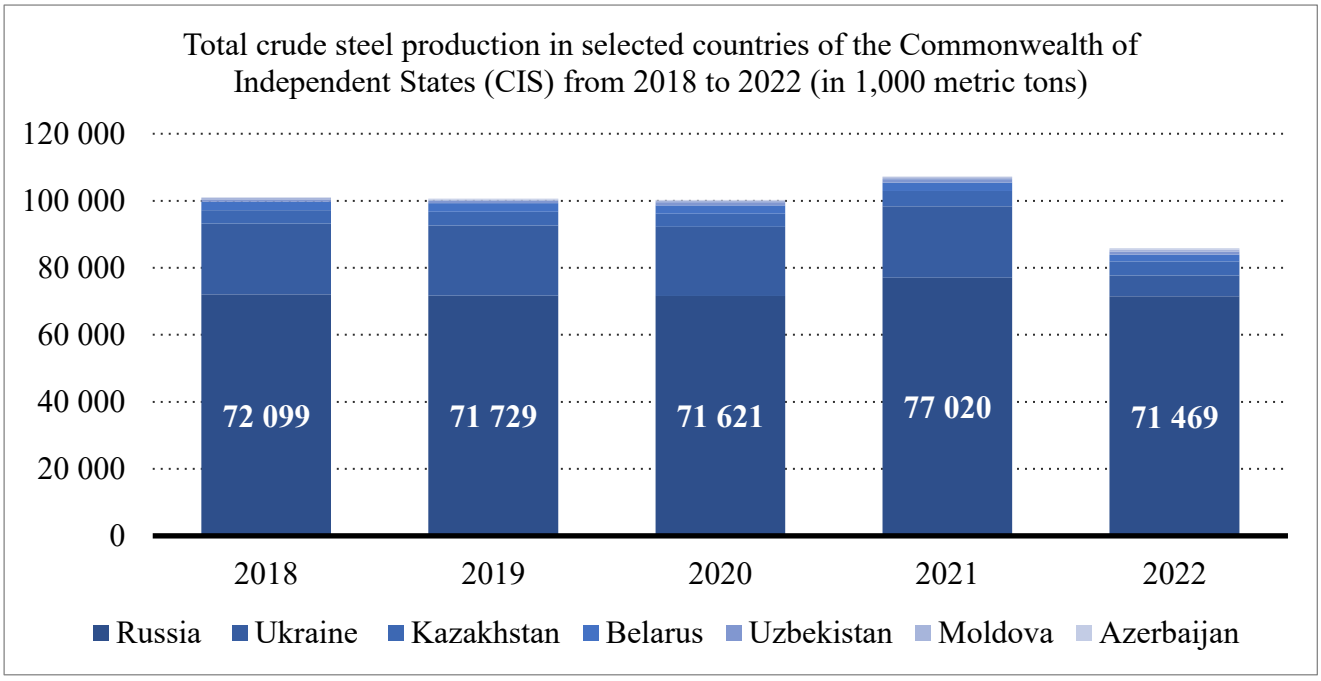

Figure 5 - Total crude steel production in selected countries of the former USSR from 2018 to 2022 (in 1000 metric tons)

Compiled by the author according to Statista.

According to Statista, in 2021, Russia exported about $29 billion worth of cast iron and steel (which is 45% (2020: $16 billion) higher than the previous year). The volume of exports in 2021 was the highest in the period from 2011 to 2021.

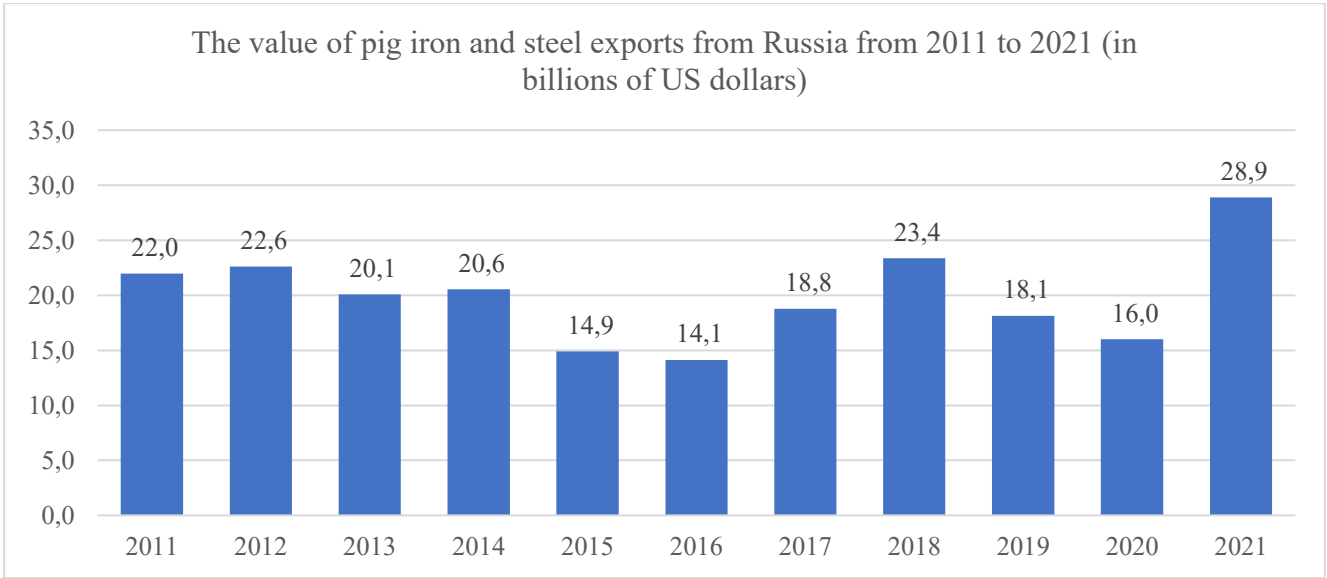

Figure 6 - Value of pig iron and steel exports from Russia from 2011 to 2021 (in billions of US dollars)

Compiled by the author according to Statista.

Turkey was the leading export destination for Russian steel products. In 2021, Russia exported almost $4.1 billion worth of cast iron and steel to Turkey. Other popular areas of metal products export were: Mexico - $2.4 billion, Belgium - $2.3 billion, Belarus - $1.9 billion.

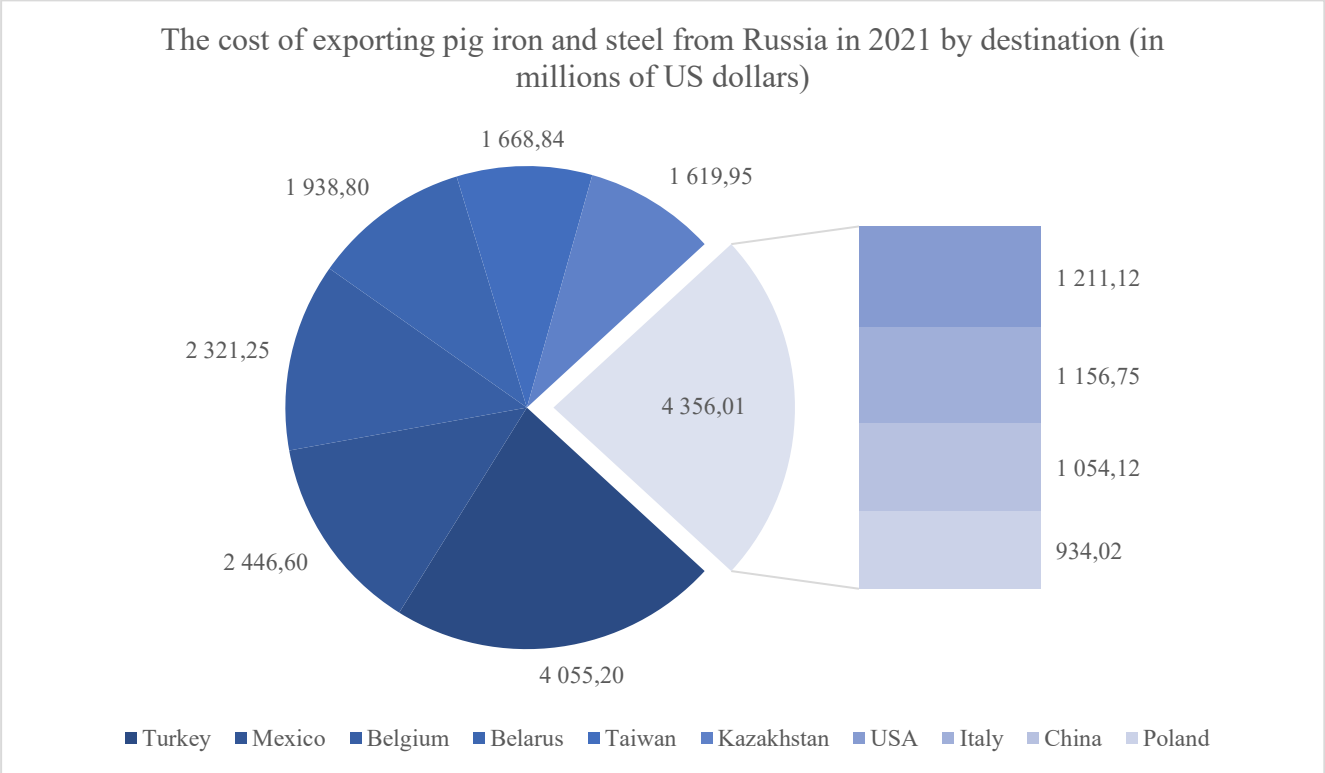

Figure 7 - Value of pig iron and steel exports from Russia in 2021 by destination (in millions of US dollars)

Compiled by the author according to Statista.

According to Statista, Russian imports of pig iron and steel in 2021 exceeded $5.9 billion, which is 59% higher than the previous year and 18% higher than in 2019. Over the past decade, the highest volume of imports of this commodity group to Russia was recorded in 2012 at about $6.4 billion.

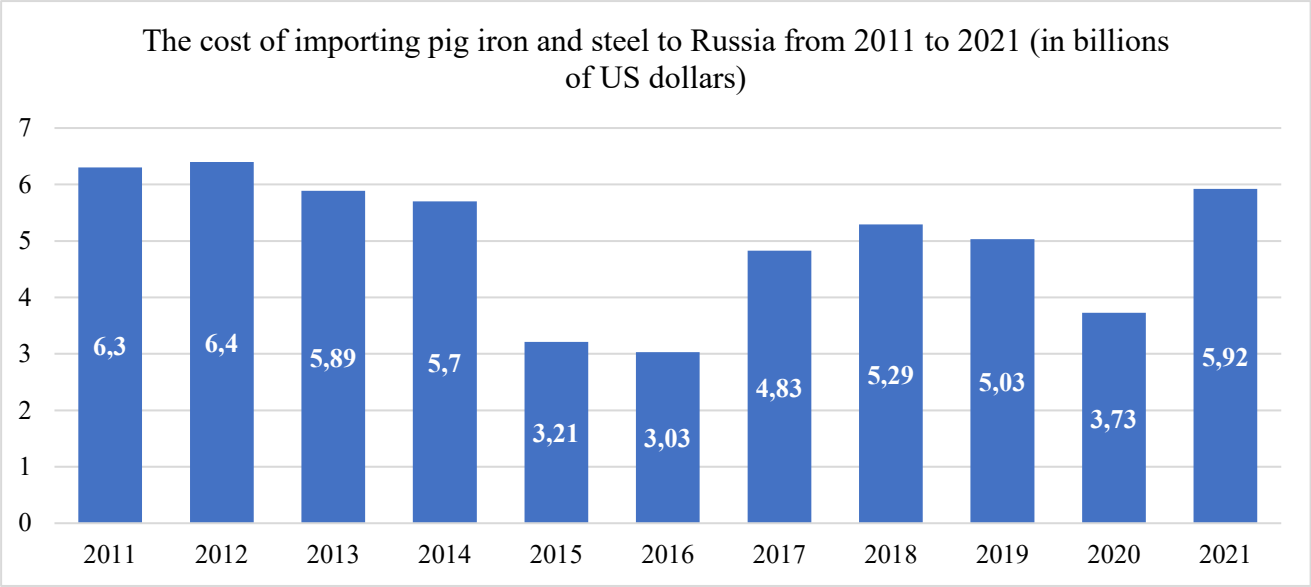

Figure 8 - The cost of imports of cast iron and steel to Russia from 2011 to 2021 (in billions of US dollars)

Compiled by the author according to Statista.

Kazakhstan was the leading importer of pig iron and steel in Russia. In 2021, Russia imported almost $1.9 billion worth of cast iron and steel from Kazakhstan. Ukraine took the second place in terms of import value, exceeding $ billion, followed by China and South Korea.

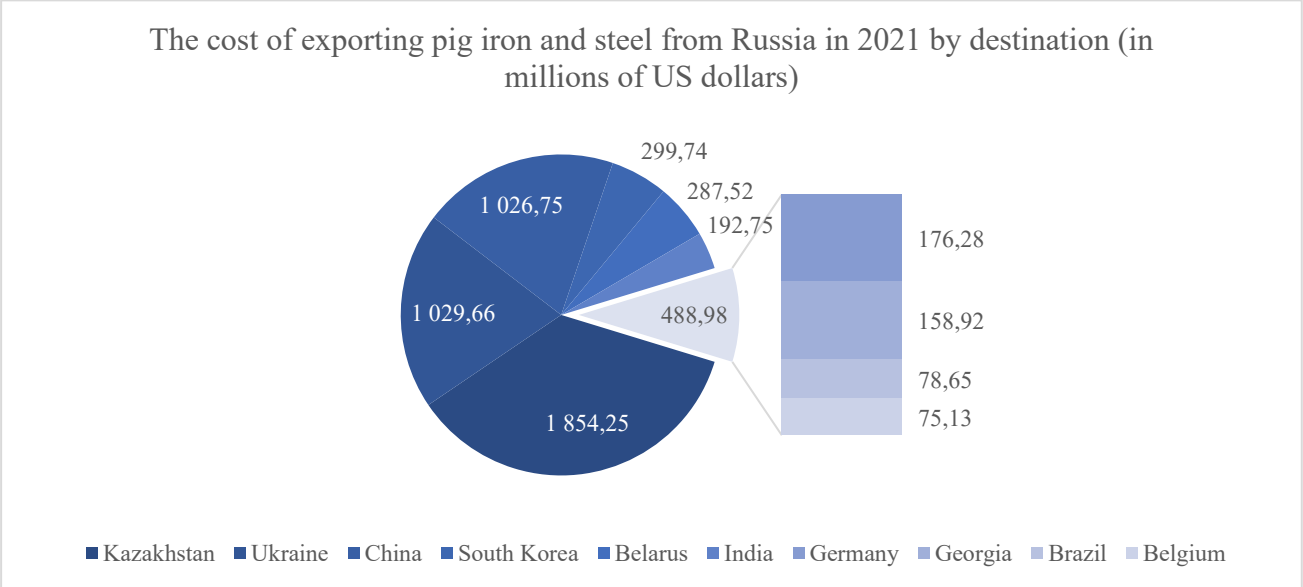

Figure 9 - Value of imports of pig iron and steel to Russia in 2021 by country of origin (in millions of US dollars)

Compiled by the author according to Statista.

Thus, industry statistics show that the metallurgical industry, in addition to domestic production, which covers the needs of related sectors of the economy, has demand in foreign markets and is, among other things, export-oriented.

Metallurgical enterprises of Russia: key development trajectories [128]

One of the leading Russian metallurgical companies[129] is PJSC Novolipetsk Metallurgical Combine (hereinafter – NLMK), which produced 17 million tons of steel by the end of 2021. The second largest enterprise in the industry in terms of production is PJSC Magnitogorsk Iron and Steel Works (hereinafter – MMK) with a production volume of about 14 million tons. The third leading producer was EVRAZ with a production volume of 13.57 million tons (EVRAZ is headquartered in the UK, but the company was founded in Russia, which was one of the main regions of its steelmaking activities).

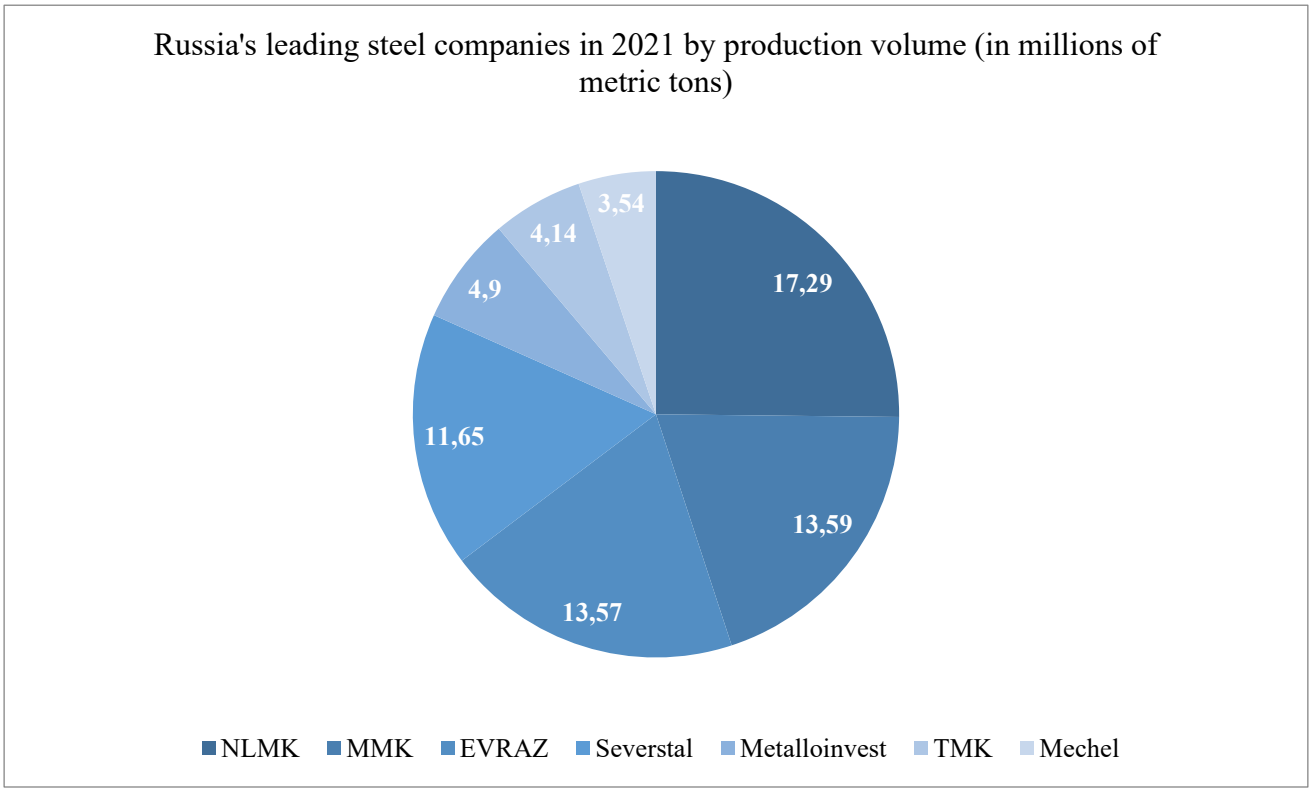

Figure 10 - Russia's leading steel companies in 2021 by production volume (in millions of metric tons)

Compiled by the author according to official data from the Statistica information and analytical database.

Metallurgical enterprises on the stock market demonstrate a stable relationship with the return on equity of enterprises (Figure 11).

[128]Data from 2021 were used to compare enterprises by revenue volume, since the financial results of most enterprises were not published in 2022 by the decision of Management.
[129] In the context of this study, the concept of «company» and «enterprise» are synonymous.

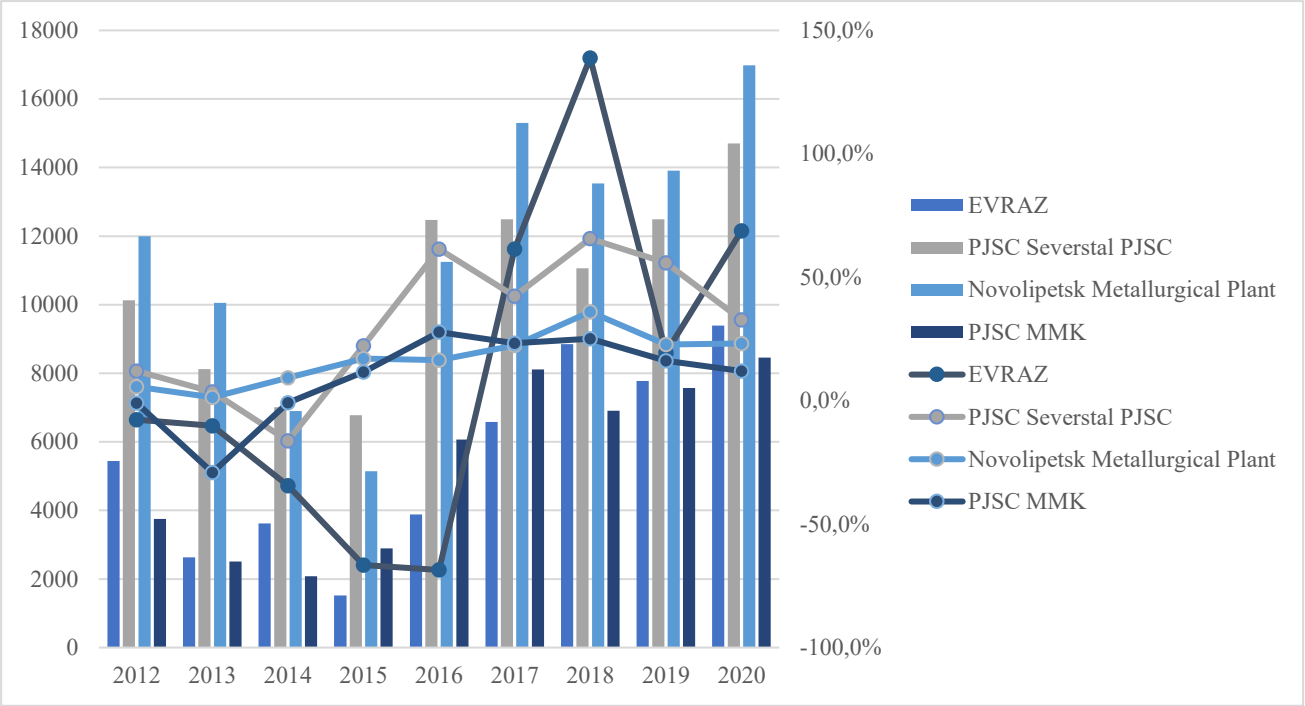

Figure 11 - Dynamics of market capitalization and return on equity of Russian metallurgical enterprises

Compiled by the author according to Refinitiv Eikon.[130]

The dynamics of the return on invested capital depends mainly on the effectiveness of decisions made in various types of enterprise activities (for example, operational and marketing activities). Thus, ineffective control over operating expenses, in particular in the production sector, can reduce operating profit and return on invested capital.[131]

Global changes in international relations in the context of sanctions pressure from unfriendly countries are creating new challenges for the industry, among which the retention of the position of Russian companies in foreign markets and satisfaction of domestic demand with high-quality raw materials and materials stand out. According to Mechel Group, the rebalancing of the global commodity market in 2023 has ended, and China and India have become key players in the market, while high demand for metal products is recorded in the countries of the Asia-Pacific region. [132]

According to the results of 11 months of 2023, there is an increase in metallurgical production (OKVED code 24. «Metallurgical production») by +3.7% yoy (Figure 12). In November 2023, the volume of shipped goods in the production of cast iron, steel and ferroalloys increased by 35% yoy, steel pipes, hollow profiles and fittings by 14.1% yoy, other steel products with primary processing by 46.1%

[130] Kalayda S.A. Theoretical foundations of the formation of the category "company value" and modern practical aspects of value-oriented management / Kalayda S.A., Chupanova H. A. // Economics, entrepreneurship and law. – 2024. – Volume 14. – No. 6. - pp. 3243-3262.

[131] Melnik M. V. Return on invested capital in the value chain analysis system/ M.V. Melnik, V.G. Kogdenko // Economic analysis. – 2010. – 9(174). – p. 9.

[132]The official website of the Mechel group. [Electronic resource] .- Access mode: URL: https://mechel.ru/press/releases/mechel-reports-2023-operational-results / .

yoy, in the production of basic precious metals and other non-ferrous metals by 14.2% YoY, metal casting shipments are also growing by 9.7% YoY.

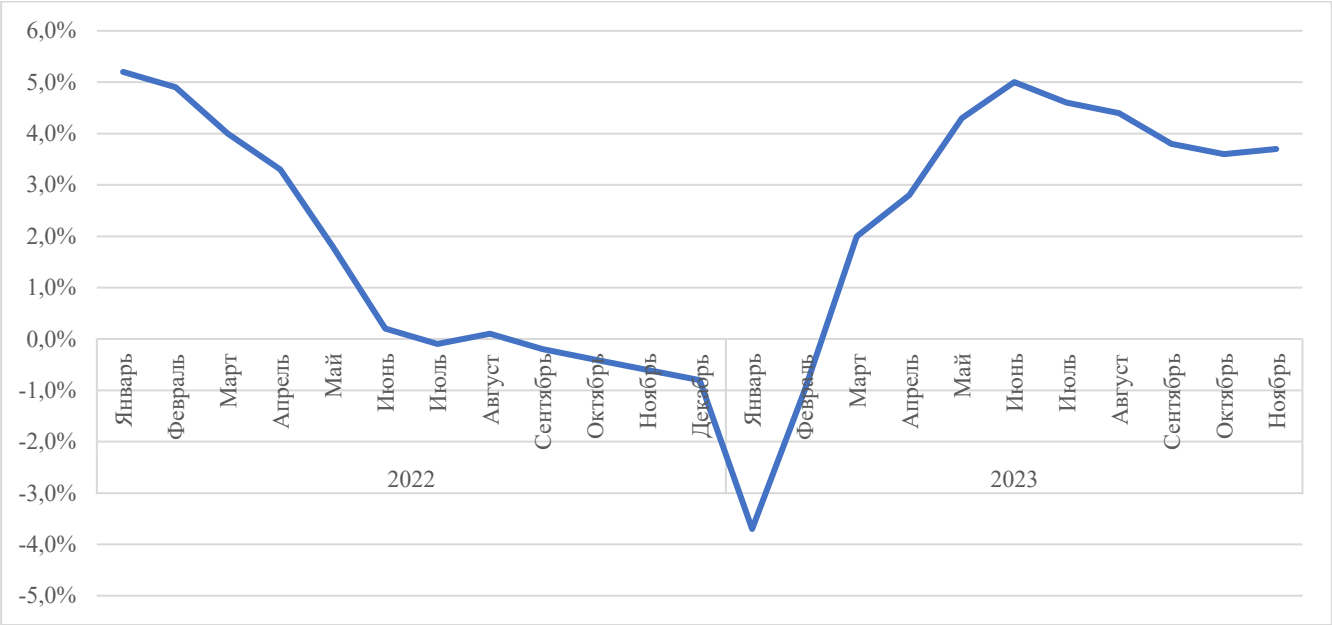

Figure 12. The index of metallurgical production.

Source: official data of Rosstat.

It should be noted that industry specifics, according to Russian scientists, can influence the trends of investment activity of enterprises[133]. At the same time, there is also a tendency for significant influence of state investments in the economy, which are the driver of investment activity of enterprises, subject to strict control of projects accepted for execution.[134] Nevertheless, the investment activity of enterprises is one of the most important factors of the country's economic growth. Close attention is paid to the problems of activating investment processes in the Russian economy and requires, in modern conditions, the development of concrete steps to carry out structural reforms aimed at «improving the business climate and the quality of national jurisdiction», «lifting infrastructure restrictions».[135]

According to the World Steel Association, the following areas of steel use are highlighted [136]:

1) automotive industry: on average, 900 kg of steel is consumed per vehicle, of which 40% is used in the body structure, panels, doors and trunk lids to ensure high strength and energy absorption in the event of an accident, 23% is accounted for by a transmission consisting of cast iron for the cylinder block and processed carbon steel for wear-resistant gears, 12% is accounted for by the suspension using

[133] Lvova N. A. Hypothesis on the impact of industry cycles on the investment activity of Russian enterprises. Economics of enterprises, regions and industries / Lvova N. A., Abramishvili N.R. - 2019. - №5 (119). – Part II. – pp. 66–71.
[134]Fedorova T. A. The impact of the global financial system on the investment activity of Russian business / T. A. Fedorova // Economics of enterprises, regions and industries. - 2019. - №5 (119). – Part II. – pp. 8-14..
[135] Ivanov V. V. Investment activity of Russian companies: trends and drivers // V. V. Ivanov // Scientific works of the Free Economic Society of Russia. – 2019. - Volume 218. - pp. 581-588.
[136] World Steel Association. [Electronic resource]. – Mode of access: URL: https://worldsteel.org/steel-topics/steel-markets/

a rolled high-strength steel strip, and the rest is in the wheels, tires, fuel tank, steering and braking systems;

2) construction: 25% of the steel used in buildings is occupied by structural sections that provide a strong building frame; about 44% are reinforcing rods, steel is used because it adheres well to concrete, has a similar coefficient of thermal expansion and is durable and relatively economical, 31% falls on sheet products such as roofing, sheathing, internal walls, ceilings, cladding and insulation panels for exterior walls;

3) energy: Steel is and will be crucial for providing the world with energy, whether it is based on fossil fuels, nuclear technologies or renewable sources such as wind, solar or geothermal energy.

4) food preservation: Products are preserved using high-pressure processing technologies that kill bacteria. As an external packaging medium, steel cans do not require cooling in the supply chain, which simplifies logistics and storage, as well as saves energy and costs. The steel packaging provides 100% protection from light, water and air and is the most tamper-resistant food packaging option available today. By extending the shelf life of the product, steel cans increase the shelf life for sale and use, thereby reducing the amount of waste. The relatively high thermal conductivity of steel means that canned drinks cool much faster than drinks in glass or plastic bottles.

5) transportation and transportation: Approximately 16% of the total steel production in the world is directed to the transportation needs of society. This material is extremely necessary when creating the appropriate transport infrastructure: roads, bridges, ports, train stations, airports and refueling:

- steel vessels carry 90% of the world's cargo. According to experts, the global container fleet has 17 million containers of various types and most of them are made of steel;
- steel makes up 15% of the mass of high-speed trains and is indispensable in this production. The main steel components of trains are bogies (a structure under trains that includes wheels, axles, bearings and engines), and freight cars are almost entirely made of steel;
- steel is used in bridges, tunnels, railway tracks and in the construction of buildings such as gas stations, railway stations, ports and airports. About 60% of the steel used in infrastructure is rebar. The rest are sections and railway tracks.

To solve the problems of increasing the competitiveness of metallurgical enterprises at the international level and creating high-quality products that can meet both external and internal demand, it is proposed to use tools that combine accounting for the fundamental and market value of the company, as well as external and internal factors of business activity.

The development of a set of effective management solutions is predetermined primarily by the turbulence of the development of domestic industries vulnerable to factors of the external and internal environment. Such conditions force enterprises to change their business processes and set strategic development guidelines, taking into account the transition from short-term to long-term goals.[137]

Conducting a comprehensive analysis of the cost specifics and factors influencing the cost of metallurgical companies will identify the drivers of industry development, as well as extrapolate the results of the study to other manufacturing industries, since the development of manufacturing enterprises in Russia has similar trends, especially in the current economic and geopolitical conditions.

In this regard, it is planned to develop a comprehensive methodological approach to managing the company's value, which involves the following.

Firstly, the improvement of existing approaches to assessing the fundamental value of a company in the context of value-based management, taking into account the introduction, on the one hand, of a criterion for the effectiveness of value-based management, appealing to the residual net profit model, and, on the other, a criterion for the dynamism of strategic growth of the enterprise.

Secondly, the development of an econometric model of the relationship of the company's market value (consistent with its fundamental value) with financial and non-financial factors (including internal and external factors) of the activities of metallurgical enterprises.

Further, the paper presents the logic and approbation of these proposals on the example of metallurgical enterprises.

The specifics of the global metallurgical industry are characterized by an intersectoral nature, a long production cycle, the scale and complexity of the technological process. Metallurgy is a material-intensive industry due to the processing of polymetallic raw materials having a complex material composition. At the same time, the industry is characterized by high energy intensity, labor costs, high environmental hazards, as well as knowledge intensity.

At the same time, the results of the study can be successfully applied in practice in other industries with similar business processes, capital structure and strategic values. This task is very promising, since the growth in the value of the country's enterprises is the key to strengthening the role of the state on the world stage, increasing the satisfaction of owners, which to a certain extent can lead to an increase in the welfare of households.[138]

The introduction of value-based management for any enterprise is effective only if the market value is correlated with economic profit.

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[137] Kirillina V. N. Review of the study «Assessment of corporate governance in public joint-stock companies with the participation of the Russian Federation, whose shares are traded on the organized securities market» / V. N. Kirillina // Journal "Business, Society, Power". - 2018. - № 1 (27). - p. 8.

[138] Suslova M. A. Value-based management for Russian industrial enterprises in conditions of high volatility / M. A. Suslova // Proceedings of the Southwestern State University. Series: Economics. Sociology. Management. - 2023. №13(3). – p. 296.

2.2 Development of a methodology for assessing the fundamental value of a company based on the residual net profit model

The assessment of the fundamental value using the residual net profit model is carried out according to the quantitative measurement of capital according to the book value of the company and the value of the residual net profit discounted taking into account the time value of capital. The economic meaning of the model is based on the well-known concept of economic profit by A. Marshall[139]. Historically, the residual profit model is associated with the work of E. Edwards and P. Bell, its further development is associated with the names of researchers representing the scientific school of the University of California, and later Columbia. A prominent representative of this trend is J. Olson.[140] The theoretical basis of the model is based on the research of M. Miller, F. Modigliani, E. Fama. [141]

Fundamental scientific research in the field of the development of the concept of value-oriented management was founded within the framework of the neoclassical scientific school. The key works and their contributions to the development of the scientific field are presented in Table 4.

Table 4 – Basic scientific research in the context of key scientific achievements in the studied area

№	Author/Authors	Title	Contribution to the development of the scientific field
1.	Sharpe W., 1964[142]	Capital Assets Prices: A Theory of Market Equilibrium Under Conditions of Risk, Journal of Finance.	The W. Sharpe model presents the relationship between the expected return on an asset and the expected return on the market.
2.	Edwards E, Bell P., 1961[143]	The Theory and Measurement of Business Income.	The main prerequisites and indicators are formulated, which are subsequently modified into a residual profit model
3.	Ohlson J. 1991[144]	The Theory of Value and Earnings, and an Introduction to the Ball–Brown Analysis.	
4.	Ohlson J. 1995[145]	Earnings, Book Values, and Dividends in Security Valuation.	
5.	Penman S. 1992[146]	Return to Fundamentals.	

[139] Volkov D. L. Performance indicators: use in company value management / D. L. Volkov // Russian Journal of Management. – 2005. - Volume 3. - No.2. - p. 7.
[140]Ibid.
[141]Volkov D. L. Models for assessing the fundamental cost of equity: the problem of compatibility / D. L. Volkov // Bulletin of St. Petersburg University. - 2004. - Series 8. - Management. - Issue 3 (No. 24) - p.7..
[142] Sharpe W. Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk»/ W. Sharpe // Journal of Finance 19. - 1964. - pp. 425–442.
[143] Edwards E.O. The Theory and Measurement of Business Income / E. O. Edward, P.W. Bell // Berkeley, CA: University of California Press, 1961. – 342 p.
[144]Ohlson J. Earnings, Book Values, and Dividends in Security Valuation/ J. Ohlson // Contemporary Accounting Research. - 1995. - 11 (2). - pp. 661–687.
[145] Ohlson J. Earnings, Book Values, and Dividends in Security Valuation/ J. Ohlson // Contemporary Accounting Research. - 1995. - 11 (2). - pp. 661–687.
[146] Penman S. Return to Fundamentals / S. Penman // Journal of Accounting, Auditing & Finance. - 1992. 7 (4). – pp. 465 — 484.

№	Author/Authors	Title	Contribution to the development of the scientific field
6.	Feltham G., Ohlson J. 1995[147]	Valuation and Clean Surplus Accounting for Operating and Financial Activities	The basic assumptions of the residual income model are formulated.
7.	Damodaran A., 2008[148]	Investment assessment. Alpina Business Books. 2008. p.21.	The existing assessment methods are systematized.
8.	Volkov D.,, 2004[149]	Models for estimating the fundamental cost of equity: the problem of compatibility.	A comprehensive theoretical analysis of fundamental value estimation models has been carried out.
9.	Volkov D.,, 2005[150]	The theory of value-based management: financial and accounting aspects.	
10.	Bukhvalov A., Volkov D., 2005[151]	The study of the relationship between the indicators of fundamental value and the market capitalization of Russian companies.	Proof of the hypothesis about the explanatory power of the residual net profit model in assessing the dynamics of market capitalization in the Russian market.
11.	Bukhvalov A., Volkov D., 2005[152]	The fundamental value of equity: use in company management.	It is shown that in the Russian market, a simple two-factor model provides a statistically satisfactory description of capitalization through accounting data.

Compiled by the author based on the analysis of scientific papers, see the sources in the table

The results of research on the relationship between market and fundamental value in developed markets do not allow them to be fully projected onto the Russian market and thereby reduce their practical significance. Nevertheless, in recent years, interest in the value management paradigm on the part of researchers has intensified.

Among Russian researchers, this problem was first considered in the works of D. L. Volkov and A. V. Bukhvalov. The authors have identified the relationship between the indicator of residual net profit and market value on the Russian stock market. Ivashkovskaya I.V. proved the importance of using indicators of economic profit in order to control the creation of value for companies in the BRIC countries, Eastern and Central Europe[153].

[147] Feltham G. Uncertainty Resolution and the Theory of Depreciation Measurement/ G. Feltham, J. Ohlson // Journal of Accounting Research. - 1996. - pp. 209 — 234.
[148]Damodaran A. Investment assessment / A. Damodaran // Alpina Business Books, 2008. – 1323 p.
[149]Volkov D. L. Models for assessing the fundamental cost of equity: the problem of compatibility / D. L. Volkov // Bulletin of St. Petersburg University. - 2004. - Series 8. - Management. - Issue 3 (No. 24) - p.7.
[150] Volkov D. L. Theory of value-based management: financial and accounting aspects / D. L. Volkov // Higher School of Management of St. Petersburg State University. — St. Petersburg. Publishing house "Higher School of Management"; Publisher. House of St. Petersburg State University, 2008. — pp.27-36.
[151] Bukhvalov A.V. Investigation of the relationship between indicators of fundamental value and market capitalization of Russian companies / A.V. Bukhvalov, D. L. Volkov // Bulletin of St. Petersburg State University. - 2005. - Ser.8. – Issue.1. - pp. 26-43.
[152]Bukhvalov A.V. The fundamental value of equity: use in company management / A.V. Bukhvalov, D. L. Volkov // Scientific reports No. R1–2005 St. Petersburg: Institute of Management of St. Petersburg State University. - 2005. - p. 12.
[153] Ivashkovskaya I. V. Integrated managing the company's value system: abstract of the dissertation for the degree of Doctor of Economics: 08.00.10 / Ivashkovskaya Irina Vasilyevna. – Moscow, 2010. - p. 35.

In this context, it is advisable to note the results of research conducted by the author at the industry level for companies in the financial sector. Thus, the relationship of the Tobin coefficient with indicators of financial leverage, sales growth, and share price to income was revealed for a sample of financial sector companies with a time period of 10 years, the results of the study indicated a significant impact of the financial leverage coefficient on the value of the company.[154]

For 20 companies in the financial sector of the Asia-Pacific region, analyzed on data for 9 years, the presence of a significant relationship with the indicators of corporate financial policy was demonstrated, and the corresponding coefficients indicate the specifics of the functioning of companies in a particular industry. It manifests itself in the negative impact of earnings per share, dividend yield and return on equity on the value of the company. At the same time, the results of the coefficient assessment show a positive relationship between the company's value and the financial leverage ratio and return on assets.[155]

As noted above, the evaluation module is a key element of value-based management. That is why, in order to develop and improve the tools of value-based management, it is necessary to determine the choice of the following management positions: 1) an applicable model for assessing the fundamental value of an enterprise; 2) a set of indicators for monitoring changes in value; 3) factors of value creation. To create a comprehensive enterprise value management model, it is necessary to ensure that the company's structural divisions are informed about the effective cost indicators.

In the scientific literature, any model is considered acceptable if it meets the criteria of reliability and applicability [156]. The reliability of the model assumes that it reflects the processes of value creation, that is, when market estimates coincide with estimates obtained in practice, it can be considered that the model is reliable. The reliability and applicability of the valuation model characterizes its ability to be used as a management tool, showing the growth or decrease in the value of the company.

For the practical application of the calculated indicators of the company's valuation, it becomes necessary to compare two types of value: fundamental and market. The fundamental value of a company reflects its intrinsic value (the fundamental cost of capital), which is created in the course of short- and long-term activities. Market value - reflects the value from the position of the stock market, shows its competitive advantages relative to other companies, but does not measure the cost of capital. It reflects the value depending on the preferences of investors, the macroeconomic situation in the country, and the

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[154] Chupanova Kh. A. The relationship of corporate governance with the value of the company: on the example of American insurance companies / Kh. A. Chupanova // Bulletin of the RMAT. – 2021. - No.1.- pp. 9-14.

[155] Chupanova Kh. A. Ways to increase the competitiveness of an insurance company in the context of value-based management. The international annual scientific conference Lomonosov Readings-2021. Section of Economic Sciences. «Generations of economic ideas»: a collection of the best reports. — M.: Faculty of Economics of Lomonosov Moscow State University. - 2021. - p. 300.

[156]Volkov D. L. Theory of value-based management: financial and accounting aspects / D. L. Volkov // Higher School of Management of St. Petersburg State University. — St. Petersburg. Publishing house "Higher School of Management"; Publisher. House of St. Petersburg State University, 2008. — pp.27-36.

company's image on the public capital market. Moreover, modern research shows that the unpredictability of the onset of crises in capital markets and their consequences necessitates systematic research aimed at studying the interrelationships and modeling possible market reactions to changes (including those of a non-economic nature).[157]

To assess the financial and economic efficiency of an enterprise in cost terms, it is necessary to form an evaluation algorithm based on indicators characterizing the dynamics of the enterprise's activities within the framework of cost management. In this paper, it is proposed to use the following algorithm for the financial efficiency of an enterprise based on the residual net profit model with the calculation of the adjusted discount rate according to the CAPM model as part of determining the fundamental cost of capital. The algorithm assumes the need to calculate performance indicators of value-based management.

The step-by-step calculation methodology is presented below, as well as the rationale for using such a calculation on the example of leading metallurgical enterprises in Russia (Table 5).

Table 5 – Algorithm for evaluating the financial efficiency of an enterprise in a value-based management system

Stage	Title	Result of calculation	Clarification of the calculation
1.	Correct accounting of industry risks	The required return on equity is calculated	Country risk [158]
2.	Calculation of value based on the residual net profit model	The value of the company is estimated using the residual income model	Calculation based on previous adjustments
3.	Development of an efficiency criterion	The added rate of residual net profit is calculated	The author's method
4.	Development of the strategic growth coefficient	The indicator of dynamism of the strategic growth of the enterprise is calculated	The author's method

Compiled by the author.

1. Correct accounting of industry risks

The key link in the development of financial theory can be considered the theory of asset pricing, within which there are many models for determining the current value of risky income. The Capital Asset Pricing Model (hereinafter referred to as CAPM), developed independently by two scientists Sharp[159] and Lintner[160] in the late 60s of the last century, has gained the greatest popularity in academic

[157]Lukasevich I. Ya. Research of dependencies and assessment of the impact of world stock markets on the Russian stock market / I.Ya. Lukasevich // Economy. Taxes. Right. - 2020 - No. 4 – pp. 44–56.
[158] An additional return or premium required by investors to compensate them for the higher risk associated with investing outside the country.
[159] Sharpe W. Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk»/ W. Sharpe // Journal of Finance 19. - 1964. - pp. 425–442.
[160] Lintner J. The Valuation of Risky Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets» /J. Lintner // Review of Economics and Statistics 47. - 1965. - pp. 13–37.

literature and practical circles. The model is a logical continuation of Markowitz's portfolio theory, dedicated to the study of the optimal choice of an asset based on risk and profitability.[161] The theoretical justification of the practical value of using the CAPM model is confirmed by scientists both for the purposes of business valuation and for the purposes of evaluating investment projects. [162]

The use of the model is often criticized by theorists, but despite this, the model is widely used by analysts and practicing appraisers. The required return on capital according to the CAPM model is presented in formula form below (formula 1):

$$r_e = r_f + \beta_e * (r_m - r_f) + C + S_1 + S_2, \quad (1)$$

where

- r_e – the required return on investments in the company's assets,
- r_f – the profitability of a risk-free asset,
- r_m – expected market returns,
- β_e – a coefficient reflecting non-diversable market risk,
- C – country risk,
- S_1 – the premium for the minimum size of the company,
- S_1 – premium for risks of a specific nature.

In practice, the required profitability can be increased by premiums for country risk, risk for the small size of the company (small capitalization), as well as for special risks.

When calculating the required rate of return for cash flow denominated in US dollars, the dollar rate should be adjusted to the ruble rate. This recalculation is performed according to the formula 2:

$$r_{erub} = \frac{(1+r_e)\times(1+i_{RUS})}{(1+i_{USA})} - 1, \quad (2)$$

- r_{erub} - discount rate for ruble cash flow;
- r_e - discount rate for dollar cash flow;
- i_{RUS} - yield on ruble-denominated government securities;
- i_{USA} - the yield on Russian Eurobonds denominated in US dollars.

[161] Markowitz H. Portfolio Selection / H. Markowitz // The Journal of Financ. - 1952. - Vol. 7. - Issue 1. – pp. 77-91.
[162] Lukashov V. N. Determining the value of the discount rate for investment design and business valuation: on the difference in approaches to calculation and application / V. N. Lukashov, N. V. Lukashov // Bulletin of St. Petersburg University. Economy. – 2019. T - . 35. - Issue 1. pp. 83-112.

2. Cost calculation based on the residual net profit model

The logic of calculating the most residual net profit in the classical form (formula 3) is based on the difference between the accounting profit of the reporting period and the equity of the previous year, taking into account the return on capital required by the investor.

$$RI_j = NP_j - r_e * I_{j-1}, \quad (3)$$

где

- RI_j – residual net income (net profit) (j-th) year;
- NP_j – accounting profit of the reporting period;
- r_e– required return on capital;
- I_{j-1}– the carrying amount of investments at the end of the previous period.

By the residual net profit of the company, we mean the sum of the residual net profits of all business units of the company for the reporting period (formula 4):

$$RIj = \sum_{k=1}^{m} RI_k, \quad (4)$$

где,

- RIj – the remaining net profit of the current year;
- k- the number of business units of the company.

The residual net profit for each RI_k business unit is calculated similarly to formula 3 with details per business unit of the enterprise. By a business unit of a company, we mean a separate, relatively independent substructure of an organization that has economic independence and is responsible for decisions made. Due to the fact that different variations of business units are possible at each specific enterprise, it is proposed to use an enlarged formula for determining the residual net profit for each business unit.

The calculation of the discount rate (formula 1) for each business unit will differ depending on the external environment, the specifics of doing business (profile/non-core types), etc., thus, when calculating the cost of each structural business unit, it is necessary to take into account this specificity (by analogy with formula 4 in relation to a specific business unit).

This approach will allow you to diversify the risk, strengthen the financial stability of the company, and the speed of reaction to changes in the external environment.[163] Most of metallurgical companies are vertically integrated corporate structures and are formed on the basis of large-scale metallurgical plants producing basic types of metal products. Moreover, both core and non-core assets are present in the structure of such companies. For example, Mechel Group sells and leases non-core real estate assets, MMK PJSC includes sanatoriums, holiday homes, and other resort and tourist

[163] Proshkina O.V. A systematic approach to the allocation of business units in an enterprise / O.V. Proshkina // Socio-economic and technical systems: research, design, optimization. – 2016. – № 2 (69). – pp. 165-174.

facilities, and Severstal Aviation Enterprise JSC is the operator of Cherepovets Airport and carries out domestic and international transportation, Metalloinvestleasing provides leasing services technological equipment, special equipment, vehicles, railway wagons for enterprises of other industries.[164] The contribution of each business unit provides a vertically integrated company with an increase in value, taking into account the diversification of risk and management's understanding of the contribution of each business unit.

The essence of the residual net profit model is to take into account 4 fundamental factors of creating fundamental value [165]:

- invested capital at the time of valuation;
- actual return on equity;
- required return on capital;
- stability of the results spread.

Thus, the indicator of the fundamental value of a company is determined by the book value of its equity increased by the amount of discounted residual profits. This can be represented in the form of formula 5, which is a model of residual net profit[166]:

$$V_E^{RIM} = E_0 + \sum_{j=1}^{\infty} \frac{RIj}{(1+r_e)^j}, \quad (5)$$

где

- V_E^{RIM}– the fundamental cost of equity,
- E_0 – book value of equity at the reporting date (time of valuation);
- $\sum_{j=1}^{\infty} \frac{RIj}{(1+r_e)^j}$– the amount of increase, defined in as an endless stream of residual net profits discounted at the cost of equity;
- r_e- the rate of required return on equity, the rate according to the model CAPM.

The development of the methodology for calculating the main cost indicators based on the residual net profit model requires adjustments to the calculation of the main indicators and justification for the application of such an approach to valuation.

Modern research is devoted to the study of the relationship between fundamental and market value, in which, at the industry level, the possibility of explaining the market value of a company based on models for calculating fundamental value within the framework of VBM is tested.

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[164] Overview of the ferrous metallurgy market. Moscow, the first half of 2019 [Electronic resource] .- Access mode: URL: https://www.csr.ru/upload/iblock/d4b/d4b9f67f27e41cb9ec867ddfeb6fc6a9.pdf

[165] Volkov D. L. Performance indicators: use in company value management / D. L. Volkov // Russian Journal of Management. – 2005. - Volume 3. - No.2. - p. 7.

[166] Chupanova Kh. A. Value-based management of an insurance company in the context of innovative development/ Kh. A. Chupanova// Issues of innovative economics. - 2022. – Volume 12. – No. 1. – pp. 391-410.

Fundamental and market value are closely correlated with each other. The fundamental cost of a firm's capital reflects its intrinsic value created as a result of the company's investment, production and financial activities. They subsequently form the market value of the company. The calculation of the fundamental cost of equity was discussed above as part of the second stage of calculating the value of the company, therefore, we only note here that a significant difference between market capitalization and the fundamental cost of capital is the non-susceptibility to frequent fluctuations depending on the share price. Thus, the value of transactions with all shares of the company traded on the market is the market value of the company. D. Volkov and I. Berezinets formulated the basic assumptions necessary for the analysis of value management using mathematical calculations based on accounting indicators[167]. The use of the fundamental value of capital in value management is also considered in the work of A. Bukhvalov and D. Volkov[168].

However, the market value of a company does not calculate the cost of capital itself, but represents the value formed taking into account all the factors affecting it. There are often situations in the market when stocks are overvalued or undervalued by the market, which generally shows the mood of investors in the market at the time in question. [169] Almost always, the market value is higher than the fundamental cost of equity. This is due to the fact that the formation of market value is influenced not only by internal factors of doing business, but also by external factors, formed taking into account investment expectations and sentiment in the stock market.

The market value of public companies consists of the number of many different transactions on stock exchanges, which in turn depend on various factors in relation to financial and commodity markets: the financial condition of the company, the liquidity of shares, the economic condition of the country and the global economy as a whole, etc. The presence of a connection between the financial indicators of capital management may be the reason for changes in the market capitalization and, accordingly, the value of shares.[170]

Using the market capitalization method for a public company is a kind of express method of determining its market price. It also allows it to demonstrate the volume and scale of its activities, which can serve as a basis for risk assessment for investors. Information about the company's market capitalization is generated during the initial public offering (IPO) based on the determination of value by investment analysts before the IPO. After its IPO and the start of stock trading, the value of the

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[167] Volkov D. L. Value-based management: analysis of equity valuation models based on accounting indicators/ D. L. Volkov, I.V. Berezinets // Scientific reports. St. Petersburg: St. Petersburg State University Research Institute of Management. - 2006. - p. 14.

[168] Bukhvalov A.V. The fundamental value of equity: use in company management / A.V. Bukhvalov, D. L. Volkov // Scientific reports No. R1–2005 St. Petersburg: Institute of Management of St. Petersburg State University. - 2005. - p. 12.

[169] Market Capitalization vs. Equity What's the Difference? [Electronic resource]. – Mode of acces: URL: https://www.investopedia.com/ask/answers/122314/what-difference-between-market-capitalization-and-equity.asp

[170] Chupanova Kh. A. The relationship of market capitalization with indicators of the value of high-tech companies / Kh. A. Chupanova // Economics, entrepreneurship and Law. – 2019. – Volume 9. – No. 3. – pp. 191-206.

company will be determined by supply and demand for its shares, as well as general stock market sentiment. For example, the presence of favorable factors can contribute to an increase in demand for company shares, thereby ensuring an increase in their price and an increase in the capitalization of the company as a whole.

Obtaining the public status of an enterprise presupposes that it has a market value on the stock market. In practice, the market value is estimated on the basis of various methodologies. One of the ways to assess the market value is to calculate the total value of all shares of the company in circulation. The calculation of market capitalization is the sum of the value of all shares traded on the market (formula 6)[171]:

$$MC_i = N_i * P_i , \quad (6)$$

где

- N_i – number of shares outstanding,
- P_i – the market value of the shares.

A comparison of theoretical and calculated indicators gives us an idea of whether the theoretically formulated model is correct and usable. If the fundamental value changes in relation to the market value, we can talk about the explanatory power of the calculated fundamental value of capital. A steady increase in market capitalization exceeding the cost of equity indicates an increasing confidence on the part of investors.

Information about the quality of an analytical model can be obtained by its explanatory power. Within the framework of this work, a comparison is possible based on the identification of the relationship between the indicators of fundamental value and market value based on an analytical calculation model. The assessment of the company's market value is one of the most important components of corporate finance. In solving the problem of valuation, in general, there are two main issues: calculating the rate of required return on capital and choosing a model for evaluating the value of the company.

The hypothesis of a significant relationship between the fundamental and market value of the company will be tested using regression analysis based on paired and multifactorial regressions. The specifications of the models are presented in Table 6.

[171] Kozlova A. S. Theoretical aspects of valuation of public companies: the concept, goals and methods of valuation / A. S. Kozlova, D. S. Taraskin // Science and Society. - 2018. - №3 (32). - P.52.

Table 6 – Model specifications to justify the application of the residual net profit model in the valuation of the company

No	Model	Specification
1.	Paired linear	$MC_i = \alpha_i + \beta_i * V_E^{RIM} + \varepsilon_i$
2.	Multiple with two regressors	$MC_i = \alpha_i + \beta_{1i} * E_i + \beta_{2i} * \frac{RE_i}{k_E} + \varepsilon_i$
3.		$MC_i = \alpha_i + \beta_{1i} * E_i + \beta_{2i} * \frac{RE_{i-1}}{k_{E-1}} + \varepsilon_i$

Compiled by the author based on[172]

The main components of the models formulated above:

- MC_i – market capitalization at the valuation date,
- V_E^{RIM}– the fundamental cost of equity calculated using the residual net profit model,
- $\frac{RE_i}{k_E}$ – perpetual annuity of residual net profit,
- $\frac{RE_{i-1}}{k_{E-1}}$ – perpetual annuity of last year's residual net profit,
- E_i – equity capital,
- α_i, β_i – coefficients of the regression equation,
- ε_i – a random member.

Russian scientists D. Volkov and I. Berezinets [173] systematized assumptions on the study of the relationship between the fundamental and market value of the company and identified the following assumptions among the key ones:

1. *On the accounting procedure for flows.* Its meaning is to change the amount of capital due to the influence of two factors: relations with owners, consisting in attracting additional capital from them and distributing dividends in their favor, as well as the final financial result of the company's activities (in this case, net profit).

2. *On compatibility with the equilibrium model of dividend discounting.* The authors admit that the dividend discounting model and the residual net profit model are equivalent to each other. The article by Russian researchers in the field of value-oriented management D. Volkov and I. Berezinets presents a proof of this assumption.[174] Based on mathematical calculations on the comparison of the

[172] Volkov D. L. Theory of value-based management: financial and accounting aspects / D. L. Volkov // Higher School of Management of St. Petersburg State University. — St. Petersburg. Publishing house "Higher School of Management"; Publisher. House of St. Petersburg State University, 2008. — pp.27-36.
[173] Volkov D. L. Value management: analysis of equity valuation models based on accounting indicators/ D. L. Volkov, I.V. Berezinets // Scientific reports. St. Petersburg: St. Petersburg State University Research Institute of Management. - 2006. - p. 14.
[174] Ibid.

main indicators of the residual net profit model and dividend discounting, the authors derive an equation proving the equivalence of these models.

3. *On the dynamics of forecast values of residual net profit.* Forecast indicators are characterized by temporary fluctuations and dependence of accounting and non-accounting indicators. Thus, the cost of capital in the market is influenced not only by the residual income of the company, but also contains a certain degree of information dependence on other non-accounting information.

Additionally, we note that we are clarifying the specifics of the calculation, taking into account the following:[175]

- all calculations of the financial indicators of the group's companies in dynamics are based on consolidated financial statements, which is caused by the need to take into account the total financial result of the company for the period under review;
- the components of the residual net profit model are the sum of the cost of capital at the time of valuation and the perpetuity of the residual net profit ($\frac{RE_i}{k_E}$). Since the growth of residual net profit in the current period from an economic point of view can increase the market capitalization not only of the reporting period, but also of the future, a model was additionally formulated containing the perpetuity of the residual net profit of the previous year ($\frac{RE_{i-1}}{k_{E-1}}$). The inclusion of this factor in the model will allow us to assess the significance of the endless stream of residual net profits received in the previous period and its contribution to the creation of current value. From an economic point of view, when creating added value in the reporting period, it is advisable to expect an increase in the value of the enterprise in the next one;
- at the same time, effective financial management in practice should be based on specific financial and economic indicators that allow evaluating the results of an enterprise's strategic activities from both a fundamental and a market position.

3. Assessment of the effectiveness of the company's activities based on the indicator of the added rate of profit

The essential relationship between the fundamental value of the residual net profit model and the market value determines the use of this model in practice. However, the adaptation of the model with conditional assumptions requires the development of a criterion for the effectiveness of an enterprise based on traditional financial indicators.

Traditional financial analysis in measuring performance allows the use of computational and analytical indicators that explain the effectiveness of the distribution and use of capital in the company. Among such indicators, profitability indicators are particularly important for assessing capital, each of

[175] Chupanova Kh. A. Value-based management of an insurance company in the context of innovative development/ Kh. A. Chupanova// Issues of innovative economics. - 2022. – Volume 12. – No. 1. – pp. 391-410.

which compares one of the profit indicators with the base in the form of enterprise resources or revenue received from counterparties.

For example, Sheremet A.D. emphasizes that the profitability of sales, which is calculated on the basis of comparing profits depending on the sides of economic activity (profit from sales, net profit, accounting profit) with revenue, can be an indicator of the efficiency of an enterprise (intensity or extensive use of production resources). Profitability of sales, in his opinion, acts as a generalizing indicator of the efficiency of economic activity[176]. Kovalev V. V. also highlights the calculation of profitability as an indicator of the profitable operation of the enterprise. At the same time, profitability management covers all management actions aimed at managing profit and the basis for its formation – revenue.[177] V.G. Kogdenko suggests evaluating aspects of the impact on value using indicators of return on investment (reflects the ability of a firm to generate cash flows), the growth rate of invested capital (demonstrates the potential of an enterprise to increase cash flows), as well as the weighted average cost of capital (reveals opportunities to raise capital).[178]

Despite a number of profitability indicators used in financial analysis, it is necessary to introduce an indicator reflecting the economic efficiency of the enterprise in terms of value-based management, namely, taking into account not just financial indicators, but the profitability required by the investor in relation to the generated financial result.

So, for the purpose of financial monitoring of the company's cost indicators, it is proposed to introduce an indicator of the added rate of profit (or the rate of residual net profit– Return on Residual income – RORI), calculated according to the author's methodology, appealing to the traditional indicator of profitability (formula 7).

The $RORI_j$ indicator is calculated as the ratio of residual income (net profit) to the revenue of the enterprise:

$$RORI_j = \frac{RI_j}{Rev_j}, \quad (7)$$

где

- RI_j – residual net profit calculated according to the formula (8),
- Rev_j – the company's revenue.

In order to monitor the added rate of profit of each business unit of the company (taking into account formula 4) the decomposition formula of this indicator can be represented as follows:

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[176] Sheremet A.D. Analysis and diagnostics of financial and economic activity of the enterprise / A.D. Sheremet// Moscow. Infra-M. - 2017. - pp. 212. – 217.

[177] Kovalev V. V. Financial management: theory and practice / V. V. Kovalev // Moscow: TK Velbi, Publishing House Prospect, 2007. – 1024 p.

[178] Kogdenko V. G. Analysis of business value factors according to financial statements / V.G. Kogdenko. – 2008. – 3 (3). P. 3.

$$RORIj = \frac{\sum_{k=1}^{m} RI_k}{Rev_j}, \quad (8)$$

The assessment of this indicator should be carried out taking into account the following criteria of change:

- if RORIj >0 – value creation;
- if RORIj <0 – destruction of value;
- the positive dynamics RORIj >0 – increase in operational efficiency;
- the negative dynamics RORIj <0 is a decrease in business efficiency.

Figure 13 shows the criteria for determining the effectiveness of an enterprise's activities within the framework of value-based management using the author's methodology for calculating the rate of residual net profit.[179]

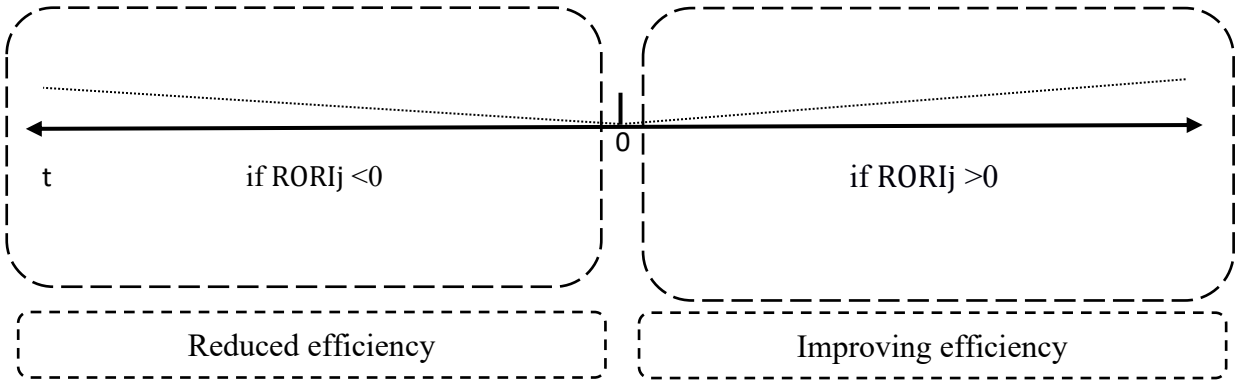

Figure 13 – Performance criteria based on the author's methodology for calculating the rate of residual net profit

Compiled by the author

From an economic point of view, the added profit margin shows how much residual net profit is accounted for per ruble of products sold. Accordingly, a positive trend characterizes the effectiveness of activities in the context of creating company value, a negative one – a decrease in the effectiveness of activities during the period under review.[180]

The main advantage of the proposed indicator over the existing ones is taking into account the profitability required by investors. The coefficients used in financial management do not fully disclose the effectiveness of the enterprise, including in terms of the value of the company. For example, the comparison of net profit, operating profit, EBITDA with revenue certainly reflects the effectiveness of

[179]Kalayda S.A. Verbal model of financial management of the value of an enterprise in the metallurgical industry/ Kalayda S.A., Chupanova H. A. // Economic security. - 2024. – Volume 7. – No. 5. – pp. 1189-1206.
[180] Ibid.

the company, but does not take into account the cost factor, which distorts the real economic effect in terms of the company's position on the stock market. In this regard, the comparison of residual net profit with revenue contains an important managerial aspect and can be an indicator of increasing value from the point of view of the efficiency of the enterprise.

Thus, the introduction of this indicator into the analysis of the efficiency of the enterprise will allow us to correctly take into account the economic effect that the enterprise receives when implementing a strategy for long-term growth of its value. At the same time, the calculated effect takes into account the rate of return required by investors, reflecting the minimum level of profitability that the company must provide for investors. At the same time, the justification for the correctness of using this indicator is also based on its explanatory ability from the point of view of the market. Thus, the results of comparing market and estimated cost data based on the model of residual net profit and market capitalization of the company allow us to accept the hypothesis that fundamental estimates explain the change in market prices.

4. An indicator of the strategic growth of the enterprise value

The value of a company is inherently an integrated indicator that is formed under the influence of many factors of the external and internal environment of the enterprise. Since the growth of the company's value requires an understanding of the possibilities of its expansion, it is necessary to clearly understand which values will characterize the strategic growth of the enterprise, and which, on the contrary, will fall not only in a specific period of time, but also taking into account changes in one or another parameter.

Among the indicators existing in the Russian literature, one can single out an indicator developed by Ivashkovskaya I.V., called the «index of accumulated economic profit»[181], the main idea of which is to compare the amounts of the present value of economic profit and the value of the company's investments. Also, another way to assess the sustainability of growth at the enterprise level is to calculate the growth sustainability coefficient, the calculation of which is based on the ratio of reinvested profit (profit minus dividends) to accumulated capital. It illustrates the rate of change in equity in the context of reinvested profits. [182] One of the most well-known and widespread indicators in practice is the ratio of the company's market value to its net profit.

[181] Ivashkovskaya I.V. Financial dimensions of corporate strategies. Financial dimensions of corporate strategies / I.V. Ivashkovskaya // Audit and financial analysis. – 2007. - No. 5. - p. 11.
[182] Khotinskaya G.I. Corporate growth: theory, financial indicators, empirical patterns / G.I. Khotinskaya // Economy. Management. Marketing. THE MANAGER. 2015. - No. 4/56.– pp. 12-17.

The indicators existing in the academic literature are informative for managers in terms of making decisions aimed at achieving the goals of sustainable development of an enterprise using profitability and profitability tools, however, they do not fully reflect the degree of underestimation or overestimation in terms of fundamental and market conditions.

In our opinion, the most informative from the point of view of the company's assessment by the market and calculated data is a comparison of market and fundamental value, taking into account the pace of their change, with a refinement of the calculation of each indicator (described above by formulas 5 and 6). Moreover, the logical and mathematical relationship of the indicators is justified for enterprises of the metallurgical industry and in each specific case allows us to determine the degree of unappreciation/overestimation by the market in the context of strategic value growth. Such a comparison within the framework of value-based management is proposed to be carried out using a coefficient reflecting a qualitative assessment of the growth in the value of the enterprise.

In this study, in order to manage the value of an enterprise, it is proposed to use a comprehensive indicator of the dynamism of enterprise development, which would characterize the measure of the reaction of market value to a change in fundamental value.

And in this context, it is proposed to introduce the Strategic growth rate indicator (SGRI), reflecting the degree of investment attractiveness of the enterprise or the measure of the reaction of market capitalization to changes in its fundamental value.

The quantitative calculation of the SGRI indicator is proposed to be performed using the following formula:

$$\mathrm{SGRIj} = \frac{\Delta \mathrm{MC}}{\Delta \mathrm{FV}} \quad (9),$$

or

$$\mathrm{SGRIj} = \frac{\Delta \mathrm{MC}}{\Delta \mathrm{FV}} = \frac{\mathrm{MC}_2 - \mathrm{MC}_1}{\mathrm{MC}_1} \div \frac{\mathrm{FV}_2 - \mathrm{FV}_1}{\mathrm{FV}_1}, \quad \text{где} \quad (10),$$

- MC – the market capitalization of the company,
- FV – the fundamental value of the company.

In fact, changes in market and fundamental value may have different directions and, therefore, may have a negative value. In order to assess not the direction of such a change, but the measure (degree) of the reaction of changes in market value, the author suggests using the modulus value for this purpose.

Taking into account the divergence of assessments of fundamental and market value, the criteria for changing the SGRI are proposed to be formulated as follows:

So, $|\mathrm{SGRIj}| > 1$ – the market value is growing faster than the fundamental value;

So, $|\mathrm{SGRIj}| < 1$ – the market value reacts poorly to changes in the fundamental;

So, |SGRIj| = 1 – the market value increases in proportion to the change in fundamental value.[183]

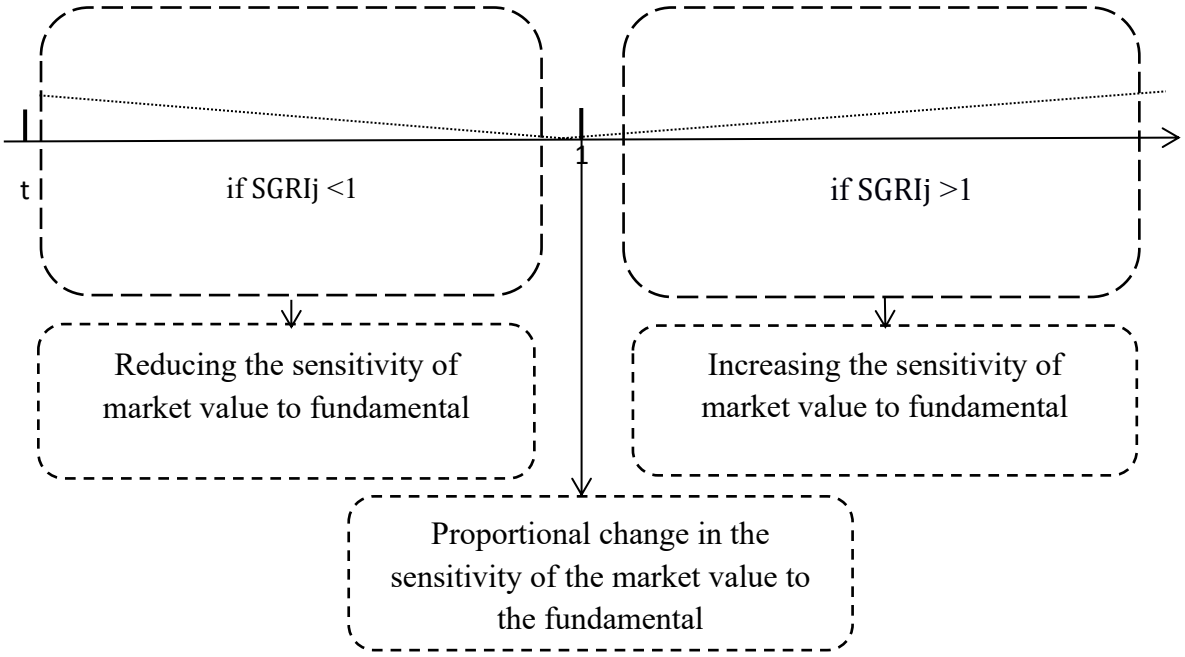

Figure 14 – Performance criteria based on the author's methodology for calculating the strategic value growth coefficient

Compiled by the author

Despite the coefficients of analysis of the financial stability of the company available in the literature, the SGRI strategic growth coefficient introduced by the author allows us to identify the strength of the impact of fundamental value on the market value of the company and thereby determine the degree of financial stability of the company in the context of value-based management.

The main difference from the existing indicators is the use of calculating market value and value indicators based on the residual net profit model according to formulas 5 and 6, the relationship of which is confirmed by the example of metallurgical companies and for each specific company can reflect the level of financial stability in the market from the point of view of the stock market. The assessment is proposed to be carried out by comparing companies with each other.

[183] Kalayda S.A. Verbal model of financial management of the value of an enterprise in the metallurgical industry/ Kalayda S.A., Chupanova H. A. // Economic security. - 2024. – Volume 7. – No. 5. – pp. 1189-1206.

2.3 Methodology for assessing the market value of a company: drivers of creating market value

Increasing the competitiveness of the enterprise seems to be a promising task, especially in the context of searching for new regional growth centers and building a new system of global economic relations. Achieving this goal can be done in different ways. Raising capital in the company on the basis of a public initial public offering is one of the promising and reliable options for expanding the sources of funding for the enterprise. This will subsequently expand the scope of the company's activities and modernize existing business models. The specifics of the domestic business sector are such that most of them do not operate in the form of public companies, and therefore do not have access to the public capital market. Shares of such companies have no market value and cannot be considered as a tool for raising capital in the company. Often, the process of entering the public capital market is postponed indefinitely by enterprises due to their unavailability for this procedure.

The concept of value-based management acts as an alternative to the traditional concept of financial management based on accounting profits. Thus, increasing the value of a company is considered one of the central paradigms of financial management. A company's place on the public capital market is determined by its market capitalization. At the same time, the search for sustainable prerequisites for the development of the corporate sector in developing countries requires studying the factors of ensuring the growth of market capitalization of public companies at the industry level. Due to its practical importance, this topic is reflected in modern scientific research.

In the previous paragraph, the author compared theoretical and calculated enterprise value indicators (market and fundamental estimates) for enterprises in the metallurgical industry, which showed the explanatory power of calculated data with market data. In this regard, we turn to the study of market factors of value change, the indicator of which in this study is market capitalization.

The development of management solutions in the field of value management requires the coverage of the assessment of both fundamental and market value. In this regard, the study of market value creation factors is necessary in order to comprehensively cover the factors characterizing the company's position.[184]

The market value of a public company acts as a kind of indicator of its competitiveness, for this reason, management needs to track and identify drivers, factors and form value-based management mechanisms based on them. On the other hand, the value of a public company is considered by shareholders as a criterion by which the effectiveness of management is evaluated.

[184] Chupanova Kh. A. The relationship of corporate governance with the value of the company: on the example of American insurance companies / Kh. A. Chupanova // Bulletin of the RMAT. – 2021. - No.1.- pp. 9-14.

In scientific and practical circles, the topic of increasing the company's value is the subject of discussion. The company's value attracts the attention of researchers as the most important value reflecting the competitive advantages and investment and financial potential of the company.

Russian authors Ovechkina A. and Petrova N. see the creation of an effective financial management system aimed at achieving short- and long-term goals as one of the key goals of the company's functioning. The authors identify two main types of financial policy implementation. Firstly, it is a revenue management policy that aims to maximize monetary resources reflected in the form of improving the financial results of the company. Secondly, the value-based management policy, which boils down to the rational allocation of monetary resources in order to ensure the current and investment activities of the enterprise. [185] Russian researchers Leontiev V. and Bocharov V. point to the primacy of financial policy in creating additional sources of funding to finance measures to implement strategic and tactical goals of the enterprise. The procedure for conducting financial policy involves the organization of work on optimal financial flow management, the study of additional sources of funding for activities based on strategic goals and the creation of a financial diagnostic mechanism for financial management.[186]

Based on the experience of financially successful foreign enterprises, it can be concluded that such valuation models that are based on the financial results of companies can be considered acceptable for use. The experience of large foreign companies shows that cost estimation models based on financial results are quite logically considered a guideline for making managerial decisions. According to Kudina M., the fundamental value of the company requires close attention from management in the process of building an enterprise management model. Taking into account fundamental valuations in general has an impact on the further balanced growth of the company's value. At the same time, the author emphasizes that the market value of the company, in conjunction with the fundamental value, reflects the income that the company can offer to its investors.[187]

With the increasing role of financial management in the management of the company, the importance of value-based management began to increase. The traditional management model is popular among Russian companies, where the main criterion for managing a company is the growth of sales, revenue, and net profit. In modern realities, this is not always correct and requires a revision of the targets.

In order to identify the drivers of company value creation for a particular industry, an assessment toolkit is needed that combines a set of factors explaining the change in the company's position in terms

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[185] Ovechkina A. I. Corporate finance. Workshop: textbook for universities / A. I. Ovechkina, N. P. Petrova // Moscow: Yurait Publishing House, 2020. — 215 p.
[186] Leontiev V.E. Corporate finance: textbook for universities / V.E. Leontiev, V. V. Bocharov, N.P. Radkovskaya // 3-e., pererab.and add. - Moscow:Yurait Publishing House, 2020. - 354 p.
[187] Kudina M. V. Fundamental and market value of the company / M. V. Kudina // Russian entrepreneurship. – 2010. - №1(2). - P.35.

of its industry specifics. The strategic development of metallurgical enterprises is the subject of discussions in scientific and practical circles. At the same time, it is important to note that the achievement of the global Sustainable Development Goals cannot be achieved without the active participation of the industrial sector of the economy in the implementation of these goals.

A company's place on the public capital market is determined by its market capitalization. At the same time, the search for sustainable prerequisites for the development of the corporate sector in developing countries requires studying the factors of ensuring the growth of market capitalization of public companies at the industry level. Fundamental and modern works in this field can be distinguished, while the results of such studies differ depending on the country, industry, and time period (the impact of crisis phenomena). It is precisely because of its practical significance that this topic is reflected in modern scientific research. The company's value attracts the attention of researchers as the most important value reflecting the competitive advantages and investment and financial potential of the company, therefore, the problem of managing the company's value often becomes the subject of discussion in scientific and practical circles.

Forecasting the market value of a company in modern conditions of development requires a comprehensive account of the development factors characterizing the internal and external environment of the company. To date, modern scientific research considers a different combination of company value creation factors.

In order to disclose the financial and non-financial aspects of creating value for domestic enterprises, the author investigated existing empirical work applied to various industries in this scientific direction. In modern scientific circles, there is an active discussion of the impact of external and internal factors on the value of the company. A number of empirical studies confirm the relationship of various aspects of corporate governance: capital structure, financing or dividend payments with the value of the company, but their conclusions vary depending on the country, industry, stock exchange.

The following is an overview of fundamental and modern empirical works in which the influence of the above-mentioned factors is studied separately or in combination.

The problem of the influence of value creation factors is raised in the works of Russian and foreign scientists. The growth of the company's market capitalization ensures stable positions in the stock market and causes investors to have a certain degree of confidence, since from the position of the stock market its ability to generate income from year to year is obvious. On the other hand, for the company, long-term growth ensures the attraction of additional sources of financing that the company could use to expand the scale of its business, improve the quality of services and products provided, and develop new areas of activity (Brayley R., Myers S., 2008).[188]

[188] Brayley R. Principles of corporate finance / R. Brayley, S. Myers // translated from English by N. Baryshnikova. M.: Olymp-Business CJSC, 2007. - 1008 p.

- ***The company's dividend policy as a value creation factor***

A significant proportion of empirical research is devoted to various factors of value creation: the policy of paying dividends, profitability indicators, the ratio of borrowed capital to equity, etc.

One of the fundamental studies in the field of the impact of dividend policy on the value of shares is the work of M. Miller and F. Modigliani (Miller, Modigliani, 1961)[189], demonstrating the absence of the impact of dividend payments on the value of the company in a perfect capital market (without taxes, transaction costs and other market imperfections). However, in the real world, where markets are far from perfect, this theory does not work.

In the context of an imperfect capital market, the role of the dividend policy has been significantly revised. So M. Gordon[190] and J. Lintner[191] developed the theory of dividend preference or "tit in the hand", the essence of which lies in the presence of a direct link between the company's dividend policy and its market value. The dividend policy still retains the interest of scientists, creditors, management and shareholders. The importance attached to the dividend policy is due to its relationship with other corporate decisions, such as financing and investments, and its impact on the well-being of shareholders and on the economy as a whole. Modern scientific research confirms the above correlation: the high or low value of a company can be judged by its ability to pay dividends (Zulkifli, Endri, Kurniasih, 2017).[192]

In the empirical work of recent years, when determining the factors of creating company value, the issues of the impact of dividend policy are also central.

Thus, M. Amidu (2007[193]) tested the hypothesis about the impact of dividend policy on the performance of companies in Ghana. The analysis was carried out using data obtained from the financial statements of companies listed on the Ghana Stock Exchange (GSE-Ghana Stock Exchange). The least squares (OLS) method was used to estimate the regression equation. Based on the analysis of several models, conclusions were drawn illustrating the positive relationship between asset profitability, dividend policy and sales growth. The study also shows that larger companies have lower return on assets.

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[189] Miller M. Dividend policy, growth, and the valuation of shares / M. Miller., F. Modigliani // The Journal of Business. - 1961. - vol. 34. - pp. 411-433.
[190] Gordon M. Optimal investment and financing policy / M. Gordon // The Journal of Finance. - 1963. - vol. 18. - No 2. - pp. 264-272.
[191] Lintner J. Dividends, earnings, leverage, stock prices and the supply of capital to corporations / J. Lintner // The Review of Economics and Statistics. - 1961. - vol. 44. - No 3. - pp. 243-269.
[192]Zulkifli Z. Determinan Internal Dividend Payout Ratio Perusahaan Farmasi terdaftar di Bursa Efek Indonesia / Z. Zulkifli, E. Endri, A. Kurniasih //Jurnal Keuangan dan Perbankan. - 2017. - No 21(2). - pp. 238-252.
[193] Amidu M. How Does Dividend Policy Affect Firm Performance? A Ghanaian Case / M. Amidu // Investment Management and Financial Innovations. - 2007. - No 4(2). - pp. 103-112.

The significant impact of the dividend policy on the company's value is confirmed by the example of 36 manufacturing enterprises listed on the Karachi Stock Exchange (Malik, Maqsood, 2015[194]). However, for Pakistan's non-financial sector, there is a negative relationship between dividend payments and market capitalization.

In order to study the company's value creation factors, macroeconomic variables should be taken into account in addition to fundamental variables, as well as assess the prospects for the future value of the company in addition to accounting for corporate profits.[195]

- ***Indicators of profitability and capital structure as factors of value creation***

In addition to the dividend policy, among the factors influencing the value of the company, researchers often identify components of corporate financial policy: profitability coefficients, financial leverage, size and growth of the company.

For example, for real estate companies, this comparison (Hakim, Sunardi, 2017)[196] was analyzed on the basis of identifying the impact of profitability, business risk, asset growth rates, ownership structure and total debt capital on the value of companies listed on the Indonesian stock Exchange. The conclusions in this study indicate the simultaneous positive impact of these factors on the value of the company.

Another example of the study shows that a significant factor influencing the value of a firm are intangible assets (positive and significant relationship), return on investment (positive and significant relationship) and debt policy (positive and significant relationship), while other factors such as dividend policy and financing activities (current assets, turnover assets), do not have a significant impact on the value of the company. Current financial statements or accounting standards still have limitations in measuring and reporting intellectual capital. This makes the company less accurate in providing information about the actual value of the company, which leads to a significant difference between the book value and the market value. But this limitation can be overcome by using an approach to estimating the value of an asset at fair value.[197]

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[194] Malik M. S. Impact of changes in dividend policy on firm's value: A case study of cement sector of Pakistan / M.S. Malik, M. Maqsood // Journal of Basic Sciences and Applied Research. - 2015. – No 1(4). - pp. 41-52.

[195] Nurdin D. Moderator Effect of Corporate Governance on the Relationship of Financial Performance and Dividend Policy, and Its Impact on Firm Value in Indonesia Stock Exchange/ D. Nurdin, MY. Kasim // Int J Econ Manag Sci 7: 499. – 2017. – pp. 1- 7.

[196] Hakim L. Determinant of leverage and it's implication on company value of real estate and property sector listing in IDX period of 2011-2015 / L. Hakim, N. Sunardi // Man in India. - 2017. - 97(24). - pp.131-148.

[197] Gamayuni R. The Effect Of Intangible Asset, Financial Performance And Financial Policies On The Firm Value / R. Gamayuni // INTERNATIONAL JOURNAL OF SCIENTIFIC & TECHNOLOGY RESEARCH. – 2015. - Volume 4. - P. 204.

Jordanian scientists (Al-Nimer et al., 2015[198]) tested the hypothesis of the impact of profitability coefficients on the market capitalization of Jordanian insurance companies listed on the Amman Stock Exchange (ASE – Amman Stock Exchange). Based on the analysis of time series collected over 4 years for 25 Jordanian insurance companies, it was concluded that the profitability coefficients (ROA – return on assets, ROI – return on investment, ROE – return on equity) collectively have an impact on market capitalization.

A. Odum (Odum et al., 2019[199]) studied the effect of the dividend payout ratio on the value of the company together with indicators such as profitability, leverage ratio, dividend policy ratio, cash availability and the size of the company. The results showed that the profitability coefficients and the leverage ratio have a positive and significant effect on the value of the company.

The empirical results of the study (Endri and Fathony, 2020)[200], which analyzed the impact of dividend policy and profitability, showed that they have a positive impact on the value of financial sector companies for the period 2013-2017. However, the size of the company, leverage and growth of the company had no effect on the value of the company in the financial sector over the period under review.

Nasarawa University researchers [201] (Nwala et al., 2020) conducted a study on the impact of corporate financial policy on the value of a company in Nigeria, based on an analysis of data on 25 insurance companies over 7 years. The authors grouped the parameters of corporate financial policy and presented them in the form of the following indicators: dividends, share issuance, debt and equity, return on assets. The Tobin coefficient was adopted as an indicator reflecting the market value of the company. The results obtained indicate that there is a significant relationship between the payment of dividends, the issue of shares and the value of the company. At the same time, they indicate the absence of any significant relationship between the return on assets and the payment of dividends, debt and equity, and the issuance of shares during the period under study. Thus, the statistical significance of the impact of such indicators as the payment of dividends and the issue of shares on the value of the company was confirmed.

The value of a business can be increased in several ways. For example, the profitability of a business can serve as one of the factors for the growth of the company's value, since most investors prefer to buy shares at a high price while generating cash flows in the short and long term. An alternative

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[198] Al-Nimer M. The Effect of Profitability Ratios on Market Capitalization in Jordanian Insurance Companies Listed in Amman Stock Exchange / M. Al-Nimer, N. Alslihat // Journal of Economics and Sustainable Development, 2015. - Vol.6. - No.6. - pp.140-146.

[199] Odum A. N. Impact of dividend payout ratio on the value of firm: A study of companies listed on the Nigerian Stock Exchange/ A.N. Odum, C.G. Odum, R. I. Omeziri, C. F. Egbunike // Indonesian Journal of Contemporary Management Research. - 2019. - No 1(1). - pp.107-119.

[200] Endri E. Determinants of firm's value: Evidence from financial industry / E. Endri, M. Fathony // Management Science Letters. - 2020. - pp. 111–120.

[201] Nwala M. Impact of corporate financial policies on firm value of quoted insurance firms in Nigeria/ M. Nwala, J. Gimba, G. Oyedokun //Fountain University Osogbo Journal of Management (FUOJM). - 2020. - No 5(1). - pp. 219 – 236.

way to create value in a company is to generate cash flows in existing business lines. Differentiation of production of key products of the industry and geographical presence also allows you to set favorable prices based on supply and demand in the market.[202]

However, in practice, there may be cases in which the value of value growth decreases to a greater extent than the value of the spread, which indicates the relevance of increasing the value of the company for highly efficient industries.[203] At the same time, the publication of information on non-financial information has a certain effect for companies. For example, for enterprises of the Tehran Stock Exchange, disclosure of data on the intellectual capital of the enterprise and the state of human resources have a positive impact on the value of the company. Voluntary disclosure of information is considered by investors to be a more valuable investment. At the same time, disclosure of information for enterprises is important from the point of view of following certain requirements, domestic and international requirements for improving the quality of their human resources.[204]

Thus, the components of a company's corporate financial policy cannot be considered in isolation from each other, since it acts as one of the most important areas of financial decision-making due to its relationship with the strategic and tactical goals of the company. Obviously, the differences in the final estimates of the impact of factors are due to the economic environment in which the company operates. For this reason, the study of the issues of creating market value of a company in developed markets at the industry level will identify trends in value creation of companies in emerging markets in the context of global trends, as well as solve a number of questions regarding the specifics of the company's activities in this industry[205].

When forming the sample of the study, we covered public companies whose shares are represented on the public capital market. It is worth noting that the very presence of the company's market value indicates that the company has conducted an initial public offering procedure, which means that they are freely traded on the stock exchange and act as a kind of guideline for changing its position relative to its competitors. [206] Entering the public capital market requires compliance with certain conditions affecting the financial results of the company's activities for previous periods, the maturity and popularity of the business and the products offered, the interest and interaction of all members of the company's management, the benefits of placements, as well as the current market situation. Not every

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[202]How To Determine Your Company's Worth And Increase Its Value [Electronic resource].- Mode of access: URL: https://www.forbes.com/sites/forbesbusinesscouncil/2019/11/14/how-to-determine-your-companys-worth-and-increase-its-value/?sh=79bda6b86e9f.

[203] Kogdenko V. G. Analysis of business value factors according to financial statements / V.G. Kogdenko. – 2008. – 3 (3). P. 3.

[204] Ghasempour A. Quality of Intellectual Capital and Human Resources Disclosure on the Firm Valuation / A. Ghasempour, M.A.M. Yusof // Open Journal of Accounting. - 2014. – No 3. - pp. 59–70.

[205] Chupanova Kh. A. The relationship of market capitalization with indicators of the value of high-tech companies / Kh. A. Chupanova // Economics, entrepreneurship and Law. – 2019. – Volume 9. – No. 3. – pp. 191-206.

[206] Chupanova Kh. A. IPO as a source of financing for the company's activities: on the example of Kazakhstan / H.A. Chupanova, U.A. Murtazaeva // The economy of Central Asia. — 2020. — Volume 4. — No. 3. — pp. 233-242.

company can meet such criteria, which makes it difficult to choose in favor of any branch of the Russian economy.[207]

- ***Factors of sustainable development in financial management***

In 1987, the report «Our Future» by the UN International Commission on Environment and Development highlighted the concept of sustainable development at the international level, in which sustainable development was understood as activities aimed at development that does not harm future generations.[208] In 1992, following the results of the conference in Rio de Janeiro, a program of action was documented to address the problems of the concept of sustainable development by the governments of the States.[209] Later, the non-profit organization Carbon Disclosure Project (CDP) was founded, which carries out carbon disclosure activities, maintains a global database on the activities of enterprises that lead to greenhouse gas emissions, aggregates all information about possible investment risks and opportunities caused by changes in climatic conditions, and assigns a climate rating to enterprises. In Russia, CDP's activities were activated in 2009. A survey of the largest 50 companies listed on the RTS Stock Exchange was conducted. For example, RUSAL, the first company in the aluminum industry, was recognized as a global leader in dealing with climate risks in the international CDP rating in 2020.[210] Taking into account the factors of sustainable development or ESG (Environmental, Social, Governance) at the beginning of the 20th century was at the peak of increased attention from the international community. Thus, for the first time, the importance of their accounting was announced in 2006 by the UN Secretary–General within the framework of the Principles for Responsible Investment (PRI) developed and presented, which provide for the consideration of ESG (Environmental, Social, Governance) factors when making investment decisions. Responsible investing has become increasingly relevant as a response to the growing interest of institutional investors not only in the potential level of income, but also in following the principles of sustainable development while maintaining a balance of financial and public interests, such as social, environmental and managerial, including when evaluating the effectiveness of investments made.[211] The International Global Alliance for Achieving Sustainable Development Goals in the Field of Banking Services (The Global Alliance for Banking on Values – GABV) was founded in 2009. GABV is an independent network of banks and banking cooperatives

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[207] Chupanova Kh. A. The relationship of market capitalization with indicators of the value of high-tech companies / Kh. A. Chupanova // Economics, entrepreneurship and Law. – 2019. – Volume 9. – No. 3. – pp. 191-206.

[208] Agenda for the 21st century. Adopted by the United Nations Conference on Environment and Development, Rio de Janeiro, June 3-14, 1992 - 1992[Electronic resource] .- Access mode:.URL: https://www.un.org/ru/documents/decl_conv/conventions/agenda21.shtml

[209] Agenda for the 21st century. Adopted by the United Nations Conference on Environment and Development, Rio de Janeiro, June 3–14, 1992 - 1992[Electronic resource]. - Access mode:.URL: https://www.un.org/ru/documents/decl_conv/conventions/agenda21.shtml

[210] RUSAL is a global leader in the Carbon Disclosure Project (CDP) climate rating [Electronic resource]. - Access mode: https://rusal.ru/press-center/press-releases/rusal-globalnyy-lider-v-klimaticheskom -reytinge-carbon-disclosure-project-cdp/

[211] Petrenko L. D. ESG criteria in the practice of making investment decisions / L. D. Petrenko // International Scientific Research Journal. - 2020. - Part 2. - № 11 (101). - P. 100.

pursuing the goal of ensuring sustainable development in various socio-economic aspects (in particular, economic, social and environmental). The relevance of the sustainable development agenda over the past 10 years has been maintained in the international arena. Thus, in September 2015, the UN conference discussed a long-term strategy of directions in the field of achieving the Sustainable Development Goals (SDGs) until 2030, which includes 17 global SDGs and 169 relevant tasks affecting the eradication of poverty and inequality, the realization of civil rights, the rational use of natural resources, etc. All these goals are aimed at achieving a balance between the three aspects of sustainable development: economic, social and environmental. Russia supports this issue and is included in the list of countries that have adopted the SDGs. Thus, in 2020, the Russian independent review on the achievement of the SDGs was published: «2020-2030: a decade of action for the SDGs in Russia. Challenges and solutions».

The importance of following the principles of sustainable development is evidenced by world practice, in particular, it is investors who form the demand for securities related to sustainable development, which creates incentives for the development of quantitative indicators that contribute to achieving positive results in the implementation of sustainable development goals.

The Central Bank of the Russian Federation recommends that institutional investors, in order to protect and increase the long-term profitability of investments, carry out activities in the field of sustainable development in accordance with the principles of responsible investment. Regulatory policy on this issue is at the stage of intensive formation, including the solution of problematic issues in the field of decarbonization, green financial instruments, responsible investment[212], ESG transformation and the formation of public reporting on sustainable development.

Regarding the methodological framework in the field of sustainable development, we note that in accordance with the decree of the Government of the Russian Federation dated November 18, 2020 No. 3024-r «On the coordinating role of the Ministry of Economic Development of the Russian Federation on the development of investment activities and attracting extra-budgetary funds to Sustainable (including Green) development projects in the Russian Federation, the Ministry of Economic Development of the Russian Federation has a coordinating role on the development of investment activities and attracting extra-budgetary funds to sustainable development projects. WEB.RF is a methodological institute for financial instruments in the field of sustainable development.

By Order No. 838 of the Ministry of Economic Development of the Russian Federation dated December 18, 2020, an interdepartmental working group (IWG) was established on the development of investment activities and attracting extra-budgetary funds to sustainable (including green) development

[212] Information letter from the Central Bank of the Russian Federation on recommendations for the implementation of the principles of responsible investment. To participants of the securities market dated July 15, 2020. - No. IN-06-28/111 [Electronic resource]. - Mode of: https://cbr.ru/statichtml/file/59420/20200715_in_06_28-111.pdf

projects in order to ensure effective interaction between federal executive authorities, the Bank of Russia, development institutions, business and the professional community on development issues investment activities and attracting extra-budgetary funds to development projects.

In order to finance domestic projects in the field of ecology, environmental protection and socially significant projects, the Sustainable Development Sector was created on the Moscow Stock Exchange in 2019. It includes 3 constituent segments: sustainable development bonds, SDG-related bonds segment, national and adaptation projects segment. At the end of 2021, the Sustainable Development Sector included 22 issues of green, social and adaptation bonds of domestic bonds (the total volume amounted to 192.6 billion rubles).

Non-financial reporting is an indicator of the involvement of companies in the implementation of the principles of sustainable development at the corporate level in conjunction with global priorities and investor requirements. The subject of consideration of the issues of involvement of Russian companies in the implementation of the ESG agenda was an article by Russian researchers G. Soboleva and E. Zugi[213], which revealed the insufficient involvement of Russian companies in the implementation of the Sustainable Development Goals, with the exception of large leading companies that disclose high-quality information in non-financial reporting.

Thus, the issue of sustainable development becomes the central issue of interaction between business entities, which determines the search for a certain balance between financial and public interests both at the international level and at the corporate level.

The analysis of empirical work shows the relevance of considering the factors of corporate financial policy, dividend policy on the value of the company. However, modern trends in the development of the corporate sector in the context of global trends determine the existence of, among other factors, sustainable development.

The development of the global capital market determines the existence of acute competition between enterprises, requiring managers to implement promising business strategies aimed at improving financial performance. One of the important methods of solving this problem is the publication of high-quality information, expressed in the publication of reports for investors.

Numerous studies on the relationship of cost approach effectiveness metrics demonstrate ambiguous results. Recent studies show that elements of a company's corporate financial policy can be considered as drivers of its value growth, but their conclusions differ. In this regard, further development and research of the considered issues for metallurgical enterprises is required.

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[213] Soboleva G. V. Involvement of Russian companies in the implementation of the ESG agenda: social and corporate aspects in the context of non-financial reporting / G. V. Soboleva, E.I. Zuga // Bulletin of St. Petersburg University. Economy. - 2022. - 38 (3). - pp. 365-384.

A significant proportion of empirical research is devoted to various factors of value creation: dividend payment policy, profitability and profitability, financial stability and other drivers.

The need to take into account indicators reflecting the value chain is recognized by Russian scientists. Despite the specificity of the indicators for each specific industry, it is possible to attempt to formulate the enlarged factors of value creation that are inherent (conceptually) in any business. Monitoring the selected indicators will allow management to make timely decisions and influence the cost through financial management tools.[214]

Taking into account empirical research on this issue, the specifics of the metallurgical industry itself, as well as global sustainable development goals, the author identifies a number of key factors for creating company value. At the same time, the choice of coefficients was carried out on the basis of previous empirical studies on this issue, as well as the formulation of logical relationships. The logarithm of market capitalization was chosen as the dependent variable. Table 7 presents the factors proposed for consideration, as well as formulas for their calculation.

Table 7 – Financial and non-financial factors influencing the value of the enterprise

№	Designation in the model	The name of the factor	Calculation formula
1.	$QTobins_{it}$	Tobin coefficient (intellectual capital)	$\frac{\text{Market capitalization}}{\text{Assets} - \text{Short} - \text{term liabilitiesa}}$
2.	FL_{it}	Financial leverage ratio (debt burden level)	$\frac{\text{Debt capital}}{\text{Equity capital}}$
3.	GVA_{it}	The share of the GVA of metallurgical production in the GVA of manufacturing industries	$\frac{GVA_{\text{metallurgical production}}}{GVA_{\text{manufacturing industries}}}$
4.	dDIVpay_1	A fictitious variable characterizing the payment of dividends	dDIVpay_1 = 1 – dividends paid. dDIVpay_0 = 0 – no dividends were paid.
5.	dESGreport_1	A fictitious variable characterizing the availability of non-financial reporting	dESGreport_1 = 1 – availability of non-financial reporting. dESGreport_0 = 0 – no non-financial reporting.

Compiled by the author

The general logic of the work is based on the construction of an econometric model based on panel data (the research methodology and results are presented in paragraph 3.2. of the dissertation research), the functional dependence of which can be expressed as follows (formula 11).

The investigated multiple regression equation can be represented as follows[215]:

[214] Melnik M. V. The concept of economic analysis focused on the assessment of the value chain / M.V. Melnik, V.G. Kogdenko // The theory of economic analysis. – 2010. – 7 (172). p. 6.

[215] Kalayda S.A. Theoretical foundations of the formation of the category «company value» and modern practical aspects of value-based management / Kalayda S.A., Chupanova Kh. A. // Economics, entrepreneurship and law. – 2024. – Volume 14. – No. 6. – P. 3243-3262.

$$LnMC_{it} = \alpha_i + QTobins_{it}\beta_1 + FL_{it}\beta_2 + GVA_{it}\beta_3 + dDIVpay\ \beta_4 + dESGreport\_1\beta_5 + \varepsilon_{it} \quad (11),$$

где

- α_i – a value corresponding to a deterministic individual effect;
- $\beta_1 - \beta_5$ – the results of multiple regression coefficient estimates;
- $QTobins_{it}$ – Tobin coefficient;
- FL_{it} – the ratio of borrowed capital to equity;
- GVA_{it} – the contribution of metallurgical production to the GVA of manufacturing industries;
- dDIVpay_1 – a fictitious variable characterizing the fact of payment of dividends (1 – paid; 0 – not paid);
- dESGreport_1 – a fictitious variable characterizing the availability of non–financial reporting in the field of sustainable development (1 – published, 0 - not published);
- ε_{it} – the residuals of the model, representing the difference between the values observed and predicted by the model.

A significant value of the proposed econometric model in comparison with the previously existing ones is a more comprehensive account of the new enlarged groupings proposed by the author in the presented combination (indicators for measuring intellectual capital, debt-to-equity ratio, scale of metallurgical production, dividend payment policy, as well as directions in achieving global sustainable development goals), this leads to a certain economic effect on the value of the company and provides management with the opportunity to develop new management decisions based on them using mathematically sound results. A distinctive feature of this model is the choice of a combination of these particular value creation factors and the rationale for such a choice in application to the development of the metallurgical industry specifically.

Justification of the choice of coefficients

Quantitative indicators:

1. Intellectual capital, expressed by Tobin's coefficient (QTobins). With the penetration of technological and industrial innovations of various types into the industry, there is a need to identify the importance of intellectual capital for the company. Effective enterprise management depends on the use of intellectual capital and acts as an additional competitive advantage. Moreover, the choice of this indicator is consistent with the «Strategy for the development of the metallurgical industry of the Russian Federation until 2030». [216] It is supposed to strengthen the scientific and technical potential of the

[216] Decree of the Government of the Russian Federation dated December 28, 2022 No. 4260-r "On approval of the Strategy for the development of the metallurgical industry of the Russian Federation for the period up to 2030" [Electronic resource].– Access mode: URL: https://www.garant.ru/products/ipo/prime/doc/405963845 /.

metallurgical industry in terms of two types of materials. We are talking about materials with standard properties, mass-produced materials and materials with specific requirements and corresponding characteristics. In this regard, in the foreseeable future, the industry faces two enlarged scientific and technical tasks. The first group of products includes research related to the development of new energy and resource–saving technologies that could reduce the negative impact on the environment in the form of harmful substances and the development of technologies for the disposal and recycling of industrial waste. The second group of materials includes scientific and technical tasks related to the need to produce import–substituting materials and new metal products not previously available on the market. The role of intellectual capital in modern conditions for enterprises of the metallurgical industry will increase, since the introduction of innovative tools into the activities of industrial companies can potentially provide a high-tech production process and contribute to its intensification. Thus, in the context of the emergence of a new economic reality, one of the most important places in the economic activity of an enterprise is assigned to intellectual capital, which is measured in various ways. The impact of intellectual capital on the value of an enterprise has been studied by various authors and most of them confirm that intellectual capital is a strategic asset that has a positive impact on the value and financial well-being of the company.[217]

In this study, the assessment of intellectual capital is based on the coefficient proposed by the American scientist James Tobin. His proposed method of assessing the intellectual capital of a company consists in allocating that component of value that is not reflected in the financial statements. Thus, the QTobins coefficient (or Tobin coefficient) expresses the relationship between the market valuation and the internal value of the enterprise. If QTobins takes a value greater than one, then we can talk about the presence of intellectual capital in the enterprise in excess of one.[218] In the context of this work, confirmation of the hypothesis about the significant impact of management actions aimed at increasing intellectual capital will contribute to the creation of added value in the enterprise due to the opening of new opportunities in the production of new products.

2. **The financial leverage ratio (FL)** shows how much capital comes in the form of debt (loans), or evaluates a company's ability to meet its financial obligations. This indicator characterizes the amount of borrowed capital raised per unit of equity. The dynamics of the financial leverage ratio requires constant monitoring, since it, in turn, is influenced by various factors. For example, if there is a high dependence on borrowed funds during a period of deteriorating economic conditions (an increase in the key rate, an increase in the cost of raw materials, restrictions on export supplies due to the closure of sales markets, etc.), the cost of borrowed funds may significantly exceed the level of profitability of the

[217]Abramishvili N.R. The model of intellectual capital in the diagnosis of high-tech companies / N.R. Abramishvili, N. A. Lvova // Financial analytics: problems and solutions. - 2014. -No. 25. – p. 26.
[218] Sirazetdinov R.M. Application of the method of J. Tobin's approach to the study of intellectual capital at innovatively active enterprises / R.M. Sirazetdinov, L.N. Ustinova / / Russian entrepreneurship. - 2015. - №16 (19). - P. 3288.

enterprise. Such a decrease in the financial stability of an enterprise can lead to negative consequences, including an increase in the risk of bankruptcy of the enterprise, and on the other hand, to an increase in the interest rate on the part of creditors and, as a result, an increase in the cost of debt servicing. The leverage ratio category is important because companies rely on a combination of capital and debt to finance their operations, and knowing the amount of debt held by a company is useful for assessing whether it can repay its debts as they occur.

3. **The scale of the metallurgical industry, expressed by the indicator - the share of the GVA of metallurgical production in the GVA of manufacturing industries.** The indicator reflects the dynamics of metallurgical industries, its contribution to the added value of manufacturing industries. In this study, the indicator characterizes the scale of the metallurgical industry in quantitative terms and reflects the impact of the collective strategy of the industry on the market capitalization of metallurgical enterprises. The contribution of metallurgical production to the GVA of manufacturing industries, according to the author, acts as an indicator reflecting the size of the metallurgical industry. At the same time, it is worth noting that production potentially includes an export component, thereby providing both domestic consumption and export supplies (external demand).

From an economic point of view, this factor represents an important managerial aspect. Thus, according to a report by the international consulting and auditing company Deloitte, collective strategies or strategic alliances are aimed at gaining a competitive advantage through the joint use of several independent organizations. Collective strategies make it possible to combine the financial, material and intellectual resources of participating companies to solve strategically important tasks of the industry.[219]

The choice of this factor is also due to the significant socio-economic role of the industry for the country. Thus, according to the «Strategy for the Development of the Metallurgical Industry of the Russian Federation until 2030», the industry is characterized by a significant contribution to the GVA of manufacturing industries (17.4%), to exports (10%), to exports of manufacturing industry (29.2%) and to employment (2.6%). Production in the industry provides both domestic consumption and external demand. At the same time, the priority for the supply of industry products are the member states of the EEC and the CIS, Turkey, Latin America, Africa, the Middle East and Southeast Asia. [220] Since the gross value added of the manufacturing industry reflects the total value of products between the output of goods and services and intermediate consumption (the cost of goods and services consumed in the production process), it is advisable to assume that the contribution of the metallurgical industry

[219] Overview of the ferrous metallurgy market. Moscow, the first half of 2019 [Electronic resource] .- Access mode: URL: https://www.csr.ru/upload/iblock/d4b/d4b9f67f27e41cb9ec867ddfeb6fc6a9.pdf

[220] Decree of the Government of the Russian Federation dated December 28, 2022 No. 4260-r "On approval of the Strategy for the development of the metallurgical industry of the Russian Federation for the period up to 2030" [Electronic resource].- Access mode: URL: https://www.garant.ru/products/ipo/prime/doc/405963845 /.

specifically to manufacturing in dynamics will reflect its scale in the structure of manufacturing industries.

Despite the fact that the industry contributes to the export component of the country, domestic consumption will be stimulated by generating guaranteed demand from consumers. At the same time, according to the main document of the strategic planning of the industry - the Strategy for the Development of the metallurgical industry, priority attention should be given to creating conditions for the realization of domestic demand, which in turn requires, first of all, an increase in domestic production. Moreover, we consider the impact of this indicator not in isolation from other factors, but in combination with the above, which implies the creation of better products in the industry. For example, MMK's products in the amount of more than 80% are sold in the domestic market of Russia and neighboring countries[221],

The impact of business scale on market capitalization is considered by us as a hypothesis for research in connection with the assumption of business synergy, which implies the impact of industry efficiency on the market value of metallurgical companies. The synergistic effect is to follow industry development trends, cooperate with industry communities, participate in infrastructure projects, etc., which can contribute to creating additional value in the company. In connection with the above, the importance of this factor is important in the context of the functioning of the enterprise as a structural unit of the industry, however, it requires great efforts on the part of the company's management in implementing the collective strategic objectives of the industry.

Quality indicators

4. Dividend policy (dDIVpay).

The dividend policy is the basis for making management decisions regarding the final financial result – net profit. Without understanding the specifics of the dividend policy, making decisions on the structure of sources of financing and the development of investment activities becomes very difficult for management. Such a policy should combine the interests of the company and its shareholders. There are several ways to organize a dividend policy in a company. The first is a conservative approach, when dividends are paid on a residual basis, and their amount is stable. The second is a moderate approach (or compromise), where it is practiced to pay a stable amount of dividends with various allowances in certain periods. And the third is an aggressive approach, in which dividends are constantly growing. The payment of dividends can potentially be considered as a factor that increases the value of the company. Investors consider it as a key parameter reflecting the possibility of generating additional value in the enterprise.

[221] The official website of MMK PJSC. [Electronic resource] .- Access mode: URL: https://mmk.ru/ru/investor/investment-attractiveness /.

5. Sustainability reporting (dESGreport).

This indicator reflects the company's adherence to the principles of sustainable development disclosed in the company's non-financial statements. Thus, the availability of non-financial reporting in the field of sustainable development was determined on the basis of open information and analytical sources, including the Refinitiv Eikon information and analytical database. For example, NLMK Group, as of the 2nd quarter of 2023, ranked first among Russian metallurgical companies in the «Top 50 Green Energy Transition Companies» rating, while analysts at the independent agency RAEX-Europe note NLMK's experience in the use of renewable energy. According to the company, about 80% of the electricity generated and directed to production needs is produced by secondary gases.[222] The role of non-financial information for all stakeholders is reflected in the declaration «On the Goals of the Corporation", signed by the heads of 181 major American companies that are members of the Business Round Table Association, August 19, 2019. The declaration declares the transition from creating value for shareholders to creating value and benefits for all stakeholders, including shareholders. At the international level, the World Economic Forum announced the transition from a paradigm in which the main goal of a corporation is to make a profit and create value for shareholders to a new one that sets the goal of the corporation's activities to create sustainable value for all stakeholders at the end of 2019.»[223]

By developing and improving sustainable development policies, enterprises thereby increase potential long-term growth and contribute to generating higher firm value for both shareholders and stakeholders, as well as for society, which will also have a positive impact on their investment attractiveness, since users of reporting (creditors, investors, other interested parties) receive a more expanded information and understanding about the strategic development plans of the enterprise in the context of the general principles of sustainable development. This mainly explains the choice of this factor.

The approbation of the presented methodology for assessing market value is carried out by us further in paragraph 3.2 on the example of Russian metallurgical companies. Identifying the degree of influence of parameters on market value will allow the evaluation results to be integrated into an integrated approach to value-based management.

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[222] The official website of NLMK Group. [electronic resource].- Access mode: URL: https://nlmk.com/ru/media-center/press-releases/gruppa-nlmk-lider-reytinga-top-50-kompaniy-zelenogo-energoperekhoda / .

[223]Recommendations on disclosure by public joint-stock companies of non-financial information related to the activities of such companies. Information letter on recommendations on disclosure by public joint-stock companies of non-financial information related to the activities of such companies dated July 12, 2021 No. IN-06-28/49 [Electronic resource]. - Access mode: URL: https://cbr.ru/StaticHtml/File/117620/20210712_in-06-28_49.pdf .

Conclusions on Chapter 2

As part of the work on the second chapter of the dissertation, the following key conclusions and formulations were made:

- the current trends in the development of the metallurgical industry at the level of strategic planning are investigated, trends in the development of the industry are determined, and the role of metallurgical companies in the public capital market is revealed;
- based on fundamental and applied scientific research, the author suggests the possibility of using the residual net profit model in assessing the value of metallurgical companies using the step-by-step methodology proposed by the author;
- a criterion for the effectiveness of activities within the framework of VBM has been developed – an indicator of the added rate of residual net profit (RORI), criteria for destruction and value creation of the company according to this criterion have been defined;
- the criterion of dynamism of strategic enterprise value growth (SIRI) has been developed, which allows us to determine the degree of reaction of changes in market value relative to changes in the fundamental value of assets;
- a methodology has been developed for financial management of the company's value from the stock market position based on the logarithm of market capitalization depending on the Tobin coefficient, financial leverage, the share of metallurgical production in the country's GVA, dividend policy, as well as the factor of disclosure of non-financial statements in the field of sustainable development, defined as value creation factors.

CHAPTER 3. PRACTICAL ASPECTS OF THE IMPLEMENTATION OF THE FINANCIAL VALUE MANAGEMENT MODEL OF THE ENTERPRISE

3.1 Assessment of the financial efficiency of value-based management based on the residual net profit model

In paragraph 2.2. a step-by-step methodology for assessing the fundamental value of a company using the residual net profit model was described, as well as a formula for calculating the criterion of performance and strategic value growth within the framework of cost management based on the residual income model (in this case, we consider net profit as income).

Such a model, in particular, involves the calculation of its main components, which, with a certain degree of subjectivity, can distort real economic processes. In this regard, the algorithm of financial efficiency of fundamental value management developed by us will be tested on the example of data from 5 metallurgical companies over a time period of 10 years (2011-2020).

Next, we calculated the fundamental cost of the company's capital by making a number of adjustments in calculating the discount rate, then the relationship between the indicators of the residual net profit model and market capitalization was revealed, on the basis of which we proposed value-based management indicators.

1. **Correct accounting of industry risks.**

The required level of return reflects not the private risk, but the general level of risk in the stock market in a highly efficient and highly liquid market. A detailed calculation of the discount rate, taking into account country risk, is presented in Table 8. The information base for calculating the main components of the residual net profit model includes financial results of annual consolidated statements, industry data from open sources and the Refinintiv Eikon information and analytical database, Aswat Damodaran's website, Rosstat data.

The discount rate was calculated based on the CAPM model, which is presented in formula 1, however, the indicator $(r_m - r_f)$ was replaced by the ERP indicator, the data for which are presented in the Aswat Damodaran database by industry, and they were used in the further calculation (formula 12).

$$r_e = r_{f\,(inflation)} + \beta_e * ERP + C, \quad (12)$$

где

- r_e – the required rate of return;
- ERP – additional return for investors exceeding the return they could potentially receive by investing in risk-free assets;
- β_e – a coefficient reflecting non-diversable market risk;

– C – country risk.

Inflation data are taken from the Statista information and analytical database, the difference between market returns and risk-free asset returns (ERP), as well as country risk data were taken from the database of Aswat Damodaran's website.

The calculated discount rate for dollar cash flow, in this regard, the rate for ruble cash flow was recalculated (formula 2). The calculation results are presented in Table 8.

Table 8 – Calculation of discount rates

Indicator	Unit of measurement	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
$\beta_{\text{emerging county}}$	Share	0,90	1,36	1,28	1,29	1,44	1,35	1,50	1,42	1,26	1,14
$r_{f\ (inflation)}$	%	6,1	6,6	6,5	11,4	12,9	5,4	2,5	4,3	3,0	4,9
ERP	%	8,3	7,5	7,6	13,7	9,7	8,3	8,0	8,1	6,2	6,1
C	%	2,3	1,7	2,6	8,0	3,5	2,6	2,9	2,2	1,0	1,4
r_E	%	15,8	18,5	18,9	37,0	30,4	19,1	17,4	17,9	12,0	13,2
$(1 + r_e)$*	%	115,8	118,5	118,9	137,0	130,4	119,1	117,4	117,9	112,0	113,2
irus	%	8,2	8,4	8,3	8,7	10,2	9,4	9,0	9,3	8,9	6,6
(1+irus)*	%	108,2	108,4	108,3	108,7	110,2	109,4	109,0	109,3	108,9	106,6
iusa	%	2,1	2,1	1,9	2,0	2,4	2,6	2,1	2,5	2,7	1,7
(1+iusa)*	%	102,1	102,1	101,9	102,0	102,4	102,6	102,1	102,5	102,7	101,7
rrub	%	22,7	25,9	26,4	46,1	40,3	27,0	25,2	25,8	18,7	18,7

Calculated by the author on the basis of data from Aswat Damodaran's website, official data from the Central Bank of the Russian Federation, as well as the information and analytical database Statista.

**These terms were calculated in absolute values (in fractions), and the table is presented as a percentage for comparability of the key components of the CAPM rate as a percentage.*

2. Calculation of the key components of the residual net profit.

Next, we calculated the main components of the residual net profit model for the 5 largest Russian metallurgical companies.

The calculation of the main components was carried out on the basis of the formulas formulated in paragraph 2.2. for calculating the discount rate according to the CAPM model, residual net profit, perpetuity of residual net profit, as well as the most fundamental value. The calculations are presented in table 9. The following designations are introduced in the table:

- A – perpetuity of residual net profit;
- E – cost of equity;
- V– the fundamental cost;
- NP – net profit.

Table 9 – Main components of the residual net profit model for Russian metallurgical enterprises

Indicator	**Units of measurement**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
EVRAZ												
E	million rubles	173924	172238	150379	165502	104369	9921	30080	102861	117132	103776	58368
NP	million rubles	14760	13669	-12204	-16057	-45334	-39386	-14392	40745	151085	21083	61218
ke	%	x	22,7	25,9	26,4	46,1	40,3	27,0	25,2	25,8	18,7	18,7
RE	million rubles	x	-25777	-56761	-55827	-121596	-81423	-17073	33167	124586	-794	41834
A	million rubles	x	-113656	-219414	-211094	-263884	-202157	-63170	131661	483600	-4253	223974
MC	USD million	x	7512	5442	2633	3625	1520	3884	6579	8847	7777	9394
Exchange rate	rubles	x	30	32	30	33	62	76	60	57	67	62
MCrus	million rubles	x	225995	171470	79674	121283	93794	296150	394476	502355	523673	580379
SEVERSTAL												
E	million rubles	215072	215040	219809	229172	163098	164337	185382	195055	199633	214426	201373
NP	million rubles	-17460	59816	23662	2731	-61553	37001	108511	79042	128792	114211	73346
ke	%	x	22,7	25,9	26,4	46,1	40,3	27,0	25,2	25,8	18,7	18,7
RE	million rubles	x	11037	-31967	-55401	-167154	-28690	64095	32342	78542	76925	33295
A	million rubles	x	48664	-123572	-209482	-362752	-71232	237145	128383	304872	411858	178255
MC	millions of US dollars	x	11428	10126	8125	7009	6773	12467	12493	11057	12487	14700
Exchange rate	rubles	x	30	32	30	33	62	76	60	57	67	62
MCrus	million rubles	x	343802	319060	245846	234521	417882	950610	749084	627824	840761	908170

Table 9 (continued) – The main components of the residual net profit model for Russian metallurgical enterprises

Indicator	Units of measurement	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
NLMK												
E	million rubles	295769	326673	339840	341082	362329	373946	385522	382212	405468	367180	349027
NP	million rubles	38115	39908	18502	4632	29805	59165	62597	84521	140535	86596	89228
ke	%	x	22,7	25,9	26,4	46,1	40,3	27,0	25,2	25,8	18,7	18,7
RE	million rubles	x	-27173	-66006	-85244	-127363	-86770	-38472	-12598	42069	10865	20645
A	million rubles	x	-119810	-255152	-322325	-276400	-215434	-142342	-50008	163297	58171	110530
MC	USD million	x	11704	11995	10055	6896	5143	11248	15303	13540	13911	16980
Exchange rate	rubles	x	30	32	30	33	62	76	60	57	67	62
MCrus	million rubles	x	352103	377965	304240	230738	317320	857679	917558	768790	936656	1049030
MMK												
E	million rubles	313577	299050	295290	224573	226964	241244	287507	315559	347564	340369	338106
NP	million rubles	7714	-3527	-2826	-76460	-1659	25687	74372	69016	82575	54971	43531
ke	%	x	22,7	25,9	26,4	46,1	40,3	27,0	25,2	25,8	18,7	18,7
RE	million rubles	x	-74647	-80188	-154554	-105141	-65727	9169	-3411	1280	-9945	-20044
A	million rubles	x	-329128	-309974	-584403	-228173	-163188	33926	-13541	4969	-53246	-107312
MC	USD million	x	4218	3750	2511	2078	2891	6068	8113	6902	7571	8452
Exchange rate	rubles	x	30	32	30	33	62	76	60	57	67	62
MCrus	million rubles	x	126894	118173	75969	69525	178361	462648	486437	391905	509748	522190

Table 9 (continued) – The main components of the residual net profit model for Russian metallurgical enterprises

Indicator	Units of measurement	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Mechel												
E	million rubles	141482	160776	97077	-22988	-154666	-267802	-260274	-253066	-243041	-245228	-244289
NP	million rubles	19959	21397	-51691	-93282	-132704	-115163	7126	11557	12628	2409	808
ke	%	x	22,7	25,9	26,4	46,1	40,3	27,0	25,2	25,8	18,7	18,7
RE	million rubles	x	-10692	-93282	-118955	-122111	-52868	79507	77124	77823	47803	46612
A	million rubles	x	-47140	-360593	-449798	-265002	-131261	294168	306151	302084	255939	249554
MC	million rubles	x	112643	85086	27724	10286	27016	75449	61504	30583	26219	32018

Compiled by the author based on data from Refinitiv Eikon, Aswat Damodaran's website, and the Statista information and analytical database.

2. Based on the calculated data, the models were tested, the formulation of which was previously presented in paragraph 2.2.

Description of the research methodology

The research methodology consists in the analysis of financial and non-financial information of the largest metallurgical enterprises for 10 years (2011-2020), presented in the form of panel data. The corresponding parameters were estimated using the combined least squares method (pooled model).

The explained variable is the market value of the company, and the explanatory variables are the fundamental value, equity, perpetuity of residual net profit, as well as perpetuity of residual net profit of the previous year. The results are presented in table 10.

In order to correctly compare the factors, it is necessary to exclude the inflationary factor (accumulated inflation for each indicator, calculated according to official Rosstat data). The exclusion of inflation was carried out by dividing each variable (dependent and independent) by accumulated inflation (the calculation is presented in Table 10) from 2011 to 2020.

Table 10 – Calculation of accumulated inflation for 2011-2020

Indicator	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Inflation	1,06	1,07	1,06	1,11	1,13	1,05	1,03	1,04	1,03	1,05
Accumulated inflation	1,06	1,13	1,20	1,34	1,51	1,60	1,64	1,70	1,76	1,84

Calculated by the author according to Rosstat data

Inflationary expectations form a number of key components of business decisions of enterprises that affect costs (with increasing inflationary expectations, it is necessary to take decisions to increase wages, increase selling prices for products, etc.) of the enterprise in order to compensate for the expected increase in marginal costs of the enterprise. Thus, according to a survey on the study of the impact of inflation expectations on strategic business decisions conducted by the Central Bank of the Russian Federation among entrepreneurs in the industrial sector, the results indicate that inflation expectations are of low importance for making investment decisions. In this regard, enterprises have virtually no incentives to monitor the level of inflation in the economy. At the same time, it is noted that such behavior in the future may affect the financial and economic situation of enterprises (here we are talking about excessively underestimated or, conversely, inflated estimates of inflation).[224] The degree of influence of inflation depends on the intensity of price growth and on the time period in which it affects the market value of the enterprise[225]. Inflation is contained in both market and financial indicators, so estimates of the coefficients of the equation may be overestimated. In this regard, before building models, all quantitative indicators were cleared of accumulated inflation over 10 years, since the

[224] Karlova N. Inflationary expectations and business decisions: results of a survey of enterprises. Analytical note / N. Karlova, E. Puzanova, I. Bogacheva // Bank of Russia. - 2020. - p. 15.

[225] Nikitskaya E.F. Investing in business: problems of valuation in conditions of inflation/E.F. Nikitskaya//Economics, Statistics and Computer Science. – 2012. - No. 3. p. 57.

presence of inflation in the indicators of dependent and independent variables can lead to distortion of coefficient estimates.

The coefficients were estimated using the Least Squares Method (combined least squares method) in the Gretl applied statistical package.

When researching the evaluation results, we were guided by the following. P-value is interpreted as a concept opposite to the level of trust, which is the probability of accepting the correct null hypothesis. The paper adopted a 95% confidence level or a 5% significance level, in this regard, it is necessary to compare the observed (calculated) value with the critical value at the 5% significance level.

Table 11. Summary table of the results of the evaluation of the model parameters

Indicator	**Model 1**	**Model 2**	**Model 3**
Period	*2010-2020*		
Number of observations	*50*		
const	187909[226]***	153847***	177934***
t-statistics	*11,06*	*7,628*	*7,513*
V	0,745825***	-	-
t-statistics	*8,038*	-	-
E	-	0,988871***	0,900402
t-statistics	-	*7,981*	*6,319*
A	-	0,646595***	-
t-statistics	-	*6,867*	-
A_{t-1}	-	-	0,525371
t-statistics	-	-	*4,858*
R-squared (coefficient of determination)	0,573759	0,633030	0,552662

Compiled by the author using the Gretl applied statistical package.

Testing[227] the hypothesis of the significance of regression in general

To test the hypothesis of the adequacy of the constructed model from the point of view of statistics, we will conduct the Fisher test, the essence of which is to check the insignificance of regression in general and identify the insignificance of regression if the coefficients are zero, significance – if at least one coefficient is different from zero.

H_0: $\beta_1 = \cdots = \beta_{n-1} = 0$ (all coefficients except the constant are zero);

H_1: . at least one of these coefficients is nonzero. (13)

So,the hypothesis H_0 is accepted if F statistics (the ratio of the explained sum of squares (based on one independent variable) to the residual sum of squares (based on one degree of freedom) has a Fisher distribution. The calculated statistics were calculated using the coefficient of determination, the formula is presented below:

[226] Here and further - ** indicates the 5 percent significance level.

[227]The null hypothesis ($H0$) is a statement about a parameter of the general population (parameters of general populations) or a distribution that needs to be checked. The alternative hypothesis ($H1$) is the statement opposite to the null hypothesis. It is pushed, but not checked. We «agree» to it if the null hypothesis based on the available data needs to be rejected.
The significance level (α) is the probability of rejecting the correct null hypothesis.
The null hypothesis is always tested at a certain level of significance. For example, if we test the null hypothesis at a significance level of 5%, this means that if we conduct similar studies 100 times and check the null hypothesis we are interested in based on the available data, in 5 cases out of 100 we will reject the null hypothesis, although it will be correct.

$$F_{the\ observed\ value} = \frac{R^2}{1-R^2} * \frac{(n-m-1)}{m}, \quad \text{where} \tag{14}$$

n – number of observations,

m – the number of regressors in the regression equation.

So, using the tables of critical points of the Fisher distribution, we will find the critical value for each model:

$F_{critical\ value\ 1}$ (0,05; 1; 50) = 4,03431, $F_{critical\ value\ 2}$ (0,05; 2; 50) = 3,18261.

Model 1: $F_{the\ observed\ value\ 1} = \frac{0,573759}{1-0,573759} * \frac{(50-2-1)}{1} = 63,26626$, which is more $F_{critical\ value\ 1}$, consequently, the hypothesis of the insignificance of regression is generally rejected.

Model 2: $F_{the\ observed\ value\ 2} = \frac{0,633030}{1-0,633030} * \frac{(50-3-1)}{2} = 39,67542$, which is more $F_{critical\ value\ 2}$, consequently, the hypothesis of the insignificance of regression is generally rejected.

Model 3: $F_{the\ observed\ value\ 3} = \frac{0,552662}{1-0,552662} * \frac{(50-3-1)}{2} = 28,41526$, which is more $F_{critical\ value\ 2}$, consequently, the hypothesis of the insignificance of regression is generally rejected.

Because $F_{the\ observed\ value} > F_{critical\ value}$ with a five percent significance level for all the models discussed above, the null hypothesis is rejected in all cases.

The significance of individual regression coefficients

The significance of individual coefficients was checked on the basis of the Student's test, which allows you to identify the insignificance of an individual coefficient (if the coefficient is zero, the regressor is insignificant, and if it is different from zero, it is significant):

$$H_0: \beta_m = 0; \tag{15}$$
$$H_1: \beta_m \neq 0$$

The values of t-statistics are calculated by the Gretl applied statistical package. To test the hypothesis of the significance of the coefficients at the accepted significance level, let's compare the observed values with the critical ones.

The hypothesis H_0 of the insignificance of the coefficient is rejected if the following condition is met:

$$|t_{he\ observed\ value}| > t_{critical\ value}\left(t_{0,05/2}(n-m)\right) \tag{16}$$

$$t_{critical\ value\ 1}\left(t_{0,05/2}(50-2)\right) = 2,01063$$

$$t_{critical\ value\ 2}\left(t_{0,05/2}(50-3)\right) = 2,01174$$

Model 1: Coefficient V: 8,038>2,01063, therefore, this coefficient is significant at the 5% significance level.

Model 2:

- Coefficient E: 7,981>2,01174, therefore, this coefficient is not significant at the 5% significance level.
- Coefficient A: 6.867>2.01174, therefore, this coefficient is significant at the 5% significance level.

Model 3:

- Coefficient E: 6.319>2.01174, therefore, this coefficient is not significant at the 5% significance level.
- Coefficient A_{t-1}: t: 4.858>2.01174, therefore, this coefficient is significant at the 5% significance level.

Model quality control (based on the coefficient of determination (R squared)

The results of the evaluation of model 1 show the relationship between the fundamental value of the company and the market value: the total p-value is acceptable (less than 0.01) at 1% significance level, and the coefficient of determination in both cases is about 60%, respectively, about 60% of the variance of the effective feature is explained by the influence of calculated independent variables. However, the remaining 40% of the regression is explained by other factors not included in the regression equations.

Next, the prerequisites for using MNCs should be checked (the absence of multicollinearity, heteroscedasticity and autocorrelation in the models).

First of all, let's check the presence of multicollinearity in the model, a data property in which regressors turn out to be fully or partially dependent. The presence of multicollinearity reduces the accuracy of estimates of regression coefficients. We checked for multicollinearity in two ways (not applicable to model 1, because there is one independent variable in the model).

1. Firstly, the author proceeded from the values of the correlation coefficient for variables and criteria. $\text{corr}\left(x_i; x_j\right) > |0{,}75|$. So, if the correlation coefficient between the regressors is higher, then multicollinearity is possible in the regression. In this regard, it is necessary to calculate the correlation coefficients for model 2 and model 3. For convenience, a pair correlation matrix was constructed (Table 12):

Table 12 - Matrix of paired correlation of model regressors

	A	E	A (t-1)
A	1,00		
E	-0,38	1,00	
A (t-1)	0,66	-0,15	1,00

Compiled on the basis of Refinitiv Eikon data in MS Excel

The regression coefficients presented in Table 12 do not exceed, which demonstrates the absence of multicollinearity in the models.

2. Secondly, the presence of multicollinearity was also verified using the VIF (Variation inflation factor) method (formula 17).

$$VIF = \frac{1}{(1-R_I^2)}, \quad (17)$$

where R_I^2 the coefficient of multiple correlation between the variable j and other independent variables. To obtain the coefficient, it is necessary to evaluate the regression of any of the regressors to the rest, and the resulting value of the coefficient of determination will be R_I^2. A value of VIF>10 indicates the presence of multicollinearity.

Table 13 – Results of evaluation of one regressor for the rest and calculation of the VIF coefficient for model 2

Multiple correlation coefficient	Coefficient value	VIF	Criteria
R_A^2	0,141754	1,165167	<10, the criterion is met
R_E^2	0,141754	1,165167	

Compiled by the author using the Gretl applied statistical package

Table 14 – Results of evaluation of one regressor for the rest and calculation of the VIF coefficient for model 3

Multiple correlation coefficient	Coefficient value	VIF	Criteria
$R_{A(t-1)}^2$	0,056248	1,0596	<10, the criterion is met
R_E^2	0,056248	1,0596	

Compiled by the author using the Gretl applied statistical package

Thus, the models meet the criteria for the absence of multicollinearity (Tables 13-14).

Next, the regression equations should be checked for heterogeneity of error variances of the regression equation or heteroscedasticity (homoscedasticity is contrasted – a property of data in which there is uniformity of error variances). The presence of heteroskedasticity was checked using the Wald test.

$$H_0: \sigma_1^2 = \sigma_2^2 = \ldots = \sigma_n^2$$
$$H_1: \sigma_1^2 \neq \sigma_2^2 \neq \ldots \neq \sigma_n^2 \quad (18)$$

To identify the presence of heteroscedasticity in the model, it is necessary to compare the calculated and test value χ_α^2 (p-1) – the value of statistics χ^2 with (p-1) degrees of freedom at the significance level α, where p is the number of regressors in the model of estimating the squares of the residuals from the original equation for all regressors.

To accept the hypothesis of the absence of heteroscedasticity, the following condition must be met:

$$n*R^2<\chi_\alpha^2 \text{ (p-1)} \quad (19)$$

Model 1. The critical value of the chi-squared statistic with one degree of freedom at 5% significance level $\chi^2_{5\%}(\text{degree of freedom} = 1)$= 3,84146, R^2=0,040311, and 50*0,040311 = 2,01555, therefore, 2,01555<3,84146, the hypothesis of the presence of heteroscedasticity is rejected.

Model 2. the critical value of the chi-squared statistic with one degree of freedom at 5% significance level $\chi^2_{5\%}(\text{degree of freedom} = 5)$= 11,0705, R^2= 0,068954, and 50* 0,068954= 3,4477, therefore, 3,4477< 11,0705, the hypothesis of the presence of heteroscedasticity is rejected.

Model 3. The critical value of chi-squared statistics with one degree of freedom at a 5% significance level $\chi^2_{5\%}(\text{degree of freedom} = 5)$= 11,0705, R^2= 0,025219, and 45* 0,025219 = 1,134855, therefore,1,134855 < 11,0705, the hypothesis of the presence of heteroskedasticity is rejected.

It is also necessary to check the presence of **autocorrelation** of residues in the model, which means the dependence of the distribution of values of residues on each other. The hypotheses of the autocorrelation test can be presented as follows:

$$H_0: \text{cov}\,(\varepsilon_i; \varepsilon_j) = 0$$
$$H_1: \text{cov}\,(\varepsilon_i; \varepsilon_j) \neq 0 \quad (20)$$

The presence of autocorrelation was checked using the Durbin-Watson test. The most common version of the DW test is to compare it with approximate statistical values. So, if DW~2 is no autocorrelation, DW~0 is positive autocorrelation, and DW~4 is negative autocorrelation.

Model 1. DW=0.99-there is no autocorrelation;

Model 2. DW=1.05- there is no autocorrelation;

Model 3. DW=0,73 – there is no autocorrelation.

Next, let's move on to the interpretation of regression coefficients and the formulation of limitations on the use of these models (Table 15).

Table 15 - Multiple regression equation: interpretation

Model (M)	The equation	Interpretation
M 1	$MC_i = 187909 + 0{,}745825 * V_E^{RIM}$	– with an increase in the fundamental cost of capital by 1 million rubles, the market value increases by 0.7 million rubles on average. – all other things being equal, the market capitalization increases on average by 187,909 million rubles.
M 2	$MC_i = 153847 + 0{,}988871 * E_i + 0{,}646595 * A_i$	– with an increase in equity by 1 million rubles, the market capitalization increases by an average of 1.0 million rubles. – with an increase in the perpetuity of residual net profit by 1 million rubles, the market capitalization grows by an average of 0.7 million rubles. – all other things being equal, the market capitalization increases on average by 153 847 million rubles.

Model (M)	The equation	Interpretation
M 3	$MC_i = 177934 + 0{,}900402 * E_i + 0{,}525371 * A'_i$	– with an increase in equity by 1 million rubles, the market capitalization increases by 0.9 million rubles on average. – with an increase in the perpetuity of the residual net profit of the previous period by 1 million rubles, the market capitalization grows by an average of 0.5 million rubles. – all other things being equal, the market capitalization increases on average by 177,934 million rubles.

Compiled by the author

For management decision makers, such information explains the change in market value. And can be further used based on the decomposition of the key factors discussed above. At the same time, it should be noted about the limitations of using models in practice, which, in general, can be formulated as follows.

1) Coefficient estimates are industry-wide cost indicators that, when making management decisions, reflect to a greater extent the strength and direction of influence, but do not give an accurate assessment in absolute terms, which requires the use of additional financial and economic criteria for the functioning of enterprises.

2) The choice of the perpetuity of residual net profit as a value creation factor is only one of the options for assessing the fundamental value of capital in the form of an endless stream of residual net profits. It is assumed that for other industries, it is possible to use another basis for assessing the value of the company, for example, cash flows.

3) The explanatory power of the models in terms of the coefficient of determination is no more than 65 percent, which means that 35 percent of the regression falls on other aspects (not taken into account by us in these specifications) that can influence the dynamics of market value.

Taking into account the described limitations, the model formulated by the author can be used as one of the tools for the practical implementation of the concept of financial value management of the company.

The research conducted by the author earlier on the comparison of theoretical and calculated data on the value of the enterprise is also consistent with the results obtained. The revealed influence of the company's fundamental value indicators on the market capitalization allows us to confirm the possibility of making management decisions using the residual net profit model. The options proposed by the author for calculating the discount rate and all indicators of the residual net profit model, taking into account the assumptions made, according to the results of the econometric model, are indicators of the growth of the market value of high-tech companies in the telecommunications industry.[228]

[228] Chupanova Kh. A. The relationship of market capitalization with indicators of the value of high-tech companies / Kh. A. Chupanova // Economics, entrepreneurship and Law. – 2019. – Volume 9. – No. 3. – pp. 191-206.

This assumption was also tested on the basis of an econometric data study using the example of the 5 largest insurance companies in the world. For 3 out of 5 companies, the hypothesis of the relationship between the market value of the company and the indicators of the residual net profit model is confirmed. In the study, the residual net profit model, presented in the form of its main components, is considered as drivers of growth in the market value of the insurance industry. This conclusion is made possible by the results of an econometric study for most of the companies selected for analysis. According to the results obtained, this hypothesis is not always confirmed. Such results are explained by the instability of accounting indicators, the high level of risk inherent in the discount rate, as well as many other factors, the study of which is achievable by decomposing the key elements of the residual net profit model.[229]

The above results indicate the applicability of the assessment model for other industries, however, in modern business conditions, such parameters are not enough to make managerial decisions.

Despite the fact that we have demonstrated the influence of certain VBM metrics on the market value of the company of the largest metallurgical enterprises for financial management purposes, a set of management parameters reflecting financial and economic efficiency and the possibility of strategic growth is necessary to make a decision regarding the management of the company's value. [230,]

3. Assessment of the effectiveness of the company's activities based on the indicator of the added rate of profit.

Next, we calculated the rates of residual net profit according to the developed methodology (formula 7). The calculations are presented in table 16.

It should be noted that the logic of calculating the residual net profit for high-tech companies, financial sector companies, as well as industrial enterprises is similar.[231,232]

[229] Chupanova Kh. A. Value-based management of an insurance company in the context of innovative development/ Kh. A. Chupanova// Issues of innovative economics. - 2022. – Volume 12. – No. 1. – pp. 391-410.
[230]Ibid.
[231] Chupanova Kh. A. The relationship of market capitalization with indicators of the value of high-tech companies / Kh. A. Chupanova // Economics, entrepreneurship and Law. – 2019. – Volume 9. – No. 3. – pp. 191-206.
[232] Chupanova Kh. A. Value-based management of an insurance company in the context of innovative development/ Kh. A. Chupanova// Issues of innovative economics. - 2022. – Volume 12. – No. 1. – pp. 391-410.

Table 16 – Calculation of the rate of residual net profit

Company	Indicator	Unit of measurement	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
EVRAZ	RI	million rubles	-30 091	-54 035	-56 275	-115 366	-84 365	-17 248	32 792	126 100	-2 570	43 499
	Rev	million rubles	482 092	457 300	459 113	503 923	536 177	516 316	631 109	806 036	769 919	704 149
	RORI	%	-6,2	-11,8	-12,3	-22,9	-15,7	-3,3	5,2	15,6	-0,3	6,2
SEVERSTAL	RI	million rubles	5 703	-28 565	-56 055	-158 527	-33 288	61 203	30 028	81 413	73 899	36 734
	Rev	million rubles	464 819	317 533	300 539	320 095	391 170	396 023	457 462	538 781	527 529	495 951
	RORI	%	1,2	-9,0	-18,7	-49,5	-8,5	15,5	6,6	15,1	14,0	7,4
NLMK	RI	million rubles	-34 509	-60 837	-86 256	-114 524	-96 985	-45 051	-17 410	47 695	4 719	26 534
	Rev	million rubles	344 771	377 510	344 658	401 089	489 776	511 189	586 691	756 428	682 547	667 404
	RORI	%	-10,0	-16,1	-25,0	-28,6	-19,8	-8,8	-3,0	6,3	0,7	4,0
MMK	RI	million rubles	-82 424	-75 456	-155 433	-96 687	-72 126	4 925	-7 000	5 925	-15 213	-14 585
	Rev	million rubles	273 558	289 671	260 921	306 806	357 105	376 878	439 858	515 798	489 308	461 660
	RORI	%	-30,1	-26,0	-59,6	-31,5	-20,2	1,3	-1,6	1,1	-3,1	-3,2
Mechel	RI	million rubles	-14 200	-90 739	-119 244	-122 977	-48 508	84 219	80 372	74 098	51 487	42 679
	Rev	million rubles	361 196	333 939	270 987	243 992	253 141	276 009	299 113	303 795	287 153	265 454
	RORI	%	-3,9	-27,2	-44,0	-50,4	-19,2	30,5	26,9	24,4	17,9	16,1

Calculated by the author

Figure 15 shows the rate of residual net profit for the analyzed enterprises.

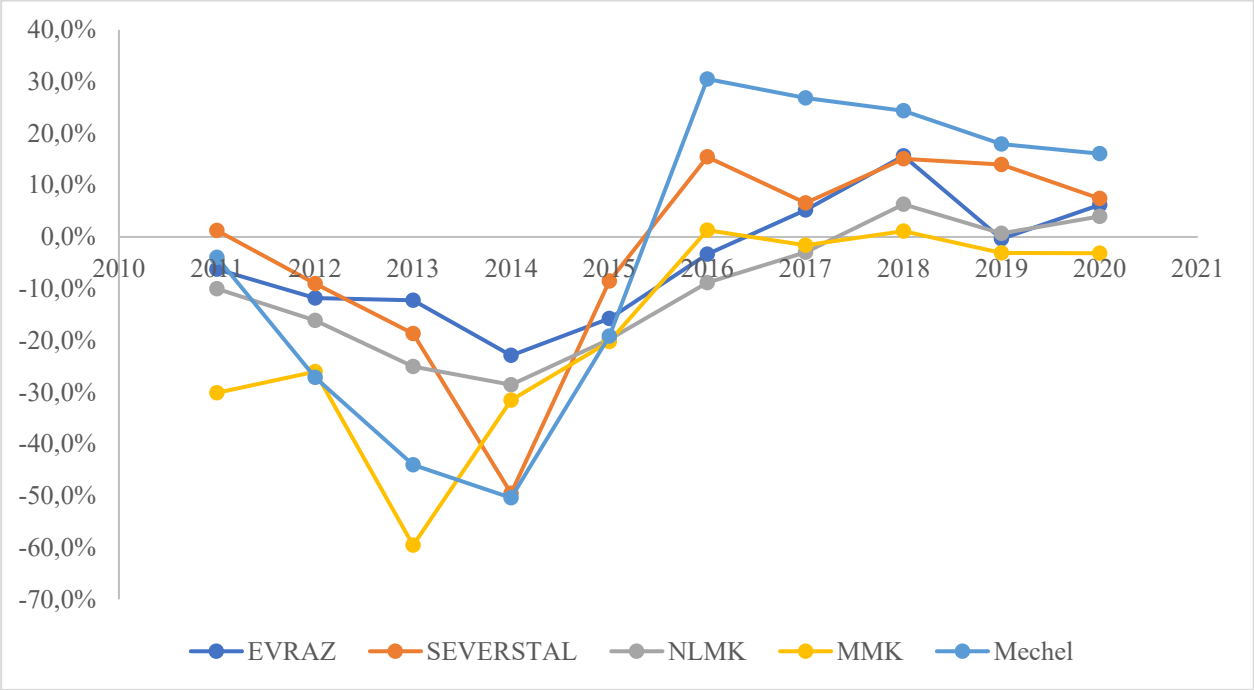

Figure 15 - Dynamics of the residual net profit rate for metallurgical enterprises

Compiled by the author

According to the calculations obtained, it is possible to observe a negative area of the residual net profit rate from 2012 to 2015 for the largest metallurgical companies in Russia, which characterizes this period with a decrease in the efficiency of industry enterprises in the context of cost management. Since 2016, there has been a positive area of dynamics characterizing an increase in operational efficiency, which illustrates the ability of Russian metallurgical companies to provide actual returns on capital above the required profitability.

4. The coefficient of strategic growth in the value-based management system

Next, the previously proposed SGRI strategic growth coefficient was calculated (Table 17), which reflects the degree of change in market capitalization with a change in fundamental value.

Table 17 Calculation of the coefficient of strategic growth of the enterprise value

Company	Indicator	Unit of measurement	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
EVRAZ	MC	million rubles	213 002	151 649	66 182	90 476	61 969	185 658	241 243	294 664	298 106	314 924
	FV	million rubles	49 615	-63 773	-37 310	-125 526	-122 782	-18 704	138 753	373 215	51 831	169 909
	SGRI	%	x	12,6	135,8	15,5	1441,7	-235,5	-3,6	13,1	-1,4	2,5
SEVERSTAL	MC	million rubles	324 036	282 177	204 214	174 950	276 092	595 940	458 105	368 260	478 612	492 789
	FV	million rubles	224 040	90 382	16 260	-157 805	57 543	249 499	188 741	313 696	330 389	226 008
	SGRI		x	21,7	33,7	1,3	-42,4	34,7	95,0	-29,6	563,1	-9,4
NLMK	MC	million rubles	331 859	334 273	252 719	172 128	209 651	537 681	561 135	450 946	533 201	569 222
	FV	million rubles	178 622	79 019	15 418	68 394	98 379	143 576	193 474	353 009	222 324	273 713
	SGRI	%	x	-1,3	30,3	-9,3	49,7	340,6	12,6	-23,8	-49,3	29,2
MMK	MC	million rubles	119 599	104 512	63 104	51 865	117 842	290 035	297 482	229 878	290 179	283 349
	FV	million rubles	-26 904	-13 616	-296 222	-1 141	48 815	190 964	176 791	218 177	150 871	137 112
	SGRI	%	x	25,5	-1,9	17,9	-2,9	50,2	-34,6	-97,1	-85,0	25,8
Mechel	MC	million rubles	106 167	75 250	23 029	7 673	17 849	47 299	37 613	17 939	14 925	17 373
	FV	million rubles	98 338	-244 567	-389 461	-332 180	-251 300	20 238	31 140	36 375	5 546	3 077
	SGRI	%	x	8,4	-117,1	453,4	-544,7	-152,7	-38,0	-311,1	19,8	-36,8

Calculated by the author

Table 18 – Strategic Growth Coefficient (SGRI)

Company	2012	2013	2014	2015	2016	2017	2018	2019	2020
EVRAZ	0,1	1,4	0,2	14,4	2,4	0,0	0,1	0,0	0,0
SEVERSTAL	0,2	0,3	0,0	0,4	0,3	0,9	0,3	5,6	0,1
NLMK	0,0	0,3	0,1	0,5	3,4	0,1	0,2	0,5	0,3
MMK	0,3	0,0	0,2	0,0	0,5	0,3	1,0	0,9	0,3
Mechel	0,1	1,2	4,5	5,4	1,5	0,4	3,1	0,2	0,4

Compiled by the author

During the period under review, companies demonstrate weak sensitivity (table 18) to changes in fundamental value. To increase the level of investment attractiveness of an enterprise, it is recommended to increase the market value in accordance with the fundamental value. At the same time, the higher the degree of reaction of a company's market value change to a fundamental change, the more attractive the company is from the point of view of the stock market.

3.2 Application of the developed econometric model for managing the company's market value

According to the company's market value forecasting model formulated in paragraph 2.3, we conducted an econometric analysis of this model based on various model specifications. The research methodology is based on an econometric analysis of panel data, including performance indicators of the company's value, corporate financial policy, and dividend policy of 5 domestic metallurgical companies over 10 years (2011-2020). Based on the information obtained from the Refinitiv Eikon information portal, we calculated the coefficients [233] described in paragraph 2.3. The data obtained were evaluated in the GRETL statistical application package based on panel data. Table 19 shows the results of the evaluation of the model. [234]

Table 19 – Model evaluation results

	Coefficient	t-statistics	p-value	Significance
const	10,1531	19,26	<0,0001	***
DESGreport_1	0,519133	3,064	0,0041	***
DDIVpay_1	0,647501	4,077	0,0008	***
Qtobins	0,0950006	2,644	0,0119	**
FL	−0,0334536	−3,499	0,0017	***
GVA	9,47577	2,551	0,0150	**
R-square	0,851055			
P-value (F)	2,64e-14			

Compiled by the author based on data from the Gretl applied statistical package

[233] The dividend yield indicator was uploaded from the Refinitiv Eikon information portal.

[234] Kalayda S.A. Theoretical foundations of the formation of the category «company value» and modern practical aspects of value-based management / Kalayda S.A., Chupanova Kh. A. // Economics, entrepreneurship and law. – 2024. – Volume 14. – No. 6. – pp. 3243-3262.

Testing the hypothesis of the significance of regression in general

To test the hypothesis of the adequacy of the constructed model from the point of view of statistics, we will conduct the Fisher test (formula 13).

So, the hypothesis H_0 is accepted if F statistics (the ratio of the explained sum of squares (based on one independent variable) to the residual sum of squares (based on one degree of freedom) has a Fisher distribution. The calculated statistics were calculated using the formula 14.

Using the tables of critical points of the Fisher distribution, we will find the critical value for this model: $F_{critical}$ (0,05; 5; 37) = 2,46965.

$F_{observed} = \frac{0,851055}{1-0,851055} * \frac{(43-6-1)}{6} = 34,28333$, what's more $F_{critical}$, consequently, the hypothesis of the insignificance of regression is generally rejected.

The significance of individual regression coefficients

The significance of individual coefficients was checked on the basis of the Student's test, which was formulated by us above (formula 15).

The values of t-statistics are calculated by the Gretl applied statistical package. To test the hypothesis of the significance of the coefficients at the accepted significance level, let's compare the observed values with the critical ones. The hypothesis H_0 about the insignificance of the coefficient is rejected if the following condition formulated in formula 16 is fulfilled.

$$t_{critical\ value}\left(t_{0,05/2}(43-5)\right) = 2,02439$$

All t- statistics are higher modulo $t_{critical.}$, in this regard, all coefficients can be considered significant at the 5% significance level.

Model quality control (based on the coefficient of determination (R squared)

The results of the evaluation of model 1 show the relationship between the fundamental value of the company and the market value: the total p-value is acceptable (less than 0.01) at 1% significance level, and the coefficient of determination is about 85%, respectively, about 85% of the variance of the effective feature is explained by the influence of the calculated independent variables. However, the remaining 15% of the regression is explained by other factors not included in the regression equation.

Next, the prerequisites for using MNCs should be checked (the absence of multicollinearity, heteroscedasticity and autocorrelation in the models).

First of all, let's check the presence of multicollinearity in the model, as in previous models, two ways of detecting multicollinearity were used.

1. If the condition corr (x_i;x_j)>|0.75| is satisfied for regressors, then multicollinearity occurs. For convenience, a pair correlation matrix was constructed for this model (Table 20):

Table 20 - Matrix of paired correlation of regressors of the model

	ESG report	DIVpay	Qtobins	GVA	Debt/Equity
ESG report	1,00				
DIVpay	0,56	1,00			
Qtobins	0,45	0,10	1,00		
GVA	0,34	0,37	0,43	1,00	
FL	-0,25	-0,38	0,50	0,05	1,00

Compiled on the basis of Refinitiv Eikon data in MS Excel

The regression coefficients shown in Table 20 do not exceed |0.75|, which demonstrates the absence of multicollinearity in the model.

2. Secondly, the presence of multicollinearity was also checked using the VIF (Variation inflation factor) method (formula 17), where the value of VIF>10 indicates the presence of multicollinearity.

Table 21 – The results of evaluating one regressor for the rest and calculating the VIF coefficient for model 2

Multiple correlation coefficient	Coefficient value	VIF	Criteria
$R^2_{dDIVpay}$	0,519588	2,082	<10, the criterion is met
$R^2_{dESGreport}$	0,539559	2,172	
$R^2_{Debt/Equity}$	0,491285	1,966	
$R^2_{QTobins}$	0,611644	2,575	
R^2_{dGVA}	0,519527	2,081	

Compiled by the author using the Gretl applied statistical package

Thus, the models meet the criteria for the absence of multicollinearity.

Next, the regression equations should be checked for heterogeneity of error variances of the regression equation or **heteroscedasticity** (see formula 18).

In order to accept the hypothesis of the absence of heteroskedasticity, it is necessary to comply with the condition described above in formula 19.

The critical value of the chi-square statistic with one degree of freedom at a 5% significance level is $\chi^2_{5\%}(\text{degree of freedom} = 18)$= 3,84146, R^2=0,040311, and 43*0,469585 = 20,192, therefore, 20,192<28,8693, the hypothesis of the presence of heteroskedasticity is rejected.

It should also be checked for the presence of residues in the autocorrelation model (formula 20). The presence of autocorrelation was checked using the Durbin-Watson test. The most common variant of the DW test is to compare the statistics obtained in the statistical package with an approximate criterion value. The presence of positive autocorrelation is indicated by the statistics DW~0, negative - DW~ 4, and the absence of DW~2.

Next, let's move on to the interpretation of the regression coefficients and the formulation of limitations on the use of the tested model.

The multiple regression equation: interpretation

$$\mathrm{LnMC_{it}} = 10{,}15 + \mathrm{QTobins_{it}} * 0{,}1 - \mathrm{FL_{it}} * 0{,}033 + \mathrm{GVA_{it}} * 9{,}6 + \mathrm{dDIVpay} * 0{,}65 + \mathrm{dESGreport}_{it} * 0{,}52 + \varepsilon_{\mathrm{it}} \quad (21),$$

The data obtained show the presence of statistical significance of indicators with a 95% confidence level. In particular, the publication of non-financial statements, stable payment of dividends, the ratio of the GVA of metallurgical production to the GVA of manufacturing industries and the cost of intellectual capital have a positive effect. And the negative effect is a high level of debt.

According to the results of the study conducted by the author, an increase in the Tobin coefficient per unit will increase the market capitalization by 1.0% on average. Such an impact is explained by the low degree of use of intellectual capital in metallurgical production, since the use of intellectual capital, the creation of software products, and research is rather an applied activity for metallurgy, where physical capital plays an important role. Nevertheless, such an impact of the company's intellectual capital in the framework of this study is justified. At the same time, if we turn to the key plans of the main players in the industry, we can see that a certain share of the invested capital is allocated, among other things, to the development of intellectual capital. For example, PJSC Severstal, a key producer in the metallurgical industry, plans to invest about 119 billion rubles (+64% yoy) in the development of production facilities in 2024, of which the company plans to allocate 10 billion rubles for investments in IT and digital projects[235]. Despite the fact that physical capital plays a key role in ensuring the production process of industrial enterprises, the role of intellectual capital becomes important, since its increase reflects the degree of competitiveness and efficiency of using existing tangible assets.

The impact of a high level of creditworthiness, which manifests itself in an increase in financial leverage per unit, can reduce the market capitalization by 3.3% on average. Such an impact is explained by the economic essence of the indicator itself, which reflects the level of financial risk expressed in an increase in the probability of default on debt service obligations. A high level of financial leverage with a slight fluctuation in cash flows may affect financial results. It should be emphasized that in theory and in practice, it is recommended to keep this indicator in the proportion of 60% of borrowed capital and 40% of its own, which will allow the company, if there is a moderate financial risk, to attract borrowed capital to increase financial performance.

One of the qualitative factors influencing the company's value is reporting in the field of sustainable development. According to the results of the conducted research, it is shown that its publication increases the value of the enterprise by 52.0% on average. From an economic point of view, such an impact is well justified, since non-financial reporting is the result of the company's activities in achieving global sustainable development goals. It should be noted that the dynamics of changes in this indicator does

[235] The official website of PJSC Severstal. [Electronic resource].- Access mode: URL: https://severstal.com/rus/media/archive/severstal-obyavlyaet-o-plane-investitsiy-na-2024-god/

not take into account the degree of disclosure of indicators in the financial statements, which may lead to an overestimation of the average industry impact on the cost. Nevertheless, the strength and direction of the influence of this factor is acceptable for the purposes of this study, however, the degree of such influence for a particular enterprise may vary depending on the degree of information disclosure.

The growth in the value of the enterprise from the policy of stable dividend payment will amount to an average of 65.0%. From an economic point of view, such a policy reflects the potential opportunity to generate cash revenues that represent broad opportunities for business development and ensure payments due to shareholders. Among other things, the policy of stable dividend payment has a certain effect on the business reputation of the company and serves as one of the incentives for shareholders to maintain their investments in the company and obtain economic benefits in the future.

At the same time, the policy of paying dividends is determined by a number of factors depending on the macroeconomic situation, the state of the stock exchange, as well as a number of financial indicators specific to each specific enterprise. The results of evaluating this coefficient are acceptable in terms of the strength and direction of influence, however, the degree of influence may vary for each particular company depending on a number of other factors (dividend yield, competitiveness, the level of development of the country, the state of the stock exchange, etc.).

The maximum impact on the value of a metallurgical enterprise is exerted by the environment in which it operates. Thus, the growth of the industry scale, according to the results of this study, on average can cause an increase in market capitalization by almost 9.5 times. From an economic point of view, a direct impact on this factor is difficult to realize, since the scale of the industry in estimates of the gross value added of the country is difficult to manage in practice. Nevertheless, this factor reflects the competitive environment of the enterprise and in this regard contains an important industry aspect of management. Despite the fact that metallurgy provides not only domestic production, but is also an export-oriented industry, its contribution to the GVA of manufacturing industries reflects the share of total production, which will subsequently provide both domestic and external demand. "The foreign and domestic markets are characterized by metal consumption with a fairly high level of competition. In turn, the competitiveness of metal products is caused by low production costs, provided by a low price policy in comparison with world prices for iron ore raw materials, fuel and energy resources, low staff salaries and insignificant investments in environmental protection».[236]

Management of this factor is achievable by actively influencing the activities of the main industry associations, foundations, unions, etc. For example, the Russian Steel Association unites the efforts of most metallurgical enterprises, their strategic development in the domestic and foreign markets, the implementation of joint projects, promotion of the interests of the industry before government

[236] Arkhipova Yu. A. Improving the activities of a metallurgical enterprise in a competitive environment / Yu. A. Arkhipova // Mining information and analytical bulletin (scientific and technical journal). - 2015. - p. 394.

authorities, etc. The Pipe Industry Development Fund promotes and protects the interests of pipe manufacturers in the Russian market, the EAEU, as well as foreign markets. The Russian Union of Suppliers of Metal Products (RSPM) provides assistance in the development of the union's members, improving their professional stability in the metal markets.[237]

At the same time, the formation of sectoral needs through a system of subsidies and government orders is of great importance in the development of the domestic metallurgical industry, which in the future will help ensure the domestic consumption of domestic raw materials based on the industry's need for high-quality raw materials.

The coefficient estimates obtained represent industry averages and may differ in each particular company. In this sense, it is advisable to rank the factors of influence depending on the degree of their influence (strong, moderate and weak) and the specifics of the impact. The degree of significance was determined by us based on the P-value, and the degree of impact was determined from the point of view of the company's influence on a specific indicator (direct – the company directly affects the indicator, indirect – the influence on the indicator requires consideration of external factors).

Despite the adequacy of the degree and direction of influence of the econometric model factors, its application in practice is accompanied by a number of limitations:

1. The estimation of regression coefficients cannot describe the economic reality of other sectors of the economy, since the dynamics of indicators for each specific industry depends on the macroeconomic state, the development of the stock market, investment activity, etc. Therefore, the interpretation of the coefficients reflects the specifics of the metallurgical industry, but subject to a similar calculation for enterprises in other industries, it can demonstrate the industry specifics in each specific case.

2. In this model, it is impossible to take into account all the quantitative and qualitative parameters of the assessment. In this regard, an assumption is made about the impact of enlarged cost factors on the market capitalization. This assumption is made due to the limitation of statistical information in the public domain, the confidentiality of management accounting of enterprises, as well as the possible correlation of factors among themselves, which may lead to a decrease in the explanatory power of the model, as well as overestimation or underestimation of the coefficients of the regression equation.

3. Another limitation of using this model is its explanatory power – 85%, the remaining 15% are factors that are not taken into account in the model, but can affect the market capitalization.

Thus, taking into account the above limitations of using this model, we can draw a conclusion about its practical applicability for the purpose of financial management of company value.

[237]Overview of the ferrous metallurgy market. Moscow, the first half of 2019 [Electronic resource] .- Access mode: URL: https://www.csr.ru/upload/iblock/d4b/d4b9f67f27e41cb9ec867ddfeb6fc6a9.pdf

3.3 Generalization of methodological tools for financial value management

The results of the evaluation of the models formulated and tested in the framework of this study, as well as the indicators developed by us, need to be generalized into a single methodological toolkit that allows the enterprise to make real management decisions.

The main goal of strategic enterprise management is to identify the most promising areas of enterprise development. Within the framework of this study, the main goal of the enterprise is to increase the value of the company and its long-term growth. In this regard, the research conducted by the author needs to be projected onto a specific enterprise. To solve this problem, it is necessary to formulate a practice-oriented management model capable of covering cost impact zones based on key drivers of value creation.

Financial management should be based on a comprehensive methodological model, all elements of which are interrelated and capable of ensuring the integrity, reliability and completeness of management decision-making.[238] At the same time, it should be borne in mind that financial management is carried out under the influence of the financial environment in which it operates: financial markets and institutions, tax policy, government regulation policy, as well as the specifics of the economy of a particular state.[239]

From the point of view of the implementation of the process of implementing methodological approaches at the enterprise level, it is necessary to emphasize the role of strategic management, which determines the future guidelines for the development of the enterprise, including tools and comprehensive analysis of the enterprise and ensuring information transparency for shareholders and stakeholders.

Disclosure of information about the company provides an opportunity to create information transparency for users of reporting, forms an idea of potential changes and development trends. At the same time, market research in terms of information transparency for enterprises creates the opportunity to identify "bottlenecks" and influence them, which creates additional value in the company. [240]

The practical application of value-based management in any enterprise requires the development of a decision-making algorithm. In this regard, it is proposed to form a unified methodological toolkit for financial management of enterprise value based on the systematization and generalization of the estimates we use.

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[238] Makarova V. A. Modeling of financial management of holding structures. Scientific monograph / V. A. Makarova // St. Petersburg: Publishing House of the Polytechnic University. Unita, 2013. – 168 p.
[239] Brigham U. Financial manager / U. Brigham, M. 10th Edition / / per. with English. in order. K.e.N. Well. A. Dorofeeva. - SPB. Peter, 2005. – 959 p.
[240] Novikov A.V. Financial instruments for creating company value/ A.V. Novikov, I.Ya. Novikova//Property relations in the Russian Federation. – 2012. - № 8 (131). - P. 52.

The assumptions and justifications made by us in the framework of this study serve as the basis for combining a set of indicators related by causal relationships, including their description using.

The most popular and widely used in practice is the balanced scorecard by R. Kaplan and D. Norton .[241] Kaplan and Norton consider the following blocks as key areas of analysis within the framework of a balanced scorecard: finance, customers, business processes, as well as staff training and development.

The variety of negative and positive impact factors requires management to develop indicators covering financial and non-financial determinants that affect the value of the company, as well as detailing these indicators at the level of business units.[242]

In terms of financial management, it is necessary to form an integrated approach to financial management. The calculations show that the implementation of the approach itself should cover a number of areas of external and internal conditions for the development of the enterprise. The formation of an integrated enterprise management model must be formulated at the level of top management on the basis of core management elements with specific features. The financial strategy is an integral part of the strategy, and its implementation should be carried out as the basis for strategic and operational indicators[243].

In order to form an integrated approach to value-based management, a financial value management model of the company was developed based on the results of our research. The model captures the mechanism for implementing the company's goal of increasing its value, where the basis for building management decisions is the fundamental value of the company in terms of increasing the added rate of return and contributing to dynamic long-term growth. At the same time, the logic of such management should be based on interconnection with key aspects of creating market capitalization, in particular: debt burden, intellectual capital, dividend payment policy, the scale of metallurgical production, as well as sustainable development policy.

The author's model of financial management[244] was developed taking into account the specifics of the industry and the sound scientific results obtained during the econometric analysis of various aspects of the formation of the company's value, as well as in the development of the logic of the coverage of the system of indicators combined to achieve the goal of strategic growth in the value of the enterprise.

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[241] Kaplan R. Strategic maps. Transformation of intangible assets into tangible results / R. Kaplan, D. Norton // Translated from English. – M.: CJSC «Olympus-Business», 2007. – 512 p.

[242] Parfenova M. D. Balanced system of financial and non-financial indicators as a tool for managing the company's value / M. D. Parfenova // Balanced scorecard. – 2013. – 33 (171). – P. 33.

[243] Barsukov M.V. Building a financial management model of an industrial enterprise based on the use of operational and strategic analysis tools / M.V. Barsukov, N. S. Merkulova // Economic sciences. Bulletin of the Altai Academy of Economics and Law. - 2020. - No.12. - p. 8.

[244] Kalayda S.A. Verbal model of financial management of the value of an enterprise in the metallurgical industry/ Kalayda S.A., Chupanova Kh. A. // Economic security. – 2024. – Volume 7. – No. 5. – P. 1189–1206.

The model of financial management of the company's value developed by the author consists of a number of elements and includes a number of indicators of long-term growth in order to make effective management decisions. Taking into account the quantitative results and a number of assessments in relation to the models formulated and tested above, this financial management model can be used to make managerial decisions. It should be based on 6 key structural elements, including: fundamental value parameters, the level of debt capital to equity, intellectual capital, the availability of non-financial reporting, dividend payment policy, as well as industry scale. Figure 16 shows the scheme of the model proposed by the author.

The basic basis of the financial management model formulated by us, which describes a conceptual approach to cost management, should be the strategic goal of increasing the value of the enterprise and cover a number of key indicators that allow it to be influenced. The choice of these elements is determined by the results of the conducted research, which allowed us to identify the degree / direction of influence of each of them on the value of the enterprise.

The key elements we identify require disclosure in terms of calculated indicators that can be allocated to a specific enterprise through a system of indicators, criteria and the possibility of their interpretation. Because for practical application, the financial model must be filled with a system of indicators that include both market impact factors and fundamental ones, which contributes to achieving the goal of long-term growth in the value of the enterprise.

The controls presented by the author are enlarged groupings of determinants of financial management of the company's value, containing key aspects of the business environment that ensure a long-term process of making long-term decisions to increase the value of the company.

The primary issue in the implementation of value-oriented management is the construction of an enterprise development strategy containing the main goal – long-term growth in the value of the enterprise, correlating with the fundamental value of the company's capital. Then, an important step in the development of the enterprise becomes the transition to a system of certain performance indicators of the enterprise.

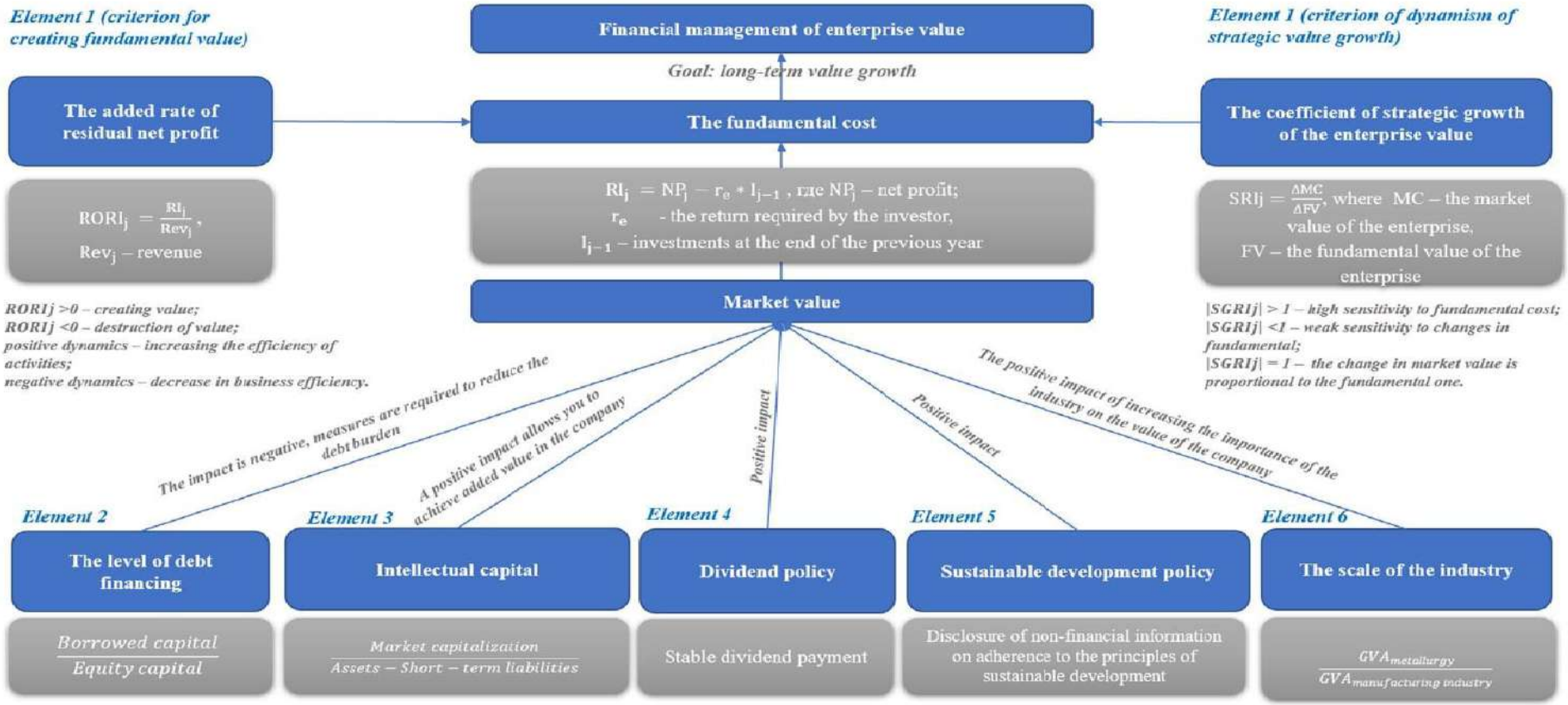

Figure 16 - A model of financial management of the value of a metallurgical enterprise

Compiled by the author[245]

[245] Kalayda S.A. Verbal model of financial management of the value of an enterprise in the metallurgical industry/ Kalayda S.A., Chupanova Kh. A. // Economic security. – 2024. – Volume 7. – No. 5. – P. 1189–1206.

The initial issue in increasing the value of the company is the assessment of the effectiveness of creating the value of its fundamental assets, which is proposed to be carried out, in addition to the well-known indicators of coefficient analysis, based on the proposed coefficients of the added rate of residual net profit and the coefficient of dynamism of strategic growth of the enterprise.

This approach to the assessment of fundamental value allows you to record the creation of value by business units of the company, thereby allowing you to determine the contribution of each core and non-core business unit to the creation of added value for the enterprise. Thus, the determinants of enterprise value should be based on fundamental estimates that must be interpreted in the context of creating added value in terms of financial and economic effect.

However, a public company has a second value – the market value, which is also subject to a variety of financial and non-financial factors that have a more pronounced impact on the market value. We conditionally propose to consider such factors within the framework of enlarged groupings (factors that create market value). Based on the results of the estimates of the econometric model, we can conclude that the aggregated factors we are considering, which are expressed in quantitative and qualitative indicators, have a significant impact on the value of the company.

At the same time, the value of an enterprise from a market position is subject to many factors, the impact of which is ideally almost impossible to assess. Therefore, we have grouped these factors according to the level of debt burden, intellectual resources, sustainable development policy, dividend policy, as well as the scale of the industry.

There is a position regarding the formation of a control system for the management of the company's value, which includes three stages: 1) decomposition of the primary factors of value creation, providing an opportunity to comprehensively analyze the business value chain; 2) development of a practical financial model of the company, taking into account the long-term objectives of enterprise development based on financial indicators; 3) include value creation factors in the system of control, planning, evaluation of the enterprise.[246]

Thus, an important aspect of evaluating the effectiveness of management decisions is to conduct an initiative audit at the enterprise aimed at identifying compliance of activities with standards and policies adopted at the enterprise. An initiative audit of an organization can cover not only the analysis of accounting systems and internal control of an enterprise, but also a detailed study of the organizational structure, methods of organizing production, corporate financial policy of the company, assessment of

[246] Kogdenko V.G. Development of a control system for the effectiveness of company value management / V.G. Kogdenko // Financial management. – 2012. – 8 (488). - P. 6.

the external conditions of its activities, on the basis of which recommendations are developed to improve various aspects of the organization's functioning.[247]

Elements of the financial management model for the value of a metallurgical enterprise

Element 1 «Cost parameters»

The cost of an enterprise in the financial management system requires the introduction of estimated complex coefficients containing a parameter that allows taking into account the profitability required by the market in the context of financial and economic activity. In this regard, in addition to the classical coefficients of financial and economic analysis, it is proposed to calculate the following indicators.

1. The added rate of residual net profit (RORI). An indicator demonstrating the amount of added income received by the enterprise per 1 ruble of products sold. It is advisable to calculate this indicator also at the level of each business unit and track the most promising areas of activity that create additional value for the company.

2. Aggregated Strategic Growth Indicator (SGR). It reflects the rate of increase in the value of the company and captures the sensitivity of changes in market value to the fundamental one.

Element 2 «Debt financing level»

The financial policy of an enterprise is a set of measures aimed at the formation, organization and use of financial resources of an enterprise to achieve the goals of the enterprise. The ultimate goal of the company's financial policy is to optimize financing and investment solutions. And here it is important to form the capital structure in such a way that the level of creditworthiness remains at a "comfortable" level for the enterprise.

In this block, a number is proposed that continues the logic of evaluation, but from the point of view of financial indicators that directly characterize the increase in the value of the company in terms of the implementation of its financial policy.

1. The indicator of financial leverage (leverage or leverage) characterizes the level of creditworthiness of the enterprise. This indicator forms the basis for making subsequent investment decisions and affects the expansion of production or operational activities.

2. Along with the financial leverage indicator, it is advisable to evaluate the effect of financial leverage (Degree of financial leverage-DFL), expressed by the following formula:

$$\mathrm{DFL} = \left(1 - \frac{\mathrm{i_{tax}}}{100}\right) * \left(\mathrm{ROA} - \mathrm{i_{average}}\right) * \mathrm{FL}, \quad (29)$$

Where

[247] Chupanova Kh. A. The role of external audit in management decision-making. / Kh. A. Chupanova //The development of modern economics: proceedings of the International Conference of Young Scientists and Economists, St. Petersburg. - 2022. – pp. 78-81.

i_{tax} — the income tax rate (in the Russian Federation is 20%);

ROA — return on assets;

$i_{average}$ — the average interest rate on loans;

FL — the ratio of borrowed capital to equity.

The strength of the impact of borrowed funds on the financial leverage indicator lies in the indicators of the financial leverage effect. An increase in the cost of capital leads to a negative effect on financial leverage. Thus, reducing the debt burden in financial terms can be achieved in two ways: firstly, repayment of the principal debt on the loan portfolio; secondly, repayment of interest (debt service costs).

This formula does not take into account an important component – loans with a floating interest rate, which significantly increase the risk of a negative impact on the financial and economic activities of enterprises.

At the same time, when assessing the effect of financial leverage in calculating the average rate, it is worth introducing a weighted average loan rate depending on the terms of the loan agreement (loans with floating and fixed interest rates). Since the key rate of the Bank of Russia is the interest rate that ensures monetary conditions in the economy, it is necessary to take into account the risks of an increase in the key rate and its impact on loans received at fixed rates. In the medium term, the Bank of Russia expects the key rate to be maintained at an elevated level for a long time. In the baseline scenario, in 2024, the value of the key rate is expected in the range of 12.5%-14.5% (in 2025: 7.0%-9.0%; in 2026: 6.0% -7.0%). And in the risk scenario, the key rate is expected to be in the range of 16%-17% (in 2025: 8.5%-10.5%; in 2026: 7.0%-8.0%)[248].

3. It is advisable to consider the financial leverage ratio in the context of analyzing debt service opportunities. Thus, the Net debt/EBITDA ratio characterizes the ability of an enterprise to repay obligations at the expense of generated revenues. This ratio is most often used by banks when determining the level of debt burden and deciding whether to issue new borrowed funds.

Along with bank lending, an effective mechanism for raising funds is concessional loans from the Industrial Development Fund [249]from 3 to 5 percent for up to 7 years and in the amount of 5 million rubles to 5 billion rubles, used for the development of high-tech goods, import-substituting industries, products of the military-industrial complex and dual-use, etc.

[248] The main directions of the unified state monetary policy for 2024 and the period 2025 and 2026. The Bank of Russia. [Electronic resource] .- Access mode: URL: https://cbr.ru/Content/Document/File/150582/on_2024 (2025-2026).pdf.
[249] The official website of the Industrial Development Fund [Electronic resource].- Access mode: URL: https://frprf.ru/zaymy /

Element 3 «Intellectual capital»

The increase of intellectual capital as necessary in order to increase the competitiveness of the resource, which ultimately forms the basis for the efficient use of other resources of the enterprise and increase the market value. This indicator is closely related to the implementation of innovative projects and plans for the strategic development of the enterprise, the development of innovative potential. The main structural parts of intellectual capital (according to Vol. To Stuart) are human capital (personnel, including their knowledge and skills, creativity), organizational (technical and software, organizational structure, patents) and consumer (customer relations, customer information, trademark, brand).

One of the key factors influencing the company's value is intellectual capital, the value of which is not fully realized by business entities, but in terms of cost management it is one of the main tools for increasing competitiveness and increasing the value of the company. [250] This is also confirmed by the quantitative estimates of the impact obtained in this study.

Element 4 «Dividend policy»

This control element characterizes the policy of generating income paid by the owners of the enterprise in accordance with the share of their contribution. Along with investment decisions that ensure the inflow of funds to the enterprise, great importance should be given to the dividend policy. The key principle of the dividend policy is to ensure an optimal combination of the interests of the company and its shareholders in the distribution of dividends. One of the key performance indicators for management can be considered the principle of stable dividend payment, which is mainly aimed at creating investment attractiveness of shares. The stability of dividend payments allows us to speak about a high level of stability of the enterprise, which ensures the investment attractiveness of shares.

Element 5 «Sustainable development policy»

The concept of "sustainable development" is defined as development that meets the current needs of society without harming future generations. At the global level, this trend is becoming increasingly relevant and affects the activities of almost all business entities.

- Global Reporting Initiative (GRI);
- United Nations (UN) Global Compact;
- Sustainability Accounting Standards Board (SASB);
- The International Integrated Reporting Council (IIRC).

At the same time, it reflects the company's contribution to achieving global sustainable development goals. Moreover, the Bank of Russia notes that addressing issues of sustainable development is of great importance for building relations with foreign partners from friendly countries.

[250] Novikov A.V. Financial instruments for creating company value/ A.V. Novikov, I.Ya. Novikova//Property relations in the Russian Federation. – 2012. - № 8 (131). - P. 52.

Thus, the Bank of Russia plans to focus on solving the issues of embedding ESG factors in corporate governance, integrating ESG risks into prudential regulation and supervision. [251]

Transparency and openness of data on the company's non-financial activities creates a wider field for reporting users to make decisions regarding investing in the company's securities, creates a favorable image of its activities and potentially contributes to an increase in its value and investment attractiveness.

Element 6 «Industry scale»

The conditions of development of a particular industry inevitably have an impact on the market value of the company. In quantitative terms, an idea of the scale of the industry in a macroeconomic context may reflect an indicator calculated as the ratio of the value added of a particular production to the value added of manufacturing industries. The possibility of expanding the scale of the industry depends on a number of parameters, including macroeconomic ones, which subsequently have an impact on the market value of capital.

The impact of the scale effect of the metallurgical industry is explained by its cross-sectoral specifics, the added value of which creates favorable conditions for the development of related industries. The information base here can be industry profitability indicators, shipments of goods of own production, the volume of exports and imports by product groups and supply lines by country, information on the implementation of major investment projects.

Industry trends in increasing exports and reducing imports, reorienting the supply of raw materials to higher priority areas, increasing the profitability of the industry, etc. are formed on the basis of the activities of key enterprises in the industry. The increase in GVA in the production of a particular industry demonstrates the availability of opportunities for expansion of production, a favorable environment, as well as an increase in demand for products and services.

When applied to the development of the industry, competitive analysis for an enterprise can form an objective view of the main trends in the development of the industry and make decisions consistent with the industry-wide vector of development.

In this regard, it should be noted that the formation of a financial strategy for long-term increase in the value of an enterprise should be based on a combination of fundamental and market factors of value creation.

The use of this financial management model includes the use of methodological tools developed by us, which, from the point of view of implementing the approach itself (controls, the need for impact and key performance indicators), needs to be influenced both by increasing indicators (for example, intellectual capital) and striving to reduce them (for example, the level of debt financing). At the same

[251] Financial market: new challenges in modern conditions. A new look at the financial stability of enterprises: challenges and solutions for the Russian Federation [Electronic resource]. – 2022. - pp. 16-17. Access mode: URL: https://cbr.ru/Content/Document/File/139354/financial_market_20220804.pdf .

time, the proposed model of financial management of enterprise value will allow achieving the strategic goal of increasing the value of the enterprise in the face of unprecedented sanctions pressure.

It is worth noting that this model of financial management is universal, and the criterion of universality in this case is the coverage of the areas of impact identified by us, including industry specifics. In this regard, the model can be used on the basis of indicators describing it. Thus, it is universal in terms of the implementation of the approach itself.

Thus, this model of financial management of the value of a metallurgical enterprise includes a complex of extensive groupings enclosed in a number of indicators and capable of influencing effective management decisions within the framework of value-oriented management.

Conclusions on Chapter 3

Chapter 3 provides a practical approbation of the models formulated in the previous chapter that justify the assessment of metallurgical enterprises from two positions: fundamental and market.

- As part of the development of methodological approaches for calculating the fundamental cost, an algorithm for evaluating the financial and economic efficiency of an enterprise in a value-based management system has been substantiated and tested, taking into account the proposed performance coefficients.
- Based on the logical and mathematical relationship, the impact of market value dynamics on the debt-to-equity ratio, the measurement of intellectual capital, the dividend dividend policy, and the scope of the company's areas and activities belonging to the achievements that are limited by development goals is assessed.
- A model of financial management of the value of a metallurgical enterprise is proposed, which includes the factors of formation of fundamental and market value.

Conclusion

The conducted research of fundamental and applied scientific works, as well as practical aspects in the management of the company's value, made it possible to improve and develop the existing methodology for managing the company's value, taking into account its formation and current state.

As part of the theoretical contribution to the development of this scientific field, it is necessary to highlight the development of the author's periodization of the evolution of the concept of company value management through various stages of the formation of economics. The valuation of a company in its economic essence has similar features to the ideas of scientists of Ancient Greece and Ancient Rome. The active period for the formation of significant value theories that form the basis for the modern interpretation of the concept of "value" occurred during the classical period of the development of economic theory. The formation of the concept of "company value" occurred at the neoclassical stage of the development of economic theory in connection with the paramount importance of private capital for the development of the economy and private enterprises. And the beginning of the formation of financial science and value theory itself is usually attributed to the works of A. Marshall, G. Markowitz, A. Rappoport, T. Copeland, T. Koller, J. Murrin, G. Arnold, etc.

A theoretical analysis of the theory of company value management at the current stage of scientific development has allowed us to reveal the conceptual foundations of modern financial management of the company's value. In this regard, the author summarizes and supplements a systematic approach to value-oriented management within the framework of financial management, proposes an author's approach to value-based management at a metallurgical enterprise, including consideration of value-based management in the broader context of its functioning, namely, from the point of view of two types of value and the key elements that form them. So, the key elements of value-based management in our understanding are: cost parameters, the intellectual capital of the company, the ratio of debt capital to equity, the policy of paying dividends and the policy in the field of sustainable development, as well as the scale of the industry.

The application of the VBM concept in the practice of financial management of metallurgical companies requires, firstly, an understanding of the main directions and trends in the development of the industry, and secondly, an appeal to existing theoretical and empirical works in scientific circles, as well as practical recommendations.

In this regard, the author conducted a consistent analysis of quantitative indicators of metallurgical companies, including industry indicators based on strategic planning documents. It is revealed that the state of the corporate metallurgical sector sets the main trends in the development of almost the entire manufacturing industry. Strengthening the role of metallurgical companies in the public

capital market and in the international arena as a whole determines the need to increase two types of value: fundamental and market.

As part of the contribution to the development of the methodology for assessing fundamental value, the author formulated a step-by-step methodology for calculating the residual net profit model, as well as theoretical aspects of justifying its application at the industry level. The methodology is based on fundamental and applied scientific research in the field of the development of the concept of value-oriented management by foreign and domestic authors.

As criteria for the effectiveness of using such an assessment model as a tool to achieve the strategic goal of increasing the value of the company, the author suggests using several criteria. Firstly, the developed performance criterion (RORI) within the framework of VBM is a criterion that appeals to traditional coefficient analysis, but forms a new idea of the company in terms of creating or destroying value over a certain period. Secondly, it is proposed to assess the dynamism of strategic growth on the basis of the SAR coefficient, which reflects the measure of sensitivity of market value to changes in its fundamental value.

In terms of the development of the methodology for determining the indicator of the company's market value, the author proposes to assess the position of the company from the stock market position based on an econometric (semi-logarithmic) model of the relationship of the logarithm of market capitalization (as an indicator of market value) with the financial leverage coefficient, Tobin coefficient, dividend policy (fictitious variable), sustainable development policy (fictitious variable), as well as the scale of the industry (the share of metallurgy in the GVA of manufacturing industries).

The logic of this study has been tested and justified on the example of domestic metallurgical companies.

As part of the development of methodological approaches for calculating fundamental value, the author justified and tested an algorithm for assessing the state of a company in terms of VBM using the RORI index of the added rate of residual net profit proposed by the author, as well as the coefficient for assessing the dynamism of strategic growth of an enterprise SGRI on the example of the largest Russian metallurgical companies.

A model of the relationship between the company's market value and indicators of financial policy, dividend policy, as well as the factor of disclosure of non-financial statements has been tested. Based on the data of financial statements and market estimates, the mathematical and logical relationship of the company's market value indicator with such determinants as intellectual capital, the share of borrowed capital to equity, actions taken to achieve global sustainable development goals, and the scale of the industry, as well as the policy of paying dividends and the availability of reporting in the field of sustainable development is revealed.

Thus, value-based management at the enterprise should be carried out on the basis of an integrated approach to enterprise value management, both taking into account the formation of fundamental estimates and market ones. At the same time, the set of financial determinants is calculated within the framework of the fundamental value of assets, and market determinants are formed mainly on the basis of investor expectations and macroeconomic factors. In this regard, the factors we have identified make it possible to build an effective financial management system in terms of fundamental and market positions.

Summarizing the results of the study, the author draws attention to the comprehensive consideration of the problems of financial management of the company's value in the conceptual approach developed by the author to their solution in the financial management model based on monitoring indicators with varying degrees of detail, information and analytical publications and internal data analytics tools.

REFERENCE

Regulatory and legal acts

1. Information letter from the Central Bank of the Russian Federation on recommendations for the implementation of the principles of responsible investment. To participants of the securities market dated July 15, 2020 No. IN-06-28/111 [Electronic resource]. - Mode of: https://cbr.ru/statichtml/file/59420/20200715_in_06_28-111.pdf
2. Order of the Ministry of Economic Development dated May 20, 2015, No. 298 «The purpose of valuation and types of value (FSO No. 2)» [Electronic resource]. - Mode of access: URL: http://www.ceae.ru/FSO_2.html
3. Order No. 764 of the Ministry of Economic Development of the Russian Federation dated November 1, 2023 «On approval of methodological recommendations for the preparation of reports on sustainable development» [Electronic resource].- Mode of access: URL: URL:https://www.economy.gov.ru/material/file/70c9039795779d4b5b55c3fb8066afd3/764_2023-11-01.pdf
4. Decree of the Government of the Russian Federation dated December 28, 2022 No. 4260-r «On approval of the Strategy for the development of the metallurgical industry of the Russian Federation for the period up to 2030» [Electronic resource].- Mode of access: URL: https://www.garant.ru/products/ipo/prime/doc/405963845 /.
5. Federal Law No. 135-FZ dated 07/29/1998 (as amended on 11/28/2018) «On Valuation Activities in the Russian Federation» [Electronic resource]. – Mode of access: URL:http://www.consultant.ru/document/cons_doc_LAW_19586/010969a54af6f2ea4b4cb3cf4a1adaf4e6b3f4e3/

Books, monographs, statistical collections, dissertations from periodicals, collectionsofscientific dissertations, abstracts, dissertations

a. in Russian language

6. Abramishvili N.R. The model of intellectual capital in the diagnosis of high-tech companies / N.R. Abramishvili, N. A. Lvova // Financial analytics: problems and solutions. - 2014. -No. 25. – p. 26.
7. Arkhipova Yu. A. Improving the activities of a metallurgical enterprise in a competitive environment / Yu. A. Arkhipova // Mining information and analytical bulletin (scientific and technical journal). - 2015. - p. 394.

8. Akhmadeeva O. A. Problems of business valuation / O.A. Akhmadeeva, I.A. Koshkina// Modern research of social problems (electronic scientific journal), Modern Research of Social Problems. – 2014. - № 2 (34). - Pp. 1-16.
9. Barsukov M.V. Building a financial management model of an industrial enterprise based on the use of operational and strategic analysis tools / M.V. Barsukov, N. S. Merkulova // Economic sciences. Bulletin of the Altai Academy of Economics and Law. - 2020. - No.12. - p. 8.
10. Basova N. V. Evolutionary development of financial science: from the unscientific state to the state of modern development of the theory of finance / N. V. Basova // Audit and financial analysis. - 2013. - No. 4. - p. 302.
11. Brayley R. Principles of corporate finance / R. Brayley, S. Myers // translated from English by N. Baryshnikova. M.: Olymp-Business CJSC, 2007. - 1008 p.
12. Brigham U. Financial manager / U. Brigham, M. 10th Edition / / per. with English. in order. K.e.N. Well. A. Dorofeeva. - SPB. Peter, 2005. – 959 p.
13. Bukhvalov A.V. The fundamental value of equity: use in company management / A.V. Bukhvalov, D. L. Volkov // Scientific reports No. R1–2005 St. Petersburg: Institute of Management of St. Petersburg State University. - 2005. - p. 12.
14. Bukhvalov A.V. Investigation of the relationship between indicators of fundamental value and market capitalization of Russian companies / A.V. Bukhvalov, D. L. Volkov // Bulletin of St. Petersburg State University. - 2005. - Ser.8. – Issue.1. - pp. 26-43.
15. Valdaytsev S.V. On the accuracy of practical estimates of the market value of companies / S.V. Valdaytsev // Bulletin of St. Petersburg State University. – 2012. - Ser.5.2012.- Issue 3. - p. 116.
16. Valdaytsev S.V. Business assessment: textbook–3rd ed., reprint. and additional / S.V. Valdaytsev // M.: TK Velbi, Prospect Publishing House, 2008. – 576 p.
17. Walras L. Elements of pure political economy or the Theory of Social wealth [Electronic resource] / L.Walras // Translated into Russian by I. Egorov, A. Belyanin, 2000. - p. 35. Mode of access: URL: https://www.biznesbooks.com/components/com_jshopping/files/demo_products/valras-l-elementy-chistoj-politicheskoj-ekonomii.pdf
18. Verkhovtseva E.A., Grebenik V.V. Valuation of the company: empirical and theoretical aspects // Online journal «Science STUDIES». - 2016. Volume 8. - No. 1. – pp. 1-9.
19. Volkov D. L. Models for assessing the fundamental cost of equity: the problem of compatibility / D. L. Volkov // Bulletin of St. Petersburg University. - 2004. - Series 8. - Management. - Issue 3 (No. 24) - p.7.
20. Volkov D. L. Performance indicators: use in company value management / D. L. Volkov // Russian Journal of Management. – 2005. - Volume 3. - No.2. - p. 7.

21. Volkov D. L. Theory of value-based management: financial and accounting aspects / D. L. Volkov // Higher School of Management of St. Petersburg State University. — St. Petersburg. Publishing house «Higher School of Management»; Publisher. House of St. Petersburg State University, 2008. — pp.27-36.
22. Volkov D. L. Value management: analysis of equity valuation models based on accounting indicators/ D. L. Volkov, I.V. Berezinets // Scientific reports. St. Petersburg: St. Petersburg State University Research Institute of Management. - 2006. - P. 14.
23. Graham B. A Reasonable Investor: A complete guide to value investing / B. Graham // Additions and comments by Jason Zweig. Moscow: Alpina Publisher, 2020. – 568 p.
24. Gryaznova A. G. Valuation of the enterprise (business) / A. G. Gryaznova, M. A. Fedotova, M.A. Eskindarov, T.V. Tazikhina, E. N. Ivanova, O. N. Shcherbakova. — M.: INTERREKLAMA, 2003. — 544 p.
25. Damodaran A. Investment assessment / A. Damodaran // Alpina Business Books, 2008. – 1323 p.
26. Jevons V. Political economy / V. Jevons // Translated by R. Markovich, edited and with a preface. Printing house «National benefit», 1905. – 120 p.
27. Report of the International Commission on Environment and Development (ICEDD). 1987. [Electronic resource] Translated from English. Edited by S. A. Evteeva and R.A. Poleta. Mode of access: URL: http://устойчивоеразвитие.рф/files/monographs/OurCommonFuture-introduction.pdf
28. Zhukova E. V. Main trends in the development of the ESG agenda: an overview in Russia and in the world / E.V. Zhukova // Bulletin of the Plekhanov Russian University of Economics. – 2021. - № (6). – C. 68–82.
29. Ivanov V. V. Investment activity of Russian companies: trends and drivers // V. V. Ivanov // Scientific works of the Free Economic Society of Russia. – 2019. - Volume 218. - pp. 581-588.
30. Ivashkovskaya I. V. Integrated managing the company's value system: abstract of the dissertation for the degree of Doctor of Economics: 08.00.10 / Ivashkovskaya Irina Vasilyevna. – Moscow, 2010. - p. 35.
31. Ivashkovskaya I. V. Managing the value of a company as an innovation/ Corporate finance: prospects and reality / I. V. Ivashkovskaya // Managing the value of a company: collection of articles of the participants of the Third International Conference of Young Scientists / under scientific ed. T. V. Teplovoy; State University — Higher School of Economics. — M.: Ed. the house of the Higher School of Economics. - 2006. — 256 p.
32. Ivashkovskaya I.V. Financial dimensions of corporate strategies. Financial dimensions of corporate strategies / I.V. Ivashkovskaya // Audit and financial analysis. – 2007. - No. 5. - p. 11.

33. Kalayda S.A. Verbal model of financial management of the value of an enterprise in the metallurgical industry/ Kalayda S.A., Chupanova Kh. A. // Economic security. – 2024. – Volume 7. – No. 5. – pp. 1189-1206.
34. Kalayda S.A. Theoretical foundations of the formation of the category «company value» and modern practical aspects of value-based management / Kalayda S.A., Chupanova Kh. A. // Economics, entrepreneurship and law. – 2024. – Volume 14. – No. 6. – P. 3243–3262.
35. Kaplan R. Strategic maps. Transformation of intangible assets into tangible results / R. Kaplan, D. Norton // Translated from English. – M.: CJSC «Olympus-Business», 2007. – 512 p.
36. Karlova N. Inflationary expectations and business decisions: results of a survey of enterprises. Analytical note / N. Karlova, E. Puzanova, I. Bogacheva // Bank of Russia. - 2020. - p. 15.
37. Karpova O. K. On the issue of assessing the market value of enterprises / O. K. Karpova, N.A. Lobakhina, A.A. Yurkov // Bulletin of the Rostov State University of Economics (RINH). – 2015. - № 2. – 50. P. 85.
38. Kirillina V. N. Review of the study «Assessment of corporate governance in public joint-stock companies with the participation of the Russian Federation, whose shares are traded on the organized securities market» / V. N. Kirillina // Journal «Business, Society, Power». - 2018. - № 1 (27). - p. 8.
39. Kovalev V. V. Financial science in Russia (XVIII-XIX centuries). The history of finance and accounting. [electronic resource]. - Mode of access: URL: https://finbiz.spb.ru/wp-content/uploads/2011/04/kovalev.pdf
40. Kovalev V. V. Financial management: theory and practice / V. V. Kovalev // Moscow: TK Velbi, Publishing House Prospect, 2007. – 1024 p.
41. Kogdenko V. G. Analysis of business value factors according to financial statements / V.G. Kogdenko. – 2008. – 3 (3). P. 3.
42. Kogdenko V.G. Business strategy analysis using financial models / V.G. Kogdenko//Strategic management. - 2010. – 13 (37). P. 37.
43. Kogdenko V.G. Corporate financial policy: features of development and implementation/ V.G. Kogdenko // Financial analytics: problems and solutions, 2013. - P. 2.
44. Kogdenko V.G. Development of a control system for the effectiveness of company value management / V.G. Kogdenko // Financial management. – 2012. – 8 (488). P. 6.
45. Kozlova A. S. Theoretical aspects of valuation of public companies: the concept, goals and methods of valuation / A. S. Kozlova, D. S. Taraskin // Science and Society. - 2018. - №3 (32). - P.52.
46. Kozlova N. I. Maximizing shareholder value in the dynamic Russian capital market / N. I. Kozlova // Russian entrepreneurship. - 2016. — vol. 17. — No. 18. — pp. 2351-2370.

47. Kosorukova I. V. / Methodological problems of business valuation: theory and practice. Monograph / I. V. Kosorukova // M. LLC «Synergiyapress», 2012. - P. 40.
48. Kudina M. V. Fundamental and market value of the company / M. V. Kudina // Russian entrepreneurship. – 2010. - №1(2). - P.35.
49. Leontiev V.E. Corporate finance: textbook for universities / V.E. Leontiev, V. V. Bocharov, N.P. Radkovskaya // 3-e., pererab.and add. - Moscow:Yurait Publishing House, 2020. - 354 p.
50. Lukasevich I. Ya. Research of dependencies and assessment of the impact of world stock markets on the Russian stock market / I.Ya. Lukasevich // Economy. Taxes. Right. - 2020 - No. 4 – pp. 44–56.
51. Lukasevich I. Ya. Financial management: textbook and practicum for universities // I.Ya. Lukasevich // Yurayt. Moscow, 2024–680 p.
52. Lukashov V. N. Determining the value of the discount rate for investment design and business valuation: on the difference in approaches to calculation and application / V. N. Lukashov, N. V. Lukashov // Bulletin of St. Petersburg University. Economy. – 2019. T -. 35. - Issue 1. pp. 83-112.
53. Lvova N. A. Hypothesis on the impact of industry cycles on the investment activity of Russian enterprises. Economics of enterprises, regions and industries / Lvova N. A., Abramishvili N.R. - 2019. - №5 (119). – Part II. – pp. 66–71.
54. Makarova V. A. Modeling of financial management of holding structures. Scientific monograph / V. A. Makarova // St. Petersburg: Publishing House of the Polytechnic University. Unita, 2013. – 168 p.
55. Malakhov R. G. Property complexes: features of the application of approaches in assessing market value / R. G. Malakhov, D. G. Malakhov // Economic problems of regions and industrial complexes. Problems of the modern economy. - 2015. – pp. 272-276.
56. Maricheva N. N. The impact of hostile takeovers on the share price of acquiring companies: Russian and European practice / N. N. Maricheva, E. M. Rogova // Journal of Corporate Finance Research / Corporate finance. - 2016. - No. 4. p. 86.
57. Marx K. Works. vol. 26. / K. Marx, F. Engels [Electronic resource] // State Publishing House of Political Literature. Moscow, 1962 – 476 p.- Mode of access: URL: https://www.marxists.org/russkij/marx/cw/t26-1.pdf.
58. Marshall A. Principles of economic science // A. Marshall, 1993. 309 p. [Electronic resource].- Mode of access:URL: https://kniga-online.com/books/knigi-o-biznese/jekonomika/page-5-4657-alfred-marshall-principy-ekonomicheskoi-nauki.html.

59. Masko M. M. Business value assessment based on M&A transactions and the EVA model / M. M. Masko, N. Ya. Golovetsky // Bulletin of Eurasian Science. — 2023. — vol. 15. — No. 2. – pp. 1-12.
60. Melnik M. V. The concept of economic analysis focused on the assessment of the value chain / M.V. Melnik, V.G. Kogdenko // The theory of economic analysis. – 2010. – 7 (172). p. 6.
61. Melnik M. V. Return on invested capital in the value chain analysis system/ M.V. Melnik, V.G. Kogdenko // Economic analysis. – 2010. – 9(174). – P. 9.
62. Menger K. The foundations of political economy. Research on the methods of social sciences and political economy in particular / K. Menger // Publishing House «Territory of the Future», 2005 – 494 p.
63. Mordvintseva A.D. VALUATION OF THE ENTERPRISE: textbook. handbook / comp. A.D. Mordvintseva // Vladivostok: VGUES Publishing House, 2008. – 88 p.
64. Novikov A.V. Financial instruments for creating company value/ A.V. Novikov, I. Ya. Novikova//Property relations in the Russian Federation. – 2012. - № 8 (131). - P. 52.
65. Noskova O. E. Enterprise value management [Electronic resource]: educational and methodical manual / O. E. Noskova// Perm State National Research University. – Electronic data. – Perm, 2022. – 2.48 Mb; 90 s. – Mode of access: http://www.psu.ru/files/docs/science/books/uchebnieposobiya/Noskova-Upravlenie-stoimostyu-predpriyatiya.pdf.
66. Nikitskaya E.F. Investing in business: problems of valuation in conditions of inflation/E.F. Nikitskaya//Economics, Statistics and Computer Science. – 2012. - No. 3. p. 57.
67. Ovechkina A. I. Corporate finance. Workshop: textbook for universities / A. I. Ovechkina, N. P. Petrova // Moscow: Yurait Publishing House, 2020. — 215 p.
68. The main directions of the unified state monetary policy for 2024 and the period 2025 and 2026. The Bank of Russia. [Electronic resource].- Mode of access: URL: https://cbr.ru/Content/Document/File/150582/on_2024 (2025-2026).pdf
69. Parfenova M. D. Balanced system of financial and non-financial indicators as a tool for managing the company's value / M. D. Parfenova // Balanced scorecard. – 2013. – 33 (171). – P. 33.
70. Petrenko L. D. ESG criteria in the practice of making investment decisions / L. D. Petrenko // International Scientific Research Journal. - 2020. - Part 2. - № 11 (101). - P. 100.
71. Agenda for the 21st century. Adopted by the United Nations Conference on Environment and Development, Rio de Janeiro, June 3-14, 1992 - 1992[Electronic resource] .- Mode of access:.URL: https://www.un.org/ru/documents/decl_conv/conventions/agenda21.shtml
72. Posrednikova D. V. Ocherki po istorii finansovoj nauki. Monografiya / D. V. Posrednikova // SPbGTURP-SPb, 2012. – 102 p.

73. Potapov A.V. The concept of value-based management. / A.V. Potapov, I. N. Tkachenko // The theory of management. USUE News. - № 5 (31). 2010. – pp.36 – 43.
74. Proshkina O.V. A systematic approach to the allocation of business units in an enterprise / O.V. Proshkina // Socio-economic and technical systems: research, design, optimization. – 2016. – № 2 (69). – pp. 165-174.
75. Purlik V.M. Management of a company with a focus on business value growth / V.M. Purlik // Public administration. Electronic bulletin. - 2018. - No. 69. - p. 138.
76. Recommendations on disclosure by public joint-stock companies of non-financial information related to the activities of such companies. Information letter on recommendations on disclosure by public joint-stock companies of non-financial information related to the activities of such companies dated July 12, 2021 No. IN-06-28/49 [Electronic resource]. - Mode of access: URL: https://cbr.ru/StaticHtml/File/117620/20210712_in-06-28_49.pdf
77. Ricardo D. Essays [Electronic resource] / D. Ricardo // Translated by a corresponding member of the USSR Academy of Sciences. Moscow. - 1955 - Vol. 1. - p. 43. - Mode of access: URL: https://djvu.online/file/8YSa2jKYFTEb9
78. Rosh J. The cost of the company: from the desired to the actual / J. Roche – Minsk: Grevtsov Publisher, 2008. – 341 p.
79. Sirazetdinov R.M. Application of the method of J. Tobin's approach to the study of intellectual capital at innovatively active enterprises / R.M. Sirazetdinov, L.N. Ustinova / / Russian entrepreneurship. - 2015. - №16 (19). - P. 3288.
80. Smith A. Research on the nature and causes of the wealth of nations [Electronic resource] .-Mode of access: URL: https://viewer.rusneb.ru/ru/000199_000009_005145794?page=22&rotate=0&theme=black .
81. Soboleva G. V. Involvement of Russian companies in the implementation of the ESG agenda: social and corporate aspects in the context of non-financial reporting / G. V. Soboleva, E.I. Zuga // Bulletin of St. Petersburg University. Economy. - 2022. - 38 (3). - pp. 365-384.
82. Suslova M. A. Value-based management for Russian industrial enterprises in conditions of high volatility / M. A. Suslova // Proceedings of the Southwestern State University. Series: Economics. Sociology. Management. - 2023. №13(3). – P. 296.
83. Teplova T. V. Effective financial director/ T. V. Teplova // Effective financial director: textbook for undergraduate and graduate studies, 2018. — 507 p.
84. Fedorova T. A. The impact of the global financial system on the investment activity of Russian business / T. A. Fedorova // Economics of enterprises, regions and industries. - 2019. - №5 (119). – Part II. – pp. 8-14.

85. Khotinskaya G.I. Corporate growth: theory, financial indicators, empirical patterns / G.I. Khotinskaya // Economy. Management. Marketing. THE MANAGER. 2015. - No. 4/56.– pp. 12-17.
86. Chupanova Kh. A. IPO as a source of financing for the company's activities: on the example of Kazakhstan / H.A. Chupanova, U.A. Murtazaeva // The economy of Central Asia. — 2020. — Volume 4. — No. 3. — pp. 233–242.
87. Chupanova Kh. A. The relationship of corporate governance with the company value: on the example of American insurance companies / Kh. A. Chupanova // Bulletin of the RMAT. – 2021. - No.1.- pp. 9-14.
88. Chupanova Kh. A. The relationship of market capitalization with indicators of the value of high-tech companies / Kh. A. Chupanova // Economics, entrepreneurship and Law. – 2019. – Volume 9. – No. 3. – pp. 191-206.
89. Chupanova Kh. A. The relationship of the market value of a Russian insurance company with accounting indicators. / Kh. A. Chupanova // Development of modern economics: a collection of materials of the International Conference of Young Scientists and Economists. St. Petersburg, June 27, 2020. – pp. 217-225.
90. Chupanova Kh. A. Value-based management concept: a theoretical analysis / Kh. A. Chupanova, A.A. Chupanov // Innovations. Science. Education. - 2021. - No.37. - pp.273-277.
91. Chupanova Kh. A. The main stages of the development of the concept of sustainable development / Kh. A. Chupanova // Materials of international scientific conferences: X International scientific and practical conference, XX International Conference, XXIX International scientific and practical Conference, VIII International Scientific Conference, International Conference of Young Scientists and Economists. St. Petersburg, April 20–22, 2023. – pp. 1698-1702.
92. Chupanova Kh. A. The causes of unemployment in the modern labor market and ways to overcome it / Kh. A. Chupanova // Bulletin of the RMAT. - 2018. - № 4. - 2018. - P.44.
93. Chupanova Kh. A. Ways to increase the competitiveness of an insurance company in the context of value-based management. The international annual scientific conference Lomonosov Readings-2021. Section of Economic Sciences. «Generations of economic ideas»: a collection of the best reports. — M.: Faculty of Economics of Lomonosov Moscow State University. - 2021. - p. 300.
94. Chupanova Kh. A. The role of external audit in management decision-making. / Kh. A. Chupanova //The development of modern economics: proceedings of the International Conference of Young Scientists and Economists, St. Petersburg. - 2022. – pp. 78-81.

95. Chupanova Kh. A. Value-based management of an insurance company in the context of innovative development/ Kh. A. Chupanova// Issues of innovative economics. - 2022. – Volume 12. – No. 1. – pp. 391-410.
96. Sheremet A.D. Analysis and diagnostics of financial and economic activity of the enterprise / A.D. Sheremet// Moscow. Infra-M. - 2017. - pp. 212. – 217.
97. Shishkin M. V. The history of economic studies: a textbook for bachelors / M. V. Shishkin, G. V. Borisov, S. F. Sutyrin // 3rd ed., ispr. and add. — Moscow: Yurait Publishing House, 2019. – 376 p.
98. Spiridonova E. A. «Business value assessment and management: textbook and workshop for universities»/E. A. Spiridonova – Moscow: Yurayt Publishing House, 2023. - 257 p.
99. Eskindarov M. A. Business valuation: textbook / M.A. Eskindarov, M. A. Fedotova // edited by M. A. Eskindarova, M. A. Fedotova // M.: KNORUS, 2016. — 320 p.

b. in foreign languages

100. Al-Nimer M. The Effect of Profitability Ratios on Market Capitalization in Jordanian Insurance Companies Listed in Amman Stock Exchange / M. Al-Nimer, N. Alslihat // Journal of Economics and Sustainable Development, 2015. - Vol.6. - No.6. - pp.140-146.
101. Amidu M. How Does Dividend Policy Affect Firm Performance? A Ghanaian Case / M. Amidu // Investment Management and Financial Innovations. - 2007. - No 4(2). - pp. 103-112.
102. Arnold G. Value-Based Management: Context and Application/ G. Arnold, M. Davies//John Wiley & Sons.: Chichester. UK, 2000. – 384 p.
103. Ausloos M. Valuation models applied to value-based management-application to the case of UK / M. Ausloos // Forecasting. - 2020. – pp. 549-565.
104. Boda M. Linearity of the Sharpe-Lintner Version of the Capital Asset Pricing Model / M. Boda, M. Kanderova// Procedia - Social and Behavioral Sciences. - 2014. - №110. – pp. 1136 – 1147.
105. Chupanova Kh. Supply Chain Management Concept and Digital Economy: Digital Supply Chain Technological Innovation // Kh.A. Chupanova, Y. Otrokov, N. Mosina, V. Sekerin, A. Zharov, S. Garnik//Indian Journal of Economics and Development. - 2021. - Volume 17. - No. 4. – pp. 928-933.
106. Copeland T. Valuation: measuring and managing the value of companies / T. Copeland, T. Koller, J. Murrin // New York, John Wiley & Sons, 1995. - 576 p.
107. Edwards E.O. The Theory and Measurement of Business Income / E. O. Edward, P.W. Bell // Berkeley, CA: University of California Press, 1961. – 342 p.

108. Endri E. Determinants of firm's value: Evidence from financial industry / E. Endri, M. Fathony // Management Science Letters. - 2020. - pp. 111–120.
109. Feltham G. Uncertainty Resolution and the Theory of Depreciation Measurement/ G. Feltham, J. Ohlson // Journal of Accounting Research. - 1996. - pp. 209 — 234.
110. Frik S. Drivers of value creation – the role of value-based management and underlying institutions / S. Frik, S. Scharpp, M. Wolff// Management Accounting Research. - 2016. – No 33. - pp. 42-60.
111. Gamayuni R. The Effect Of Intangible Asset, Financial Performance And Financial Policies On The Firm Value / R. Gamayuni // INTERNATIONAL JOURNAL OF SCIENTIFIC & TECHNOLOGY RESEARCH. – 2015. - Volume 4. - P. 204.
112. Ghasempour A. Quality of Intellectual Capital and Human Resources Disclosure on the Firm Valuation / A. Ghasempour, M.A.M. Yusof // Open Journal of Accounting. - 2014. – No 3. - pp. 59–70.
113. Gordon M. Optimal investment and financing policy / M. Gordon // The Journal of Finance. - 1963. - vol. 18. - No 2. - pp. 264-272.
114. Hakim L. Determinant of leverage and it's implication on company value of real estate and property sector listing in IDX period of 2011-2015 / L. Hakim, N. Sunardi // Man in India. - 2017. - 97(24). - pp.131-148.
115. Hou R. Y. Value based management and strategic planning / R.Y. Hou, A. Zhang // Proceedings of the 2nd International Conference on Product Innovation Management & The 3rd International Conference On Value Engineering, Peoples R China. - 2017. - pp. 38-40.
116. How To Determine Your Company's Worth And Increase Its Value [Electronic resource].- Mode of access: URL: https://www.forbes.com/sites/forbesbusinesscouncil/2019/11/14/how-to-determine-your-companys-worth-and-increase-its-value/?sh=79bda6b86e9f.
117. Ittner C.D. Assessing empirical research in managerial accounting: a value-based management perspective/ C.D. Ittner, D.F. Larcker // J. Account. – 2001. - pp. 349–410.
118. Lintner J. Dividends, earnings, leverage, stock prices and the supply of capital to corporations / J. Lintner // The Review of Economics and Statistics. - 1961. - vol. 44. - No 3. - pp. 243-269.
119. Lintner J. The Valuation of Risky Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets» /J. Lintner // Review of Economics and Statistics 47. - 1965. - pp. 13–37.
120. Malik M. S. Impact of changes in dividend policy on firm's value: A case study of cement sector of Pakistan / M.S. Malik, M. Maqsood // Journal of Basic Sciences and Applied Research. - 2015. – No 1(4). - pp. 41-52.

121. Market Capitalization vs. Equity What's the Difference? [Electronic resource]. – Mode of access: URL: https://www.investopedia.com/ask/answers/122314/what-difference-between-market-capitalization-and-equity.asp.
122. Markowitz H. Portfolio Selection / H. Markowitz // The Journal of Financ. - 1952. - Vol. 7. - Issue 1. – pp. 77-91.
123. Miller M. Dividend policy, growth, and the valuation of shares / M. Miller., F. Modigliani // The Journal of Business. - 1961. - vol. 34. - pp. 411-433.
124. Mitan A. Value-based management: A case study of Visegrad Four countries / A. Mitan, A. Siekelova, M. Rusu, M. Rovnak // Ekonomicko-manazerske spektrum. - 2021. - 15(2). - pp. 87-98.
125. Nurdin D. Moderator Effect of Corporate Governance on the Relationship of Financial Performance and Dividend Policy, and Its Impact on Firm Value in Indonesia Stock Exchange/ D. Nurdin, MY. Kasim // Int J Econ Manag Sci 7: 499. – 2017. – pp. 1- 7.
126. Nwala M. Impact of corporate financial policies on firm value of quoted insurance firms in Nigeria/ M. Nwala, J. Gimba, G. Oyedokun //Fountain University Osogbo Journal of Management (FUOJM). - 2020. - No 5(1). - pp. 219 – 236.
127. Odum A. N. Impact of dividend payout ratio on the value of firm: A study of companies listed on the Nigerian Stock Exchange/ A.N. Odum, C.G. Odum, R. I. Omeziri, C. F. Egbunike // Indonesian Journal of Contemporary Management Research. - 2019. - No 1(1). - pp.107-119.
128. Ohlson J. Earnings, Book Values, and Dividends in Security Valuation/ J. Ohlson // Contemporary Accounting Research. - 1995. - 11 (2). - pp. 661–687.
129. Papatya G. Value-based management applications in business: Amodel study for Turkey business/ G. Papatya // Journal of Mehmet Akif Ersoy University Economics and Administrative Sciences. - 2020. - No 7, pp. 1194-1210.
130. Penman S. Return to Fundamentals / S. Penman // Journal of Accounting, Auditing & Finance. - 1992. 7 (4). – pp. 465 — 484.
131. Rappaport A. Creating shareholder value: The new standard for business performance / A. Rappaport // New York, Free Press, 1986. - 270 p.
132. Sharpe W. Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk»/ W. Sharpe // Journal of Finance 19. - 1964. - pp. 425–442.
133. Watts R. Towards a positive theory of the determination of accounting standards / R. Watts, J.L. Zimmerman // The Accounting Review. - 1978. - No 53. - pp. 34-62.
134. World Steel Association. [Electronic resource]. – Mode of access: URL: https://worldsteel.org/steel-topics/steel-markets/.

135. Zimmerman J.L., Conjectures regarding empirical managerial accounting research/ J.L. Zimmerman // J. Account. - 2001. - Econ. 32. - pp. 411–427.
136. Zulkifli Z. Determinan Internal Dividend Payout Ratio Perusahaan Farmasi terdaftar di Bursa Efek Indonesia / Z. Zulkifli, E. Endri, A. Kurniasih //Jurnal Keuangan dan Perbankan. - 2017. - No 21(2). - pp. 238-252.

Electronic resources

137. Measures to support the metallurgical industry in 2023 [Electronic resource] .- Mode of access: URL: https://gebelpartners.com/articles/mery-podderzhki-metallurgicheskoy-otrasli-v-2023-godu /?ysclid=lmq2mzqfdc264194291 .
138. Overview of the ferrous metallurgy market. Moscow, the first half of 2019 [Electronic resource] .- Mode of access: URL: https://www.csr.ru/upload/iblock/d4b/d4b9f67f27e41cb9ec867ddfeb6fc6a9.pdf
139. Official Statistica website [Electronic resource].- Mode of access: URL: https://www.statista.com
140. The official website of Aswat Damodaran [Electronic resource].-Mode of access: URL: https://pages.stern.nyu.edu /~adamodar/
141. The official website of the Mechel group. [Electronic resource] .- Mode of access: URL: https://mechel.ru/press/releases/mechel-reports-2023-operational-results / .
142. The official website of NLMK Group. [electronic resource].- Mode of access: URL: https://nlmk.com/ru/media-center/press-releases/gruppa-nlmk-lider-reytinga-top-50-kompaniy-zelenogo-energoperekhoda / .
143. The official website of MMK PJSC. [Electronic resource] .- Mode of access: URL: https://mmk.ru/ru/investor/investment-attractiveness /.
144. The official website of PJSC Severstal. [Electronic resource] .- Mode of access: URL: https://severstal.com/rus/media/archive/severstal-obyavlyaet-o-plane-investitsiy-na-2024-god/
145. The official website of the Industrial Development Fund [Electronic resource].- Mode of access: URL: https://frprf.ru/zaymy /
146. Russian business has confirmed the importance of the low-carbon agenda for maintaining competitiveness in world markets [Electronic resource].- Mode of access: URL: https://www.economy.gov.ru/material/news/rossiyskiy_biznes_podtverdil_vazhnost_nizkouglerodnoy_povestki_dlya_sohraneniya_konkurentosposobnosti_na_mirovyh_rynkah.html.
147. Financial market: new challenges in modern conditions. A new look at the financial stability of enterprises: challenges and solutions for the Russian Federation [Electronic resource]. – 2022. - pp. 16-17. Mode of access: URL: https://cbr.ru/Content/Document/File/139354/financial_market_20220804.pdf.

APPENDIX

Appendix 1. Uploading data for research: EVRAZ

EVRAZ plc | Balance Sheet **23-Nov-2021 00:47**

Balance Sheet
Annual Standardised in Millions of Russian Roubles

Earnings Quality Score	88			77		46	97	94	74	86	97	92	95
Period End Date	31-Dec-2011	31-Dec-2012	31-Dec-2012	31-Dec-2012	31-Dec-2013	31-Dec-2013	31-Dec-2014	31-Dec-2015	31-Dec-2016	31-Dec-2017	31-Dec-2018	31-Dec-2019	31-Dec-2020
Period End FX Rate (USD/RUB)	32.194000	30.552500	30.552500	30.552500	32.890000	32.890000	58.047000	72.949500	61.263000	57.657500	69.680000	61.919100	73.790000
Assets (USD Millions)													
Cash and Short Term Investments	27 075	62 083	62 083	63 977	53 084	55 091	54 005	64 897	102 640	72 842	86 371	76 578	88 111	120 056
Cash & Equivalents	25 787	40 329	40 329	42 224	51 835	52 756	52 756	63 039	100 306	70 881	84 526	74 349	88 111	120 056
Short Term Investments	1 288	21 753	21 753	21 753	1 250	2 335	1 250	1 858	2 334	1 960	1 845	2 230	0	0
Accounts Receivable - Trade, Net	29 458	26 367	27 344	26 367	27 864	26 674	30 094	36 512	30 931	28 855	38 515	53 236	26 935	22 727
Accounts Receivable - Trade, Gross	32 258	28 689	--	28 689	30 186	28 516	--	39 704	34 432	31 734	41 629	56 162	29 783	25 458
Provision for Doubtful Accounts	(2 801)	(2 322)	--	(2 322)	(2 322)	(1 842)	--	(3 193)	(3 502)	(2 879)	(3 114)	(2 927)	(2 848)	(2 730)
Total Receivables, Net	48 870	40 146	40 146	40 146	41 674	41 014	42 461	52 939	45 885	46 437	59 330	77 414	49 783	45 159
Notes Receivable - Short Term	1 417	580	580	580	580	691	691	1 393	365	796	634	2 021	1 981	0
Receivables - Other	17 996	13 199	12 221	13 199	13 229	13 649	11 676	15 034	14 590	16 786	20 180	22 158	20 867	22 432
Total Inventory	70 440	60 433	60 433	60 433	63 549	53 972	57 360	79 640	65 582	60 283	69 074	102 708	91 640	80 062
Inventories - Finished Goods	24 049	19 004	--	19 004	19 676	19 274	--	19 866	22 541	23 096	23 351	31 008	29 969	30 033
Inventories - Work In Progress	15 002	12 129	--	12 129	13 290	9 571	--	11 281	13 715	10 598	14 126	20 347	11 455	10 035
Inventories - Raw Materials	31 389	29 300	--	29 300	30 583	25 128	--	26 213	29 326	26 588	31 596	51 354	50 216	39 994
Inventories - Other	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Prepaid Expenses	5 666	4 369	4 369	4 369	4 369	4 013	4 078	4 760	3 647	3 676	5 132	7 874	5 758	5 903
Other Current Assets, Total	837	28 414	28 414	28 414	8 463	27 529	13 452	11 018	697	292	1 715	865	209	248	148
Restricted Cash - Current	225	0	--	0	0	395	--	395	58	219	61	865	209	248	148
Discontinued Operations - Current Asset	290	28 414	28 414	28 414	8 463	26 444	13 452	9 933	232	73	1 654	0	0	--	--
Other Current Assets	322	--	--	0	0	691	--	691	406	0	0	--	--	--	--
Total Current Assets	152 889	195 444	195 444	195 444	182 032	179 612	172 442	168 923	202 932	218 046	184 953	220 771	264 784	235 540	251 329
Property/Plant/Equipment, Total - Gross	412 727	415 636	41 490	415 636	431 737	496 902	37 791	514 860	605 720	598 332	577 465	583 206	618 549	638 448	714 287
Buildings - Gross	83 511	86 311	--	86 311	86 677	90 415	--	94 065	110 754	110 300	107 517	109 203	122 079	117 584	131 789
Land/Improvements - Gross	6 020	5 530	5 530	5 530	5 591	5 131	5 164	5 164	7 198	7 076	6 126	6 169	6 968	6 316	7 158
Machinery/Equipment - Gross	203 015	192 359	--	192 359	205 741	226 546	--	238 650	310 145	303 032	286 037	292 151	315 511	317 459	363 637
Construction in Progress - Gross	33 063	35 960	35 960	35 960	36 266	32 430	32 627	32 627	24 844	22 031	25 976	31 654	26 339	42 167	52 170
Natural Resources - Gross	84 702	93 918	--	93 918	95 110	140 638	--	141 822	149 297	153 194	149 482	141 895	145 213	152 816	156 878
Other Property/Plant/Equipment - Gross	2 415	1 558	--	1 558	2 353	1 743	--	2 533	3 483	2 699	2 328	2 133	2 439	2 105	2 656
Property/Plant/Equipment, Total - Net	267 403	238 065	238 065	238 065	246 375	304 265	308 738	312 126	336 440	313 829	284 995	284 424	292 795	304 952	318 330
Accumulated Depreciation, Total	(145 324)	(177 571)	--	(177 571)	(185 362)	(192 637)	--	(202 734)	(269 280)	(284 503)	(292 470)	(298 781)	(325 754)	(333 496)	(395 957)
Goodwill, Net	70 183	66 604	66 604	66 604	67 307	65 385	65 385	65 385	89 450	85 789	53 911	52 872	60 204	36 780	33 722
Goodwill - Gross	99 512	--	--	92 238	92 941	97 420	--	98 045	152 548	175 735	145 010	138 551	154 759	135 727	162 264
Accumulated Goodwill Amortization	(29 329)	--	--	(25 634)	(25 634)	(32 035)	--	(32 660)	(63 097)	(89 947)	(91 098)	(85 679)	(94 556)	(98 947)	(128 542)
Intangibles, Net	26 979	17 904	17 904	17 904	22 456	17 267	19 339	19 339	25 599	23 636	18 195	14 933	14 354	11 455	10 183
Intangibles - Gross	44 235	31 622	--	30 766	41 276	31 739	--	40 981	65 535	59 162	51 155	48 490	55 605	51 145	61 024

Intangibles, Net	26 979	17 904	17 904	17 904	22 456	17 267	19 339	19 339	25 599	23 636	18 195	14 933	14 354	11 455	10 183
Intangibles - Gross	44 235	31 622	--	30 766	41 276	31 739	--	40 981	65 535	59 162	51 155	48 490	55 605	51 145	61 024
Accumulated Intangible Amortization	(17 256)	(13 718)	--	(12 863)	(18 820)	(14 472)	--	(21 642)	(39 936)	(35 526)	(32 959)	(33 557)	(41 251)	(39 690)	(50 841)
Long Term Investments	21 634	19 951	19 645	17 537	17 537	7 269	11 018	7 269	8 010	5 763	4 105	6 688	5 156	6 749	5 977
LT Investment - Affiliate Companies	21 087	17 140	16 834	16 834	16 834	6 282	6 282	6 282	7 024	5 398	3 921	4 555	5 156	5 697	5 829
LT Investments - Other	547	2 811	2 811	703	703	987	4 736	987	987	365	184	2 133	0	1 053	148
Note Receivable - Long Term	1 513	--	--	1 497	1 497	1 809	--	1 809	1 741	3 429	1 960	3 056	1 881	1 424	1 919
Other Long Term Assets, Total	4 829	5 163	6 324	4 705	4 705	6 677	4 868	6 808	10 913	14 736	15 745	15 740	13 936	12 817	21 252
Deferred Charges	644	--	--	0	--	0	--	--	--	--	--	--	--	--	--
Pension Benefits - Overfunded	--	1 192	--	--	--	--	--	--	--	--	--	--	--	--	--
Defered Income Tax - Long Term Asset	2 640	2 016	4 369	2 139	2 139	2 829	2 829	2 829	5 631	8 681	9 557	9 975	6 411	9 412	18 079
Restricted Cash - Long Term	483	--	--	122	122	197	--	329	406	365	674	346	418	372	443
Other Long Term Assets	1 062	1 955	1 955	2 444	2 444	3 651	2 039	3 651	4 876	5 690	5 514	5 420	7 107	3 034	2 730
Total Assets	545 431	543 132	543 987	541 757	541 910	582 285	581 791	581 660	675 087	665 226	563 865	598 485	653 111	609 717	642 711
Liabilities (KOB Millions)															
Accounts Payable	36 927	33 608	43 140	33 608	36 663	31 870	48 940	34 666	44 928	45 302	45 151	47 394	61 109	60 805	62 279
Payable/Accrued	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Accrued Expenses	8 177	7 608	--	7 608	8 127	7 400	--	7 663	11 377	8 900	8 209	9 110	9 755	10 031	11 585
Notes Payable/Short Term Debt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Current Port. of LT Debt/Capital Leases	20 443	55 208	54 536	55 208	56 094	62 491	59 728	63 576	64 606	57 338	25 608	9 686	31 217	12 446	82 719
Other Current liabilities, Total	21 023	37 152	35 899	37 152	27 619	46 210	34 995	37 626	35 467	40 560	47 295	55 755	72 467	56 223	72 683
Dividends Payable	290	244	244	244	244	164	164	164	0	0	--	--	--	--	--
Customer Advances	4 958	4 797	4 797	4 797	4 797	5 887	5 920	5 920	8 997	16 632	16 296	15 683	22 298	21 548	23 170
Income Taxes Payable	9 014	7 424	7 424	7 424	7 424	8 519	8 519	8 551	13 757	9 046	12 743	16 086	25 782	14 365	20 440
Other Payables	5 054	9 105	7 852	9 105	8 585	18 912	15 064	17 826	9 578	13 204	16 173	22 140	21 949	18 266	26 048
Discontinued Operations - Curr Liability	0	14 604	14 604	14 604	5 347	11 446	3 848	3 684	755	0	490	0	0	--	--
Other Current Liabilities	1 706	978	978	978	1 222	1 283	1 480	1 480	2 380	1 678	1 593	1 845	2 439	2 043	3 025
Total Current Liabilities	86 570	133 576	133 576	133 576	128 504	147 972	143 664	143 532	156 379	152 100	126 263	121 946	174 548	139 504	229 266
Total Long Term Debt	213 511	195 047	195 047	195 108	195 169	198 820	198 688	198 886	317 749	426 755	337 375	302 760	292 099	289 905	281 583
Long Term Debt	212 255	194 711	194 711	194 711	194 772	198 623	198 688	198 688	317 517	426 755	337 069	302 298	291 680	284 766	277 377
Capital Lease Obligations	1 256	336	336	397	397	197	--	197	232	--	306	461	418	5 139	4 206
Total Debt	233 954	250 256	249 583	250 317	251 264	261 311	258 417	262 462	382 356	484 093	362 983	312 446	323 315	302 351	364 301
Deferred Income Tax	30 906	28 322	28 322	26 122	28 353	27 200	27 660	27 660	27 340	25 678	21 320	18 912	17 977	21 796	18 669
Deferred Income Tax - LT Liability	30 906	28 322	28 322	26 122	28 353	27 200	27 660	27 660	27 340	25 678	21 320	18 912	17 977	21 796	18 669
Minority Interest	7 598	6 111	6 111	6 111	6 111	14 044	14 176	14 176	12 654	9 702	11 395	13 953	17 908	15 604	9 519
Other Liabilities, Total	34 609	22 028	30 705	30 614	33 394	29 568	32 101	31 903	56 596	41 071	37 432	38 054	33 446	39 133	45 307
Reserves	9 175	7 852	7 852	7 852	10 143	6 381	8 354	8 354	10 042	10 651	12 559	15 510	15 469	19 876	20 071
Pension Benefits - Underfunded	16 676	8 982	17 659	17 629	18 118	15 820	16 182	16 182	21 129	21 958	19 420	16 375	15 748	16 780	17 710
Other Long Term Liabilities	8 757	5 194	5 194	5 133	5 133	7 367	7 565	7 367	25 425	8 462	5 452	6 169	2 230	2 477	7 527
Total Liabilities	373 193	385 084	393 761	391 530	391 530	417 604	416 289	416 157	570 718	655 305	533 785	495 624	535 979	505 941	584 343

Redeemable Preferred Stock, Total	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Preferred Stock - Non Redeemable, Net	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Common Stock, Total	43 076	40 940	40 940	40 940	40 940	48 447	48 447	48 447	87 477	109 935	92 323	86 890	5 226	4 644	5 534
Common Stock	43 076	40 940	40 940	40 940	40 940	48 447	48 447	48 447	87 477	109 935	92 323	86 890	5 226	4 644	5 534
Additional Paid-In Capital	73 692	55 606	55 606	55 606	55 606	76 502	76 502	76 502	144 015	182 447	154 199	144 144	172 806	154 302	185 213
Retained Earnings (Accumulated Deficit)	109 653	102 534	91 780	91 780	91 932	84 396	85 152	85 152	75 403	46 979	25 424	36 613	210 852	137 275	161 379
Treasury Stock - Common	(258)	(31)	(31)	(31)	(31)	(33)	(33)	(33)	0	(22 250)	(16 541)	(13 319)	(13 657)	(10 464)	(11 364)
ESOP Debt Guarantee	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Unrealized Gain (Loss)	5 505	5 438	5 438	5 438	5 438	5 723	5 723	5 723	8 997	9 046	6 861	8 649	8 083	6 749	8 043
Other Equity, Total	(59 430)	(46 440)	(43 507)	(43 507)	(43 507)	(50 355)	(50 289)	(50 289)	(211 523)	(316 236)	(232 187)	(160 115)	(266 178)	(188 729)	(290 437)
Translation Adjustment	(59 430)	(46 440)	(43 507)	(43 507)	(43 507)	(55 485)	(55 420)	(55 420)	(211 523)	(316 236)	(232 187)	(160 115)	(266 178)	(188 729)	(290 437)
Other Equity	0	--	0	0	0	5 131	5 131	5 131	0	0	--	--	--	--	--
Total Equity	172 238	158 048	150 227	150 227	150 379	164 680	165 502	165 502	104 369	9 921	30 080	102 861	117 132	103 776	58 368
Total Liabilities & Shareholders' Equity	545 431	543 132	543 987	541 757	541 910	582 285	581 791	581 660	675 087	665 226	563 865	598 485	653 111	609 717	642 711
Shares Outstanding - Common Issue 2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Shares Outstanding - Common Issue 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Shares Outstanding - Common Issue 4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Common Shares Outstanding	1 337	1 340	1 340	1 340	1 340	1 472	1 472	1 472	1 507	1 408	1 420	1 432	1 443	1 452	1 457
Shares Outs - Common Stock Primary Issue	1 337	1 340	1 340	1 340	1 340	1 472	1 472	1 472	1 507	1 408	1 420	1 432	1 443	1 452	1 457
Treas Shares - Common Stock Prmry Issue	1	0	0	0	0	0	0	0	0	98	87	74	63	55	50
Treasury Shares - Common Issue 2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Treasury Shares - Common Issue 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Treasury Shares - Common Issue 4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Preferred Shares Outstanding	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Treasury Shares - Preferred Issue 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Treasury Shares - Preferred Issue 2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Treasury Shares - Preferred Issue 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Treasury Shares - Preferred Issue 4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Treasury Shares - Preferred Issue 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Treasury Shares - Preferred Issue 6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minority Interest - Redeemable	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minority Interest - Non Redeemable	7 598	6 111	6 111	6 111	6 111	14 044	14 176	14 176	12 654	9 702	11 395	13 953	17 908	15 604	9 519
Total Equity & Minority Interest	179 836	164 159	156 337	156 337	156 490	178 724	179 678	179 678	117 023	19 623	41 475	116 814	135 040	119 380	67 887
Full-Time Employees	112 000	110 000	110 000	--	--	113 667	--	--	98 535	89 228	77 951	76 020	68 379	71 223	69 619
Part-Time Employees	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Number of Common Shareholders	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Other Property/Plant/Equipment - Net	--	--	196 575	--	--	--	270 948	0	--	--	--	--	--	--	--
Intangibles - Net	--	--	17 904	--	--	--	19 339	--	--	--	--	--	--	--	--

EVRAZ plc | Income Statement **23-Nov-2021 00:49**

Income Statement
Annual Standardised in Millions of Russian Roubles

	2011	2012	2012	2012	2013	2013	2014	2015	2015	2016	2017	2018	2019	2020
Earnings Quality Score	88	--	--	77	--	46	97	--	94	74	86	97	92	95
Period End Date	31-Dec-2011	31-Dec-2012	31-Dec-2012	31-Dec-2012	31-Dec-2013	31-Dec-2013	31-Dec-2014	31-Dec-2015	31-Dec-2015	31-Dec-2016	31-Dec-2017	31-Dec-2018	31-Dec-2019	31-Dec-2020
Avg. FX Rate (USD/RUB)	29.395826	31.053928	31.053928	31.053928	31.858535	31.858535	38.582248	61.158507	61.158507	66.941053	58.290248	62.794955	64.671892	72.190790
Revenue	482 092	457 300	457 300	457 300	459 113	459 113	503 923	536 177	536 177	516 316	631 109	806 036	769 919	704 149
Net Sales	482 092	457 300	457 300	457 300	459 113	459 113	503 923	536 177	536 177	516 316	631 109	806 036	769 919	704 149
Other Revenue, Total	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Revenue	482 092	457 300	457 300	457 300	459 113	459 113	503 923	536 177	536 177	516 316	631 109	806 036	769 919	704 149
Cost of Revenue, Total	366 860	366 343	366 530	366 530	365 354	366 405	375 560	403 340	402 606	369 582	436 303	503 050	535 031	484 545
Cost of Revenue	366 860	366 343	366 530	366 530	365 354	366 405	375 560	403 340	402 606	369 582	436 303	503 050	535 031	484 545
Gross Profit	115 232	90 957	90 771	90 771	93 760	92 708	128 363	132 836	133 570	146 735	194 806	302 986	234 888	219 604
Selling/General/Admin. Expenses, Total	62 260	65 896	65 244	65 244	67 222	68 177	68 754	79 323	80 056	74 639	75 078	99 593	103 669	102 727
Selling/General/Administrative Expense	62 260	65 896	65 244	65 244	67 222	68 177	68 754	79 323	80 056	74 639	75 078	99 593	103 669	102 727
Research & Development	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Depreciation/Amortization	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Interest Expense, Net - Operating	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Interest/Investment Income - Operating	(7 907)	1 273	1 273	1 273	8 220	8 220	38 775	22 445	22 445	3 213	3 148	(22 669)	22 053	(29 454)
Investment Income - Operating	(7 907)	1 273	1 273	1 273	8 220	8 220	38 775	22 445	22 445	3 213	3 148	(22 669)	22 053	(29 454)
Interest Expense(Income) - Net Operating	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Interest Exp.(Inc.),Net-Operating, Total	(7 907)	1 273	1 273	1 273	8 220	8 220	38 775	22 445	22 445	3 213	3 148	(22 669)	22 053	(29 454)
Unusual Expense (Income)	5 115	14 564	14 564	14 564	15 706	19 434	22 725	40 365	40 365	32 734	(466)	2 575	32 013	22 596
Impairment-Assets Held for Use	3 057	12 825	12 825	12 825	14 209	17 936	20 834	26 971	26 971	31 128	(699)	1 884	28 585	22 379
Impairment-Assets Held for Sale	588	--	0	0	0	0	39	673	673	134	0	--	3 622	0
Loss(Gain) on Sale of Assets - Operating	1 470	1 739	1 739	1 739	1 497	1 497	1 852	2 507	2 507	1 473	233	691	(194)	217
Other Unusual Expense (Income)	--	--	--	--	--	--	--	10 213	10 213	0	0	--	--	--
Other Operating Expenses, Total	1 352	1 677	1 677	1 677	2 007	2 007	2 045	3 058	3 058	5 288	1 282	1 947	2 070	3 104
Other Operating Expense	2 822	4 006	4 006	4 006	3 696	3 696	3 395	4 770	4 770	6 761	3 556	3 454	3 492	4 692
Other, Net	(1 470)	(2 329)	(2 329)	(2 329)	(1 689)	(1 689)	(1 350)	(1 712)	(1 712)	(1 473)	(2 273)	(1 507)	(1 423)	(1 588)
Total Operating Expense	427 680	449 754	449 288	449 288	458 508	464 243	507 858	548 531	548 531	485 457	515 344	584 495	694 835	583 518
Operating Income	54 412	7 546	8 012	8 012	605	(5 129)	(3 935)	(12 354)	(12 354)	30 860	115 764	221 541	75 084	120 631
Interest Expense, Net Non-Operating	(19 431)	(18 570)	(18 570)	(18 353)	(19 975)	(19 689)	(19 445)	(26 298)	(26 298)	(29 387)	(23 025)	(20 220)	(19 337)	(21 441)
Interest Expense - Non-Operating	(19 431)	(18 570)	(18 570)	(18 353)	(19 975)	(19 689)	(19 445)	(26 298)	(26 298)	(29 387)	(23 025)	(20 220)	(19 337)	(21 441)
Interest/Invest Income - Non-Operating	(3 322)	5 838	6 118	6 118	1 975	1 975	(22 030)	(2 936)	(2 936)	(1 874)	(2 040)	2 386	2 458	(4 331)
Interest Income - Non-Operating	382	714	590	590	637	637	502	428	428	536	816	1 005	517	361
Investment Income - Non-Operating	(3 704)	5 124	5 528	5 528	1 338	1 338	(22 532)	(3 364)	(3 364)	(2 410)	(2 856)	1 381	1 940	(4 692)
Interest Income(Exp), Net Non-Operating	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Interest Inc.(Exp.),Net-Non-Op., Total	(22 752)	(12 732)	(12 453)	(12 235)	(18 000)	(17 713)	(41 476)	(29 234)	(29 234)	(31 261)	(25 065)	(17 834)	(16 879)	(25 772)
Gain (Loss) on Sale of Assets	235	3 540	559	714	(796)	4 173	5 247	1 284	1 284	0	(20 984)	(628)	1 875	72
Other, Net	(6 114)	(1 646)	(2 205)	(2 422)	(1 338)	(1 625)	(1 659)	(2 936)	(2 936)	(5 757)	(2 390)	(2 072)	(1 746)	(1 444)

Gain (Loss) on Sale of Assets	235	3 540	559	714	(796)	4 173	5 247	1 284	1 284	0	(20 984)	(628)	1 875	72
Other, Net	(6 114)	(1 646)	(2 205)	(2 422)	(1 338)	(1 625)	(1 659)	(2 936)	(2 936)	(5 757)	(2 390)	(2 072)	(1 746)	(1 444)
Other Non-Operating Income (Expense)	(6 114)	(1 646)	(2 205)	(2 422)	(1 338)	(1 625)	(1 659)	(2 936)	(2 936)	(5 757)	(2 390)	(2 072)	(1 746)	(1 444)
Net Income Before Taxes	25 780	(3 292)	(6 087)	(5 931)	(19 529)	(20 294)	(41 823)	(43 239)	(43 239)	(6 159)	67 325	201 007	58 334	93 487
Provision for Income Taxes	12 346	7 111	7 111	7 111	(1 306)	(2 740)	7 485	734	734	6 426	23 083	45 903	34 729	31 547
Net Income After Taxes	13 434	(10 403)	(13 198)	(13 043)	(18 223)	(17 554)	(49 308)	(43 973)	(43 973)	(12 585)	44 242	155 104	23 605	61 940
Minority Interest	235	838	838	838	1 593	1 497	3 974	4 587	4 587	(1 807)	(3 497)	(4 019)	(2 522)	(722)
Equity In Affiliates	--	--	--	--	--	--	--	--	--	--	--	--	--	--
U.S. GAAP Adjustment	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Net Income Before Extra. Items	13 669	(9 565)	(12 359)	(12 204)	(16 630)	(16 057)	(45 334)	(39 386)	(39 386)	(14 392)	40 745	151 085	21 083	61 218
Accounting Change	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Discontinued Operations	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Extraordinary Item	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tax on Extraordinary Items	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Extraordinary Items	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Net Income	13 669	(9 565)	(12 359)	(12 204)	(16 630)	(16 057)	(45 334)	(39 386)	(39 386)	(14 392)	40 745	151 085	21 083	61 218
Preferred Dividends	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General Partners' Distributions	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Miscellaneous Earnings Adjustment	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pro Forma Adjustment	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Interest Adjustment - Primary EPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Adjustments to Net Income	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Income Available to Com Excl ExtraOrd	13 669	(9 565)	(12 359)	(12 204)	(16 630)	(16 057)	(45 334)	(39 386)	(39 386)	(14 392)	40 745	151 085	21 083	61 218
Income Available to Com Incl ExtraOrd	13 669	(9 565)	(12 359)	(12 204)	(16 630)	(16 057)	(45 334)	(39 386)	(39 386)	(14 392)	40 745	151 085	21 083	61 218
Basic Weighted Average Shares	1 294	1 339	1 339	1 339	1 499	1 499	1 506	1 437	1 437	1 415	1 428	1 439	1 449	1 455
Basic EPS Excluding Extraordinary Items	10,57	(7,14)	(9,23)	(9,11)	(11,09)	(10,71)	(30,11)	(27,41)	(27,41)	(10,17)	28,54	104,97	14,55	42,07
Basic EPS Including Extraordinary Items	10,57	(7,14)	(9,23)	(9,11)	(11,09)	(10,71)	(30,11)	(27,41)	(27,41)	(10,17)	28,54	104,97	14,55	42,07
Dilution Adjustment	0	0	0	0	0	0	0	--	--	--	--	0	--	--
Diluted Net Income	13 669	(9 565)	(12 359)	(12 204)	(16 630)	(16 057)	(45 334)	(39 386)	(39 386)	(14 392)	40 745	151 085	21 083	61 218
Diluted Weighted Average Shares	1 296	1 339	1 339	1 339	1 499	1 499	1 506	1 437	1 437	1 415	1 455	1 459	1 461	1 463
Diluted EPS Excluding ExtraOrd Items	10,54	(7,14)	(9,23)	(9,11)	(11,09)	(10,71)	(30,11)	(27,41)	(27,41)	(10,17)	28,01	103,57	14,43	41,84
Diluted EPS Including ExtraOrd Items	10,54	(7,14)	(9,23)	(9,11)	(11,09)	(10,71)	(30,11)	(27,41)	(27,41)	(10,17)	28,01	103,57	14,43	41,84
Supplemental (RUB Millions)														
DPS - Common Stock Primary Issue	5,00	3,42	3,42	3,42	0,00	0,00	0,00	0,00	0,00	0,00	17,49	74,10	48,50	36,10
Dividends per Share - Com Stock Issue 2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dividends per Share - Com Stock Issue 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dividends per Share - Com Stock Issue 4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Special DPS - Common Stock Primary Issue	--	--	--	--	1,91	1,91	--	--	--	--	--	--	--	--
Special DPS - Common Stock Issue 2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Special DPS - Common Stock Issue 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Special DPS - Common Stock Issue 4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gross Dividends - Common Stock	6 702	4 565	4 565	4 565	2 880	2 880	0	0	0	0	25 065	70 701	--	62 950

EVRAZ plc | Ratios - Profit/Value/Risk **23-Nov-2021 00:50**

Ratios - Profit/Value/Risk
Annual in Millions of U.S. Dollars

Fiscal Period: / Period End Date:	2011 31-Dec-	2012 31-Dec-	2013 31-Dec-	2014 31-Dec-	2015 31-Dec-	2016 31-Dec-	2017 31-Dec-	2018 31-Dec-	2019 31-Dec-	2020 31-Dec-
Profitability/Return										
Sales/Receivables, FY	15,95	16,12	16,34	17,64	16,65	17,24	19,01	17,93	19,86	26,26
Revenue/Inventory, FY	7,70	6,90	7,54	8,38	7,72	8,19	9,92	9,61	8,06	7,61
Revenue/Wk Cap, FY	8,00	7,73	11,42	16,60	10,28	8,28	8,10	8,53	8,37	10,54
Revenue/Tot Assets, FY	0,95	0,85	0,81	0,89	0,85	0,84	1,11	1,30	1,24	1,05
EBITDA/Comm Shr Eqty, %, FY	53,32%	40,36%	35,93%	68,49%	146,02%	486,12%	228,40%	216,62%	153,77%	175,19%
EBITDA/Tot Eqty, %, FY	53,32%	40,36%	35,93%	68,49%	146,02%	486,12%	228,40%	216,62%	153,77%	175,19%
EBITDA/Tot Assets, %, FY	17,07%	11,96%	10,10%	15,96%	13,61%	16,63%	26,53%	38,00%	26,86%	23,29%
ROFA Fixed Assets, %, FY	4,44%	(4,31%)	(5,50%)	(14,97%)	(12,54%)	(3,69%)	13,99%	48,13%	7,22%	16,75%
ROE Comm Eqty, %, FY	8,42%	(7,65%)	(10,13%)	(34,41%)	(66,60%)	(68,58%)	61,45%	138,87%	19,42%	68,75%
ROA Tot Assets, %, FY	2,65%	(2,42%)	(3,11%)	(8,72%)	(6,93%)	(2,05%)	7,75%	25,01%	3,80%	9,25%
Inc Avail Comm/Tot Eqty, %, FY	8,42%	(7,65%)	(10,13%)	(34,41%)	(66,60%)	(68,58%)	61,45%	138,87%	19,42%	68,75%
Reinvestment Rate, %, FY	4,29%	(10,51%)	(11,94%)	(34,41%)	(66,60%)	(68,58%)	23,65%	73,89%	(45,45%)	(1,95%)
Revenue/Employee, FY	147 594,17	-	-	-	93 383,68	92 272,35	140 636,87	177 785,16	170 556,30	138 509,82
Value										
Hist Mkt Cap, FY	7 512,05	5 441,86	2 633,17	3 624,73	1 520,17	3 883,94	6 578,99	8 847,40	7 777,39	9 394,17
Hist Mkt Cap, %Prd/Prd, FY	-	(27,56%)	(51,61%)	37,66%	(58,06%)	155,49%	69,39%	34,48%	(12,09%)	20,79%
Hist EV, FY	14 174,05	11 771,86	9 402,17	9 311,73	6 882,17	8 805,94	10 741,99	12 645,40	11 489,39	12 833,17
Hist EV, %Prd/Prd, FY	-	(16,95%)	(20,13%)	(0,96%)	(26,09%)	27,95%	21,99%	17,72%	(9,14%)	11,70%
Hist EV/Revenue, FY	0,86	0,80	0,65	0,71	0,79	1,14	0,99	0,99	0,97	1,32
Hist EV/EBITDA, FY	4,82	5,68	5,26	3,98	4,87	5,78	4,13	3,37	4,45	5,94
Hist EV/FCF, FY	-	-	-	-	-	-	35,81	13,48	-	-
Hist EV/OCF, FY	5,35	5,51	4,95	4,74	4,24	5,87	5,49	4,80	4,73	6,66
Hist EV/FOCF, FY	16,20	23,59	9,41	7,38	5,74	7,87	11,53	22,74	19,74	31,38
Hist Price/Rev/Shr (dil.), FY	0,44	0,37	0,19	0,28	0,18	0,50	0,62	0,70	0,66	0,97
Hist Price/EBITDA/Shr (dil), FY	2,48	2,62	1,50	1,55	1,10	2,54	2,57	2,38	3,03	4,37
Hist P/E, FY	15,67	-	-	-	-	-	9,56	3,72	24,00	11,12
Hist P/E Normalized (dil), FY	13,21	-	-	-	-	37,64	7,18	3,66	15,21	8,91
Hist Price/CF/Shr (dil.), FY	4,43	6,15	5,06	-	-	11,45	5,04	2,97	8,25	6,56
Hist Price/FCF/Shr (dil.), FY	-	-	-	-	-	-	22,27	9,53	-	-
Hist Price/OCF/Shr (dil.), FY	2,75	2,55	1,41	1,84	0,96	2,58	3,41	3,40	3,22	4,89
Hist Price/FOCF/Shr (dil.), FY	8,33	10,90	2,68	2,87	1,29	3,46	7,17	16,08	13,44	23,07
Hist Price/Comm Eqty, FY	1,40	1,11	0,52	2,02	11,18	7,91	3,69	5,26	4,64	11,88
Hist Price/Tang Comm Eqty, FY	3,22	2,74	1,07	-	-	-	10,82	14,48	8,67	47,93
Hist Price/Bk, Tot Eqty, FY	1,40	1,11	0,52	2,02	11,18	7,91	3,69	5,26	4,64	11,88
Hist Price/Tang Bk, Tot Eqty, FY	3,22	2,74	1,07	-	-	-	10,82	14,48	8,67	47,93
Hist Div Yield Comm Stk Primary, %, FY	3,03%	2,71%	0,00%	0,00%	0,00%	0,00%	6,53%	19,25%	14,00%	7,75%
Risk										
Beta 5 Yr Mthly	-	-	-	-	-	-	-	-	-	-
Beta Up 5 Yr Mthly	-	-	-	-	-	-	-	-	-	-
Beta Down 5 Yr Mthly	-	-	-	-	-	-	-	-	-	-
Sharpe Ratio 5 Yr Mthly	-	-	-	-	-	-	-	-	-	-

Appendix 2. Uploading data for research: Severstal

Earnings Quality Score	2011	2012	2013	2013	2014	2014	2015	2016	2017	2018	2019	2020
	63	59	--	66	--	98	99	86	76	96	76	81
Period End Date	31-Dec-2011	31-Dec-2012	31-Dec-2013	31-Dec-2013	31-Dec-2014	31-Dec-2014	31-Dec-2015	31-Dec-2016	31-Dec-2017	31-Dec-2018	31-Dec-2019	31-Dec-2020
Period End FX Rate (USD/RUB)	32.194000	30.552500	32.890000	32.890000	58.047000	58.047000	72.949500	61.263000	57.657500	69.680000	61.919100	73.790000
Assets (RUB Millions)												
Cash and Short Term Investments	60 333	53 468	36 046	36 046	111 323	111 323	120 955	71 861	60 137	16 375	67 306	43 462
Cash	26 199	17 922	7 763	7 763	9 142	--	8 270	7 842	4 094	9 058	54 179	10 331
Cash & Equivalents	33 796	34 820	26 309	26 309	100 954	110 096	111 891	62 856	55 351	6 829	12 755	32 689
Short Term Investments	338	726	1 974	1 974	1 226	1 226	795	1 164	692	488	372	443
Accounts Receivable - Trade, Net	40 156	32 265	45 241	45 241	38 527	38 527	32 235	31 060	35 402	39 996	37 337	40 363
Accounts Receivable - Trade, Gross	41 141	33 373	46 086	46 086	38 912	--	34 043	34 736	39 149	43 480	40 433	46 709
Provision for Doubtful Accounts	(1 865)	(1 581)	(1 457)	(1 457)	(1 240)	--	(2 561)	(5 024)	(4 670)	(4 878)	(4 396)	(7 674)
Total Receivables, Net	49 325	39 462	49 787	49 787	43 929	43 929	39 073	36 697	42 955	44 944	43 653	47 521
Notes Receivable - Short Term	--	--	--	--	--	--	--	--	--	--	--	--
Receivables - Other	9 169	7 198	4 545	4 545	5 402	5 402	6 838	5 636	7 553	4 947	6 316	7 158
Total Inventory	81 102	71 887	66 397	65 869	47 792	47 315	47 386	53 115	61 002	75 742	70 402	65 526
Inventories - Finished Goods	25 143	22 802	17 637	17 417	11 599	--	10 891	11 946	16 317	20 556	21 176	20 292
Inventories - Work In Progress	17 289	15 253	15 813	15 540	17 305	--	14 773	19 359	19 258	22 785	20 000	21 252
Inventories - Raw Materials	38 670	33 833	32 947	32 912	18 888	--	21 722	21 810	25 427	32 401	29 226	23 982
Inventories - Other	--	--	--	--	--	--	--	--	--	--	--	--
Prepaid Expenses	8 287	5 716	4 118	4 118	2 962	--	4 249	2 757	3 748	4 181	--	--
Other Current Assets, Total	88 439	3 515	5 025	5 025	4 131	7 093	2 588	7 597	2 364	3 136	10 279	7 896
Restricted Cash - Current	0	--	37	37	--	0	113	61	58	--	--	--
Discountinued Operations - Current Asset	86 193	0	--	--	--	--	--	5 024	0	0	--	--
Other Current Assets	2 246	3 515	4 988	4 988	4 131	7 093	2 474	2 512	2 306	3 136	10 279	7 896
Total Current Assets	287 485	174 048	161 373	160 845	210 137	209 660	214 251	172 027	170 205	144 377	191 640	164 404
Property/Plant/Equipment, Total - Gross	373 497	406 767	445 014	445 014	349 741	--	361 596	379 095	415 711	458 912	513 743	599 691
Buildings - Gross	--	--	--	--	--	--	--	--	--	--	--	--
Land/Improvements - Gross	70 104	72 047	77 426	77 426	71 381	--	77 737	75 844	87 697	94 904	98 204	123 008
Machinery/Equipment - Gross	231 477	257 496	281 178	281 178	221 887	--	229 575	240 825	249 253	275 027	291 763	334 269
Construction in Progress - Gross	55 851	58 989	65 028	65 028	41 892	--	40 289	46 682	54 890	62 991	83 900	84 637
Other Property/Plant/Equipment - Gross	16 065	18 235	21 382	21 382	14 581	--	13 995	15 745	23 870	25 991	39 876	57 778
Property/Plant/Equipment, Total - Net	240 277	258 557	271 480	271 480	193 662	193 662	190 445	192 060	213 390	241 720	289 162	350 207
Accumulated Depreciation, Total	(133 221)	(148 210)	(173 534)	(173 534)	(156 079)	--	(171 151)	(187 036)	(202 320)	(217 193)	(224 581)	(249 484)
Goodwill, Net	5 020	3 526	1 769	1 769	2 147	--	2 449	551	519	557	495	664
Goodwill - Gross	--	--	18 152	18 152	3 462	--	3 957	3 431	1 845	1 951	1 858	2 066
Accumulated Goodwill Amortization	--	--	(16 383)	(16 383)	(1 314)	--	(1 508)	(2 879)	(1 326)	(1 394)	(1 362)	(1 402)
Intangibles, Net	19 784	21 555	20 560	20 560	19 722	21 869	13 960	12 988	13 377	14 215	16 780	17 931
Intangibles - Gross	26 513	29 332	34 910	34 910	29 957	--	34 163	33 817	34 710	39 369	42 353	49 292

A	B	C	D	E	F	G	H	I	J	K	L	M
Intangibles - Gross	26 513	29 332	34 910	34 910	29 957	--	34 163	33 817	34 710	39 369	42 353	49 292
Accumulated Intangible Amortization	(6 729)	(7 777)	(14 350)	(14 350)	(10 234)	--	(20 204)	(20 829)	(21 333)	(25 154)	(25 573)	(31 361)
Long Term Investments	15 568	12 971	12 240	12 240	9 705	9 705	5 784	17 521	16 259	5 853	9 040	10 478
LT Investment - Affiliate Companies	9 701	9 670	8 442	8 442	4 727	4 727	1 925	3 369	3 748	5 296	7 430	8 560
LT Investments - Other	5 868	3 302	3 798	3 798	4 977	4 977	3 859	14 152	12 512	557	1 610	1 919
Note Receivable - Long Term	--	--	--	--	--	--	--	--	--	--	--	517
Other Long Term Assets, Total	8 454	9 236	10 592	10 592	3 507	3 507	1 090	2 022	1 903	2 578	1 981	1 550
Defered Income Tax - Long Term Asset	3 208	3 080	2 569	2 569	2 543	2 543	531	1 654	1 384	1 881	929	885
Discontinued Operations - LT Asset	--	--	--	--	--	--	--	--	--	--	--	--
Restricted Cash - Long Term	729	1 007	1 298	1 298	--	--	0	--	--	--	--	--
Other Long Term Assets	4 517	5 150	6 724	6 724	963	963	560	368	519	697	1 053	664
Total Assets	576 588	479 895	478 014	477 487	438 880	438 402	427 979	397 168	415 653	409 300	509 099	545 751
Liabilities (RUB Millions)												
Accounts Payable	86 864	33 420	39 102	39 102	29 960	29 960	31 407	30 999	32 692	39 439	44 953	48 480
Payable/Accrued	--	--	--	--	--	--	--	--	--	--	--	--
Accrued Expenses	8 163	9 088	8 607	8 607	4 273	--	6 095	6 616	6 977	7 316	8 421	5 387
Notes Payable/Short Term Debt	0	0	0	0	0	0	0	0	0	0	0	0
Current Port. of LT Debt/Capital Leases	38 362	42 292	20 672	20 672	44 971	44 957	37 009	41 230	33 787	8 083	18 885	46 045
Other Current liabilities, Total	39 487	18 152	15 461	15 461	21 473	25 759	20 104	31 183	22 832	23 412	25 944	30 697
Dividends Payable	3 580	2 644	923	923	137	137	170	368	346	418	433	590
Customer Advances	8 708	6 382	7 313	7 313	11 622	--	11 731	12 559	10 609	7 456	9 164	9 888
Income Taxes Payable	5 455	5 169	4 911	4 911	6 300	6 300	6 001	7 107	8 822	8 222	8 978	11 880
Discontinued Operations - Curr Liability	17 711	0	--	--	--	--	--	2 328	0	--	--	--
Other Current Liabilities	4 033	3 956	2 314	2 314	3 414	19 323	2 202	8 822	3 056	7 316	7 368	8 338
Total Current Liabilities	172 875	102 952	83 842	83 842	100 676	100 676	94 615	110 028	96 288	78 251	98 204	130 608
Total Long Term Debt	154 288	132 213	135 723	135 723	154 078	154 078	141 889	82 092	86 890	98 388	154 674	155 844
Long Term Debt	154 230	132 213	135 723	135 723	154 078	154 078	141 889	82 092	86 890	93 720	146 191	147 728
Capital Lease Obligations	59	--	--	--	--	--	--	--	--	4 669	8 483	8 117
Total Debt	192 650	174 505	156 395	156 395	199 049	199 035	178 897	123 322	120 677	106 471	173 559	201 889
Deferred Income Tax	9 244	10 329	10 286	10 301	6 872	6 987	10 286	7 045	17 931	20 556	22 600	27 450
Deferred Income Tax - LT Liability	9 244	10 329	10 286	10 301	6 872	6 987	10 286	7 045	17 931	20 556	22 600	27 450
Minority Interest	12 486	635	524	524	1 023	1 023	1 095	919	865	976	929	1 107
Other Liabilities, Total	12 655	13 957	17 925	17 925	12 540	12 540	15 757	11 701	18 623	11 497	18 266	29 368
Reserves	7 448	7 799	--	--	--	--	--	--	--	--	--	--
Pension Benefits - Underfunded	5 207	6 158	6 246	6 246	2 801	2 801	3 899	4 105	4 497	3 902	4 582	4 501
Other Long Term Liabilities	--	--	11 678	11 678	9 739	9 739	11 858	7 597	14 126	7 595	13 684	24 867
Discontinued Operations - Liabilities	--	--	--	--	--	--	--	--	--	--	--	--
Total Liabilities	361 548	260 086	248 300	248 315	275 190	275 305	263 642	211 786	220 598	209 667	294 673	344 378
Shareholders Equity (RUB Millions)												
Redeemable Preferred Stock, Total	--	--	--	--	--	--	--	--	--	--	--	--
Preferred Stock - Non Redeemable, Net	--	--	--	--	--	--	--	--	--	--	--	--

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Total Liabilities	361 548	260 086	248 300	248 315	275 190	275 305	263 642	211 786	220 598	209 667	294 673	344 378	
Shareholders Equity (RUB Millions)													
Redeemable Preferred Stock, Total	--	--	--	--	--	--	--	--	--	--	--	--	
Preferred Stock - Non Redeemable, Net	--	--	--	--	--	--	--	--	--	--	--	--	
Common Stock, Total	106 604	84 103	90 537	90 537	159 788	159 788	200 810	168 657	158 731	191 829	170 463	203 144	
Common Stock	106 604	84 103	90 537	90 537	159 788	159 788	200 810	168 657	158 731	191 829	170 463	203 144	
Additional Paid-In Capital	37 523	9 652	10 391	10 391	18 148	18 148	21 610	18 134	17 759	21 461	19 071	22 727	
Retained Earnings (Accumulated Deficit)	142 658	145 831	154 370	153 827	114 029	113 437	128 274	150 646	127 250	159 010	154 240	168 832	
Treasury Stock - Common	(51 069)	(7 200)	(7 751)	(7 751)	(13 679)	(13 679)	(17 191)	(14 458)	(11 877)	(9 267)	(6 625)	(7 674)	
ESOP Debt Guarantee	--	--	--	--	--	--	--	--	--	--	--	--	
Unrealized Gain (Loss)	--	--	--	--	--	--	--	--	--	--	--	--	
Other Equity, Total	(20 676)	(12 577)	(17 832)	(17 832)	(114 596)	(114 596)	(169 166)	(137 597)	(96 807)	(163 400)	(122 724)	(185 656)	
Translation Adjustment	(20 676)	(12 577)	(17 832)	(17 832)	(114 596)	(114 596)	(169 166)	(137 597)	(96 807)	(163 400)	(122 724)	(185 656)	
Total Equity	215 040	219 809	229 714	229 172	163 689	163 098	164 337	185 382	195 055	199 633	214 426	201 373	
Total Liabilities & Shareholders' Equity	576 588	479 895	478 014	477 487	438 880	438 402	427 979	397 168	415 653	409 300	509 099	545 751	
Supplemental (RUB Millions)													
Shares Outstanding - Common Issue 2	--	--	--	--	--	--	--	--	--	--	--	--	
Shares Outstanding - Common Issue 3	--	--	--	--	--	--	--	--	--	--	--	--	
Shares Outstanding - Common Issue 4	--	--	--	--	--	--	--	--	--	--	--	--	
Total Common Shares Outstanding	1 008	838	838	838	811	811	811	811	812	817	825	825	
Shares Outs - Common Stock Primary Issue	1 008	838	838	838	811	811	811	811	812	817	825	825	
Treas Shares - Common Stock Prmry Issue	--	--	0	0	27	27	27	27	26	21	13	13	
Treasury Shares - Common Issue 2	--	--	--	--	--	--	--	--	--	--	--	--	
Treasury Shares - Common Issue 3	--	--	--	--	--	--	--	--	--	--	--	--	
Treasury Shares - Common Issue 4	--	--	--	--	--	--	--	--	--	--	--	--	
Total Preferred Shares Outstanding	--	--	--	--	--	--	--	--	--	--	--	--	
Treasury Shares - Preferred Issue 1	--	--	--	--	--	--	--	--	--	--	--	--	
Treasury Shares - Preferred Issue 2	--	--	--	--	--	--	--	--	--	--	--	--	
Treasury Shares - Preferred Issue 3	--	--	--	--	--	--	--	--	--	--	--	--	
Treasury Shares - Preferred Issue 4	--	--	--	--	--	--	--	--	--	--	--	--	
Treasury Shares - Preferred Issue 5	--	--	--	--	--	--	--	--	--	--	--	--	
Treasury Shares - Preferred Issue 6	--	--	--	--	--	--	--	--	--	--	--	--	
Minority Interest - Redeemable	--	--	--	--	--	--	--	--	--	--	--	--	
Minority Interest - Non Redeemable	12 486	635	524	524	1 023	1 023	1 095	919	865	976	929	1 107	
Total Equity & Minority Interest	227 525	220 444	230 238	229 696	164 713	164 121	165 433	186 301	195 920	200 609	215 355	202 480	
Full-Time Employees	--	--	18 961	18 961	50 955	18 168	49 874	49 228	49 462	--	--	--	
Part-Time Employees	--	--	--	--	--	--	--	--	--	--	--	--	
Number of Common Shareholders	--	--	--	--	--	--	--	--	--	--	--	--	
Other Property/Plant/Equipment - Net	--	--	--	--	--	193 662	--	--	--	--	--	--	
Intangibles - Net	--	--	--	--	--	21 869	--	--	--	--	--	--	

Annual Standardised in Millions of Russian Roubles, Consolidated

	2011	2012	2012	2012	2013	2013	2013	2014	2014	2015	2015	2016	2017	2018	2019	2020
Earnings Quality Score	63	--	--	59	--	--	66	--	88	--	99	86	76	96	76	81
Period End Date	31-Dec-2011	31-Dec-2012	31-Dec-2012	31-Dec-2012	31-Dec-2013	31-Dec-2013	31-Dec-2013	31-Dec-2014	31-Dec-2014	31-Dec-2015	31-Dec-2015	31-Dec-2016	31-Dec-2017	31-Dec-2018	31-Dec-2019	31-Dec-2020
Avg. FX Rate (USD/RUB)	29.395826	31.053928	31.053928	31.053928	31.858535	31.858535	31.858535	38.582248	38.582248	61.158507	61.158507	66.941053	58.290248	62.794955	64.671892	72.190790
Revenue	464 819	437 975	437 975	317 533	424 088	300 539	300 539	320 095	320 095	391 165	391 170	396 023	457 462	538 781	527 529	495 951
Net Sales	464 819	437 975	437 975	317 533	424 088	300 539	300 539	320 095	320 095	391 165	391 170	396 023	457 462	538 781	527 529	495 951
Other Revenue, Total	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Revenue	464 819	437 975	437 975	317 533	424 088	300 539	300 539	320 095	320 095	391 165	391 170	396 023	457 462	538 781	527 529	495 951
Cost of Revenue, Total	320 509	334 926	334 926	217 700	329 399	210 714	210 604	210 213	209 911	231 637	233 014	239 180	276 004	308 826	317 410	285 298
Cost of Revenue	320 509	334 926	334 926	217 700	329 399	210 714	210 604	210 213	209 911	231 637	233 014	239 180	276 004	308 826	317 410	285 298
Gross Profit	144 309	103 050	103 050	99 834	94 689	89 825	89 935	109 881	110 183	159 528	158 156	156 843	181 458	229 955	210 119	210 653
Selling/General/Admin. Expenses, Total	57 780	60 160	59 996	56 944	55 820	52 681	52 681	48 348	48 348	55 749	54 370	54 155	56 425	60 723	62 020	72 913
Selling/General/Administrative Expense	57 780	60 160	59 996	56 944	54 744	51 606	51 606	47 564	47 564	54 976	53 575	53 218	55 667	59 844	61 115	72 191
Labor & Related Expense	--	--	--	--	1 076	1 076	1 076	784	784	773	795	937	758	879	905	722
Research & Development	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Depreciation/Amortization	52	106	106	106	146	146	146	123	123	96	61	67	58	0	0	--
Depreciation	52	106	106	106	146	146	146	123	123	96	61	67	58	0	0	--
Interest Expense, Net - Operating	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Interest/Investment Income - Operating	(215)	142	(62)	(214)	470	133	133	931	931	34	61	(937)	(583)	(879)	(1 293)	(1 227)
Investment Income - Operating	(215)	142	(62)	(214)	470	133	133	931	931	34	61	(937)	(583)	(879)	(1 293)	(1 227)
Interest Expense(Income) - Net Operating	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Interest Exp.(Inc.),Net-Operating, Total	(215)	142	(62)	(214)	470	133	133	931	931	34	61	(937)	(583)	(879)	(1 293)	(1 227)
Unusual Expense (Income)	13	2 180	2 180	2 111	10 353	7 341	7 341	12 736	12 736	12 167	12 171	9 037	5 188	(2 826)	1 811	3 465
Litigation	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1 155
Impairment-Assets Held for Use	16	1 681	1 681	1 681	11 332	7 701	7 701	11 250	11 250	11 172	11 192	9 037	175	(4 270)	(323)	794
Impairment-Assets Held for Sale	--	--	--	--	--	--	--	--	--	--	--	--	641	0	--	--
Loss(Gain) on Sale of Assets - Operating	616	806	806	738	(381)	(397)	(397)	431	431	796	795	3 481	175	1 444	776	1 516
Other Unusual Expense (Income)	(618)	(307)	(307)	(307)	(598)	38	38	1 055	1 055	199	183	(3 481)	4 197	0	1 358	0
Other Operating Expenses, Total	2 475	1 763	1 761	1 599	745	955	955	1 422	1 422	1 641	1 651	1 205	11 833	1 821	1 552	578
Other Operating Expense	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Other, Net	2 475	1 763	1 761	1 599	745	955	955	1 422	1 422	1 641	1 651	1 205	11 833	1 821	1 552	578
Total Operating Expense	380 615	399 277	398 907	278 245	396 933	271 971	271 861	273 773	273 471	301 324	301 328	302 707	348 925	367 664	381 499	361 026
Operating Income	84 204	38 699	39 068	39 288	27 155	28 568	28 678	46 322	46 624	89 841	89 842	93 316	108 536	171 116	146 029	134 925
Interest Expense, Net Non-Operating	(12 821)	(13 693)	(13 693)	(10 452)	(11 724)	(8 774)	(8 774)	(9 900)	(9 900)	(12 379)	(12 354)	(10 376)	(8 802)	(6 531)	--	--
Interest Expense - Non-Operating	(12 821)	(13 693)	(13 693)	(10 452)	(11 724)	(8 774)	(8 774)	(9 900)	(9 900)	(12 379)	(12 354)	(10 376)	(8 802)	(6 531)	--	--
Interest/Invest Income - Non-Operating	1 072	7 195	7 417	7 537	(10 212)	(9 078)	(9 078)	(67 573)	(67 573)	(32 826)	(32 842)	32 132	3 497	(5 840)	(1 681)	(40 427)
Interest Income - Non-Operating	1 460	2 117	2 117	2 012	1 090	954	954	1 961	1 961	6 168	6 177	4 217	2 798	816	--	--
Investment Income - Non-Operating	(388)	5 078	5 300	5 525	(11 302)	(10 032)	(10 032)	(69 534)	(69 534)	(38 994)	(39 019)	27 914	699	(6 656)	(1 681)	(40 427)
Interest Income(Exp), Net Non-Operating	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Interest Inc.(Exp.),Net-Non-Op., Total	(11 748)	(6 498)	(6 276)	(2 915)	(21 936)	(17 852)	(17 852)	(77 474)	(77 474)	(45 205)	(45 196)	21 756	(5 304)	(12 371)	(1 681)	(40 427)
Gain (Loss) on Sale of Assets	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Other, Net	(1 054)	--	(592)	(589)	(256)	(251)	(251)	(267)	(267)	(447)	(489)	(134)	(408)	(565)	--	--
Other Non-Operating Income (Expense)	(1 054)		(592)	(589)	(256)	(251)	(251)	(267)	(267)	(447)	(489)	(134)	(408)	(565)		

	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
	(1 054)	--	(592)	(589)	(256)	(251)	(251)	(267)	(267)	(447)	(489)	(134)	(408)	(565)	--	--
e)	(1 054)	--	(592)	(589)	(256)	(251)	(251)	(267)	(267)	(447)	(489)	(134)	(408)	(565)	--	--
	71 402	32 200	32 200	35 784	4 963	10 464	10 574	(31 419)	(31 117)	44 189	44 156	114 938	102 824	158 180	144 348	94 498
	13 699	8 182	8 182	8 229	2 121	2 227	2 242	(485)	(427)	9 789	9 785	6 493	23 841	29 388	30 072	21 152
	57 703	24 018	24 018	27 555	2 842	8 237	8 332	(30 934)	(30 691)	34 399	34 371	108 445	78 983	128 792	114 275	73 346
	(4 083)	(1 796)	(1 796)	(1 796)	(206)	(206)	(206)	37	37	98	122	67	58	0	(65)	0
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	53 620	22 222	22 222	25 759	2 636	8 031	8 126	(30 897)	(30 654)	34 498	34 493	108 511	79 042	128 792	114 211	73 346
	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6 196	1 440	1 440	(2 097)	0	(5 395)	(5 395)	(30 899)	(30 899)	2 503	2 507	0	0	--	--	--
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	6 196	1 440	1 440	(2 097)	0	(5 395)	(5 395)	(30 899)	(30 899)	2 503	2 507	0	0	--	--	--
	59 816	23 662	23 662	23 662	2 636	2 636	2 731	(61 796)	(61 553)	37 000	37 001	108 511	79 042	128 792	114 211	73 346
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rd	53 620	22 222	22 222	25 759	2 636	8 031	8 126	(30 897)	(30 654)	34 498	34 493	108 511	79 042	128 792	114 211	73 346
d	59 816	23 662	23 662	23 662	2 636	2 636	2 731	(61 796)	(61 553)	37 000	37 001	108 511	79 042	128 792	114 211	73 346
	1 005	840	840	840	811	811	811	811	811	811	811	811	812	817	825	825
ms	53,34	26,46	26,46	30,67	3,25	9,91	10,02	(38,12)	(37,82)	42,56	42,55	133,87	97,38	157,62	138,50	88,90
ns	59,51	28,18	28,18	28,18	3,25	3,25	3,37	(76,23)	(75,93)	45,65	45,65	133,87	97,38	157,62	138,50	88,90
	--	--	--	--	--	--	--	--	--	--	--	--	1 460	2 689	--	--
	59 816	23 662	23 662	23 662	2 636	2 636	2 731	(61 796)	(61 553)	37 000	37 001	108 511	80 501	131 481	114 211	73 346
	1 005	846	840	840	811	811	811	811	811	811	811	811	842	848	849	825
	53,34	26,25	26,46	30,67	3,25	9,91	10,02	(38,12)	(37,82)	42,56	42,55	133,87	95,60	155,10	134,59	88,90
	59,51	27,96	28,18	28,18	3,25	3,25	3,37	(76,23)	(75,93)	45,65	45,65	133,87	95,60	155,10	134,59	88,90
	14,40	10,25	10,90	10,90	8,06	8,06	8,06	61,73	48,97	49,36	49,36	88,07	111,26	144,85	121,03	113,88
e 2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
e 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
e 4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Issue	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	3 115	--	--	8 157	--	14 236	--	25 383	23 476	24 219	22 976	--
se	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Exp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Ratios - Profit/Value/Risk

Annual in Millions of U.S. Dollars, Consolidated

Fiscal Period: / Period End Date:	2011 31-Dec-2011	2012 31-Dec-2012	2013 31-Dec-2013	2014 31-Dec-2014	2015 31-Dec-2015	2016 31-Dec-2016	2017 31-Dec-2017	2018 31-Dec-2018	2019 31-Dec-2019	2020 31-Dec-2020
Profitability/Return										
Sales/Receivables, FY	14,20	8,88	7,76	8,14	11,57	12,47	14,00	14,44	13,86	11,95
Revenue/Inventory, FY	6,47	4,20	4,33	5,89	8,73	7,80	8,15	8,00	7,34	6,79
Revenue/Wk Cap, FY	4,68	3,47	4,04	3,93	3,64	4,46	6,84	7,69	6,64	6,99
Revenue/Tot Assets, FY	0,85	0,61	0,62	0,75	0,95	0,96	1,15	1,31	1,16	0,88
EBITDA/Comm Shr Eqty, %, FY	53,38%	29,58%	27,16%	45,79%	80,43%	70,40%	73,18%	98,30%	86,28%	76,23%
EBITDA/Tot Eqty, %, FY	53,38%	29,58%	27,16%	45,79%	80,43%	70,40%	73,18%	98,30%	86,28%	76,23%
EBITDA/Tot Assets, %, FY	19,62%	12,21%	12,72%	20,29%	30,34%	30,09%	34,25%	46,95%	38,73%	30,22%
ROFA Fixed Assets, %, FY	21,32%	9,48%	2,69%	(11,77%)	16,44%	49,37%	34,24%	51,01%	39,65%	19,78%
ROE Comm Eqty, %, FY	26,60%	11,96%	3,60%	(16,25%)	22,28%	61,42%	42,32%	65,65%	55,82%	32,82%
ROA Tot Assets, %, FY	10,52%	5,28%	1,73%	(7,21%)	8,38%	26,24%	19,79%	31,35%	25,07%	13,01%
Inc Avail Comm/Tot Eqty, %, FY	26,60%	11,96%	3,60%	(16,25%)	22,28%	61,42%	42,32%	65,65%	55,82%	32,82%
Reinvestment Rate, %, FY	19,40%	7,72%	0,61%	(37,30%)	(3,57%)	47,05%	29,75%	53,31%	44,59%	(9,20%)
Revenue/Employee, FY	-	-	-	446 897,30	188 001,53	119 392,14	159 043,47	-	-	-
Value										
Hist Mkt Cap, FY	11 427,96	10 125,83	8 125,03	7 008,98	6 772,81	12 467,01	12 493,07	11 057,14	12 486,66	14 699,87
Hist Mkt Cap, %Prd/Prd, FY	(33,09%)	(11,39%)	(19,76%)	(13,74%)	(3,37%)	84,07%	0,21%	(11,49%)	12,93%	17,72%
Hist EV, FY	15 925,78	14 108,21	11 800,09	8 537,67	7 582,10	13 322,01	13 558,07	12 364,14	14 217,66	16 861,87
Hist EV, %Prd/Prd, FY	(25,93%)	(11,41%)	(16,36%)	(27,65%)	(11,19%)	75,70%	1,77%	(8,81%)	14,99%	18,60%
Hist EV/Revenue, FY	1,01	1,38	1,25	1,03	1,19	2,25	1,73	1,44	1,74	2,45
Hist EV/EBITDA, FY	4,35	6,87	6,14	3,81	3,72	7,17	5,78	4,03	5,21	7,14
Hist EV/FCF, FY	23,80	-	-	-	-	25,77	-	-	-	-
Hist EV/OCF, FY	6,74	7,87	7,48	4,19	4,09	9,02	7,08	5,49	6,20	7,86
Hist EV/FOCF, FY	59,89	-	42,04	43,11	10,97	429,74	-	-	-	-
Hist Price/Rev/Shr (dil.), FY	0,72	0,99	0,83	0,84	1,06	2,11	1,65	1,34	1,58	2,14
Hist Price/EBITDA/Shr (dil), FY	3,11	4,95	4,09	3,13	3,33	6,71	5,53	3,74	4,71	6,23
Hist P/E, FY	6,25	12,24	30,82	-	12,01	7,69	9,38	5,48	7,28	14,48
Hist P/E Normalized (dil), FY	6,25	11,51	18,01	-	9,42	7,13	8,94	5,58	7,19	13,96
Hist Price/CF/Shr (dil.), FY	4,12	6,29	7,49	-	7,29	6,35	7,37	4,67	5,76	9,96
Hist Price/FCF/Shr (dil.), FY	17,03	-	-	-	-	24,11	-	-	-	-
Hist Price/OCF/Shr (dil.), FY	4,83	5,66	4,98	3,44	3,65	8,44	6,77	5,09	5,61	6,86
Hist Price/FOCF/Shr (dil.), FY	42,87	-	28,01	35,39	9,80	402,15	-	-	-	-
Hist Price/Comm Eqty, FY	1,71	1,41	1,17	2,49	3,01	4,12	3,69	3,86	3,61	5,39
Hist Price/Tang Comm Eqty, FY	1,93	1,59	1,29	2,88	3,34	4,44	3,98	4,17	3,92	5,93
Hist Price/Bk, Tot Eqty, FY	1,71	1,41	1,17	2,49	3,01	4,12	3,69	3,86	3,61	5,39
Hist Price/Tang Bk, Tot Eqty, FY	1,93	1,59	1,29	2,88	3,34	4,44	3,98	4,17	3,92	5,93
Hist Div Yield Comm Stk Primary, %, FY	4,32%	2,90%	2,61%	14,68%	9,66%	8,55%	12,40%	17,05%	12,36%	8,85%
Risk										
Beta 5 Yr Mthly	-	-	-	-	-	-	-	-	-	-

Appendix 3. Uploading data for research: NLMK

Balance Sheet
Annual Standardised in Millions of Russian Roubles, Consolidated

Earnings Quality Score		29	24	-	50	-	95	95	82	-	90	95	85	86
	Period End Date	31-Dec-2011	31-Dec-2012	31-Dec-2013	31-Dec-2013	31-Dec-2014	31-Dec-2014	31-Dec-2015	31-Dec-2016	31-Dec-2017	31-Dec-2017	31-Dec-2018	31-Dec-2019	31-Dec-2020
	Period End FX Rate (USD/RUB)	32.194000	30.552500	32.890000	32.890000	58.047000	58.047000	72.949500	61.263000	57.657500	57.657500	69.680000	61.919100	73.790000
	Cash and Short Term Investments	32 981	32 329	44 316	44 316	63 974	63 974	110 898	92 709	78 587	78 587	82 501	53 993	73 200
	Cash	5 371	10 408	13 995	13 995	13 548	13 548	11 840	9 471	8 533	8 533	36 652	24 025	32 541
	Cash & Equivalents	20 293	18 655	17 908	17 909	18 332	18 331	13 182	27 881	8 822	8 822	45 501	20 124	29 590
	Short Term Investments	7 317	3 266	12 413	12 413	32 094	32 094	85 876	55 357	61 232	61 232	348	9 845	11 069
	Accounts Receivable - Trade, Net	23 459	20 327	24 650	28 364	40 618	44 894	43 573	40 948	56 101	56 101	75 115	49 535	60 508
	Accounts Receivable - Trade, Gross	30 399	25 292	29 457	29 657	46 119	46 554	44 762	42 425	57 427	57 427	76 578	50 650	61 541
	Provision for Doubtful Accounts	(4 116)	(4 965)	(4 807)	(1 293)	(5 501)	(1 660)	(1 189)	(1 476)	(1 326)	(1 326)	(1 463)	(1 115)	(1 033)
	Total Receivables, Net	45 652	42 322	48 626	49 473	63 567	65 640	68 317	59 394	80 432	79 683	88 285	68 606	82 571
	Notes Receivable - Short Term	--	--	3 538	3 539	3 968	3 970	4 771	4 049	12 800	12 800	976	7 926	3 025
	Receivables - Other	22 193	21 996	20 439	17 570	18 981	16 776	19 974	14 397	11 532	10 782	12 194	11 145	19 038
	Total Inventory	91 059	86 370	69 850	69 852	90 559	90 716	87 926	94 915	108 338	108 338	126 539	101 176	101 314
	Inventories - Finished Goods	32 897	26 057	22 503	22 503	24 371	24 351	24 854	27 152	29 636	29 636	34 910	23 777	25 827
	Inventories - Work In Progress	22 068	26 780	17 320	17 320	33 085	33 069	29 202	28 187	34 767	34 767	35 119	23 715	21 989
	Inventories - Raw Materials	39 146	36 710	32 255	32 255	36 013	36 169	38 080	43 203	47 856	47 856	59 855	57 399	56 892
	Inventories - Other	(3 052)	(3 177)	(2 228)	(2 227)	(2 910)	(2 873)	(4 209)	(3 627)	(3 921)	(3 921)	(3 345)	(3 715)	(3 394)
	Prepaid Expenses	4 978	3 230	2 197	2 052	4 509	3 489	3 633	3 186	3 171	3 171	5 087	4 149	5 165
	Other Current Assets, Total	2 519	2 852	2 810	250	4 668	308	642	1 139	1 095	1 845	697	867	1 181
	Restricted Cash - Current	--	--	--	--	--	--	--	--	--	--	--	--	--
	Deferred Income Tax - Current Asset	608	1 924	2 561	--	4 363	--	--	--	--	--	--	--	--
	Discountinued Operations - Current Asset	--	--	--	--	--	--	--	--	--	--	--	--	--
	Other Current Assets	1 911	929	249	250	305	308	642	1 139	1 095	1 845	697	867	1 181
	Total Current Assets	177 188	167 104	167 800	165 943	227 277	224 125	271 416	251 344	271 624	271 624	303 108	228 791	263 430
	Property/Plant/Equipment, Total - Gross	524 656	565 161	552 037	574 082	593 564	612 065	633 377	683 162	702 268	702 268	756 516	817 889	903 559
	Buildings - Gross	56 301	59 190	83 280	164 943	89 871	171 958	171 563	238 913	252 828	252 828	259 906	268 977	294 717
	Land/Improvements - Gross	47 714	50 572	75 485	7 098	82 308	7 598	7 368	7 401	7 380	7 380	7 665	8 854	9 445
	Machinery/Equipment - Gross	246 645	329 449	301 159	336 086	346 820	375 378	379 476	379 794	392 763	392 763	415 781	448 913	504 576
	Construction in Progress - Gross	149 076	99 853	68 737	62 560	50 619	52 567	69 324	52 656	49 297	49 297	73 164	91 145	94 820
	Leases - Gross	4 053	4 440	2 531	--	1 493	--	--	--	--	--	--	--	--
	Other Property/Plant/Equipment - Gross	20 867	21 657	20 844	3 394	22 453	4 562	5 646	4 399	--	--	--	--	--
	Property/Plant/Equipment, Total - Net	340 285	359 088	328 999	325 351	340 543	325 853	324 793	326 415	319 941	319 941	334 325	373 929	417 578
	Accumulated Depreciation, Total	(184 371)	(206 072)	(223 038)	(248 731)	(253 021)	(286 212)	(308 584)	(356 747)	(382 327)	(382 327)	(422 191)	(443 960)	(485 981)
	Goodwill, Net	24 473	24 019	15 242	15 241	16 566	16 567	15 655	15 506	15 279	15 279	15 608	15 356	15 643
	Goodwill - Gross	--	--	--	15 241	--	16 567	15 655	16 388	16 086	16 086	16 584	16 223	16 677
	Accumulated Goodwill Amortization	--	--	--	0	--	0	0	(882)	(807)	(807)	(976)	(867)	(1 033)
	Intangibles, Net	5 106	4 336	3 814	12 317	2 969	11 255	8 192	7 719	7 784	9 456	11 497	10 031	11 733
	Intangibles - Gross	8 340	8 095	8 222	25 723	10 836	28 809	18 070	20 946	21 333	23 813	25 224	24 582	26 786
	Accumulated Intangible Amortization	(3 234)	(3 759)	(4 408)	(13 406)	(7 867)	(17 553)	(9 877)	(13 227)	(13 550)	(14 357)	(13 727)	(14 551)	(15 053)
	Long Term Investments	271	589	16 480	13 932	14 364	6 170	8 593	11 107	11 935	11 820	11 079	13 808	9 666
	LT Investment - Affiliate Companies	251	249	13 786	13 784	6 162	6 165	8 586	11 089	11 820	11 820	11 079	13 808	9 666
	LT Investments - Other	20	341	2 695	148	8 201	6	7	18	115	--	0	--	--
	Note Receivable - Long Term	--	--	--	2 565	--	8 196	16 027	10 041	0	--	5 923	310	517
	Other Long Term Assets, Total	8 254	8 787	3 249	5 789	2 305	8 585	5 989	5 134	7 438	5 881	11 358	6 935	9 150
	Defered Income Tax - Long Term Asset	7 634	7 625	1 927	4 486	968	7 250	4 975	3 768	4 843	4 843	10 591	6 254	8 781
	Other Long Term Assets	621	1 163	1 322	1 302	1 336	1 335	1 014	1 366	2 595	1 038	766	681	369

Intangibles, Net	5 106	4 336	3 814	12 317	2 969	11 255	8 192	7 719	7 784	9 456	11 497	10 031	11 733
Intangibles - Gross	8 340	8 095	8 222	25 723	10 836	28 809	18 070	20 946	21 333	23 813	25 224	24 582	26 786
Accumulated Intangible Amortization	(3 234)	(3 759)	(4 408)	(13 406)	(7 867)	(17 553)	(9 877)	(13 227)	(13 550)	(14 357)	(13 727)	(14 551)	(15 053)
Long Term Investments	271	589	16 480	13 932	14 364	6 170	8 593	11 107	11 935	11 820	11 079	13 808	9 666
LT Investment - Affiliate Companies	251	249	13 786	13 784	6 162	6 165	8 586	11 089	11 820	11 820	11 079	13 808	9 666
LT Investments - Other	20	341	2 695	148	8 201	6	7	18	115	--	0	--	--
Note Receivable - Long Term	--	--	--	2 565	--	8 196	16 027	10 041	0	--	5 923	310	517
Other Long Term Assets, Total	8 254	8 787	3 249	5 789	2 305	8 585	5 989	5 134	7 438	5 881	11 358	6 935	9 150
Defered Income Tax - Long Term Asset	7 634	7 625	1 927	4 486	968	7 250	4 975	3 768	4 843	4 843	10 591	6 254	8 781
Other Long Term Assets	621	1 163	1 322	1 302	1 336	1 335	1 014	1 366	2 595	1 038	766	681	369
Total Assets	555 578	563 923	535 583	541 139	604 023	600 752	650 666	627 266	634 002	634 002	692 898	649 160	727 717
Liabilities (RUB Millions)													
Accounts Payable	26 358	23 160	19 952	20 454	25 000	25 593	24 971	31 955	34 595	30 213	40 693	34 551	31 656
Payable/Accrued	--	--	--	--	--	--	--	--	--	--	--	--	--
Accrued Expenses	6 416	6 948	6 714	11 120	7 470	11 946	10 505	13 515	14 184	14 011	14 912	12 631	22 580
Notes Payable/Short Term Debt	0	0	0	0	0	0	0	0	0	0	0	0	0
Current Port. of LT Debt/Capital Leases	42 529	56 151	37 385	37 386	46 685	46 687	40 837	28 647	21 910	21 910	27 733	28 978	77 775
Other Current liabilities, Total	19 345	14 628	12 140	7 348	14 886	10 257	19 536	31 795	44 569	49 124	61 109	44 086	36 378
Dividends Payable	66	46	46	46	40	41	11 759	22 085	30 962	30 962	36 582	19 690	8 043
Customer Advances	4 295	3 417	3 464	3 664	5 680	6 118	4 589	7 964	8 822	8 995	12 333	9 226	10 626
Income Taxes Payable	4 970	5 825	5 116	710	7 245	2 757	2 021	760	3 056	3 056	1 951	1 981	3 763
Other Payables	10 014	5 341	3 514	2 927	1 921	1 341	1 167	986	1 730	6 112	10 243	13 189	13 725
Other Current Liabilities	--	--	--	--	--	--	--	--	--	--	--	--	221
Total Current Liabilities	94 648	100 887	76 191	76 308	94 041	94 483	95 848	105 911	115 257	115 257	144 447	120 247	168 389
Total Long Term Debt	99 799	87 081	100 440	100 439	114 016	114 016	154 383	110 341	109 607	109 607	116 853	135 479	179 457
Long Term Debt	98 949	86 022	99 921	100 439	113 865	114 016	154 383	110 341	109 607	109 607	116 853	135 479	179 457
Capital Lease Obligations	850	1 058	519	--	151	--	--	--	--	--	--	--	--
Total Debt	142 328	143 231	137 826	137 826	160 701	160 703	195 220	138 987	131 517	131 517	144 586	164 457	257 232
Deferred Income Tax	22 976	24 205	19 709	21 082	23 516	23 648	24 752	23 629	24 043	24 043	24 109	25 077	26 491
Deferred Income Tax - LT Liability	22 976	24 205	19 709	21 082	23 516	23 648	24 752	23 629	24 043	24 043	24 109	25 077	26 491
Minority Interest	(1 348)	(1 004)	923	924	852	853	846	1 097	980	980	1 045	1 053	812
Other Liabilities, Total	12 829	12 915	1 304	1 302	5 424	5 422	890	766	1 903	1 903	976	124	3 542
Pension Benefits - Underfunded	3 710	2 829	0	--	0	--	--	--	--	--	--	--	--
Other Long Term Liabilities	9 119	10 086	1 304	1 302	5 424	5 422	890	766	1 903	1 903	976	124	3 542
Total Liabilities	228 904	224 083	198 568	200 057	237 849	238 422	276 719	241 744	251 790	251 790	287 430	281 980	378 690
Shareholders Equity (RUB Millions)													
Redeemable Preferred Stock, Total	--	--	--	--	--	--	--	--	--	--	--	--	--
Preferred Stock - Non Redeemable, Net	--	--	--	--	--	--	--	--	--	--	--	--	--
Preferred Stock - Non Redeemable	--	--	--	--	--	--	--	--	--	--	--	--	--
Common Stock, Total	7 120	6 757	7 274	7 275	12 838	12 840	16 136	13 551	12 742	12 742	15 399	13 684	16 308
Common Stock	7 120	6 757	7 274	7 275	12 838	12 840	16 136	13 551	12 742	12 742	15 399	13 684	16 308
Additional Paid-In Capital	9 864	9 361	8 450	0	14 914	0	722	607	577	577	697	557	590
Retained Earnings (Accumulated Deficit)	357 640	354 184	383 687	361 431	711 751	668 278	866 888	737 564	693 562	693 562	861 942	733 122	858 989
Treasury Stock - Common	--	--	--	--	--	--	--	--	--	--	--	--	--
ESOP Debt Guarantee	--	--	--	--	--	--	--	--	--	--	--	--	--
Unrealized Gain (Loss)	--	--	--	--	--	--	--	--	--	--	--	--	--
Other Equity, Total	(47 951)	(30 462)	(62 396)	(27 624)	(373 329)	(318 788)	(509 800)	(366 200)	(324 669)	(324 669)	(472 570)	(380 183)	(526 861)
Translation Adjustment	(47 951)	(30 462)	(62 396)	(27 624)	(373 329)	(318 788)	(509 800)	(366 200)	(324 669)	(324 669)	(472 570)	(380 183)	(526 861)
Total Equity	326 673	339 840	337 016	341 082	366 174	362 329	373 946	385 522	382 212	382 212	405 468	367 180	349 027
Total Liabilities & Shareholders' Equity	555 578	563 923	535 583	541 139	604 023	600 752	650 666	627 266	634 002	634 002	692 898	649 160	727 717

Novolipetsk Steel PAO | Income Statement **23-Nov-2021 00:56**

Income Statement

Annual Standardised in Millions of Russian Roubles, Consolidated

	2011	2012	2013	2013	2014	2014	2015	2016	2017	2018	2019	2020
Earnings Quality Score	29	24	–	50	–	95	96	82	90	96	66	86
Period End Date	31-Dec-2011	31-Dec-2012	31-Dec-2013	31-Dec-2013	31-Dec-2014	31-Dec-2014	31-Dec-2015	31-Dec-2016	31-Dec-2017	31-Dec-2018	31-Dec-2019	31-Dec-2020
Avg. FX Rate (USD/RUB)	29.395826	31.053928	31.858535	31.858535	38.582248	38.582248	61.158507	66.941053	58.290248	62.794955	64.671892	72.190790
Revenue	344 771	377 510	347 559	344 658	401 091	401 089	489 776	511 189	586 691	756 428	682 547	667 404
Net Sales	344 771	377 510	347 559	344 658	401 091	401 089	489 776	511 189	586 691	756 428	682 547	667 404
Other Revenue, Total	--	--	--	--	--	--	--	--	--	--	--	--
Total Revenue	344 771	377 510	347 559	344 658	401 091	401 089	489 776	511 189	586 691	756 428	682 547	667 404
Cost of Revenue, Total	246 012	287 626	280 038	276 083	287 756	285 084	336 109	339 632	396 257	482 265	472 299	427 369
Cost of Revenue	246 012	287 626	280 038	276 083	287 756	285 084	336 109	339 632	396 257	482 265	472 299	427 369
Gross Profit	98 758	89 884	67 521	68 575	113 335	116 005	153 667	171 557	190 434	274 163	210 248	240 034
Selling/General/Admin. Expenses, Total	49 794	54 707	47 010	48 970	51 691	54 976	69 623	73 013	72 222	85 213	81 939	90 672
Selling/General/Administrative Expense	49 794	54 707	47 010	48 970	51 691	54 976	69 623	58 138	57 707	68 949	67 711	75 295
Labor & Related Expense	--	--	--	--	--	--	--	14 874	14 514	16 264	14 228	15 377
Research & Development	--	--	--	--	--	--	--	--	--	--	--	--
Depreciation/Amortization	--	--	--	--	--	--	--	--	--	--	--	--
Interest Expense, Net - Operating	--	--	--	--	--	--	--	--	--	--	--	2 815
Interest Expense - Operating	--	--	--	--	--	--	--	--	--	--	--	2 815
Interest/Investment Income - Operating	--	--	--	--	--	--	--	--	--	--	--	--
Interest Expense(Income) - Net Operating	--	--	--	--	--	--	--	--	--	--	--	--
Interest Exp.(Inc.),Net-Operating, Total	--	--	--	--	--	--	--	--	--	--	--	2 815
Unusual Expense (Income)	0	0	--	2 068	4 389	25 356	5 229	924	991	314	2 005	938
Restructuring Charge	--	--	--	(239)	--	0	0	--	--	--	--	--
Impairment-Assets Held for Use	0	0	--	669	4 389	25 356	5 229	924	991	251	1 940	361
Impairment-Assets Held for Sale	--	--	--	--	--	--	--	--	--	63	65	578
Loss(Gain) on Sale of Assets - Operating	--	--	--	--	--	--	--	--	--	--	--	--
Other Unusual Expense (Income)	--	--	--	1 638	--	0	0	--	--	--	--	--
Other Operating Expenses, Total	--	--	--	210	--	(235)	(862)	(1 098)	(175)	(251)	(1 229)	(722)
Other, Net	--	--	--	210	--	(235)	(862)	(1 098)	(175)	(251)	(1 229)	(722)
Total Operating Expense	295 807	342 333	327 048	327 331	343 836	365 181	410 098	412 471	469 295	567 541	555 014	521 073
Operating Income	48 964	35 177	20 511	17 328	57 256	35 908	79 677	98 718	117 397	188 887	127 533	146 331
Interest Expense, Net Non-Operating	--	--	--	(3 173)	--	(4 526)	(5 302)	(4 753)	(3 789)	(3 517)	(3 104)	(4 909)
Interest Expense - Non-Operating	--	--	--	(7 057)	--	(6 902)	(7 272)	(6 928)	(5 130)	(4 835)	(5 238)	(7 219)
Interest Capitalized - Non-Operating	--	--	--	3 884	--	2 377	1 969	2 176	1 341	1 319	2 134	2 310
Interest/Invest Income - Non-Operating	1 767	(1 224)	(468)	2 221	14 077	13 967	8 030	(11 065)	(3 206)	(12 559)	(5 238)	(21 152)
Interest Income - Non-Operating	--	--	--	1 153	--	1 138	2 722	1 961	1 341	754	841	505
Investment Income - Non-Operating	1 767	(1 224)	(468)	1 067	14 077	12 829	5 309	(13 027)	(4 547)	(13 313)	(6 079)	(21 657)
Interest Income(Exp), Net Non-Operating	--	--	--	--	--	--	--	--	--	--	--	--
Interest Inc.(Exp.),Net-Non-Op., Total	1 767	(1 224)	(468)	(953)	14 077	9 441	2 728	(15 818)	(6 995)	(16 076)	(8 343)	(26 061)
Gain (Loss) on Sale of Assets	(861)	(1 182)	(714)	(733)	(114)	(459)	(465)	(214)	(58)	(440)	(259)	(578)
Other, Net	(421)	(4 361)	(3 926)	(2 287)	(2 910)	(1 061)	(1 144)	(4 217)	(4 080)	(1 005)	(2 910)	(5 631)

Novolipetsk Steel PAO | Income

Other, Net	(421)	(4 361)	(3 926)	(2 287)	(2 910)	(1 061)	(1 144)	(4 217)	(4 080)	(1 005)	(2 910)	(5 631)
Other Non-Operating Income (Expense)	(421)	(4 361)	(3 926)	(2 287)	(2 910)	(1 061)	(1 144)	(4 217)	(4 080)	(1 005)	(2 910)	(5 631)
Net Income Before Taxes	49 449	28 410	15 403	13 355	68 309	43 829	80 797	78 468	106 263	171 367	116 021	114 061
Provision for Income Taxes	12 377	9 463	7 071	8 124	15 676	13 982	21 583	15 624	21 626	30 518	29 296	24 761
Net Income After Taxes	37 072	18 948	8 332	5 231	52 633	29 847	59 214	62 844	84 637	140 849	86 725	89 300
Minority Interest	1 240	(454)	(600)	(599)	(45)	(42)	(49)	(248)	(117)	(314)	(129)	(72)
Equity In Affiliates	1 595	9	(1 719)	--	(7 448)	--	--	--	--	--	--	--
U.S. GAAP Adjustment	--	--	--	--	--	--	--	--	--	--	--	--
Net Income Before Extra. Items	39 908	18 502	6 013	4 632	45 141	29 805	59 165	62 597	84 521	140 535	86 596	89 228
Accounting Change	--	--	--	--	--	--	--	--	--	--	--	--
Discontinued Operations	--	--	--	--	--	--	--	--	--	--	--	--
Extraordinary Item	--	--	--	--	(12 546)	--	--	--	--	--	--	--
Tax on Extraordinary Items	--	--	--	--	--	--	--	--	--	--	--	--
Total Extraordinary Items	--	--	--	--	(12 546)	--	--	--	--	--	--	--
Net Income	39 908	18 502	6 013	4 632	32 595	29 805	59 165	62 597	84 521	140 535	86 596	89 228
Preferred Dividends	--	--	--	--	--	--	--	--	--	--	--	--
General Partners' Distributions	--	--	--	--	--	--	--	--	--	--	--	--
Miscellaneous Earnings Adjustment	--	--	--	--	--	--	--	--	--	--	--	--
Pro Forma Adjustment	--	--	--	--	--	--	--	--	--	--	--	--
Interest Adjustment - Primary EPS	--	--	--	--	--	--	--	--	--	--	--	--
Total Adjustments to Net Income	--	--	--	--	--	--	--	--	--	--	--	--
Income Available to Com Excl ExtraOrd	39 908	18 502	6 013	4 632	45 141	29 805	59 165	62 597	84 521	140 535	86 596	89 228
Income Available to Com Incl ExtraOrd	39 908	18 502	6 013	4 632	32 595	29 805	59 165	62 597	84 521	140 535	86 596	89 228
Basic Weighted Average Shares	5 993	5 993	5 993	5 993	5 993	5 993	5 993	5 993	5 993	5 993	5 993	5 993
Basic EPS Excluding Extraordinary Items	6,66	3,09	1,00	0,77	7,53	4,97	9,87	10,44	14,10	23,45	14,45	14,89
Basic EPS Including Extraordinary Items	6,66	3,09	1,00	0,77	5,44	4,97	9,87	10,44	14,10	23,45	14,45	14,89
Dilution Adjustment	--	--	0	--	0	--	--	--	--	--	--	--
Diluted Net Income	39 908	18 502	6 013	4 632	32 595	29 805	59 165	62 597	84 521	140 535	86 596	89 228
Diluted Weighted Average Shares	5 993	5 993	5 993	5 993	5 993	5 993	5 993	5 993	5 993	5 993	5 994	5 994
Diluted EPS Excluding ExtraOrd Items	6,66	3,09	1,00	0,77	7,53	4,97	9,87	10,44	14,10	23,45	14,45	14,89
Diluted EPS Including ExtraOrd Items	6,66	3,09	1,00	0,77	5,44	4,97	9,87	10,44	14,10	23,45	14,45	14,89
Supplemental (RUB Millions)												
DPS - Common Stock Primary Issue	1,83	0,63	0,65	0,65	1,04	1,04	5,83	10,07	14,19	20,56	18,13	21,17
Dividends per Share - Com Stock Issue 2	--	--	--	--	--	--	--	--	--	--	--	--
Dividends per Share - Com Stock Issue 3	--	--	--	--	--	--	--	--	--	--	--	--
Dividends per Share - Com Stock Issue 4	--	--	--	--	--	--	--	--	--	--	--	--
Special DPS - Common Stock Primary Issue	--	--	--	--	--	--	--	--	--	--	--	--
Special DPS - Common Stock Issue 2	--	--	--	--	--	--	--	--	--	--	--	--
Special DPS - Common Stock Issue 3	--	--	--	--	--	--	--	--	--	--	--	--
Special DPS - Common Stock Issue 4	--	--	--	--	--	--	--	--	--	--	--	--
Gross Dividends - Common Stock	7 752	3 590	3 665	3 664	11 725	11 725	35 955	61 686	83 238	132 686	102 764	125 756
Pro Forma Stock Compensation Expense	--	--	--	--	--	--	--	--	--	--	--	--
Net Income after Stock Based Comp. Exp.	--	--	--	--	--	--	--	--	--	--	--	--
Basic EPS after Stock Based Comp. Exp.	--	--	--	--	--	--	--	--	--	--	--	--

Novolipetsk Steel PAO | Ratios - Profit/Value/Risk **23-Nov-2021 00:58**

Ratios - Profit/Value/Risk

Annual in Millions of U.S. Dollars, Consolidated

Fiscal Period: / Period End Date:	2011 31-Dec-2011	2012 31-Dec-2012	2013 31-Dec-2013	2014 31-Dec-2014	2015 31-Dec-2015	2016 31-Dec-2016	2017 31-Dec-2017	2018 31-Dec-2018	2019 31-Dec-2019	2020 31-Dec-2020
Profitability/Return										
Sales/Receivables, FY	19,28	17,44	14,16	12,71	11,68	12,07	12,26	11,75	11,24	11,41
Revenue/Inventory, FY	5,32	4,30	4,37	5,64	5,79	5,54	5,87	6,52	6,12	6,15
Revenue/Wk Cap, FY	4,68	5,14	4,42	4,19	3,45	3,19	3,96	4,83	5,24	6,08
Revenue/Tot Assets, FY	0,75	0,68	0,62	0,78	0,83	0,80	0,95	1,15	1,03	0,91
EBITDA/Comm Shr Eqty, %, FY	22,75%	17,87%	14,01%	32,65%	35,31%	34,07%	41,22%	57,68%	43,66%	49,77%
EBITDA/Tot Eqty, %, FY	22,75%	17,87%	14,01%	32,65%	35,31%	34,07%	41,22%	57,68%	43,66%	49,77%
EBITDA/Tot Assets, %, FY	14,47%	10,64%	8,62%	20,24%	20,83%	20,31%	25,08%	34,29%	25,11%	26,08%
ROFA Fixed Assets, %, FY	12,43%	5,26%	1,42%	9,14%	17,89%	17,91%	24,74%	39,68%	22,69%	19,62%
ROE Comm Eqty, %, FY	13,70%	5,60%	1,35%	9,30%	17,02%	16,38%	22,44%	35,96%	22,79%	23,19%
ROA Tot Assets, %, FY	8,10%	3,42%	0,94%	5,77%	10,05%	9,80%	13,68%	21,42%	13,13%	12,16%
Inc Avail Comm/Tot Eqty, %, FY	13,70%	5,60%	1,35%	9,30%	17,02%	16,38%	22,44%	35,96%	22,79%	23,19%
Reinvestment Rate, %, FY	11,04%	4,52%	0,28%	5,64%	6,68%	0,24%	0,34%	2,01%	(4,26%)	(9,49%)
Revenue/Employee, FY	-	197 829,00	-	-	137 128,42	137 965,67	187 779,85	226 215,96	198 944,39	-
Value										
Hist Mkt Cap, FY	11 703,86	11 995,28	10 054,92	6 895,92	5 142,96	11 248,25	15 302,83	13 539,81	13 910,84	16 979,86
Hist Mkt Cap, %Prd/Prd, FY	(58,73%)	2,49%	(16,18%)	(31,42%)	(25,42%)	118,71%	36,05%	(11,52%)	2,74%	22,06%
Hist EV, FY	15 058,50	15 592,29	12 926,12	8 577,02	6 310,46	12 021,55	16 237,83	14 445,81	15 711,84	19 484,86
Hist EV, %Prd/Prd, FY	(49,68%)	3,54%	(17,10%)	(33,65%)	(26,43%)	90,50%	35,07%	(11,04%)	8,76%	24,01%
Hist EV/Revenue, FY	1,28	1,28	1,19	0,83	0,79	1,57	1,61	1,20	1,49	2,11
Hist EV/EBITDA, FY	6,68	8,20	8,59	3,16	3,14	6,18	6,10	4,02	6,13	7,34
Hist EV/FCF, FY	-	-	67,82	10,71	11,73	47,44	80,79	57,32	-	-
Hist EV/OCF, FY	8,34	8,55	9,69	4,75	3,89	7,08	8,55	5,27	5,99	8,54
Hist EV/FOCF, FY	-	61,21	27,89	8,43	9,98	21,58	676,58	83,50	-	-
Hist Price/Rev/Shr (dil.), FY	1,00	0,99	0,93	0,66	0,64	1,47	1,52	1,12	1,32	1,84
Hist Price/EBITDA/Shr (dil), FY	5,19	6,31	6,68	2,54	2,56	5,78	5,75	3,77	5,42	6,40
Hist P/E, FY	8,62	20,13	69,16	8,93	5,32	12,03	10,55	6,05	10,39	13,74
Hist P/E Normalized (dil), FY	8,48	19,31	49,65	4,80	4,77	11,86	10,40	6,02	10,19	13,56
Hist Price/CF/Shr (dil.), FY	6,33	8,71	9,48	4,34	3,37	8,06	7,37	4,80	7,31	9,38
Hist Price/FCF/Shr (dil.), FY	-	-	52,75	8,61	9,56	44,39	76,13	53,73	-	-
Hist Price/OCF/Shr (dil.), FY	6,48	6,57	7,54	3,82	3,17	6,62	8,06	4,94	5,30	7,45
Hist Price/FOCF/Shr (dil.), FY	-	47,09	21,69	6,78	8,14	20,19	637,62	78,26	-	-
Hist Price/Comm Eqty, FY	1,15	1,08	0,97	1,10	1,00	1,79	2,31	2,33	2,35	3,59
Hist Price/Tang Comm Eqty, FY	1,27	1,18	1,05	1,20	1,07	1,90	2,47	2,49	2,52	3,90
Hist Price/Bk, Tot Eqty, FY	1,15	1,08	0,97	1,10	1,00	1,79	2,31	2,33	2,35	3,59
Hist Price/Tang Bk, Tot Eqty, FY	1,27	1,18	1,05	1,20	1,07	1,90	2,47	2,49	2,52	3,90
Hist Div Yield Comm Stk Primary, %, FY	3,19%	1,02%	1,22%	2,34%	11,10%	8,02%	9,54%	14,49%	12,08%	10,35%

Magnitogorskiy Metallurgicheskiy Kombinat PAO | Balance Sheet **23-Nov-2021 01:07**

Balance Sheet

Annual Standardised in Millions of Russian Roubles, Consolidated

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Earnings Quality Score	21	31	49	86	96	80	84	95	76	90
Period End Date	31-Dec-2011	31-Dec-2012	31-Dec-2013	31-Dec-2014	31-Dec-2015	31-Dec-2016	31-Dec-2017	31-Dec-2018	31-Dec-2019	31-Dec-2020
Period End FX Rate (USD/RUB)	32.194000	30.552500	32.890000	58.047000	72.949500	61.263000	57.657500	69.680000	61.919100	73.790000
Assets (RUB Millions)										
Cash and Short Term Investments	15 163	12 954	5 624	32 332	53 107	19 359	32 519	51 981	68 916	78 586
Cash	--	--	1 842	12 016	6 784	7 964	12 858	15 678	6 316	22 801
Cash & Equivalents	13 650	11 060	3 223	6 966	20 134	8 332	19 200	35 816	62 105	40 511
Short Term Investments	1 513	1 894	559	13 351	26 189	3 063	461	488	495	15 275
Accounts Receivable - Trade, Net	15 485	17 109	16 675	28 675	24 000	29 835	39 034	42 574	30 960	36 600
Accounts Receivable - Trade, Gross	20 636	19 920	18 057	30 184	25 241	31 060	40 476	44 735	33 189	38 961
Provision for Doubtful Accounts	(5 151)	(2 811)	(1 381)	(1 509)	(1 240)	(1 225)	(1 441)	(2 160)	(2 229)	(2 361)
Total Receivables, Net	29 683	28 292	25 029	38 311	31 806	37 187	49 816	50 727	37 151	43 462
Notes Receivable - Short Term	--	--	--	--	--	--	--	--	--	--
Receivables - Other	14 198	11 182	8 354	9 636	7 806	7 352	10 782	8 153	6 192	6 862
Total Inventory	57 177	51 145	48 611	58 453	63 977	65 368	81 931	84 801	75 294	83 235
Inventories - Finished Goods	19 574	14 940	16 050	20 491	21 009	17 766	23 928	25 503	20 371	20 661
Inventories - Work In Progress	5 795	6 202	6 775	7 720	7 879	9 741	9 859	10 382	10 155	11 806
Inventories - Raw Materials	30 295	27 742	26 608	31 868	38 663	34 001	44 281	46 337	43 467	48 775
Inventories - Other	1 513	2 261	(822)	(1 625)	(3 575)	3 860	3 863	2 578	1 300	1 992
Prepaid Expenses	2 640	1 803	1 677	2 090	1 678	3 002	3 921	3 414	3 529	5 092
Other Current Assets, Total	483	489	493	0	--	--	--	--	310	0
Deferred Income Tax - Current Asset	--	--	--	--	--	--	--	--	--	--
Discountinued Operations - Current Asset	483	489	493	0	--	--	--	--	310	0
Total Current Assets	105 146	94 682	81 436	131 186	150 568	124 915	168 187	190 923	185 200	210 375
Property/Plant/Equipment, Total - Gross	489 478	497 242	510 979	572 285	590 745	593 700	613 015	675 687	699 252	742 032
Land/Improvements - Gross	134 764	142 772	148 959	169 265	175 444	172 639	177 354	190 296	199 318	214 950
Machinery/Equipment - Gross	291 484	309 588	319 987	359 891	371 678	368 619	375 235	402 472	419 750	446 651
Construction in Progress - Gross	46 778	27 283	25 391	26 295	27 867	36 819	44 166	64 593	61 548	61 984
Natural Resources - Gross	9 819	9 868	8 420	7 894	6 347	6 065	5 881	5 923	6 749	5 682
Other Property/Plant/Equipment - Gross	6 632	7 730	8 223	8 939	9 410	9 557	10 378	12 403	11 888	12 766
Property/Plant/Equipment, Total - Net	379 632	361 467	283 446	294 414	274 582	266 188	281 023	305 756	321 174	335 671
Accumulated Depreciation, Total	(109 846)	(135 775)	(227 533)	(277 871)	(316 163)	(327 512)	(331 992)	(369 931)	(378 078)	(406 362)
Goodwill, Net	8 821	8 860	0	0	--	--	--	--	--	--
Goodwill, Gross										

Balance Sheet

Annual Standardised in Millions of Russian Roubles, Consolidated

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Earnings Quality Score	21	31	49	86	96	80	84	95	76	90
Period End Date	31-Dec-2011	31-Dec-2012	31-Dec-2013	31-Dec-2014	31-Dec-2015	31-Dec-2016	31-Dec-2017	31-Dec-2018	31-Dec-2019	31-Dec-2020
Period End FX Rate (USD/RUB)	32.194000	30.552500	32.890000	58.047000	72.949500	61.263000	57.657500	69.680000	61.919100	73.790000
Assets (RUB Millions)										
Cash and Short Term Investments	15 163	12 954	5 624	32 332	53 107	19 359	32 519	51 981	68 916	78 586
Cash	--	--	1 842	12 016	6 784	7 964	12 858	15 678	6 316	22 801
Cash & Equivalents	13 650	11 060	3 223	6 966	20 134	8 332	19 200	35 816	62 105	40 511
Short Term Investments	1 513	1 894	559	13 351	26 189	3 063	461	488	495	15 275
Accounts Receivable - Trade, Net	15 485	17 109	16 675	28 675	24 000	29 835	39 034	42 574	30 960	36 600
Accounts Receivable - Trade, Gross	20 636	19 920	18 057	30 184	25 241	31 060	40 476	44 735	33 189	38 961
Provision for Doubtful Accounts	(5 151)	(2 811)	(1 381)	(1 509)	(1 240)	(1 225)	(1 441)	(2 160)	(2 229)	(2 361)
Total Receivables, Net	29 683	28 292	25 029	38 311	31 806	37 187	49 816	50 727	37 151	43 462
Notes Receivable - Short Term	--	--	--	--	--	--	--	--	--	--
Receivables - Other	14 198	11 182	8 354	9 636	7 806	7 352	10 782	8 153	6 192	6 862
Total Inventory	57 177	51 145	48 611	58 453	63 977	65 368	81 931	84 801	75 294	83 235
Inventories - Finished Goods	19 574	14 940	16 050	20 491	21 009	17 766	23 928	25 503	20 371	20 661
Inventories - Work In Progress	5 795	6 202	6 775	7 720	7 879	9 741	9 859	10 382	10 155	11 806
Inventories - Raw Materials	30 295	27 742	26 608	31 868	38 663	34 001	44 281	46 337	43 467	48 775
Inventories - Other	1 513	2 261	(822)	(1 625)	(3 575)	3 860	3 863	2 578	1 300	1 992
Prepaid Expenses	2 640	1 803	1 677	2 090	1 678	3 002	3 921	3 414	3 529	5 092
Other Current Assets, Total	483	489	493	0	--	--	--	--	310	0
Deferred Income Tax - Current Asset	--	--	--	--	--	--	--	--	--	--
Discountinued Operations - Current Asset	483	489	493	0	--	--	--	--	310	0
Total Current Assets	105 146	94 682	81 436	131 186	150 568	124 915	168 187	190 923	185 200	210 375
Property/Plant/Equipment, Total - Gross	489 478	497 242	510 979	572 285	590 745	593 700	613 015	675 687	699 252	742 032
Land/Improvements - Gross	134 764	142 772	148 959	169 265	175 444	172 639	177 354	190 296	199 318	214 950
Machinery/Equipment - Gross	291 484	309 588	319 987	359 891	371 678	368 619	375 235	402 472	419 750	446 651
Construction in Progress - Gross	46 778	27 283	25 391	26 295	27 867	36 819	44 166	64 593	61 548	61 984
Natural Resources - Gross	9 819	9 868	8 420	7 894	6 347	6 065	5 881	5 923	6 749	5 682
Other Property/Plant/Equipment - Gross	6 632	7 730	8 223	8 939	9 410	9 557	10 378	12 403	11 888	12 766
Property/Plant/Equipment, Total - Net	379 632	361 467	283 446	294 414	274 582	266 188	281 023	305 756	321 174	335 671
Accumulated Depreciation, Total	(109 846)	(135 775)	(227 533)	(277 871)	(316 163)	(327 512)	(331 992)	(369 931)	(378 078)	(406 362)
Goodwill, Net	8 821	8 860	0	0	--	--	--	--	--	--
Goodwill - Gross	--	--	--	--	--	--	--	--	--	--
Accumulated Goodwill Amortization	--	--	--	--	--	--	--	--	--	--
Intangibles, Net	934	1 314	1 283	1 393	1 313	1 348	1 557	1 672	2 910	2 952
Intangibles - Gross	2 447	3 208	3 355	--	--	--	--	--	--	--
Accumulated Intangible Amortization	(1 513)	(1 894)	(2 072)	--	--	--	--	--	--	--
Long Term Investments	26 270	26 581	27 364	20 491	15 757	551	288	209	248	221
LT Investment - Affiliate Companies	998	0	66	58	146	368	115	70	124	74
LT Investments - Other	25 272	26 581	27 299	20 433	15 611	184	173	139	124	148
Note Receivable - Long Term	--	--	--	--	--	--	--	--	--	--
Other Long Term Assets, Total	3 799	4 858	6 019	8 591	6 930	5 269	5 823	3 484	3 406	3 616
Defered Income Tax - Long Term Asset	3 541	4 644	5 624	8 359	4 742	4 595	5 362	3 484	3 406	3 616
Other Long Term Assets	258	214	395	232	2 188	674	461	0	--	--
Total Assets	524 601	497 761	399 548	456 075	449 150	398 271	456 878	502 044	512 938	552 835

Total Assets	524 601	497 761	399 548	456 075	449 150	398 271	456 878	502 044	512 938	552 835
Liabilities (RUB Millions)										
Accounts Payable	20 121	18 820	20 194	22 464	24 730	25 485	38 573	38 533	33 374	45 750
Payable/Accrued	--	--	--	--	--	--	--	--	--	--
Accrued Expenses	5 570	6 355	5 920	7 778	5 909	7 352	7 726	8 710	8 173	7 600
Notes Payable/Short Term Debt	0	0	0	9 346	2 991	1 532	12 454	18 186	6 935	25 900
Current Port. of LT Debt/Capital Leases	42 947	49 831	33 219	40 749	62 153	18 134	5 362	1 254	13 746	4 649
Other Current liabilities, Total	13 489	13 565	8 584	13 003	7 879	12 865	27 099	31 008	34 675	50 768
Dividends Payable	161	3 147	66	116	73	61	12 569	19 371	19 009	27 302
Customer Advances	11 300	9 227	6 085	11 029	6 347	9 435	10 494	8 083	11 703	17 931
Income Taxes Payable	--	--	--	--	--	1 409	1 153	1 185	372	1 328
Other Payables	837	550	1 612	1 219	584	1 164	1 903	1 603	2 663	3 247
Deferred Income Tax - Current Liability	--	--	--	--	--	--	--	--	--	--
Discontinued Operations - Curr Liability	--	--	--	--	--	--	--	--	248	0
Other Current Liabilities	1 191	642	822	639	875	796	980	766	681	959
Total Current Liabilities	82 127	88 572	67 918	93 340	103 661	65 368	91 214	97 691	96 903	134 667
Total Long Term Debt	98 771	68 315	71 141	99 957	69 594	10 966	13 550	17 908	33 189	41 027
Long Term Debt	98 739	68 315	71 141	99 957	69 594	10 905	13 492	17 141	32 631	40 437
Capital Lease Obligations	32	0	--	--	--	61	58	766	557	590
Total Debt	141 718	118 147	104 360	150 051	134 738	30 632	31 366	37 348	53 870	71 576
Deferred Income Tax	37 248	38 313	27 989	28 269	23 563	22 851	24 043	26 548	25 387	26 933
Deferred Income Tax - LT Liability	37 248	38 313	27 989	28 269	23 563	22 851	24 043	26 548	25 387	26 933
Minority Interest	5 119	4 736	1 085	1 858	948	1 103	1 384	1 463	1 362	1 402
Other Liabilities, Total	2 286	2 536	6 841	5 689	10 140	10 476	11 128	10 870	15 727	10 700
Reserves	1 417	1 558	5 953	5 108	9 192	9 496	9 110	9 198	14 118	9 224
Pension Benefits - Underfunded	869	978	888	580	948	980	1 095	1 045	1 300	1 328
Other Long Term Liabilities	--	--	--	--	--	--	923	627	310	148
Total Liabilities	225 551	202 471	174 975	229 112	207 906	110 764	141 319	154 481	172 569	214 729
Shareholders Equity (RUB Millions)										
Redeemable Preferred Stock, Total	--	--	--	--	--	--	--	--	--	--
Preferred Stock - Non Redeemable, Net	--	--	--	--	--	--	--	--	--	--
Common Stock, Total	12 427	11 793	12 696	22 406	28 159	23 648	22 256	26 896	23 901	28 483
Common Stock	12 427	11 793	12 696	22 406	28 159	23 648	22 256	26 896	23 901	28 483
Additional Paid-In Capital	35 735	33 852	33 548	57 757	70 688	59 364	55 870	67 520	60 000	71 503
Retained Earnings (Accumulated Deficit)	326 930	304 395	250 359	432 915	566 964	533 172	533 851	673 248	594 423	702 628
Treasury Stock - Common	(5 666)	(5 347)	(987)	(755)	(73)	0	--	--	--	--
ESOP Debt Guarantee	--	--	--	--	--	--	--	--	--	--
Unrealized Gain (Loss)	17 353	18 209	20 326	13 003	8 827	0	--	--	--	--
Other Equity, Total	(87 729)	(67 613)	(91 368)	(298 362)	(433 320)	(328 676)	(296 417)	(420 101)	(337 954)	(464 508)
Translation Adjustment	(87 729)	(67 613)	(91 368)	(298 362)	(433 320)	(328 676)	(296 417)	(420 101)	(337 954)	(464 508)
Total Equity	299 050	295 290	224 573	226 964	241 244	287 507	315 559	347 564	340 369	338 106

Magnitogorskiy Metallurgicheskiy Kombinat PAO | Income Statement **23-Nov-2021 01:06**

Income Statement

Annual Standardised in Millions of Russian Roubles, Consolidated

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Earnings Quality Score	21	31	49	86	96	80	84	95	76	90
Period End Date	31-Dec-2011	31-Dec-2012	31-Dec-2013	31-Dec-2014	31-Dec-2015	31-Dec-2016	31-Dec-2017	31-Dec-2018	31-Dec-2019	31-Dec-2020
Avg. FX Rate (USD/RUB)	29.395826	31.053928	31.858535	38.582248	61.158507	66.941053	58.290248	62.794955	64.671892	72.190790
Revenue	273 558	289 671	260 921	306 806	357 105	376 878	439 858	515 798	489 308	461 660
Net Sales	273 558	289 671	260 921	306 806	357 105	376 878	439 858	515 798	489 308	461 660
Other Revenue, Total	--	--	--	--	--	--	--	--	--	--
Total Revenue	273 558	289 671	260 921	306 806	357 105	376 878	439 858	515 798	489 308	461 660
Cost of Revenue, Total	228 935	245 792	222 787	240 676	249 404	257 054	308 705	349 077	357 894	340 091
Cost of Revenue	228 935	245 792	222 787	240 676	249 404	257 054	308 705	349 077	357 894	340 091
Gross Profit	44 623	43 879	38 135	66 130	107 700	119 824	131 153	166 721	131 413	121 569
Selling/General/Admin. Expenses, Total	27 015	30 837	32 655	32 255	36 634	39 897	42 610	47 724	44 818	45 480
Selling/General/Administrative Expense	18 990	21 645	23 607	23 497	28 439	31 730	34 916	39 498	36 475	36 962
Labor & Related Expense	8 025	9 192	8 857	8 488	7 706	8 033	7 578	8 101	8 149	8 374
Advertising Expense	--	--	191	270	489	134	117	126	194	144
Research & Development	147	124	159	116	122	134	175	0	65	0
Depreciation/Amortization	676	745	701	733	1 040	1 205	1 399	1 507	1 617	1 805
Depreciation	676	745	701	733	1 040	1 205	1 399	1 507	1 617	1 805
Amortization of Intangibles	--	--	--	--	--	--	--	--	--	--
Interest Expense, Net - Operating	--	--	--	--	--	--	--	--	--	--
Interest/Investment Income - Operating	--	--	--	(1 080)	(367)	(201)	--	--	--	--
Investment Income - Operating	--	--	--	(1 080)	(367)	(201)	--	--	--	--
Interest Expense(Income) - Net Operating	--	--	--	--	--	--	--	--	--	--
Interest Exp.(Inc.),Net-Operating, Total	--	--	--	(1 080)	(367)	(201)	--	--	--	--
Unusual Expense (Income)	3 263	4 192	6 690	1 891	61	669	874	(126)	647	5 053
Litigation	--	--	--	--	--	--	--	126	647	1 227
Impairment-Assets Held for Use	1 205	528	--	--	--	--	--	--	--	--
Impairment-Assets Held for Sale	--	--	--	--	--	--	--	--	--	--
Loss(Gain) on Sale of Assets - Operating	2 058	3 664	2 517	2 199	917	937	1 632	1 193	841	4 765
Other Unusual Expense (Income)	0	--	4 173	(309)	(856)	(268)	(758)	(1 444)	(841)	(938)
Other Operating Expenses, Total	3 998	248	(7 614)	1 235	1 957	(19 748)	1 282	2 512	1 875	1 227
Other Operating Expense	2 352	2 143	1 625	1 119	1 712	1 004	991	1 068	1 293	1 588
Other, Net	1 646	(1 894)	(9 239)	116	245	(20 752)	291	1 444	582	(361)
Total Operating Expense	264 033	281 939	255 378	275 824	288 852	279 010	355 046	400 695	406 916	393 656
Operating Income	9 524	7 732	5 543	30 982	68 253	97 868	84 812	115 103	82 392	68 004
Interest Expense, Net Non-Operating	(7 907)	(6 956)	(5 958)	(5 980)	(8 195)	(6 694)	(1 632)	(1 005)	(1 552)	(1 733)
Interest Expense - Non-Operating	(7 907)	(6 956)	(5 958)	(5 980)	(8 195)	(6 694)	(1 632)	(1 005)	(1 552)	(1 733)
Interest/Invest Income - Non-Operating	(323)	1 708	(4 556)	(23 458)	(8 195)	4 954	699	3 642	711	(7 652)
Interest Income, Non-Operating	--	--	--	--	--	--	--	--	--	--

Interest Expense, Net Non-Operating	(7 907)	(6 956)	(5 958)	(5 980)	(8 195)	(6 694)	(1 632)	(1 005)	(1 552)	(1 733)
Interest Expense - Non-Operating	(7 907)	(6 956)	(5 958)	(5 980)	(8 195)	(6 694)	(1 632)	(1 005)	(1 552)	(1 733)
Interest/Invest Income - Non-Operating	(323)	1 708	(4 556)	(23 458)	(8 195)	4 954	699	3 642	711	(7 652)
Interest Income - Non-Operating	--	--	--	--	--	--	--	--	--	--
Investment Income - Non-Operating	(323)	1 708	(4 556)	(23 458)	(8 195)	4 954	699	3 642	711	(7 652)
Interest Income(Exp), Net Non-Operating	--	--	--	--	--	--	--	--	--	--
Interest Inc.(Exp.),Net-Non-Op., Total	(8 231)	(5 248)	(10 513)	(29 438)	(16 390)	(1 740)	(933)	2 637	(841)	(9 385)
Gain (Loss) on Sale of Assets	--	--	--	--	--	--	--	--	--	--
Other, Net	(5 438)	(4 441)	(82 163)	(3 627)	(14 372)	(6 292)	3 264	(6 279)	(10 736)	(1 588)
Other Non-Operating Income (Expense)	(5 438)	(4 441)	(82 163)	(3 627)	(14 372)	(6 292)	3 264	(6 279)	(10 736)	(1 588)
Net Income Before Taxes	(4 145)	(1 956)	(87 133)	(2 083)	37 490	89 835	87 144	111 461	70 816	57 031
Provision for Income Taxes	(470)	963	(9 749)	(386)	11 742	15 463	17 837	28 760	15 457	13 427
Net Income After Taxes	(3 674)	(2 919)	(77 384)	(1 698)	25 748	74 372	69 307	82 701	55 359	43 603
Minority Interest	147	93	924	39	(61)	0	(291)	(126)	(388)	(72)
Equity In Affiliates	--	--	--	--	--	--	--	--	--	--
U.S. GAAP Adjustment	--	--	--	--	--	--	--	--	--	--
Net Income Before Extra. Items	(3 527)	(2 826)	(76 460)	(1 659)	25 687	74 372	69 016	82 575	54 971	43 531
Accounting Change	--	--	--	--	--	--	--	--	--	--
Discontinued Operations	--	--	--	--	--	--	--	--	--	--
Extraordinary Item	--	--	--	--	--	--	--	--	--	--
Tax on Extraordinary Items	--	--	--	--	--	--	--	--	--	--
Total Extraordinary Items	--	--	--	--	--	--	--	--	--	--
Net Income	(3 527)	(2 826)	(76 460)	(1 659)	25 687	74 372	69 016	82 575	54 971	43 531
Preferred Dividends	--	--	--	--	--	--	--	--	--	--
General Partners' Distributions	--	--	--	--	--	--	--	--	--	--
Miscellaneous Earnings Adjustment	--	--	--	--	--	--	--	--	--	--
Pro Forma Adjustment	--	--	--	--	--	--	--	--	--	--
Interest Adjustment - Primary EPS	--	--	--	--	--	--	--	--	--	--
Total Adjustments to Net Income	--	--	--	--	--	--	--	--	--	--
Income Available to Com Excl ExtraOrd	(3 527)	(2 826)	(76 460)	(1 659)	25 687	74 372	69 016	82 575	54 971	43 531
Income Available to Com Incl ExtraOrd	(3 527)	(2 826)	(76 460)	(1 659)	25 687	74 372	69 016	82 575	54 971	43 531
Basic Weighted Average Shares	11 006	11 006	11 017	11 146	11 162	11 174	11 174	11 174	11 174	11 174
Basic EPS Excluding Extraordinary Items	(0,32)	(0,26)	(6,94)	(0,15)	2,30	6,66	6,18	7,39	4,92	3,90
Basic EPS Including Extraordinary Items	(0,32)	(0,26)	(6,94)	(0,15)	2,30	6,66	6,18	7,39	4,92	3,90
Dilution Adjustment	0	0	--	--	--	--	--	--	--	--
Diluted Net Income	(3 527)	(2 826)	(76 460)	(1 659)	25 687	74 372	69 016	82 575	54 971	43 531
Diluted Weighted Average Shares	11 006	11 006	11 017	11 146	11 162	11 174	11 174	11 174	11 174	11 174
Diluted EPS Excluding ExtraOrd Items	(0,32)	(0,26)	(6,94)	(0,15)	2,30	6,66	6,18	7,39	4,92	3,90
Diluted EPS Including ExtraOrd Items	(0,32)	(0,26)	(6,94)	(0,15)	2,30	6,66	6,18	7,39	4,92	3,90
Supplemental (RUB Millions)										
DPS - Common Stock Primary Issue	0,00	--	0,00	0,00	0,75	2,14	2,82	5,32	5,57	3,86

Ratios - Profit/Value/Risk

Annual in Millions of U.S. Dollars, Consolidated

Fiscal Period: / Period End Date:	2011 31-Dec-2011	2012 31-Dec-2012	2013 31-Dec-2013	2014 31-Dec-2014	2015 31-Dec-2015	2016 31-Dec-2016	2017 31-Dec-2017	2018 31-Dec-2018	2019 31-Dec-2019	31-Dec-2
Profitability/Return										
Sales/Receivables, FY	18,11	17,92	15,35	15,89	14,19	13,80	12,97	12,75	13,62	1
Revenue/Inventory, FY	6,18	5,41	5,20	6,40	6,20	5,79	6,07	6,23	6,22	
Revenue/Wk Cap, FY	11,52	20,39	26,81	14,96	9,02	6,97	6,54	6,15	5,47	
Revenue/Tot Assets, FY	0,56	0,57	0,58	0,80	0,83	0,89	1,05	1,09	0,98	
EBITDA/Comm Shr Eqty, %, FY	13,72%	14,29%	16,61%	29,24%	45,67%	48,80%	39,66%	45,83%	34,22%	29,
EBITDA/Tot Eqty, %, FY	13,72%	14,29%	16,61%	29,24%	45,67%	48,80%	39,66%	45,83%	34,22%	29,
EBITDA/Tot Assets, %, FY	8,12%	8,31%	9,63%	15,70%	23,52%	30,84%	27,95%	31,69%	23,16%	18,
ROFA Fixed Assets, %, FY	(0,95%)	(0,73%)	(21,52%)	(0,58%)	8,69%	25,97%	25,11%	27,81%	17,54%	12,
ROE Comm Eqty, %, FY	(1,23%)	(0,96%)	(29,10%)	(0,80%)	11,64%	27,78%	23,29%	25,14%	16,21%	11,
ROA Tot Assets, %, FY	(0,76%)	(0,58%)	(17,08%)	(0,44%)	6,01%	17,55%	16,49%	17,41%	11,05%	7,
Inc Avail Comm/Tot Eqty, %, FY	(1,23%)	(0,96%)	(29,10%)	(0,80%)	11,64%	27,78%	23,29%	25,14%	16,21%	11,
Reinvestment Rate, %, FY	(1,23%)	(0,96%)	(29,10%)	(0,80%)	7,86%	18,83%	13,00%	5,51%	(1,77%)	(7,5
Revenue/Employee, FY	-	-	-	-	302 531,02	307 238,94	418 849,91	458 344,96	-	
Value										
Hist Mkt Cap, FY	4 217,96	3 750,39	2 510,71	2 077,84	2 890,78	6 067,51	8 112,69	6 902,17	7 570,57	8 45
Hist Mkt Cap, %Prd/Prd, FY	(64,44%)	(11,09%)	(33,05%)	(17,24%)	39,12%	109,89%	33,71%	(14,92%)	9,68%	11,
Hist EV, FY	8 307,96	7 348,39	5 545,71	4 137,84	4 022,78	6 269,51	8 116,69	6 713,17	7 349,57	8 37
Hist EV, %Prd/Prd, FY	(45,10%)	(11,55%)	(24,53%)	(25,39%)	(2,78%)	55,85%	29,46%	(17,29%)	9,48%	13,
Hist EV/Revenue, FY	0,89	0,79	0,68	0,52	0,69	1,11	1,08	0,82	0,97	
Hist EV/EBITDA, FY	6,20	5,43	4,05	2,64	2,44	3,21	4,03	2,80	4,10	
Hist EV/FCF, FY	-	37,68	-	52,38	8,00	6,67	12,53	37,30	-	
Hist EV/OCF, FY	17,13	6,16	5,95	3,30	2,97	5,26	5,98	3,56	4,29	
Hist EV/FOCF, FY	-	14,35	26,92	6,57	4,46	11,68	29,95	36,48	-	
Hist Price/Rev/Shr (dil.), FY	0,45	0,40	0,30	0,26	0,49	1,08	1,08	0,84	1,00	
Hist Price/EBITDA/Shr (dil), FY	3,15	2,77	1,81	1,32	1,75	3,11	4,02	2,88	4,22	
Hist P/E, FY	-	-	-	-	6,88	5,46	6,85	5,25	8,91	1
Hist P/E Normalized (dil), FY	-	-	-	-	6,86	5,42	6,78	5,25	8,83	1
Hist Price/CF/Shr (dil.), FY	5,40	4,28	-	2,96	3,01	3,81	4,68	3,67	5,54	
Hist Price/FCF/Shr (dil.), FY	-	19,23	-	26,30	5,74	6,45	12,52	38,35	-	
Hist Price/OCF/Shr (dil.), FY	8,70	3,14	2,66	1,66	2,13	5,09	5,97	3,66	4,41	
Hist Price/FOCF/Shr (dil.), FY	-	7,32	12,03	3,30	3,21	11,30	29,94	37,51	-	
Hist Price/Comm Eqty, FY	0,45	0,39	0,37	0,53	0,87	1,29	1,48	1,38	1,38	
Hist Price/Tang Comm Eqty, FY	0,47	0,40	0,37	0,53	0,88	1,30	1,49	1,39	1,39	
Hist Price/Bk, Tot Eqty, FY	0,45	0,39	0,37	0,53	0,87	1,29	1,48	1,38	1,38	
Hist Price/Tang Bk, Tot Eqty, FY	0,47	0,40	0,37	0,53	0,88	1,30	1,49	1,39	1,39	
Hist Div Yield Comm Stk Primary, %, FY	0,00%	-	0,00%	0,00%	4,72%	5,90%	6,66%	13,71%	12,72%	7,
Risk										
Beta 5 Yr Mthly	-	-	-	-	-	-	-	-	-	
Beta Up 5 Yr Mthly	-	-	-	-	-	-	-	-	-	
Beta Down 5 Yr Mthly	-	-	-	-	-	-	-	-	-	

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Balance Sheet

Annual Standardised in Millions of Russian Roubles, Consolidated

	2011	2012	2012	2013	2013	2013	2013	2014	2014	2015	2016	2017	2018	2019	2020
Earnings Quality Score	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	34	35	33	55	40
Period End Date	31-Dec-2011	31-Dec-2012	31-Dec-2012	31-Dec-2013	31-Dec-2013	31-Dec-2013	31-Dec-2013	31-Dec-2014	31-Dec-2014	31-Dec-2015	31-Dec-2016	31-Dec-2017	31-Dec-2018	31-Dec-2019	31-Dec-2020
Period End FX Rate (Multiple Currencies)	32.194000	30.552500	30.552500	32.890000	32.890000	32.890000	1.000000	58.047000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Assets (RUB Millions)															
Cash and Short Term Investments	20 924	9 097	8 969	8 832	9 030	8 977	9 339	4 110	4 169	3 124	1 856	3 014	2 311	3 872	1 847
Cash	--	--	--	--	--	--	8 820	--	3 963	3 078	1 689	2 452	1 894	3 602	1 771
Cash & Equivalents	20 689	9 012	8 969	8 832	9 030	8 977	159	4 110	20	1	--	--	(91)	(93)	(65)
Short Term Investments	234	85	--	--	--	--	360	--	186	45	167	562	508	363	141
Accounts Receivable - Trade, Net	26 285	21 554	21 403	19 420	19 513	19 339	17 996	19 177	16 854	10 582	(9 616)	14 795	14 202	12 407	12 368
Accounts Receivable - Trade, Gross	27 768	24 131	23 621	22 092	22 205	22 030	29 776	23 153	31 221	26 834	24 325	23 878	24 039	21 262	21 863
Provision for Doubtful Accounts	(1 483)	(2 578)	(2 219)	(2 672)	(2 692)	(2 691)	(11 976)	(3 976)	(14 505)	(16 348)	(33 941)	(9 083)	(9 837)	(8 855)	(9 495)
Total Receivables, Net	85 235	48 377	34 249	21 288	21 381	21 207	29 980	19 717	25 094	19 656	22 740	22 282	21 491	19 375	20 323
Notes Receivable - Short Term	93	60	--	--	--	--	--	--	--	--	--	--	--	--	--
Receivables - Other	58 857	26 763	12 846	1 868	1 868	1 868	11 984	540	8 240	9 074	32 356	7 487	7 289	6 968	7 955
Total Inventory	83 476	63 341	61 103	45 289	46 483	46 305	46 629	37 189	36 337	35 189	35 227	37 990	43 423	39 773	42 138
Inventories - Finished Goods	49 281	38 182	--	25 924	--	26 326	26 510	20 528	19 941	17 924	15 907	15 950	19 762	17 565	19 305
Inventories - Work In Progress	9 822	7 292	--	6 459	--	6 511	6 742	5 832	5 843	5 769	5 654	6 990	8 681	8 565	9 655
Inventories - Raw Materials	24 373	17 867	--	12 906	--	13 467	13 377	10 829	10 553	11 496	13 666	15 050	14 980	13 643	13 178
Prepaid Expenses	3 273	3 040	14 730	12 412	14 557	14 459	2 525	13 833	2 605	3 545	3 873	4 049	4 778	2 930	4 428
Other Current Assets, Total	2 597	3 782	65 356	6 002	1 150	1 653	329	14 095	10 272	1 606	69	127	137	82	120
Deferred Income Tax - Current Asset	1 150	966	863	1 150	1 150	825	--	5 295	--	--	--	--	--	--	--
Discountinued Operations - Current Asset	522	1 809	64 493	4 852	--	827	--	8 800	8 696	--	--	--	--	--	--
Other Current Assets	925	1 006	--	--	--	--	329	--	1 576	1 606	69	127	137	82	120
Total Current Assets	195 503	127 637	184 407	93 823	92 601	92 601	88 802	88 944	78 477	63 120	63 765	67 462	72 140	66 032	68 856
Property/Plant/Equipment, Total - Gross	286 527	303 786	--	425 740	--	345 998	330 981	366 685	340 489	341 002	336 174	344 803	351 950	367 253	247 092
Buildings - Gross	45 349	47 851	--	47 069	--	47 752	64 226	57 655	73 577	78 265	77 659	80 813	80 751	84 537	75 871
Land/Improvements - Gross	4 103	3 211	--	3 202	--	3 091	3 210	2 821	3 122	3 313	3 049	3 095	2 941	5 498	2 947
Machinery/Equipment - Gross	113 079	121 648	--	119 384	--	111 302	153 815	123 858	161 252	232 588	234 332	241 250	246 370	255 742	147 780
Construction in Progress - Gross	102 354	107 966	--	110 065	--	110 023	109 730	105 234	102 538	26 836	21 134	19 645	21 888	21 476	7 654
Natural Resources - Gross	--	--	--	127 584	--	56 159	--	57 639	--	--	--	--	--	--	--
Other Property/Plant/Equipment - Gross	21 643	23 108	--	18 435	--	17 670	--	19 477	--	--	--	--	--	--	12 840
Property/Plant/Equipment, Total - Net	379 352	380 608	324 880	332 428	333 601	263 764	226 253	270 753	224 299	215 844	204 353	197 875	189 879	196 992	94 185
Accumulated Depreciation, Total	(59 571)	(65 512)	--	(93 312)	--	(82 233)	(104 728)	(95 932)	(116 190)	(125 158)	(131 821)	(146 928)	(162 071)	(170 261)	(152 907)
Goodwill, Net	33 788	24 407	23 917	22 621	22 621	22 621	22 520	23 405	22 697	21 378	18 355	18 331	16 039	12 843	9 609
Goodwill - Gross	--	--	--	--	--	--	32 781	--	33 463	33 201	30 915	32 878	32 968	32 911	33 001
Accumulated Goodwill Amortization	--	--	--	--	--	--	(10 261)	--	(10 766)	(11 823)	(12 560)	(14 547)	(16 929)	(20 068)	(23 392)
Intangibles, Net	--	--	--	423	--	468	51 727	517	40 122	38 517	36 099	34 120	32 912	31 884	19 232
Intangibles - Gross	--	--	--	--	--	--	126 680	--	55 712	55 783	55 783	56 498	56 498	56 498	43 652

Intangibles, Net	--	--	--	423	--	468	51 727	517	40 122	38 517	36 099	34 120	32 912	31 884	19 232
Intangibles - Gross	--	--	--	--	--	--	126 680	--	55 712	55 783	55 783	56 498	56 498	56 498	43 652
Accumulated Intangible Amortization	--	--	--	--	--	--	(74 953)	--	(15 590)	(17 266)	(19 684)	(22 378)	(23 586)	(24 614)	(24 420)
Long Term Investments	713	688	682	736	736	736	794	592	763	478	500	485	537	553	786
LT Investment - Affiliate Companies	262	240	240	250	250	250	251	357	274	284	265	283	293	321	341
LT Investments - Other	451	448	443	486	486	486	543	236	489	194	235	202	244	232	445
Note Receivable - Long Term	--	--	--	--	0	--	--	--	--	--	--	--	--	--	--
Other Long Term Assets, Total	12 304	7 296	6 750	4 986	5 458	74 827	2 998	5 487	2 900	2 735	2 393	854	6 118	4 201	1 172
Deferred Charges	--	--	--	1 416	--	381	--	416	--	--	--	--	--	--	--
Pension Benefits - Overfunded	--	--	--	565	--	565	--	573	--	--	--	--	--	--	--
Defered Income Tax - Long Term Asset	896	1 688	1 683	167	167	167	517	4 235	1 438	1 492	1 502	96	5 488	3 648	561
Discontinued Operations - LT Asset	4 849	0	--	0	--	70 923	--	0	--	--	--	--	--	--	--
Other Long Term Assets	6 559	5 608	5 067	2 839	5 292	2 792	2 481	262	1 462	1 243	891	758	630	553	611
Total Assets	621 660	540 636	540 636	455 017	455 017	455 017	393 094	389 698	369 258	342 072	325 465	319 127	317 625	312 505	193 840
Liabilities (RUB Millions)															
Accounts Payable	37 107	38 265	36 572	33 844	34 619	34 084	27 131	32 071	26 373	26 300	21 335	18 999	24 288	27 806	32 290
Payable/Accrued	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Accrued Expenses	9 753	10 922	10 707	12 472	12 607	11 907	10 369	48 179	23 812	36 423	27 055	27 965	14 627	18 857	21 350
Notes Payable/Short Term Debt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Current Port. of LT Debt/Capital Leases	88 478	48 665	47 916	52 878	52 878	52 654	252 504	403 399	373 585	445 319	401 956	385 539	404 051	378 688	306 329
Other Current liabilities, Total	17 237	16 919	29 696	18 995	17 781	19 239	58 220	28 532	59 702	72 494	55 000	51 645	33 229	34 088	39 374
Dividends Payable	0	94	94	108	108	108	--	107	--	--	--	--	--	--	--
Customer Advances	6 632	4 732	3 753	3 015	4 635	4 635	4 290	4 737	4 286	3 492	3 815	4 385	5 028	5 816	6 067
Income Taxes Payable	8 975	10 219	9 964	11 717	11 729	11 288	3 173	14 320	3 033	5 549	2 552	4 578	6 425	9 161	7 843
Other Payables	--	--	--	--	--	--	25 866	--	35 164	28 302	19 650	14 470	10 512	10 585	11 493
Deferred Income Tax - Current Liability	1 346	1 176	1 176	1 242	1 242	1 242	--	458	--	--	--	--	--	--	--
Discontinued Operations - Curr Liability	167	544	14 559	2 847	--	1 900	--	8 709	--	--	--	--	--	--	--
Other Current Liabilities	117	153	151	66	66	66	24 891	202	17 219	35 151	28 983	28 212	11 264	8 526	13 971
Total Current Liabilities	152 574	114 771	124 891	118 189	117 885	117 885	348 224	512 182	483 472	580 536	505 346	484 148	476 195	459 439	399 343
Total Long Term Debt	228 812	252 891	252 649	257 104	257 104	256 876	28 224	9 830	9 492	4 789	12 065	19 238	8 951	14 207	6 159
Long Term Debt	216 731	242 266	242 026	247 340	247 340	247 112	25 251	9 667	9 346	4 308	11 644	17 360	6 538	7 205	2 201
Capital Lease Obligations	12 081	10 625	10 623	9 765	9 765	9 764	2 973	163	146	481	421	1 878	2 413	7 002	3 958
Total Debt	317 289	301 556	300 565	309 983	309 983	309 530	280 728	413 229	383 077	450 108	414 021	404 777	413 002	392 895	312 488
Deferred Income Tax	48 770	45 828	37 242	35 614	35 614	16 650	17 475	10 448	3 053	11 090	16 282	11 494	13 506	13 877	6 773
Deferred Income Tax - LT Liability	48 770	45 828	37 242	35 614	35 614	16 650	17 475	10 448	3 053	11 090	16 282	11 494	13 506	13 877	6 773
Minority Interest	11 955	11 068	11 068	9 681	9 681	9 681	9 500	8 905	8 253	5 948	7 686	8 933	9 846	11 631	13 618
Other Liabilities, Total	18 773	19 000	17 708	17 408	17 713	36 905	12 659	10 754	19 654	7 511	44 360	48 380	52 168	58 579	12 236
Reserves	1 275	1 370	1 338	1 879	1 879	1 663	4 303	2 537	2 998	3 439	3 420	3 814	3 719	5 238	4 802
Pension Benefits - Underfunded	4 625	5 414	5 097	4 693	4 997	3 438	4 903	3 496	3 445	3 746	3 501	3 512	3 819	4 933	5 232
Other Long Term Liabilities	12 315	12 216	11 273	10 836	10 836	9 650	3 453	4 721	4 604	326	37 439	41 054	44 630	48 408	2 202
Discontinued Operations - Liabilities	558	0	--	--	--	22 154	--	0	8 607	--	--	--	--	--	--
Total Liabilities	460 883	443 559	443 559	437 997	437 997	437 997	416 082	552 118	523 924	609 874	585 739	572 193	560 666	557 733	438 129

Shareholders Equity (RUB Millions)															
Redeemable Preferred Stock, Total	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Preferred Stock - Non Redeemable, Net	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Common Stock, Total	4 298	4 079	4 079	4 391	4 391	4 391	4 163	7 750	4 163	4 163	4 163	4 163	4 163	4 163	4 163
Common Stock	4 298	4 079	4 079	4 391	4 391	4 391	4 163	7 750	4 163	4 163	4 163	4 163	4 163	4 163	4 163
Additional Paid-In Capital	27 236	25 823	25 823	27 434	27 434	27 434	26 424	48 419	26 425	29 155	29 159	25 211	25 211	25 274	24 250
Retained Earnings (Accumulated Deficit)	139 907	76 390	76 390	(14 072)	(14 072)	(14 072)	(53 575)	(276 502)	(185 254)	(301 120)	(293 596)	(282 440)	(272 415)	(274 602)	(271 795)
Treasury Stock - Common	--	--	--	--	--	--	--	--	--	--	--	--	--	(63)	(907)
ESOP Debt Guarantee	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Unrealized Gain (Loss)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Other Equity, Total	(10 665)	(9 215)	(9 215)	(733)	(733)	(733)	--	57 913	--	--	--	--	--	--	--
Other Equity	815	773	773	833	833	833	--	1 469	--	--	--	--	--	--	--
Other Comprehensive Income	(11 480)	(9 989)	(9 989)	(1 566)	(1 566)	(1 566)	--	56 444	--	--	--	--	--	--	--
Total Equity	160 776	97 077	97 077	17 020	17 020	17 020	(22 988)	(162 420)	(154 666)	(267 802)	(260 274)	(253 066)	(243 041)	(245 228)	(244 289)
Total Liabilities & Shareholders' Equity	621 660	540 636	540 636	455 017	455 017	455 017	393 094	389 698	369 258	342 072	325 465	319 127	317 625	312 505	193 840
Supplemental (RUB Millions)															
Shares Outstanding - Common Issue 2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Shares Outstanding - Common Issue 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Shares Outstanding - Common Issue 4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Common Shares Outstanding	416	416	416	416	416	416	416	416	416	416	416	416	416	415	405
Shares Outs - Common Stock Primary Issue	416	416	416	416	416	416	416	416	416	416	416	416	416	415	405
Treas Shares - Common Stock Prmry Issue	--	--	0	0	0	0	0	0	0	0	0	0	0	1	11
Treasury Shares - Common Issue 2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Treasury Shares - Common Issue 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Treasury Shares - Common Issue 4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Preferred Shares Outstanding	83	83	83	83	83	83	83	83	83	139	139	139	139	139	139
Shares Outstanding - Preferred Issue 1	83	83	83	83	83	83	83	83	83	139	139	139	139	139	139
Treasury Shares - Preferred Issue 1	--	--	--	--	--	--	0	--	0	0	0	0	0	0	0
Treasury Shares - Preferred Issue 2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Treasury Shares - Preferred Issue 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Treasury Shares - Preferred Issue 4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Treasury Shares - Preferred Issue 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Treasury Shares - Preferred Issue 6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minority Interest - Redeemable	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minority Interest - Non Redeemable	11 955	11 068	11 068	9 681	9 681	9 681	9 500	8 905	8 253	5 948	7 686	8 933	9 846	11 631	13 618
Total Equity & Minority Interest	172 731	108 145	108 145	26 701	26 701	26 701	(13 488)	(153 515)	(146 413)	(261 854)	(252 588)	(244 133)	(233 195)	(233 597)	(230 671)
Full-Time Employees	96 868	90 465	90 465	71 635	71 635	71 635	71 635	67 880	67 880	65 900	61 500	59 971	59 383	--	--
Part-Time Employees	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Number of Common Shareholders	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Other Property/Plant/Equipment - Net	152 396	142 334	324 880	--	333 601	--	--	--	--	--	--	--	--	--	--
Intangibles - Net	--	--	--	423	--	468	--	517	--	--	--	--	--	--	--

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Ratios - Profit/Value/Risk

Annual in Millions of Russian Roubles, Consolidated

Fiscal Period: / Period End Date:	2011 31-Dec-2011	2012 31-Dec-2012	2013 31-Dec-2013	2014 31-Dec-2014	2015 31-Dec-2015	2016 31-Dec-2016	2017 31-Dec-2017	2018 31-Dec-2018	2019 31-Dec-	2020 31-Dec-
Profitability/Return										
Sales/Receivables, FY	17,01	14,01	13,30	13,48	18,45	571,45	115,51	20,95	21,58	21,43
Revenue/Inventory, FY	5,14	4,62	5,05	5,90	7,08	7,84	8,17	7,46	6,90	6,48
Revenue/Wk Cap, FY	12,47	6,52	15,83	-	-	-	-	-	-	-
Revenue/Tot Assets, FY	0,65	0,57	0,54	0,59	0,71	0,83	0,93	0,95	0,91	1,05
EBITDA/Comm Shr Eqty, %, FY	46,11%	25,31%	12,71%	-	-	-	-	-	-	-
EBITDA/Tot Eqty, %, FY	46,11%	25,31%	12,71%	-	-	-	-	-	-	-
EBITDA/Tot Assets, %, FY	12,62%	5,61%	1,46%	6,49%	12,24%	21,17%	25,10%	23,06%	16,36%	15,40%
ROFA Fixed Assets, %, FY	6,82%	(10,96%)	(16,16%)	(40,23%)	(43,93%)	3,70%	5,27%	9,03%	4,78%	(23,01%)
ROE Comm Eqty, %, FY	13,18%	(32,69%)	(95,50%)	-	-	-	-	-	-	-
ROA Tot Assets, %, FY	4,43%	(6,83%)	(10,91%)	(29,67%)	(32,46%)	2,77%	3,90%	6,56%	3,52%	(15,86%)
Inc Avail Comm/Tot Eqty, %, FY	13,18%	(32,69%)	(95,50%)	-	-	-	-	-	-	-
Reinvestment Rate, %, FY	8,49%	(32,69%)	(95,50%)	-	-	-	-	-	-	-
Revenue/Employee, FY	3 904 527,55	3 565 189,41	3 343 448,47	3 497 717,09	3 784 437,14	4 332 951,33	4 924 846,26	5 090 654,69	-	-
Value										
Hist Mkt Cap, FY	112 642,86	85 085,74	27 723,63	10 286,05	27 015,97	75 449,07	61 504,00	30 583,41	26 219,00	32 017,79
Hist Mkt Cap, %Prd/Prd, FY	(69,35%)	(24,46%)	(67,42%)	(62,90%)	162,65%	179,28%	(18,48%)	(50,27%)	(14,27%)	22,12%
Hist EV, FY	420 963,13	387 749,96	337 957,54	397 447,05	479 947,97	495 300,07	472 200,00	451 120,41	426 873,00	356 276,79
Hist EV, %Prd/Prd, FY	(28,66%)	(7,89%)	(12,84%)	17,60%	20,76%	3,20%	(4,66%)	(4,46%)	(5,37%)	(16,54%)
Hist EV/Revenue, FY	1,17	1,16	1,25	1,63	1,90	1,79	1,58	1,48	1,49	1,34
Hist EV/EBITDA, FY	6,04	11,88	46,60	14,86	11,03	7,01	5,84	6,15	8,28	9,14
Hist EV/FCF, FY	-	-	-	-	-	22,71	23,62	15,59	23,13	-
Hist EV/OCF, FY	16,22	9,53	32,48	9,24	12,35	9,31	7,46	6,63	7,40	9,38
Hist EV/FOCF, FY	-	71,71	-	12,56	14,24	10,22	8,56	7,39	8,56	10,84
Hist Price/Rev/Shr (dil.), FY	0,31	0,25	0,10	0,04	0,11	0,27	0,21	0,10	0,09	0,12
Hist Price/EBITDA/Shr (dil), FY	1,62	2,61	3,82	0,38	0,62	1,07	0,76	0,42	0,51	0,84
Hist P/E, FY	5,65	-	-	-	-	9,99	5,32	1,53	2,86	-
Hist P/E Normalized (dil), FY	5,53	-	-	-	-	5,24	3,46	1,16	2,51	-
Hist Price/CF/Shr (dil.), FY	3,13	-	-	-	-	2,84	2,19	0,85	1,00	-
Hist Price/FCF/Shr (dil.), FY	-	-	-	-	-	3,46	3,08	1,06	1,42	-
Hist Price/OCF/Shr (dil.), FY	4,34	2,09	2,66	0,24	0,70	1,42	0,97	0,45	0,46	0,86
Hist Price/FOCF/Shr (dil.), FY	-	15,74	-	0,33	0,80	1,56	1,11	0,50	0,53	0,99
Hist Price/Comm Eqty, FY	0,70	0,88	1,63	-	-	-	-	-	-	-
Hist Price/Tang Comm Eqty, FY	0,89	1,16	-	-	-	-	-	-	-	-
Hist Price/Bk, Tot Eqty, FY	0,70	0,88	1,63	-	-	-	-	-	-	-
Hist Price/Tang Bk, Tot Eqty, FY	0,89	1,16	-	-	-	-	-	-	-	-
Hist Div Yield Comm Stk Primary, %, FY	2,73%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
Risk										
Beta 5 Yr Mthly	-	-	-	-	-	-	-	-	-	-
Beta Up 5 Yr Mthly	-	-	-	-	-	-	-	-	-	-
Beta Down 5 Yr Mthly	-	-	-	-	-	-	-	-	-	-

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Appendix 6. Uploading data for research: non-financial indicators

REFINITIV ESG STATEMENT VIEW - EVRAZ PLC (EVRE.L)

Environment

	2020	2019	2018	2017	2016
Period End Date	2020-12-31	2019-12-31	2018-12-31	2017-12-31	2016-12-31
Reporting Currency	USD	USD	USD	USD	USD
Period Status	Complete	Complete	Complete	Complete	Complete
ESG Report	Yes	Yes	Yes	Yes	Yes
ESG Reporting Scope	100%	100%	100%	100%	100%
ESG Report Auditor Name	Ernst & Young LLP	Ernst & Young LLP	--	Lintstock LLP	--
ESG Combined Score	**A-**	**A-**	**B**	**C**	**C+**
ESG Score (Weight 100.0%)	**A-**	**A-**	**B**	**B-**	**C+**
Environmental Pillar Score (Weight 35.2%)	**B+**	**A-**	**B**	**B**	**C+**
Social Pillar Score (Weight 40.2%)	**A-**	**A-**	**B**	**B**	**B-**
Governance Pillar Score (Weight 24.6%)	**A-**	**A-**	**B+**	**C+**	**C**
ESG Controversies Score	**A+**	**A+**	**A+**	**D**	**A+**
Resource Use (Weight 16.4%)	**A-**	**A**	**C+**	**B-**	**B-**
Resource Reduction Policy	TRUE	TRUE	TRUE	TRUE	TRUE
Policy Water Efficiency	TRUE	TRUE	TRUE	TRUE	TRUE
Policy Energy Efficiency	TRUE	TRUE	TRUE	TRUE	TRUE
Policy Sustainable Packaging	FALSE	FALSE	FALSE	FALSE	FALSE
Policy Environmental Supply Chain	TRUE	TRUE	FALSE	FALSE	FALSE
Resource Reduction Targets	TRUE	TRUE	TRUE	TRUE	TRUE
Targets Water Efficiency	TRUE	TRUE	TRUE	TRUE	TRUE
Targets Energy Efficiency	FALSE	TRUE	FALSE	FALSE	FALSE
Environment Management Team	TRUE	TRUE	TRUE	TRUE	TRUE

REFINITIV ESG STATEMENT VIEW - SEVERSTAL' PAO (CHMF.MM)					
Environment					
	2020	**2019**	**2018**	**2017**	**2016**
Period End Date	2020-12-31	2019-12-31	2018-12-31	2017-12-31	2016-12-31
Reporting Currency	USD	USD	USD	USD	USD
Period Status	Complete	Complete	Complete	Complete	Complete
ESG Report	Yes	Yes	Yes	Yes	Yes
ESG Reporting Scope	100%	100%	100%	100%	100%
ESG Report Auditor Name	f Industrialists and Entf	Industrialists and Ent	Industrialists and Entr	Industrialists and Entr	Prokopov,E. N. Feoktistova
ESG Combined Score	**B+**	**B+**	**B**	**B+**	**B-**
ESG Score (Weight 100.0%)	**B+**	**B+**	**B**	**B+**	**B-**
Environmental Pillar Score (Weight 35.2%)	**A-**	**A**	**A-**	**B+**	**B+**
Social Pillar Score (Weight 40.2%)	**B+**	**B+**	**B-**	**B**	**C**
Governance Pillar Score (Weight 24.6%)	**B-**	**B**	**B**	**B+**	**B**
ESG Controversies Score	**A+**	**A+**	**A+**	**A+**	**A+**
Resource Use (Weight 16.4%)	**A+**	**A+**	**A+**	**A-**	**A-**
Resource Reduction Policy	TRUE	TRUE	TRUE	TRUE	TRUE
Policy Water Efficiency	TRUE	TRUE	TRUE	TRUE	TRUE
Policy Energy Efficiency	TRUE	TRUE	TRUE	TRUE	TRUE
Policy Sustainable Packaging	FALSE	FALSE	FALSE	FALSE	FALSE
Policy Environmental Supply Chain	TRUE	TRUE	TRUE	TRUE	TRUE
Resource Reduction Targets	TRUE	TRUE	TRUE	TRUE	TRUE
Targets Water Efficiency	TRUE	TRUE	TRUE	FALSE	FALSE
Targets Energy Efficiency	TRUE	TRUE	TRUE	TRUE	TRUE
Environment Management Team	TRUE	TRUE	TRUE	TRUE	TRUE

REFINITIV ESG STATEMENT VIEW - NOVOLIPETSK STEEL PAO (NLMK.MM)					
Environment					
	2020	**2019**	**2018**	**2017**	**2016**
Period End Date	2020-12-31	2019-12-31	2018-12-31	2017-12-31	2016-12-31
Reporting Currency	USD	USD	USD	USD	USD
Period Status	Complete	Complete	Complete	Complete	Complete
ESG Report	Yes	Yes	Yes	Yes	Yes
ESG Reporting Scope	100%	100%	100%	69.41%	71.50%
ESG Report Auditor Name	cewaterhouseCoopers	PricewaterhouseCoop	--	--	--
ESG Combined Score	**A-**	**A-**	**B**	**B**	**B**
ESG Score (Weight 100.0%)	**A-**	**A-**	**B**	**B**	**B**
Environmental Pillar Score (Weight 35.2%)	**A**	**A**	**A-**	**B+**	**B-**
Social Pillar Score (Weight 40.2%)	**B+**	**B+**	**B**	**B-**	**B-**
Governance Pillar Score (Weight 24.6%)	**A**	**A**	**B-**	**B+**	**A-**
ESG Controversies Score	**A+**	**A+**	**A+**	**A+**	**A+**
Resource Use (Weight 16.4%)	**A+**	**A+**	**A+**	**A+**	**B-**
Resource Reduction Policy	TRUE	TRUE	TRUE	TRUE	TRUE
Policy Water Efficiency	TRUE	TRUE	TRUE	TRUE	TRUE
Policy Energy Efficiency	TRUE	TRUE	TRUE	TRUE	TRUE
Policy Sustainable Packaging	FALSE	FALSE	FALSE	FALSE	FALSE
Policy Environmental Supply Chain	TRUE	TRUE	TRUE	TRUE	FALSE
Resource Reduction Targets	TRUE	TRUE	TRUE	TRUE	TRUE
Targets Water Efficiency	TRUE	TRUE	TRUE	TRUE	TRUE
Targets Energy Efficiency	TRUE	TRUE	TRUE	TRUE	TRUE
Environment Management Team	TRUE	TRUE	TRUE	TRUE	FALSE

REFINITIV ESG STATEMENT VIEW - MAGNITOGORSKIY METALLURGICHESKIY KOMBINAT PAO (MAGN.MM)					
Environment					
	2020	**2019**	**2018**	**2017**	**2016**
Period End Date	2020-12-31	2019-12-31	2018-12-31	2017-12-31	2016-12-31
Reporting Currency	USD	USD	USD	USD	USD
Period Status	Complete	Complete	Complete	Complete	Complete
ESG Report	Yes	Yes	Yes	Yes	Yes
ESG Reporting Scope	100%	100%	100%	100%	100%
ESG Report Auditor Name	BSI Assurance UK Ltd	--	--	--	--
ESG Combined Score	**B**	**B**	**C+**	**C+**	**C+**
ESG Score (Weight 100.0%)	**B**	**B**	**C+**	**C+**	**C+**
Environmental Pillar Score (Weight 35.2%)	**B+**	**B**	**C+**	**C+**	**C+**
Social Pillar Score (Weight 40.2%)	**B**	**B**	**C-**	**C-**	**C-**
Governance Pillar Score (Weight 24.6%)	**C+**	**B+**	**B**	**B**	**B-**
ESG Controversies Score	**A+**	**A+**	**A+**	**A+**	**A+**
Resource Use (Weight 16.4%)	**B+**	**B-**	**C**	**C**	**C-**
Resource Reduction Policy	TRUE	TRUE	TRUE	TRUE	TRUE
Policy Water Efficiency	TRUE	TRUE	TRUE	TRUE	TRUE
Policy Energy Efficiency	TRUE	TRUE	TRUE	TRUE	TRUE
Policy Sustainable Packaging	FALSE	FALSE	FALSE	FALSE	FALSE
Policy Environmental Supply Chain	TRUE	FALSE	FALSE	FALSE	FALSE
Resource Reduction Targets	TRUE	TRUE	TRUE	TRUE	TRUE
Targets Water Efficiency	TRUE	TRUE	TRUE	TRUE	TRUE
Targets Energy Efficiency	TRUE	TRUE	FALSE	FALSE	FALSE
Environment Management Team	TRUE	TRUE	FALSE	FALSE	FALSE

REFINITIV ESG STATEMENT VIEW - MECHEL PAO (MTLR.MM)					
Environment					
	2020	**2019**	**2018**	**2017**	**2016**
Period End Date	2020-12-31	2019-12-31	2018-12-31	2017-12-31	2016-12-31
Reporting Currency	RUB	RUB	RUB	RUB	RUB
Period Status	Complete	Complete	Complete	Complete	Complete
ESG Report	Yes	Yes	Yes	No	No
ESG Reporting Scope	100%	100%	100%	--	--
ESG Report Auditor Name	--	--	--	--	--
ESG Combined Score	**C**	**C-**	**C-**	**C-**	**C**
ESG Score (Weight 100.0%)	**C**	**C-**	**C-**	**C-**	**C**
Environmental Pillar Score (Weight 35.2%)	**C**	**C-**	**D**	**D+**	**C-**
Social Pillar Score (Weight 40.2%)	**C-**	**D+**	**D+**	**D+**	**C-**
Governance Pillar Score (Weight 24.6%)	**B-**	**C+**	**B-**	**C+**	**B+**
ESG Controversies Score	**A+**	**A+**	**A+**	**A+**	**A+**
Resource Use (Weight 16.4%)	**C-**	**D+**	**D+**	**D+**	**D+**
Resource Reduction Policy	TRUE	TRUE	TRUE	TRUE	TRUE
Policy Water Efficiency	TRUE	TRUE	TRUE	TRUE	TRUE
Policy Energy Efficiency	TRUE	FALSE	FALSE	FALSE	FALSE
Policy Sustainable Packaging	FALSE	FALSE	FALSE	FALSE	FALSE
Policy Environmental Supply Chain	FALSE	FALSE	FALSE	FALSE	FALSE
Resource Reduction Targets	FALSE	FALSE	FALSE	FALSE	FALSE
Targets Water Efficiency	FALSE	FALSE	FALSE	FALSE	FALSE
Targets Energy Efficiency	FALSE	FALSE	FALSE	FALSE	FALSE
Environment Management Team	FALSE	FALSE	FALSE	FALSE	FALSE