

Federal State Autonomous Educational Institution
of Higher Professional Education “National Research University
“Higher School of Economics”

APPROVED BY

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Approved at the meeting of the Academic
Council of the Doctoral School of Economics

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Approved by

Academic Director

of the Doctoral School of Economics

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Program of the Entrance Examination in Special Discipline
of the Main Educational Program of Higher Education - Program of
Training of Scientific and Teaching Staff of the Doctoral School of Economics
in the Direction 38.06.01 Economics

Moscow, 2017



1. Scope and Normative References

The program of the entrance examination is formed based on the federal state educational standards of higher professional education under specialist's or masters programs.

2. Structure of the Entrance Examination

The introductory test of the main educational program of higher education - the program for the training of scientific and pedagogical staff in the graduate school in the direction "Economics" consists of two parts: the evaluation of individual achievements (portfolio competition) and interviews. The questions for the interview are divided according to the directions (blocks). Each direction corresponds to the scientific specialty of the future scientific research work (the thesis) of the applicant.

2.1 Evaluation of individual achievements. Portfolio Structure

To participate in the competition of individual achievements (portfolio), the applicant can submit the following documents:

1. Resume (CV), containing:
 - Full name of the applicant;
 - date and place of birth;
 - contact details (phone number and e-mail address);
 - information on the higher education qualification;
 - list of scientific publications (if available);
 - information on participation in Russian and international scientific conferences with a report (if available);
 - information on participation in summer/winter schools (if available);
 - information on participation in research projects (if any);
 - information on obtaining scientific grants, winning competitions of student scientific works or competitions of scientific works of young scientists (if any),
 - information on work experience (if available);
 - information on the knowledge of foreign languages with indication of the their level, including certificates (if available);
 - information on the educational and research internships completed in Russia and abroad - time, place, topic of the research project, etc. (if available).

Resume can be presented in Russian or English (upon applicant's request).



2. Introductory essay in Russian or English with a **review** of the prospective scientific advisor (from the advisors admitted by the Academic board of the Graduate School of Economics to supervise graduate students), containing the grade of the essay ranging from 0 to 20 points.

The volume of the essay should be 20-40 thousand characters. Instead of an essay, a published article or a preprint may be provided with a review of the prospective scientific adviser, containing an evaluation of the article ranging from 0 to 20 points, with a volume of 1-2 author's sheet.

The approximate structure of the essay is the following:

1) Introduction, including:

- justification of the relevance of the study
- purpose of the study
- key research problems
- brief overview of the main scientific papers closest to the subject of the study

2) Main part, including:

- main hypotheses to be tested and/or the structure of the model
- description of the methodology used in the study
- results of the author's research

3) Conclusion, including:

- main conclusions
- possible proposals for economic policy
- possible directions for further research

4) References.

3. One article (at the choice of the applicant) in the journal from the VAK list or indexed in international citations databases (Web of science, Scopus), which do not charge a fee for publication. The volume of the article should be at least 0.5 author's list. The article can be written in co-authorship.

4. Documents confirming the presentation of the report at the scientific conference (one conference at the choice of the applicant).

5. Documents confirming winning the competition of student scientific works (one competition up to the choice of the applicant).



2.2 Criteria of Portfolio Evaluation

The maximum possible grade, according to the listed criteria, is 30 points.

Evaluation criteria	Number of points
Introductory essay (or article)	Maximum 20 points
- if a review of the prospective supervisor is available	From 0 to 20 points according to the evaluation presented in the review of the prospective scientific adviser
- if a review of the prospective supervisor is not available	0 points
Article in the journal from the VAK list or indexed in international citations database SCOPUS which do not charge a fee for publication, the volume of the article no less than 0.5 author's list	5 points
Documents confirming the presentation of the report at the scientific conference	5 points
Documents confirming winning the competition of student scientific works	5 points
Article in the journal from the VAK list or indexed in international citations database SCOPUS which do not charge a fee for publication, the volume of the article no less than 0.5 author's list + Documents confirming the presentation of the report at the scientific conference + Documents confirming winning the competition of student scientific works	In total no more than 10 points.

2.3. Structure and Procedure of the Interview

The interview is oral and consists of two parts:

1) Interview on questions according to the direction (scientific specialty) of the future research work (thesis).

To prepare for the interview the entrant chooses one of 8 question blocks, recommended for the scientific specialty of the future research work (the thesis) from the interview program presented below.

2) Interview on the planned dissertation research.

The question on the planned dissertation research is formulated as follows: "Which research issue do you intend to solve within the framework of your dissertation work?"

The entrant is given 60 minutes for preparation.



2.4. Interview Evaluation Criteria

Each of three questions from the profile is estimated at 20 points. The question on the planned dissertation research is estimated at 10 points.

Evaluation criteria of the question from the profile	Points
The answer is complete, without remarks, the knowledge of the special discipline is demonstrated	19-20
The answer is complete, with minor remarks, the knowledge of the special discipline is demonstrated	15-18
The answer is complete, with minor remarks	11-14
The answer is incomplete, with major remarks	7-10
The answer to the question is not given	0-6
Evaluation criteria of the question on the planned dissertation research	Points
The answer is complete, without remarks, understanding of the planned dissertation research is demonstrated	10
The answer is complete, with minor remarks, understanding of the planned dissertation research is demonstrated	8-9
The answer is complete, with minor remarks	6-7
The answer is incomplete, with major remarks	4-5
The answer to the question is not given	0-3

To participate in the contest following the results of the interview, it is necessary to accumulate at least 30 points for three questions in total from the block of questions corresponding to the direction (scientific specialty) of the future research paper (thesis). The interview score ranging from 1 to 29 points is considered unsatisfactory.

If a set of applicants accumulate an equal number of points (a semi-pass score), the advantage is given to the applicant who meets the criteria listed below. The criteria are presented in descending order of importance.

1. The number of points scored at the interview.
2. Score for the essay graded by the prospective scientific supervisor.
3. The presence of an article in the journal from the VAK list or indexed in the SCOPUS database which does not charge a fee for publications, the volume of the article not less than 0.5 author's list.



3. Interview program

The applicant chooses the questions of one of the 8 blocks for the interview according to the direction (scientific specialty) of the future research work (thesis) specified in the application for admission to the graduate school.

Block 1. Direction «08.00.01 Economic Theory»

Section 1. Microeconomics

1. Modelling of Consumer Behavior

Consumer preferences and utility functions. Budget constraints. Maximization of utility under given budget constraints, consumer demand and its properties. Effect of the income and effect of the substitution. Alternative approach to the consumer choice based on the theory of revealed preferences, connection with the utility maximization.

2. Aggregate Demand. Consumer's Welfare

The concept of aggregate demand. The case of quasilinear preferences: the consumer surplus. Compensating and equivalent variations in income and their connection with the consumer surplus.

3. General Equilibrium In The Exchange Economy

Exchange economy and its graphical representation in the case of two goods and two consumers (Edgeworth box). The concept of Walrasian equilibrium. Walras's law. Conditions of the existence of the equilibrium. The concept of Pareto efficiency. The first and the second welfare theorems for the exchange model.

4. Model of Producer's Behavior

Description of technology. Fixed and variable factors. The task of profit maximizing. Unconditional demand for factors, its reaction to change in the prices of production factors. The problem of cost minimization. Conditional demand for factors, its reaction to the change in the prices of factors. Functions of total, fixed, variable, average and marginal costs in the short and long run. Supply of the competitive firm in the short and long run. Profit and producer surplus.

5. Partial Equilibrium under the Perfect Competition

Supply of the competitive industry in the short and long run. Partial equilibrium. Comparative statics. Efficiency of the competitive market. Deadweight loss due to the taxes.

6. Monopoly

Market power, sources of the monopoly power. Pricing under the monopoly position of the manufacturer. Inefficiency of the monopoly, regulation. Price discrimination (the first, the second and the third degree).

7. Models of Oligopoly Competition

Oligopoly model with price competition (Bertrand). Models with competition in output (Cournot and Stackelberg). Cartel collusion. Multiple interactions and implicit collusion.



8. Basic Concepts of Noncooperative Game Theory

The concept of the game in a normal (strategic) and in an extensive form. Pure and mixed strategies. Dominant and dominated strategies. Nash equilibrium. Non-credible threats and Nash equilibrium, perfect in subgames. Repetitive games.

9. Market Failures in the Economy with Externalities

The concept of the externalities, examples. The tragedy of the commons. Inefficiency of the equilibrium in the presence of externalities. Approaches to solving the problem of inefficiency in the economy with externalities: norms, Pigou taxes (subsidies), quota markets. Property rights and the Coase theorem.

10. Public Goods Economy

The concept of a public good. Public goods as a source of inefficiency. Voluntary funding of public goods. The free rider problem under voluntary contributions to financing of public goods (in Nash equilibrium). Other mechanisms of financing public goods: voting; the Clark-Groves mechanism.

11. Choice under Uncertainty

The concept of risk and uncertainty. Attitude to risk. Risk aversion, risk premium.

Individual choice under uncertainty. Function of expected utility.

Diversification of assets as a way to mitigate risk. Demand for insurance services. The task of choosing the optimal investment portfolio (for the case of one risky and one risk-free asset).

12. Models of Asymmetric Information

Model of the lemon market. Adverse selection. Inefficiency of the competitive market with adverse selection. Screening and signaling in models with asymmetric information. Opportunistic behavior (or "moral hazard"). Stimulating contracts as a way to combat opportunism. Government regulation and market solutions in situations with hidden information and their effectiveness.

Recommended literature

Basic literature:

1. Х. Вэриан. Микроэкономика. Промежуточный уровень. Современный подход. ЮНИТИ. Москва. 1997.
2. Р. Пиндайк и Д. Рубинфельд Микроэкономика. «Дело», М., 2000.

Additional literature:

3. Дж. Джейли и Ф. Рейни. Микроэкономика. Продвинутый уровень. Издательский дом НИУ ВШЭ, М. 2011.

Section 2. Macroeconomics

1. Introduction to Macroeconomics. Key Macroeconomic Indicators

Major macroeconomic problems. Methods of the macroeconomic analysis. Nominal and real values. Flows and stocks. The role of expectations. Short-term, medium-term and long-term analysis in macroeconomics. Macroeconomic policy.



Gross domestic product (GDP) and other indicators of the results of the income economic activity. Actual and potential GDP.

The circular flow of expenditure and income as a reflection of the interrelationship between macroeconomic agents and macroeconomic markets. The basic macroeconomic equation.

The GDP deflator and the consumer price index. Inflation rate. Unemployment rate. Nominal and real interest rates. The Fisher effect.

2. The Market of Goods and Services and its Equilibrium

The market of goods and services. Components of the aggregate expenditure. Function of the consumption in the short term. The marginal and the average propensity to consume. The savings function. The Kuznets Puzzle. Investment.

Equilibrium conditions of the commodity market. "Keynesian Cross". The impact of an increase/decrease in autonomous expenditure on output. The effect of the multiplier. Equality of investment and savings.

Public expenditure, their types and impact on the economy. Taxes and their role in the economy. Government budget. Multipliers of public expenditure, taxes, transfers. Fiscal policy, its types and instruments. Built-in (automatic) stabilizers.

3. Financial Market and its Equilibrium

Financial market and its structure. Financial intermediaries and financial instruments. Financial market and fluctuations in the business activity. Rational expectations and the efficient market hypothesis. Current value and pricing in financial markets. Condition of the absence of the arbitrage. Fundamental value, bubbles and Ponzi games.

Modern banking system and its structure. Banks as financial intermediaries. Money: types and functions. The quantitative theory of money. Liquidity preference theory. The Baumol-Tobin model of demand for cash. Function of the demand for money.

Money supply. The role of commercial banks in creating money. Banking (deposit) multiplier. Central Bank and its functions. Monetary base and money supply. Money multiplier. The equilibrium of the money market and the mechanism for its establishment.

Monetary policy, its goals and instruments. The mechanism of money transmission. Monetary policy and inflation.

4. Equilibrium of Goods and Money Markets in the Closed Economy: IS-LM Model

Basic assumptions of the model. Savings and investment equality and the IS curve. Equilibrium of the money market and the LM curve. Equilibrium and the mechanism of its establishment in the IS-LM model. Fiscal and monetary policy, and their impact on the equilibrium in the IS-LM model. Multipliers of fiscal and monetary policy in the IS-LM model. Comparative efficiency of monetary and fiscal policy in the IS-LM model.

IS-LM model as the model of aggregate demand.



5. Short-term Model of the Open Economy: IS-LM-BP Model

Macroeconomic indicators in the open economy. The balance of payments and its structure. Equilibrium in the foreign exchange market. The nominal and the real exchange rate. Factors that affect the real exchange rate. Exchange rate regimes. The fixed and the floating exchange rate. The theory of the purchasing power parity. The theory of the covered and the uncovered interest rate parity.

The market of goods and services in the open economy. Financial market in the open economy. Degree of capital mobility. The IS-LM-BP model, its assumptions and analytical capabilities. Macroeconomic policy in a small open economy with a fixed and a floating exchange rate.

6. The Model of Aggregate Demand - Aggregate Supply (AD-AS Model).

The classic model (the economy of full employment). Labor market equilibrium in the economy with full employment. Aggregate demand and aggregate supply in the economy with full employment. The natural rate of unemployment hypothesis and output (the potential GDP). The principle of the neoclassical dichotomy and money neutrality. Macroeconomic policy in the economy with full employment.

Keynesian model. Alternative explanations for the positive slope of the aggregate supply curve in the short term. AD-SRAS-LRAS model. Macroeconomic policy in the AD-SRAS-LRAS model. The problem of the money non-neutrality in the short term.

7. Labor Market, Natural Rate of Unemployment and Phillips Curve

Labor market and unemployment. Level and types of unemployment. Consequences of unemployment. Okun's law. Standard macroeconomic theory of the labor market. Trade unions in the labor market and unemployment.

Relationship between inflation, expected inflation and unemployment as an alternative representation of the function of the aggregate supply. Phillips curve and macroeconomic policy: choice between inflation and unemployment. Inflation and expectations: hypothesis of adaptive and rational expectations. Modified Phillips curve.

8. Consumption Theory and Investment

Intertemporal budget constraints of the private sector and the government. Condition of the absence of Ponzi game. Fiscal policy neutrality principle (Ricardian equivalence) and reasons for its violation.

Modigliani-Ando-Brumberg life cycle theory. Friedman's permanent income hypothesis.

Basic investment theories. Jorgenson's theory: the cost of using capital. Accelerator model. Market value of the firm. The theory of (average) q-Tobin.

9. Economic Growth and Economic Fluctuations

Economic growth: concept and empirical evidence. Fundamental questions of the growth theory.

The Solow model. Basic assumptions. The balanced growth path. The impact of the savings rate on capital, output and consumption on the balanced growth path. The "Golden Rule".



Models of endogenous growth.

Economic fluctuations: stylized facts and modelling. General characteristics of the output fluctuations. Pro-cyclical, countercyclical and acyclic dynamics of the basic macroeconomic indicators. Leading, lagging and coinciding indicators.

Stochastic models of fluctuation: the mechanism of "impulse-response." Mechanisms of distribution and inertia of supply and demand shocks. Productivity shocks and mechanisms of their distribution. Factor productivity and effects of intertemporal substitution of consumption and labor supply. Comparative analysis of traditional approach to explaining economic fluctuations and the theory of real business cycle.

10. Problems of Macroeconomic Policy

Uncertainty and policy limitations. The role of expectations. Lucas critique. The problem of dynamic inconsistency of the policy. Political business cycle.

Fiscal policy. Budget deficit and its types. Public debt. Approaches to financing the budget deficit. Seigniorage, inflation tax. Problems of the debt financing of the budget deficit. The Barro-Ricardo equivalence. The budget constraint of the government. Condition of the public debt sustainability. Interrelation between fiscal and monetary policy. Rules of fiscal policy.

Goals and instruments of the monetary policy. Channels of the monetary policy transmission mechanism. Inflation targeting policy. Applying monetary policy rules. Taylor rule.

Recommended literature

Basic literature:

1. Бланшар О. Макроэкономика. М.: Изд. дом Гос. ун-та — Высшей школы экономики, 2010.
2. Абель Э., Бернанке Б. Макроэкономика. 5-ое издание. Питер. 2008.

Additional literature:

1. Ромер Д. Высшая макроэкономика. – М.: Изд. дом Высшей школы экономики. 2014.
2. Бурда М., Виплош Ч. Макроэкономика: европейский текст. - С-Пб.: Судостроение, 1998
3. Шагас Н.Л., Туманова Е.А.. Макроэкономика-2. М.: МГУ, 2006.



Block 2. Direction "08.00.05 Economy and management of public economy (by industries and activities including: economics, organization and management of enterprises, branches, establishments - Economics Industry)"

Section 1. Introduction to Economic Theory

1.1. Principles of Microeconomics

Preferences and consumer's choice. Consumer's choice under uncertainty.

Production and the choice of technology. Properties of technology, size and organization of the firm.

Seller's choice and market equilibrium in the perfect competition market.

Strategic interaction of sellers in the oligopoly model. Price discrimination: profit and welfare. Costs of entrance to the market and their impact on the market structure. Natural monopolies, methods of regulating natural monopolies. Markets with positive network external consumption effects. Platforms.

Resource markets, formation of demand and supply in the labor and capital markets.

External effects (externalities). Internalization of external effects. Public goods. Models of financing provision of public goods.

Markets under information asymmetry. Problems of moral hazard and incentive contracts.

1.2. Principles of Macroeconomics

Gross domestic product and other key macroeconomic indicators.

Inflation. Nominal and real indicators.

Total costs. Equilibrium of goods and services market. The effect of the expenditure multiplier.

Money and demand for money. Money supply. Money multiplier.

Labor market and unemployment.

Labor productivity and economic growth.

Economic fluctuations. Countercyclical macroeconomic policy.

Recommended literature

Бланшар О. Макроэкономика. М., ИД ГУ-ВШЭ, 2010

Вэриан Х. Микроэкономика. Промежуточный уровень. Современный подход. М., ЮНИТИ. Москва. 1997.

Пиндайк Р., Рубинфельд Микроэкономика. М., Дело, 2000.



Section 2. Economics of Firm and Corporate Finance

2.1. Fundamentals of Economics of the Firm

Organizational and legal forms of business and their comparative advantages. Corporate governance in joint-stock companies. Principles of corporate governance. The code of corporate governance. Operating principle of the board of directors. Committees of the board of directors. Trends in the development of corporate governance in Russia.

Alternative concepts of the firm objectives. The agent problem in the companies.

Types and structures of organizations. Foundations of the formation of structures of different types. Departmentalization: by purpose, by process, by geography, by type of product markets. Types of formal organization. Linear, functional, linear-staff, divisional, matrix organizational structures, network organization.

Technology of production and costs. Sources of economies of scale. The assortment effect. Diversification of production. Internal organization of the firm. Firm growth: factors, forms, limitations.

Analysis of the environment where the firm operates. SWOT analysis. Matrices of opportunities and threats. Company profile. Company positioning in the market and in the industry. Selection of the company's strategies.

Management of the firm. Components of the company's management system. Organizational systems. Planning and control systems. Personnel management systems.

Development and adoption of management decisions. Classification of methods of management decisions. Stages of problem solving (diagnosis of the problem, development of alternatives, evaluation of alternatives, decision execution). Prediction as a way of assessing possible consequences. Definition of the management decision. Models of decision making. Factors of decision-making.

Fixed assets and current assets. Fixed assets evaluation models. Depreciation and amortization. Intangible assets. Current assets: composition, structure, rationing.

Strategic planning. Prospective and current plans. Operational planning and dispatching.

Production planning. Planning of production policy and production program.

Marketing and sales planning. Tasks and marketing tools.

Quality and quality management. Technical regulation in the quality management system. Standardization in the quality assurance system. Certification of products and management systems.

Pricing practice. Pricing models.

Advertising and goods promotion. Reasons for advertising. Choosing size and form of advertising.

Vertical connections. Organization of the distribution system and vertical restrictive contracts with distributors.

Competitive advantages of the firm and factors that determine them. Position of the goods



produced by the company on the life cycle curve as a factor determining the formation of strategies for strengthening the firm's competitive advantages: market segmentation strategy, unique sales opportunities, product differentiation strategy; strategy for reducing production costs; strategy for innovation implementation.

The concept of the five competitive forces of M. Porter as a method of competitiveness analysis.

Taxes and other obligatory payments. Main types of taxes paid by firms in Russian Federation.

Innovation management in the firm. Types of innovation. Administration of innovation activities. Evaluation of the innovation efficiency. Resistance to innovation, its sources and neutralization methods.

Financial responsibility system in the organization. Centers of financial responsibility: cost centers, revenue centers, profit centers, investment centers, cost centers. Indicators for evaluating performance of different responsibility centers. Effect of transfer pricing system on the performance indicators of financial responsibility centers. Capital controlled by the center of responsibility, its influence on performance of the center of responsibility.

Financial results of the firm. Main indicators of the firm's financial results. Financial statements under RAS and IFRS. Financial plan.

Management accounting system in the firm. Methods of management accounting. Features and benefits of accounting by the type of activity.

Recommended literature

Друри К. Управленческий учет для бизнес-решений. М., ЮНИТИ-Дана, 2012.

Кабраль Л.Б.М. Организация отраслевых рынков. Вводный курс. Минск, Новое знание, 2003.

Карлик А.Е., Шухгальтер М.Л. Экономика предприятия. С-Пб., Питер, 2010.

Портер М. Конкуренция. М., ИД Вильямс, 2005.

Томпсон А., Формби Дж.П. Экономика фирмы. М., Бином, 1998.

Ширенбек Х. Экономика предприятия. М – С-Пб, Питер, 2005.

2.2. Fundamentals of Finance Theory

Capital market theory. Risk to profitability ratio. Movement of asset prices. The financial market efficiency hypothesis, three forms of efficiency. The CAPM model: components, use, constraints.

Absolute and relative risks. Coefficients of correlation and determination. The combination curve. The efficiency frontier. Diversification. Investor's portfolio. Linear and angled portfolios. Market portfolio, β -coefficient. Securities Market Line (SML). Financial assets pricing model.

Arbitrage pricing model. Factor models. Market risk and own risk. Arbitration portfolio. Ratio between CAPM and ART. Factors correlation.



2.3. Fundamentals of Corporate Finance

Complex of financial decisions of the firm at various stages of its life cycle. The principle of creating economic profit as the basis for analyzing the company's financial decisions. Investment risks of the firm, their structure and influence on the alternative costs of its investors. The concept of financial approach to the analysis of the profitability of the firm, its difference from the accounting approach. The role of liquidity principle of in the analysis of financial decisions of the firm.

Tools for formation of debt capital of the firm.

Tools for formation of equity capital corporations.

Capital structure of the firm. Modigliani-Miller's theorems: use and restrictions. Modigliani-Miller's theorems for imperfect capital market.

Principles of financing policy for long-term development of the company. Optimum capital structure and financial leverage of the company.

The model of weighted average costs of corporate capital. Average and marginal cost of capital.

Methods for evaluation of the efficiency of investment projects. Net present value (NPV). Internal rate of return (IRR). Break-even analysis. Project profitability index (P/I).

Specifics of risky projects: classification of risk factors. Identification of key risk factors and sensitivity analysis. The concept of project duration. Estimation of the sustainability of the project to basic parameters of implementation (analysis of operational, monetary and financial sustainability). Probabilistic analysis of project cash flows: impact on the project evaluation, rules for calculating NPV variance under dependent and year-independent project cash flows (variance of the cash flow portfolio).

Methods for incorporating risk into project analysis using NPV method: use of the risk-adjusted discount rate (RADR) and the method of certainty equivalent cash flows (risk-neutral cash flow method, certainty equivalents or CE). Cash flow adjustments in the certainty equivalent method. The decision tree method in investment analysis and rules for estimating the effect in its framework.

Modigliani and Miller theorem for perfect capital market - basis for analyzing the policy of payments. Optimal policy of payments to owners.

Mergers and acquisitions. Reasons for mergers and acquisitions. Principles of analysis of the efficiency of operations for the companies acquisition.

Recommended literature

Брейли, Р., Майерс, С. Принципы корпоративных финансов / Пер. с англ. Олимп-Бизнес. 1997.

Росс С., Вестерфилд Р., Брэдфорд Дж. Основы корпоративных финансов / Пер. с англ. – М.: Лаборатория базовых знаний, 2000.

Section 3. Modern State and Problems of Development of Russian Industry

Industry structure of Russian economy (by types of activity) and its development trends.



International competitiveness of the main industries of Russian industry.

Domestic and foreign investment in Russian companies.

Development of corporate governance in private Russian companies. Models of privatization and their impact on the subsequent development of the corporate sector.

Public sector in the Russian economy, size, development trends, organization and governance issues.

The oil and gas sector of the economy, problems of development.

The task of diversifying the Russian economy.

The policy of stimulating innovation in the Russian economy.

Regulation, deregulation and competition development in natural monopoly markets.

Industrial policy, its tools and results of their application.

Conditions for entry to and exit of companies from the market. Administrative barriers to business. Bankruptcy law and its application.

Foreign trade policy and its impact on the position of Russian producers in international markets.

Recommended literature

Российская экономика. Тенденции и перспективы (ежегодные выпуски). М., Ин-т Гайдара, Интернет-адрес: <http://www.iep.ru/en/publications/119/category/25/page-6.html>



Block 3. Direction "08.00.05 Economy and management of public economy (by industries and fields of activity including: economics, organization and management of enterprises, branches, establishments - Services Sector)"

Section 1. Public Administration.

Essence (main features) of bureaucracy. Concepts of bureaucracy. Veber's, Marx's, imperial concepts, NPM, neo-veberism.

Organisations: definition, conditions for the appearance, functions, structure, typology, development. Organisational culture: essence, factors, development. Organisational behavior. The nature of public organisations. Human resources management in governmental and municipal service.

Definition, social purpose and principles of public service. Differences of public service from other types of labour activities. Types and positions of public service. Career employees and political appointees. Formation of civil labour forces. "System of merits and virtues". Personnel reserve and reserve of managing staff. Reforming of public service in post-soviet Russia. Russian legislation on public service. Management of public service. Legal status of employees. Guarantees and prohibitions. Assessment and salary. Public service in the USA, the Great Britain, France, Germany, China, Kazakhstan. Public service reforms in leading countries since 1970-s till the present time. Features of reforming process in Anglo-Saxon countries and governments of continental Europe.

Corruption in state administration bodies. Economical, political and organizational reasons of corruption and harm that it causes. Conflict of interest. Legal and ethical measures against corruption. Ethical control of public service employees behavior.

Functions of local self management in social and housing spheres. Municipal property. Management of municipal property as the basis for solving questions of local significance. Municipal economy. The structure of municipal economy and main problems of municipal service. Local budget and implementation of local services. The structure of bodies of local self management. Conformity of structures and administrative means to social and economic tasks of local self management bodies. Implementation conditions of authority on local level. Main goals and directions of municipal socio-economic policy.

State (municipal) assignment as a mechanism of government services implementation.

Role and place of municipal and government assignments in the system of economy management. System of government assignment as a mechanism of satisfaction of governmental needs. General requirements to the purchase system efficiency.

Section 2. Social Policy and Markets of the Social Services

Goals, tools and mechanisms of government's social policy. Social help and social insurance services: fundamental differences. Categorical and address principles of provision of social services: advantages and restrictions. Problems of horizontal and vertical efficiency in social help services provision. Annuity insurance services, necessity of governmental participation. Advantages of public



annuity insurance over private one. Alternative approaches to annuity insurance system building: distribution and accumulation principles, their advantages and shortcomings. Direction of pension reform in Russia.

Public regulation of the services sector, price, tax and budget policies in regulation of the services sector based on the example of separate sectors and types of services (trade, transport, communication, banking et al.).

Public regulation of prices and tariffs for the services of natural monopolies. Methods of antitrust policy in the context of globalization of economy.

Social sphere services and their features. Externalities of social services consumption. Expenditure growth on social services in government's budget. Commercial and non-profit organisations in social sphere services.

Public labour policy: methods of regulation and their influence on unemployment level. Policy of unemployment decrease and its consequences; instruments of support of unemployed. Active and passive employment policy, principled differences. Migration state policy, its goals and main instruments.

Specifics of medical services market. Separation principle of financing and rendering functions of medical aid, mechanisms of its realization. Forms of government regulation of the medical services market. Types of healthcare financing systems.

Mechanisms of resources formation in healthcare financing systems. Mechanisms of resources unification in healthcare financing systems. Differences between obligatory and voluntary medical insurance. Principles and methods of medical services payment. Mechanisms of medical aid buying. Quasi-market relationships in the system of public healthcare. Ways of improvement of medical aid government guarantees system. Directions of modernization of obligatory medical insurance system. Healthcare management in state, regional and municipal dimensions. Main economical problems of Russian healthcare systems. Directions of healthcare reforming.

Educational services market and its features. Market failures and problems of justice. Education as investment for individual and for government. Role of state in the educational sphere. Quasi-markets in educational services sphere. Forms of educational activity financing. Scheme of educational services budget financing. Extrabudgetary activity of educational institutions. Taxation in educational services sphere. Directions of modern educational reform in Russia.

Features of knowledge market, specifics of science as a public good, features of innovation market. Risky character of scientific activity results. State's responsibility for support and development of science and innovations. Mechanisms of state regulation of innovative activity. Benefits and lacks of base and grant financing of scientific activity. Features of scientific activity stimulation system. Problems and prospects of science and human resources in science. Integration of science and education. Organizational features of Russian science. Science reforming, goals, principles of realization.

Features of culture services, their types. Reasons for state's intervention in cultural sphere. State's role in sphere of culture. Ways of state intervention on culture sectors market. Direct and indirect state financing of cultural services. Features of cinema financing. Features of mass media



functioning economical mechanisms. Economical problems of culture and art branches in Russia and ways of solving.

Housing market and its features. Reasons for state's intervention on housing market. Forms of government intervention. Directions of regulation in communal sector. Forms of subsidizing producers of housing and communal services. State as a producer of housing and communal services. Targeted subsidies of consumer in housing sphere. Directions of housing reforming in Russia.

Questions

1. Main differences between theoretical models of bureaucracy.
2. Law "About state civil service in the Russian Federation": main points.
3. Features of legal standing of civil employees in comparison to different categories of citizens.
4. Corruption and conflict of interest.
5. Reforming of civil service in the Great Britain in the last 30 years.
6. Modern concepts of civil service: theory and practice.
7. Definition, essence, characteristics, functions of organization.
8. Specifics of public organisations.
9. Human resources management in public authorities.
10. Organisational culture of public service.
11. State and municipal job and their role in the realization of public services.
12. Public regulation of services sector, price, tax and budget policy in regulation of services sector based on examples of separate branches and / or types of services.
13. Public regulation of prices and rates on services of natural monopolies.
14. Methods of antitrust policy in a globalized economy.
15. Social services and the specifics. Externalities of social services consumption.
16. Costs dynamics on social services in state's budget: tendencies and reasons.
17. Commercial and non-profit organizations in social services sphere.
18. Market of educational services and it's specifics. Market failures and problems of justice.
19. Education as investments for an individual and for the state, differences of costs and benefits. Social discount rate.
20. Role of state in the field of education. Efficiency and justice rationale.
21. Quasi-markets in the sphere of educational services. Goals of creation, expected benefits for the society.



22. Forms of financing of educational activity. Scheme of budget financing of educational services. Extrabudgetary activities of educational institutions.
23. Taxation in the sphere of educational services.
24. Directions of modern educational reform in Russia.
25. Features of cultural services, their types. Reasons for state's intervention and state's role in the sphere of culture.
26. Ways of state's intervention on the market of cultural services. Direct and indirect state's financing of the culture services.
27. Features of cinema financing.
28. Features of economical mechanisms of mass media functioning.
29. Economical problems of culture and art branch in Russia and the way of solving.
30. Goals, facilities and mechanisms of the state's social policy.
31. Social help and insurance services: fundamental differences. Rationale for necessity of social help services while having developed social insurance.
32. Categorical and address principles of social services rendering: advantages and lacks. Examples of categorical and address benefits (pensions).
33. Problems of horizontal and vertical efficiency in the process of social help services provision. Necessary and sufficient conditions of reaching horizontal and vertical efficiency.
34. Annuity insurance services, need for state's participation. Advantages of state's annuity insurance before private insurance.
35. Alternative approaches to building the system of annuity insurance: distribution and accumulation principles. Their advantages and lacks.
36. Methods of redistributive pension systems stability increase in the situation of demographic crisis.
37. Problems and ways of pension reforms in Russia.
38. State employment policy: measures of regulation and their influence in unemployment level. Efficiency of different measures depending on unemployment type.
39. Unemployment decreasing policy and it's consequences; unemployed support measures.
40. Active and passive employment policies, classification of measures. Principal differences between active and passive policies.
41. State's migration policy, its goals and main instruments.
42. Specifics (flaws) of medical services market. Forms of state's medical services market regulation.
43. Types of healthcare financing systems. Differences between obligatory and voluntary medical insurance.



44. Quasi-market relationships in the system of public healthcare. Mechanisms of medical help buying.
45. Mechanisms of resources formation in the systems of healthcare financing. Mechanisms of resources combination in the systems of healthcare.
46. Ways of medical help rendering state's guarantees system development.
47. Specifics of healthcare management on federal, regional and municipal levels.
48. Main economical problems of Russia healthcare and ways of their solution. Novelties in the system of mandatory medical insurance.
49. Public functions and sphere of competences of local self-government.
50. Ratio of local self-government and public management. Place of municipalities in the system of public management.
51. Types of municipalities and questions of local importance.
52. Specialization of local self-government in social and housing sphere.
53. Management of local property as a basement for solving of local importance problems.
54. The structure of municipal economy and main problems of municipal service.
55. Local budget and realization of local services.
56. The structure of local self-government bodies. Conformity of structures and administrative resources to social and economical tasks of local self-government bodies.
57. Main goals and ways of municipal socio-economic policy.
58. Specifics of the knowledge market, specific of science as a public good, specific of the market of innovations.
59. Risky character of scientific results. State's responsibility for support and development of science and innovation.
60. Mechanisms of state's regulation of innovative activity. Advantages and flaws of base and grant financing of scientific activity.
61. Problems and perspectives of science and its human resources development.
62. Integration of science and education.
63. Organizational specific of the Russian science. Science reforming, its goals, realization principles.
64. Role and place of state and municipal orders in the system of state's economy management.
65. Content and specific of the procedure of order placement via request for quotations.
66. Order placement via holding a tender: types of tender, content and specific of procedures, winners selection criteria.
67. Main principles and processes in the system of state's purchases.



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Block 4. Direction "08.00.05 Economy and management of public economy (by industries and fields of activity incl. Labor Market)"

Section 1. Labor Market and Labor Population Structure

Labor market in the system of the market economy. Labor market, its specific features and main acting forces. Relationship and interdependence of labor markets, capital and product markets. Labor markets typology. Sources of information about socio-labor sphere.

Employment structure of the population. Economically active and inactive population. Workforce concept, employment and unemployment. Main streams that form the labor market. Demand and supply on the labor market. Wage as "the price of labor". Changes in employment (industry structure, demographic structure) as a result of the labor market functioning. Local labor markets.

Section 2. Labor Supply and its Factors

Individual labor supply and the its forming factors. The decision to enter the labor market: the impact of preferences and unearned income. Reservation wage concept. Income and substitution effects. Labor supply elasticity. Secondary employment. Overtime work and its regulation. Labor supply considering household work. Family decisions about the labor supply. Added worker and discouraged worker effects. Labor market features of women and men, young and old workers. The effect of taxation on individual labor supply. The impact of the social benefits and unemployment benefits on individual labor supply. Features of the labor supply in the Russian economy. Methods and results of the empirical estimates of the labor supply.

Section 3. Human Capital and Quality Workforce

The concept and types of investments in human capital. Education as an investment: costs and benefits. The role of level of education and work experience in explaining the wage. Becker's human capital model. Factors that determine the decision about obtaining the education. Education as a signal on the labor market (Spence's job-market signaling model). General and specific human capital. Intrafirm human capital investment. The profit equation (the Mincer equation). Empirical estimates of the impact of human capital. Specific features of the impact of human capital in the Russian economy.

Section 4. Labor Demand

Labor demand as the solution of the optimal number of employees in a firm. The short and long run labor demand. The substitution and scale effects. Labor demand of a firm, an industry and a market. The concepts of elasticity of labor demand and elasticity of substitution between capital and labor. Hicks–Marshall laws of derived demand. Cross price elasticities of labor demand. Labor demand with many inputs: substitutions and complementarities. Quasi fixed labor costs and labor demand. The choice between the number of employees and hours per work within labor demand. Demand for part-time labor. Monopoly labor demand and labor demand on monopsonist's labor market. Methods and results of empirical estimates of labor demand elasticity. Specific features of labor demand in the Russian economy.

Section 5. Labor Market Performance



Labor market adjustment to changes in demand and supply. Adaptation by *exit* principle: employment rate and wage rate adjustments. Methods of adjustment of labor market: "exit" (employment rate and wage rate adjustments) and "voice" principles (terms of employment adjustments). Flexibility of labor market and its kinds. Causes of imbalance on the labor market. Segmented and dual labor markets.

Specific features of the Russian labor market adjustment: non-payment of wages, the change in employment conditions, informal labor relations. Sectoral and occupational structures of the labor market and their dynamics.

Section 6. Wage and Earnings Differentiation Reasons

Income and its classifications. Structure of incomes of population. Wage as a base of households' income. The concepts of nominal and real wages. Causes of differences in wages. Heterogeneity across workers: differences in the level of accumulated human capital and non-competitive worker groups on the labor market. Heterogeneity of jobs: work conditions, differences in status, the ability to obtain social benefits. Compensating wage differentials. Occupational safety and health act and workers' compensation. Role of government in safety and health regulation: assessment of efficiency. Optimal structure of labor compensation: decision about proportion of wage and fringe benefits. Imperfect competition in the labor market: barriers for mobility, discrimination, trade unions, monopsonies. Facts about regional, industrial, occupational wage differences in the Russian economy. Features of wage determination mechanism in the Russian economy. Wage and its productivity.

Income inequality as an economic issue. The relationship between income inequality and economic growth. The Kuznets curve. Factors determining monetary income inequality.

Governmental redistribution of income. Okun's "leaky bucket" law. Dynamics of income inequality in developed countries and transition economies, including Russia. Directions of government activities in solving «income inequality».

Section 7. Labor Market Discrimination

Labor market discrimination: definition and main types. The propensity to discriminate among employers. Monopsony power as a source of discrimination. Imperfect information and statistical discrimination. Types of discrimination: wage gap, terms of employment, career opportunities. Occupational segregation and its measurement. Wage gap and methods of its measurement. Occupational segregation and its effect on wage gap. Discrimination and its effect on the economic efficiency. Anti-discrimination policy on the labor market: goals, directions and tools.

Section 8. Labor Mobility

Labor mobility. Methods for measuring labor mobility. Measurement of labor mobility in Russia. Classification of types of labor mobility forms. Interfirm mobility, employee turnover and quits. Mismatching between job and worker as a reason for labor mobility. Shocks of derived demand and labor mobility. Wages as the driver incentive to change work. Interfirm occupational mobility: trends, magnitude, directions and features.

Territorial mobility and labor migration. Determinants of individual decision about migration. Internal and external labor migration. Main migration flows in Russia and other countries: directions



and intensity. Impact of labor migration on socio-economic development of recipient and donor countries. Government regulation of labor migration.

Section 9. Internal Labor Markets

External and internal labor markets. Causes of existence of internal labor markets: investment in specific human capital, transaction costs, selection problem. Internal markets and intrafirm human resource management structure. Job ladder. Intrafirm mobility. Workers' opportunistic behavior and the ways for its restriction. Employment contracts: problems of uncertainty and asymmetric information. Intrafirm pay systems. Labor remuneration structure: temporary and permanent components.

Types and methods of labor remuneration: piece rate and time rate pay systems, their advantages and disadvantages; combined schemes. Wage flexibility. Efficient wage as a method of avoidance control. Interaction of internal and external labor markets.

Section 10. Unemployment and Job Search

Unemployment: issues of definition and measurement. Unemployment rate. Typology, structure and duration of unemployment. Natural rate of unemployment. Causes of unemployment. Beveridge curve: vacant jobs and level of unemployment. Job search and the duration of unemployment. Job search theory. Job search models and reservation wage. Search models: choosing job search methods. Factors influencing unemployment duration. Duration models usage for estimating factors that affect job search duration. The rigidity of wages. Inflation and unemployment. The effect of unemployment on socio-economic development. Trends and structure of unemployment in transition economies.

Section 11. Trade Unions and the Labor Market

Trade unions and the labor market. The economic interpretation of the goals and trade union activities. Collective agreements, tariff and general agreements. Social partnership: subjects, functions, principles, level of negotiation. Collective bargaining: participants, objectives, reaching agreement. Models of agreement between unions and firms. Models of strikes: estimation of probability and length. Trade unions and wage benefits. The impact of trade unions on labor productivity and economic efficiency. The trade unions in Russia.

Section 12. State Regulations of Labor Relations

The imperfections of the labor market and state regulation. Goals and methods of regulation. Macroeconomic policy and its effect on the labor market. Legislation and institutional peculiarities of labor market regulation. Employment policy. Passive and active labour market policies. State employment offices and their role. Unemployment insurance: programs and benefits. Programs for stimulating labor demand and improving the competitiveness of unemployed people. The effect of taxes and subsidies on the market equilibrium. Minimum wage as a state regulation measure on the labor market: possible consequences. National models and peculiarities of labor market regulation.

Recommended literature

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11. Закон РФ «О коллективных договорах и соглашениях» 1992 г.
12. Закон РФ «О порядке разрешения коллективных трудовых споров» 1995 г.
13. Закон РФ «О профсоюзах, их правах и гарантиях деятельности» 1996 г.
14. Заработная плата в России: эволюция и дифференциация / Под ред. В. Е. Гимпельсона, Р. И. Капелюшников. М.: Издательский дом НИУ ВШЭ, 2008.
15. Заработная плата в России: эволюция и дифференциация. / Под ред. В.Е.Гимпельсона, Р.И.Капелюшников. М.: Изд. дом ГУ-ВШЭ, 2007. – 575 стр.
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19. Капелюшников Р. И., Ощепков А. Ю. Российский рынок труда: парадоксы посткризисного развития // Вопросы экономики. 2014. № 7. С. 66-92.
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26. Российский работник: образование, профессия, квалификация / Под ред. В. Е. Гимпельсона, Р. И. Капелюшникова. М.: Издательский дом НИУ ВШЭ, 2011.
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29. Чернина Е. М., Локшин М. М. Мигранты на российском рынке труда: портрет и заработная плата // Экономический журнал Высшей школы экономики. 2013. Т. 17. № 1. С. 41-74.
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Block 5. Direction "08.00.10 Finance, Money Circulation and Credit"

Three questions in this block are selected as follows: the first question is selected from section 1, the second and third question according to the choice of the examination commission are selected from section 2 or section 3 or sections 4, 5 or sections 6.7.

Section 1. Theory of Money, Finance and Capital.

Money in the economic system. The problems of definition of money. Functions of money. The methods of monetary aggregates. The evolution of forms of money circulation. Money in the Walrasian general equilibrium model. The quantity theory of money: modern versions.

Money in the Wicksell's model. The role of the demand for money in the neoclassical and Keynesian macroeconomic models of general equilibrium. The problem of "neutrality" ("non-neutrality") of money in the system of economic balance. The demand for money and money supply in the IS – LM model. The Pigou effect: "internal" and "external" money.

The demand for money, the key determinants. Characteristics of short-term and long-term elasticity of the demand for money. The role of lags. The monetary concept, the role of the thesis about the stability of the demand for money function. Econometric research of the demand for money in the 70s: structural changes. Changes in the "technology" of monetary transactions and the demand for money.

The money supply. The key factors that control the dynamics of the money supply. The centralized and decentralized forms of emission. "High-powered" money. The multipliers of money and credit expansion.

Equilibrium in the monetary sphere: the relationship between the demand for money and money supply. The sources of shocks and long-term changes in the monetary sphere.

Inflation problems. The model of uniform growth of monetary stock. Dynamics of the demand for real cash balances in the context of rising prices. Dynamic macroeconomic models of monetary circulation. The role of the lagged variables. The hyperinflation model: the basic premises. The importance of inflation expectations.

The adaptive form of expectations. Behavioral characteristics in the model structure. Cumulative processes in the hyperinflation model. Problems of econometric estimation of parameters in the hyperinflation models.

Rational expectations in the hyperinflation model. Characteristics of rational expectations, peculiarities of this approach in the field of inflation modeling. The problems of financial stabilization in terms of adaptive and rational expectations. Methods of statistical testing of the hypothesis about inflation expectations. The results of recent econometric studies of hyperinflation. Inflation and financial stabilization processes in Russia.

Money and credit policy. "The balance of objectives" and the problem of formation of the optimal combination of different forms of economic policy. The ways of formation of the objectives of money and credit policy.



Forms of implementation of money and credit policy. The role of changes in the discount rate (refinancing rate). The system of required reserves; the impact of changes in the reserve ratio on the scales of money circulation. The reaction of the banking transaction system to the changes in the required reserve ratio: the differences between developed market and transition economies. The role of transactions on the foreign exchange markets, their connection with the transactions on the secondary stock markets.

The capital market theory. The probability distribution of cash flows. Risk determination methods. Risk to yield ratio. Asset price movement. The efficient-market hypothesis, three forms of efficiency. Methodological problems of the efficient market. The risk-free rate of return. The capital asset pricing model (CAPM). The capital market line (CML). The price of time and risk. Adjusted CAPM.

Absolute and relative risks. The correlation coefficient and coefficient of determination. Combination curve. Effective front. Diversification. The investor's portfolio. Linear and angular portfolios. Market portfolio, β -coefficient. The security market line (SML). The capital asset pricing model.

Arbitrage pricing model. Factor models. Market and own risks. Arbitration portfolio. The ratio between CAPM and APT. Correlation of factors.

Justification of the capital structure. The concept of the optimal and target capital structure. The traditional approach. The EBIT-EPS model. The Modigliani-Miller paradox. The compromise model. Bankruptcy cost estimation. Signal models. Capital structure management. The correlation of decisions on the capital structure with investment decisions and decisions on dividend policy.

The company's dividend policy. The concept of the dividend policy. The sources of dividend payments. Limitations. Dividend policy theories (taking into account the risk of delay, tax payments, information asymmetry, the "clienteles effect"). Changes in dividends over time (Lintner's model). Payment of dividends with shares. Splitting and consolidation of shares. Redemption of treasury shares. Reinvestment of dividends.

Investment decisions. Allocation of investment costs and operating cash flows (taking into account investments in the working capital, calculation of incremental cash flow). Assessment methods in the context of certainty: the comparison of payback period methods, average return, net present value (NPV) and internal rate of return (IRR). Comparison of projects (with unequal validity terms, with unequal investment costs, with the difference only in the value of current and investment expenditures).

Investment decisions in the context of uncertainty. Real options and their types (options to delay, to termination and to new investment opportunities). Evaluation of a real option. Financial stress. The games of capital owners. Stress assessment depending on the type of assets.

Evaluation of financial assets and business: the discounted cash flow method (DCF). Peculiarities of application of the DCF method for evaluation of the company and its shareholder's equity.

Recommended Literature

1. Th. Sargent "Macroeconomic theory" 1989.

2. B. McCallum "Monetary economics: theory and policy" 1988.
3. L. Harris "Monetary Theory". Translation from English. M.: Progress, 1990
4. W. Sharpe, G. Alexander, J. Bailey. Investments, M., Infra-M, 1997
5. Brealey R., Myers S., Fundamentals of Corporate Finance M: "Olymp-business", 1997
6. James L. Farrell, Jr. Portfolio Management, 1997.
7. Robert A. Haugen, Modern Investment Theory, 1993.
8. Chi-fu Huang and R.H. Litzenberger "Foundations for Financial Economics" – PRENTICE HALL, 1993

Section 2. Securities and Stock Market.

The concept, role and importance of financial and stock markets. The composition and structure of the stock market. Classification of markets. Segmentation of security markets. The concept and fundamental properties of securities. Classification of securities.

The concept of bond and its key characteristics. Classification of bonds. Bond pricing models, factors that affect the bond price. The concept of duration. The Macaulay duration. Modified duration. The analysis of duration. Using duration indicators for the risk assessment. Calculation of return on bonds. The models of conversion of bonds. Peculiarities of convertible bond pricing. The consequences of conversion for investors and the issuer. Rating of bonds.

The share as equity security, its properties. Types and classification of shares. Construction of the issue of shares. Share pricing models based on the discounted flow of dividend payments. Multiplier share pricing models. Current and total return on shares. The methods of calculation and payment of dividends. Preemptive rights of shareholders. Pricing of rights.

The legal status of warrants. Pricing of warrants. Shadow and temporary price of warrants. Depositary receipts, the procedure of issue, circulation and conversion. The rights of holders of depositary receipts.

The issue and circulation of securities. Initial public offering of securities. Offering circular. Underwriting procedure. Emission consequences. Maintaining the secondary market of own securities. Purchase and redemption of shares. Major acquisitions.

The goals and objectives of the issue of government securities. State short-term zero-coupon bonds: the procedure of issue and circulation. Auctions on placement of state treasury bills, competitive and non-competitive offers. Cut-off price and volume-weighted average price. Calculation of yield on state treasury bills. Federal loan bonds and savings loan bonds. The objectives of their issue. The procedure of calculation of the coupon yield. Bonds of internal state currency loan, the procedure of the issue and circulation. Eurobonds.

Estimation of investment qualities of securities. The risks of securities and their classification. Risk minimization problems. Qualitative and quantitative assessment of investment properties. Stock market indicators. Security ratings.



Assessment of bond risk. Duration and convection. Determinants of convection and duration. Reinvestment risk. Immunization. Risk premium. Credit quality determinants. The fundamental sources of risk (interest rate risk, purchasing power risk, business risk, financial risk).

Security portfolio formation and management.

The rules of share selection. Active and passive strategies. Share selection strategy. Construction of an investment process. Measurement of predictive ability. Transaction costs. Construction of a portfolio. Portfolio optimization. Process management over time. The effectiveness of the strategy over time. Short-term and long-term strategies. Short-term and long-term risk.

Management of the composition of asset classes. Using historical data to predict the future. Scenario forecasts. Determination of the optimal composition. Market sensitivity management. Cyclic behavior of the market. Market forecasting (assessment of indicators, economic and technical indicators). Management strategies of composition of classes (buy-and-hold, constant-mix, portfolio insurance) and characteristics of strategies.

Promissory note circulation system. The concept of promissory note and its scope. The general provisions of the Geneva Convention concerning the circulation of promissory notes. Types and classification of promissory notes. The mechanism of promissory note functioning. The mechanism of bill of exchange functioning. Acceptance and surety of a promissory note. Accounting of promissory notes. Pricing of promissory notes. Calculation of yield on transactions with promissory notes. The relationship between the discount rate and the rate of return.

Regulation of the stock market. Stock market models: banking, non-banking, mixed. The concept of formation of the stock market in Russia. Goals and objectives of the regulation. The key elements of the stock market regulation. Regulatory authorities, their rights and obligations. Self-regulatory organizations. Regulation of insider activity.

Organization of brokerage activity. Interaction of clients with brokers. Dealer activity. Security management activity. Clearing and settlement activity. Functions of the clearing house. Registration and depository activity. Depository's functions. The system of keeping the register of holders of registered securities. Activity of a specialized registrar. The technology of conducting brokerage transactions. Establishment of contractual relations with the client. The types of applications for conducting transactions (limit orders, market orders, stop orders, etc.). Brokerage accounts: cash and margin accounts. Sale of securities without coverage. Terms of validity and execution of applications. Technology of delivery of securities and organization of settlements.

Characteristics of foreign exchange trading, the structure of the foreign exchange market. Types of stock exchanges. Methods of organization of foreign exchange trading. Types of exchange auctions. The operating mechanism of foreign exchange trading. Participants of foreign exchange trading. Listing and delisting procedure.

Types of over-the-counter markets (OTC). Over-the-counter organized market. NASDAQ system. Technology of making transactions in the Russian Trading System (RTS and RTS-2). RTS members and their functions.

The principles of construction of stock indices and indicators. Models of construction of stock indices. Dow Jones indices, the procedure of their calculation and adjustment in case of stock split.



British stock indices: FT-30 and FTSE-100. The principles of their construction. Stock indices of Germany, France and Japan. Russian stock indices. RTS indices, Interfax, AK&M and others. The dynamics of indices.

Investment funds, their legal form and principles of activity. Interaction of the investment fund with investors. The Russian experience of the investment fund functioning. Transactions with securities of investment funds. Mutual investment funds, their types and classification. Organization of activity of mutual investment funds. Investment policy of mutual investment funds. The model of assessment of net assets and the value of an investment unit. Allocation, sale and redemption of investment units. Non-state pension funds (NPFs) on the stock market. Patterns and structure of investment of assets of NPF. Assessment of risks and reliability of investing assets of NPF.

Technical analysis of securities. General concepts, essence and methods of technical analysis. The definition of technical analysis. The general provisions, concepts and assumptions of technical analysis. Classification of technical analysis methods. The scope of technical analysis methods.

Methods of graphical analysis. The key graphic figures of technical analysis. Stock market charts. Line charts. Histograms. Noughts and crosses. Japanese candlesticks. Levels and lines of support and resistance. Channels, envelopes, signals, filters.

Technical indicators. Methods of moving averages. Moving averages and their types. Calculation of moving averages. Selecting the procedure of the moving average. Signals. Filters. Indicators. Oscillators.

Wave methods of technical analysis. Cycles: general concepts and provisions. Types of cycles. The general provisions of the Elliott wave theory. Fibonacci numbers. The Gann theory.

Risk measurement. Risk measures. The "average – variance" principle. The indicator of potential losses of the VaR portfolio and its properties. The absolute and relative VaR. Aspects of the practical application of VaR: parametric, historical approaches, model approach. Alternative indicators. The CVaR approach.

Market risks. Interest rate risks, currency risks, equity risks, commodity risks. Using VaR for measuring market risks. The risks of margin trading. Accounting of market liquidity. Models of the term structure of interest rates.

The principles of organization of the futures market. Forward and futures contracts. Organization of futures trading. Clearing procedure, the calculation of the variation margin, the main types of trading transactions. Pricing on the futures market.

Characteristics of an option contract. The objectives of conclusion of option contracts. European and American options. Call and put options. The striking price. Categories of options: an option with win, without win, with loss. Option premium. The inner and time value of the option premium. Covered and uncovered options. Warrant, cap, floor, collar. Organization of option trading. Adjusting an option contract at splitting of shares and payment of dividends with shares.

Combinations, spreads. Vertical, horizontal, diagonal spreads. The combination of options and shares. Straddle, strangle, strip, strap, bull spread, bear spread. Synthetic positions. Synthetic call and put options. Synthetic share.

The upper and lower bounds of European and American call and put options on shares for which dividends are paid or not paid during the validity term of the option contract. The cost of American and European call and put options by the time of expiry of the contracts. Early exercise of American call and put options.

Dependencies between option premiums, that have different exercise (striking) prices, expiration dates of contracts, standard deviations. Parity of European call and put options on shares, for which dividends are paid or not paid.

The general approach to the determination of the option price. The simple binomial model of option premium valuation. Formation of the risk-free portfolio. Binomial model of J. Cox, S. Ross and M. Rubinstein. The Black-Scholes model. Lognormal distribution. Determination of a historical standard deviation.

Hedging technique by option contract. Hedging by raising and lowering the price of the underlying asset. Determination of the number of option contracts at hedging. Hedging of an option contract per share, stock index, bond, currency, futures contract. Sequential hedging. Delta hedging. Delta-neutral position. Hedge ratio. Gamma, theta, vega, rho.

Recommended Literature

1. Stock Market. Under the editorship of N.I. Berzon – M.: VITA-PRESS, 2009.
2. W. Sharpe, G. Alexander, J. Bailey. Investments, M., Infra-M, 1997
3. S. Cottle, R. Murray, F. Block. Graham and Dodd's Security Analysis. - M.: Olymp-Business, CJSC, 2000.
4. A.N. Burenin. Forwards, futures, options, exotic and weather derivatives. M.: Scientific and Technical Society named after S.I. Vavilov, 2008.
5. A.N. Burenin. "The market of derivative financial instruments" - M.: "INFRA-M", 2004.
6. Sh. De Kovni, K. Takki. Hedging strategy - M.: "INFRA-M", 1996,-207p.
7. R. Teweles, E. Bradley, T. Teweles "The Stock Market" – M.: "INFRA-M", 1997
8. J Murphy - Technical Analysis of the Financial Markets. Theory and Practice. Publishing House "Euro". M. 2004
9. F. Fabozzi. Investment Management.- M.: INFRA-M, 2000.

Section 3. Banks and Banking System

The banking system and financial markets; financial intermediation. Types of credit institutions and types of banks. Tools of the financial market in the Russian Federation. Peculiarities of formation of the financial and banking sector in Russia. The problem of transition to IFRS.

The Central Bank: objectives, organization of the Central Banks in various countries, control and supervision of credit institutions. A mega regulator, its functions and scope of regulation. Money and credit policy - objectives and instruments; peculiarities of the money and credit policy of the Central Bank of Russia. The impossible trinity.



Active transactions of the commercial bank.

Credit transactions and credit policy: types of credit transactions of the bank; the bank's loan portfolio as the main source of profit; parameters of a credit transaction; credit agreement. Analysis of the client's creditworthiness as the most important stage of the lending process; methods of analysis of the client's financial status and key indicators of creditworthiness. Loan security; types and forms of security; non-performing loans (NPLs). Peculiarities of credit transactions and creditworthiness evaluation rules according to the current Russian banking legislation.

Investment transactions: bank investments; investment portfolio of the bank; investments in securities as a liquidity reserve; risks associated with investments; investment strategy of the bank.

Passive transactions of the commercial bank. Raised funds: the structure of bank liabilities; types and pattern of money accounts. The structure of bank deposits; opening and maintenance of deposit accounts; non-deposit sources of bank resources; peculiarities of deposit and non-deposit transactions in Russian banks.

The bank's capital: objectives, functions and structure of the shareholders' capital; issue of securities as a way of raising capital; the concept of capital adequacy; regulations and capital adequacy calculation in accordance with the recommendations of Basel II.

The rules for calculating capital ratios in Russia.

Cash payment and settlement system: types and forms of non-cash payments; promissory notes, checks and other payment instruments; clearing systems; types of international money transfers; systems of computerized payments in the interbank payment system.

Foreign exchange transactions: the organization of the foreign exchange market, traders; interaction of exchange and OTC foreign exchange markets; technique for carrying out foreign exchange transactions, code of conduct; information and communication systems for trading; types of foreign exchange transactions; maintaining and accounting of open foreign exchange position; definition and adherence to limits and stop-losses in currency trading; spot transactions; arbitrage transactions.

Forward foreign exchange transactions: foreign currency risks and delivery risks; risk management; forwards; swaps; futures; options; financial modeling using various forms of foreign exchange transactions; hedging strategies; determination of optimal speculation strategies; technical and fundamental analysis of the exchange rate.

International settlements: the application of Incoterms; foreign trading documents; prepayment; collection of payments; letters of credit; payment to an open account; special types of letters of credit, negotiation, deferred payments. Modern payment systems. Factoring and forfeiting; international trade lending. Risk management in the implementation of international settlements; foreign exchange and customs control.

The concept and types of banking risks: methodological aspects of the commercial bank's solvency; classification of banking risks; the impact of risks on profit ratios and capital adequacy of the bank; the concept of the bank balance and its key characteristics; determination of an acceptable level of profitability of the bank; determination of the total level of risks. The recommendations of Basel II concerning risk management.



Interest rate risks of the bank: interest rate policy of the commercial bank; revenue and profit management, optimal taxation models; "GAP" analysis model; static and dynamic GAP; duration and its use for management of interest rate risk of the commercial bank.

Liquidity risks of the commercial bank: the parameters of liquidity of the commercial bank, the concept and definition of liquidity risk; formation of basic liquidity ratios; assessment of liquidity as a "reserve" and as a "flow", liquidity position – concept and management; capital management adjusted to an acceptable level of risk; unbalanced liquidity risk management.

Basel III, its characteristics.

Credit risks of the bank: credit policy and credit investments; credit portfolio and its structure; analysis of the credit portfolio quality; credit portfolio management methods; security of credit transactions; modern models of credit repayment guarantee.

Collateral management; key functions and types of balance sheet reserves; the formation of their sources; balance sheet reserves management.

Foreign exchange risks: types of foreign exchange risks; coverage of foreign exchange risks and delivery risks on the market of futures contracts; forwards, swaps, futures, options.

Risks associated with investing in the security assets: definition of equity risks, classification of risks, the problem of changing equity risks; the criteria of formation of the optimal portfolio, the definition of the bank's "efficient portfolio"; construction of the efficient portfolio frontier; the principles of combination of "risk" and "risk-free" assets; the problem of definition of "acceptable" equity risk for the bank; characteristics of financial risks and the diversification of the asset portfolio (systemic and specific risks); the criteria of efficiency of management of bank security asset portfolio; analysis of financial transactions: the results of management of different components of the asset portfolio; derivative liabilities and risk management, the principles of formation of the portfolio at a given level of risk; financial engineering in banks: opportunities in the modern Russian economy.

Characteristics of the banking services market. Conditions of related sectors, their impact on the banking services market.

Marketing analysis of the bank's clients. Separation of clients by the "client-product" model.

Marketing product of the bank: development, evaluation, implementation;

Marketing support of active and passive transactions;

Marketing strategy of the bank. Selection, development, implementation, analysis of the results.

Marketing analysis of the bank's competitors;

Marketing organization; management of the bank's marketing activities.

Recommended Literature

1. Banking. Textbook / under the editorship of G.N. Beloglazova, L.P. Krivoletskaya, - 5th edition. revised and enlarged. – M.: Finance and statistics, 2003.
2. V.M. Usoskin. Modern Commercial Bank. Management and Transactions. Moscow, 1994.

3. I.V. Larionova. Asset and Liability Management in the Commercial Bank. – M.: Publishing Company AO Konsaltbankir, 2002.
4. Management of Commercial Banks' Activities (Banking Management): Textbook / under the editorship of O.I. Lavrushina, - M.: Yurist, 2003.
5. V.M. Usoskin. Bank plastic cards. Moscow, - 1995.
6. Arrangement of Commercial Banks' Activities. Textbook (under the editorship of K.R. Tagirbekova) M.,2004.
7. E. Rid et al. Commercial Banks. Moscow. 1983, 1991.
8. Matuk. Financial Systems of France and Other Countries. Volume 1, book 1 and 2. Moscow, 1994.
9. Hennie van Greuning, Sonja Brajovic, Bratanovic. Banking Risks Analysis. System of Corporate Management of Financial Risk / Translation from English by K.R. Tagirbekova, - M.: Publishing Company "Ves mir", 2003.

Section 4. Corporate Finance

A complex of financial decisions of the company at various stages of its business life cycle. The principle of creating economic profits - the basis of the analysis of financial decisions of the company. Investment risks of the company, their structure and impact on alternative expenses of its investors. The concept of financial approach to the analysis of the company's profitability, its differences from the accounting one. The role of liquidity principle in the analysis of the financial decisions of the company. The flow of company's free cash. The role of the value of money over time in the analysis of financial decisions of the company. Corporate objective and its financial interpretation. The rule of net present value (NPV) of investments. The Fisher's separation theorem, its role in the analysis of the objective and criteria for decision-making in the corporation.

The tools of formation of the company's debt capital. Model of discounted cash flows on risk-free corporate bonds - the basis of the analysis of the fundamental value of the borrowed capital of the company. Discounting of cash flows on corporate bonds taking into account the structure of interest rates over time. Using the model of discounted cash flows on the bonds in the analysis of the company's debt capital in the form of bank credit and capitalization of long-term lease.

The tools of formation of the company's equity. Model of discounted flows of dividends on shares: the case of fixed payments. A steadily growing corporation: concept, criteria. Discounting of dividend flows that grow at a constant rate. Discounting of dividend flows that grow at different rates. The principles of valuation of the company's growth prospects based on the model of the discounted free cash flow.

The structure of the company's capital in the context of a perfect capital market - the basis of the analysis model construction. The Modigliani–Miller theorems. The Modigliani–Miller theorems taking into account the company's income tax. The Miller's model: the individual investor's balance and the company's balance, taking into account income tax of the investors. The importance of the Modigliani-Miller theorems for the analysis of the funding decisions.



The principles of the analysis of the capital structure on an imperfect market. Fundamentals of the trade-off theory in the choice of the capital structure. The problem of "debt overhang" and the redistribution of the corporation's cost between creditors and shareholders. The pecking order theory.

Signal models of the capital structure: the principles of the Ross and Majluf's models. Agency costs and choice of the capital structure: agency costs of the debt capital, agency costs of the equity capital.

The principles of the policy of financing long-term development of the company. The optimal capital structure and financial leverage of the company. Evaluation of the level of the optimal capital structure: the EBIT-EPS method, the method of weighted-average costs of capital. Factors that influence the choice of the capital structure.

The costs of capital and alternative costs of investors. The model of weighted-average costs of the corporation's capital. Average and marginal costs of capital. Plotting a chart of marginal cost of capital (MCC): finding breaking points and evaluation of costs on each interval of the attracted new capital. Rules of analysis of weighted average costs of capital. The role of the cost of capital models in the analysis of investment decisions of companies and funding decisions.

Methods of analysis of costs of debt capital: costs of the capital raised in the form of a bank credit: costs of the capital raised through the issuance of corporate debt securities; costs of the capital raised in the form of long-term lease. The costs of capital and the financial leverage.

Methods of analysis of costs of capital, raised by the company's owner: the costs of reinvested earnings, the costs of new issues of shares. Beta shares of the company and its financial leverage. The concept of beta assets. The use of the discounted cash flow method in the analysis of costs of capital. Peculiarities of the analysis on the growing capital markets.

Methods of evaluation of the economic efficiency of the company's investment projects. The rule of net present value, its assumptions and limitations. The models of introduction of financial decisions in the analysis of NPV: the model of operating cash flow, residual flow to equity capital, adjusted present value of Myers (APV). The economic life cycle of the project and its role in the investment analysis.

Internal rate of return (IRR) of the project as financial rate of return and rate of economic profit. The modified internal rate of return of the project (MIRR). Break-even analysis for operating activity and in the investment analysis (breakeven point of investment, taking into account the tax "shield" as a function of the discount rate of the project). The project profitability index (P/I), and peculiarities of its application in the analysis of the effectiveness of projects. The financial approach to the determination of the project payback period: discounted payback period.

Specific character of risky projects: classification of risk factors. Identification of key risk factors: sensitivity analysis. The concept of the project duration. Evaluation of the project sustainability to the implementation parameters (analysis of operating, monetary and financial sustainability). Probabilistic analysis of the project cash flows: the impact on the project evaluation, the rules for calculating NPV variance with the cash flows dependent and independent on years of the project (the variance of cash flow portfolio).

The ways to include risk in the analysis of the project by the NPV method: the use of risk-adjusted discount rate (RADR) and the method of guaranteed equivalent cash flows (risk-neutral method of cash flow, certainty equivalents or CE). Adjustments of cash flows in the method of guaranteed equivalent. The method of a decision tree in the investment analysis and impact assessment rules for it.

The concept of "flexible investment projects" and their role in implementing the company's strategic opportunities. Real options as a method of analyzing the effectiveness of flexible investment projects. Types of real options. The areas and opportunities of using analytical option pricing models (binomial model) for investment projects.

The tools of payment of free cash flows to owners: cash dividends, dividends in the form of additional issues of shares, redemption of shares. Methods of redemption of shares by the company: an offer with a fixed rate, redemption by auction, issue of "rights" to sell shares, the redemption through operations on an open market. Methods of assessment of the company's ability to make payments to the owners. Types of payment policies. The "systematic facts" of Lintner and their meaning.

The Modigliani–Miller theorem for a perfect capital market - the basis of the analysis of payment policy. The "enigma" of dividends and the problem of optimal policy of making payments to owners. Types of investors by tax sensitivity criterion and problem of payment policy optimization (clientele theory). Dividends as an informational signal for investors. "Left-wing radicals" and the problem of optimal payment policy. Payment policy and investor's requirements to profitability.

Types of mergers and acquisitions as operations of gaining control over the company. The concepts of motives of mergers and acquisitions: the concept of efficiency, the concept of synergy, the agency concept, "viral hypothesis". Hostile takeovers and "free-rider" problem. The principles of analysis of the effectiveness of transactions on acquisition of companies. Forms of synergies in mergers and acquisitions: operating and financial synergies. Methods of payment of acquisition transactions, their reflection in the efficiency assessment. The proportion of share exchange. Financial methods of protection against hostile takeovers.

The causes and consequences of financial difficulties. The diagnosis of bankruptcy. Financial recovery methods. Debt restructuring. The principles of crisis management.

The working capital management models (conservative and aggressive policies). The importance of the financial cycle concept and its optimization. Prospective and current planning of cash receipts and payments (liquidity plan). Payment calendar and operational management of financial flows. Net working capital. Analysis of security of current assets with own funds. Special forms of short-term financing, REPO transactions, tolling. Management of raising commodity credit, accounts payable.

The general principles of current asset management. Models of optimization of funds on the account (the Baumol and Miller-Orr's models). Production inventory management (optimization of batch sizes, order control system).

The principles of construction of accounts receivable management policy. Estimation of benefits of factoring and forfaiting. Classification of accounts receivable by the terms of occurrence, assessment of payment discipline, accounting of outstanding balances.



Recommended Literature

1. R. Brealey, S. Myers. Principles of Corporate Finance. Olymp-Business. 1997
2. S. Ross. Fundamentals of Corporate Finance. BINOM. 2000.
3. F. Modigliani, M. Miller. How much is firm? M.: Delo.1999.
4. P.L. Vilenskiy, V.N. Livshits, S.A. Smolyak. Evaluation of the Effectiveness of Investment Projects: Theory and Practice, M., Delo 2002.

Section 5. Company Valuation

The key standards for estimating the company's value and their correlation. Measurement principles. Factors to be considered when constructing the algorithm for estimating the company's value (business). The causes and forms of correction to the estimation result. Discounts for lack of liquidity, their forms and methods of analysis. The control participation: its criteria, methods of analysis of the control premium. Choice of the final index of the company's value. The structure of the business valuation report. The concept of management of the company's value. The components of value management.

The basic models of the discounted cash flow methods and the principles of their choice: free cash flow to the firm model (FCFF), free cash flow to the equity model (FCFE). Analysis of the planning horizon and the amount of the final (residual) cash flow. Peculiarities of the income approach to estimation of the company's value on the growing (emerging) equity markets.

The method of capitalization of normal accounting profit, its differences from the discounted cash flow method. Capitalization of excess income as a special method of the income approach: analysis of excess profits, methods of determination of the capitalization rate of excess profits. Valuation models based on economic profit (residual income) and their differences from the accounting profit capitalization. The discounted economic profit model of Edward - Bella - Olson (EBO). Advantages and disadvantages of the model.

The basic algorithm of the market comparison method. The criteria for assignment of a peer company. The main market multipliers: PER, P/CE, P/S, P/FCF, P/BV. Industry multipliers. Analysis of the interaction between market multipliers and growth rates of the company. The peculiarities of application of the market comparison method on emerging capital markets. The analysis of country risk within the framework of the market comparison method.

The algorithm and peculiarities of the net asset method. The principles of correction of assets and liabilities in the net asset method. Methods of evaluation of intangible assets: exemption from royalties, gains in cost, creation costs, acquisition costs. Evaluation of reputation: cost accumulation method, the method of transaction price remainder, the excess earnings method. Calculation of the company's total value using net asset method.

The liquidation value method. Construction of algorithm of the liquidation value method, depending on the type of liquidation. Adjustment of the active part of the balance. Determination of costs associated with the company's liquidation. Adjustment of the value of the company's liabilities.



Recommended Literature

1. A. Damodaran. Investment Valuation, Alpina Business Books, M. 2004
2. Business Valuation. Under the editorship of A.G. Gryaznova, M.A. Fedotova. Moscow: Finance and Statistics, 2nd edition, 2004
3. E.V. Chirkova. "How to evaluate business by analogy: handbook on using comparative market coefficients when valuing business and securities" M. "Alpina Business Books", 2005.

Section 6. Insurance and Actuarial Calculations

Property insurance, liability insurance, life and health insurance. Underwriting. Tax issues related to insurance. Insurance contract, insurable interest. The participants of insurance relations, insurance intermediation: insurance agents and brokers. Insurance regulations. Legal forms of insurance companies. Key aspects of the insurance company management. State regulation of insurance activities.

Financial resources turnover of the insurance company. The essence of the reservation. Types of risks and reserves of the insurance company. Quality indicators of the insurance company and their measurement using the degree of closeness of the results of the work to the company's goals.

The expected utility model for decision-making under risk. The formalization of the risk attitude. The principles of determination of insurance premium.

Calculation of tariffs and reserves in risk insurance. The model of individual risk. The collective risk model. The theory of ruin.

Forms of self-insurance. Captive insurance companies.

Reinsurance and its functions in the system of insurance protection. The main types of reinsurance. Theoretically optimal forms of reinsurance.

Motor vehicle liability insurance.

"Classical" life insurance products. Insurance in case of death and mixed life insurance. Whole life insurance in case of death. Insurance conditions with a high level of inflation. Life insurance products of a "new wave" (Adjustable Life, Universal Life, Variable Universal Life, Unit-linked insurance).

The fundamentals of actuarial mathematics. Mortality tables and survival models. Annuities. Standard types of life insurance. Calculation of tariffs and reserves in life insurance. Testing of the profitability of life insurance products. The calculation of tariff rates and life insurance reserves. Actuarial calculations for flexible types of life insurance.

Pension and social insurance. Classification of pension schemes for the formation of assets and liabilities. Non-state pension funds. Pension reform. Conditions of application and specifics of actuarial calculations of pension schemes.

Recommended Literature

1. Fundamentals of Insurance Activity. Executive Editor Professor T.A. Fedorova.- M.: BEK, 1999.



2. Insurance Business, volume 1, 2. – M.: Economist, 2004 (Translation from German).
3. N.L. Bowers et al. Actuarial Mathematics. – M.: Yanus-K, 2001.
4. H. Gerber. Mathematics of Life Insurance. – M.: Mir, 1995.
5. S. M. Clark et al. Fundamentals of Actuarial Mathematics. – Moscow, Society of Actuaries, 2000 (Translation from English. V.V. Novikov and D.O. Selivanova).

Section 7. Financial Engineering and Risk Management

The concept of risk. Classification of risks. The main stages of the risk management process at the enterprise. Financial components of the risk management process. Risk insurance. Own retention, prevention and / or reduction of damage, risk transfer. The use of derivative financial instruments for risk management. The system of management and control over the risks of financial institutions.

Comparative analysis of risks in commercial banks, investment companies and insurance companies. The organization of risk management in non-financial companies.

Risk measurement. Risk measures. The "average – variance" principle. The indicator of potential losses of the VaR portfolio and its properties. Absolute and relative VaR. Aspects of the practical application of VaR: parametric and historical approaches, model approach. Alternative indicators. CVaR approach.

The principles of stochastic dominance. Subadditivity (principle of decentralization). Coherence of risk measures.

Scenario analysis. Sensitivity analysis. Stress testing.

Market risks. Interest rate risks, foreign exchange risks, equity risks, commodity risks. Using VaR for measuring market risks. The risks of margin trading. Accounting of market liquidity. Models of the term structure of interest rates.

Credit risks. Credit rating systems. Migration of credit ratings. Creditmetrics system. Econometric approach, CreditPortfolioView. The approach to the description of credit risks using contingent obligations.

The Merton structural model. The KMV model. Actuarial form of credit risk measurement. CreditRisk + system. Comparison of different approaches. Mechanisms of reducing exposure to credit risk. Consumer credit risks.

Operating risks: the main approaches to measurement and evaluation. Model risks. Back-testing.

Basel Accords: the structure and key principles. Requirements to capital. Approaches to measuring market, credit and operating risks.

The importance of derivative financial instruments for risk management. The main types of derivative financial instruments: forwards, futures, swaps, options, structured products and their use in practice. Arbitration schemes. Financial leverage effect. Hedging, its types, appropriateness, performance evaluation. Calculation of hedge ratios.



Options and their properties. The internal value of an option. Underlying assets of options, options on futures. Main spreads and combinations of options. The volatility of underlying assets, methods of assessment and prediction. The binomial method of calculation of the option value, the Cox - Ross – Rubinstein model, dynamic hedge, risk-free portfolio. Risk-neutral valuation of derivative instruments. The Black-Scholes formula, its relation to the binomial model. Sensitivity coefficients ("Greek letters"). "Volatility smile", "fat tails" and the asymmetry of distributions. The case of incomplete market.

A clearing organization's methods of payments on options (up front, variation margining). Margining systems, SPAN.

Credit derivatives. Credit risk hedging. Securitization as a means of risk management and refinancing. Synthetic securitization.

Recommended Literature

1. L. Galits. Financial Engineering: Tools and Methods of Financial Risk Management, TVP, 1998
2. D.F. Marshall. Financial Engineering: A Comprehensive Guide to Financial Innovations, INFRA-M, 1998
3. The Professional Risk Managers' Handbook. PRMIA, 2005
4. Hull J. Options, Futures and Other Derivatives, Prentice Hall, 2002
5. Vaughan E.J. Risk Management, John Wiley & Sons, Inc., 1997.
6. Crouhy M., Galai D., Mark R. Risk Management, McGraw-Hill, 2001



Block 6. Direction "08.00.12 Accounting, Statistics"

Section 1. Socio-economic Statistics

Actual problems of macro-economic statistics and SNA;
Modern problems of employment and unemployment statistics;
Organization and methods of sampling surveys;
«Input-output» tables;
Gross Domestic Product (GDP) and methods of GDP calculation;
Indicators of population reproduction;
SNA and institutional sectors of the economy;
The concept of institutional units in the SNA and their classification;
Gross Domestic Product calculation methodology;
Methodological issues of indices construction in statistics;
System of statistical indicators of foreign economic relations;
Frameworks of production sector in the SNA;
Current account and capital account in the SNA;
Sources of statistical data on employment;
Methodology of the measurement of informal employment;
Conceptual bases of the System of National Accounts;
Methods of sample selection;
General census of the population as a source of demographic information;
System of indicators of mortality statistics;
System of statistical indicators of living standards;
System of indicators of natality statistics;
Concept and system of indicators in the statistics of population;
Methodology of calculation of disposable income in the SNA;
Indicators of fixed assets reproduction;
Concept and methods of calculation the Consumer Price Index;
Methods of calculation population economic activity indicators;
Methods of measurement of income inequality;
Customs statistics indicators;



Consistency national accounts for the domestic economy;

Conceptual bases and statistical indicators of poverty;

Concept and system of indicators of government finance statistics;

Concept of economic assets in the SNA and their classification;

Production Approach for GDP calculation;

Concept and structure of primary incomes, methods of primary incomes accounting in the SNA;

Measurement of labor costs in statistics;

Expenditures Approach for GDP calculation;

Income Approach for GDP calculation;

Principles of measurement of gross output for the main types of economic activities;

Intermediate consumption: the general principles of calculation and accounting in the SNA;

Concept and composition of the national wealth according to the SNA methodology;

National currency purchasing power parity and GDP international benchmark;

International Statistical Classification. Relationship with national socio-economic information classifiers;

Methods of calculating inflation, GDP deflator index;

Methodological basis of price statistics in accordance with international recommendations;

Indicators of employment and unemployment. Methods of calculation;

Basic principles and structure of the Balance of Payments;

Goods and services account in the SNA statistics;

Capital accumulation accounts and assets and liabilities balance;

Method of gross savings calculation: nature and applications;

Concept of final consumption, its composition and accounting in the SNA;

Current account concept.

Recommended literature

1. The course of socio-economic statistics: Textbook for high schools // ed. by prof. M.G. Nazarov. - M.: Finstatinform 2008.
2. Methodological Guidelines on Statistics. Volume 2 / The Federal State Statistics service of Russia. Moscow, 2000.
3. Gromyko G.L. Theory of Statistics: Textbook - M.: Finance and Statistics, 2007.
4. Surinov A.E. System of National Accounts. Textbook. - M.: IPC "Statistics of Russia", 2006.



5. Obratsova O.I., Kopeykina O.V. System of National Accounts. Textbook - M.: HSE Publishing House, 2008.
6. Obratsova O.I. Business statistics. Textbook - M.: HSE Publishing House, 2010.
7. Economics and Statistics firms. Ed. S.D. by Ilyenkov - M.: Finance and Statistics, 2007.
8. Economic statistics. Textbook // Ed. by Ivanov Y.N. - M.: Moscow State University, 2008.
9. Demographic statistics Textbook / Ed. by I.I. Eliseeva - M.: Finance and Statistics 2006.
10. Efimova M.R., Bychkov S.G. Social statistics Tutorial / M.R. Efimova, S.G. Bychkova; ed. by M.R.Efimova. - M.: Finance and Statistics, 2004.

Section 2. Instrumental Methods of Applied Statistics and Econometrics

Random variables. Probability distribution of a random variable. Probability distributions and density functions: idea and properties.

Basic characteristics of random variables and their properties.

Binomial and Poisson distributions of a random variable.

Normal distribution of a random variable.

Pearson, Student and Fisher distributions of a random variable.

Partial and conditional distribution of two-dimensional random variable. The independence of two random variables.

Basic characteristics of two-dimensional random variable.

Multidimensional random variable. Pairwise, partial and multiple correlation coefficients: idea and properties. Testing the significance of the correlation coefficients.

Two-dimensional normal distribution.

Population and sample. Subject of Mathematical Statistics.

Statistical characteristics as analogues of the parameters from population.

Statistical estimation for parameters from population.

Point estimates and the basic requirements for a point estimation (unbiasedness, consistency, efficiency).

Method of moments and method of maximum likelihood for the construction of point estimates.

Defining an interval estimation of unknown characteristics of population. Building confidence intervals.

Interval estimation of the proportion of population.

Interval estimation of the general mean of a normally distributed population.

Interval estimation of the general variance of a normally distributed population.



Problems comparing the populations and statistical hypothesis testing.

Statistical hypotheses and their testing. Statistical tests.

Statistical testing of hypotheses about the general proportions.

Statistical testing of hypotheses about the variance for normally distributed populations.

Statistical testing of hypotheses about the general mean for normally distributed populations.

Analysis of variance. The essence of the analysis of variance. Main tasks performed by analysis of variance. Models of analysis of variance.

Purpose regression analysis. Properties of multiple regression model. Defining estimates for parameters in models using a least squares method.

Correlation and regression analysis as the statistical research methods.

Correlation analysis and its tasks. Point estimates for paired, partial and multiple correlation coefficients, checking their relevance and interval estimation.

Statistical methods for reducing the dimensions of multidimensional population.

Factor and component analysis as methods of multivariate statistical analysis.

Multidimensional classification of objects without learning (cluster analysis).

Least square method. Properties of OLS estimates in multiple regression analysis.

Significance test and interval estimation of coefficients and multiple regression equation.

Homoskedasticity and heteroskedasticity in the regression models. Generalized Least Squares. OLS estimators and their properties.

Multidimensional classification of objects with learning (discriminant analysis).

Components of time series: statistical estimation.

Trend models in time series analysis: parameter estimation and verification of their significance. Interval forecasts based on trend models.

Seasonality and cyclicity in the time series. Modeling of the seasonal component.

Time series models with conditional heteroskedasticity, ARCH and GARCH models.

Adaptive seasonal time series models with multiplicative and additive seasonality (Winters, Holt-Winters and Theil-Wage models).

Simultaneous equations model (SEM). Types and forms of systems, methods for estimating the identifiability of parameters in SEM.

Recommended literature

1. Ayvazyan S.A., Mkhitarian V.S. Probability theory and applied statistics.- Moscow, UNITY-DANA, 2001. - p. 656.
2. Ayvazyan S.A., Econometrics methods. Magistr: INFRA-M, 2010. - p. 512.



3. Ayvazyan S.A. Essentials of Econometrics: Handbook: 2nd edition in 2 books.- Moscow: UNITY-DANA, 2001.- p. 432.
4. Dubrov A.M., Mkhitarian V.S., Troshin L.I. Multidimensional statistical methods. Moscow: Finance and Statistics, 2013.
5. Kremer N., Putko B. Econometrics: Handbook. - Moscow, UNITY-DANA, 2002. - p. 311.
6. Magnus J., Katyshev P., Peresetskiy A. Econometrics: Начальный курс. - Moscow: Delo, 2004.
7. Probability theory and applied statistics / ed. by V. Mkhitarian - Moscow: Market DS, 2007. – p. 240.
8. Econometrics/ ed. by V. Mkhitarian. – Moscow: Prospect, 2014. – p. 384.



Block 7. Direction «08.00.13 Mathematical and Instrumental Methods in Economics»

Three questions on the profile for specialty 08.00.13 are selected as follows: the first question = from sections 1-3, the second and third questions up to the choice of the applicant from sections 4-6 or sections 7-9.

Section 1. Linear Algebra

1.1 Vector Space

Definition of a vector space. Subspace of a vector space. Linearly independent vector. Basis and dimensions of a vector space. Coordinates of a vector in a vector space.

1.2 Matrices

Matrices, main operations with matrices: sum, multiplication by a scalar, transposition. Matrix multiplication. Properties of arithmetical operations with matrices. Inverse matrices. Determinant of a matrix, its properties and the methods of calculation. Trace of a matrix. Rank of a matrix and its properties.

1.3 Linear equations systems

Matrix notation of a linear equation system. Solution methods of linear equation systems. Rouché–Capelli (Kronecker–Capelli) theorem about number of linear equation systems solutions. The structure of a of linear equation systems solutions set.

1.4 Linear Mappings

The definition of a linear mapping. The matrix of a linear mapping in a chosen basis and its transformation while the basis is changed. Eigenvectors and eigenvalues. Characteristic polynomial of a linear mapping Properties of Eigenvectors that correspond to same/different eigenvalues.. Diagonalisation of a linear mapping matrix.

1.5 Quadratic Forms

Bilinear and quadratic forms, their matrices. Positively (negatively) defined quadratic forms, positively (negatively) semidefined quadratic forms. Sylvester's criterion of a positively defined quadratic form. Properties of a positively defined quadratic form.

Recommended literature

1. Burmistrova E.B., Lobanov S.G. Lineynaya algebra, differencial'noe ischislenie funkciy odnoi peremennoi : uchebnik dlya stud. vyssh. ucheb. zavedeniy – M.: Izdatel'skiy centr «Akademiya», 2010. (Universitetskiy uchebnik. Vysshaya matematika i ee prilozheniya k ekonomike). (In Russian language)
2. Beklemishev D.V. Kurs analiticheskoy geometrii i lineynoy algebry – M.: Nauka, Any edition. (In Russian language)
3. Il'in V.A., Poznyak Ye.G. Lineynaya algebra. – M.: Nauka. Any edition. (In Russian language)



4. Sbornik zadach po matematike dlya VTUZov. Lineynaya algebra i osnovy matematicheskogo analiza (pod redakciey A.V. Efimova i B.P. Demidovicha) – M.: Nauka, Any edition after 1981. (In Russian language)

Section 2. Basics of Probability Theory and Statistics

2.1 Main Notions of Probability Theory

Random events and random variables. Cumulative distribution functions (CDF) and probability density functions (PDF). Main properties of CDF. Joint distribution of multiple random variables. Conditional distribution and its properties. PDFs of jointly independent random variables.

Characteristics (moments) of random variables distributions (expectation, variance, covariance, coefficient correlation). Properties of the expectation and variance. Conditional expectation.

Normal (Gaussian) distribution and related to it Chi-square, Student and Fisher-Snedecor distributions. Their main properties.

2.2 Main Notions of Mathematical Statistics

Population and sample. Sample distribution and sample characteristics (moments) (mean, variance, covariance, coefficient of correlation). Correlation.

Statistical estimation. Point estimates. Linear, unbiased, efficient and consistent estimates. Properties of sample moments as point estimates. Interval estimates, confidence intervals. Confidence intervals for expectation and variance, estimated using a random Gaussian sample.

Statistical inference and hypotheses testing. Null and alternative hypotheses. Critical set and a decision rule. First and Second type errors. Power of a statistical criterion. Statistical significance and hypothesis testing. Two- and one-sided criteria. Statistical hypotheses testing.

Recommended literature

1. G.N. Ivchenko, Yu.I. Medvedev. Matematicheskaya statistika. M., Vysshaya shkola, 1984. (In Russian language)
2. B.A. Sevast'yanov. Kurs teorii veroyatnostey i matematicheskaya statistika. M., Nauka, 1982. (In Russian language)
3. A.S. Shvedov. Teoriya veroyatnostey i matematicheskaya statistika. Uchebnoe posobie dlya studentov ekonomicheskikh special'nostey. M., izd-vo VShE, 2005. (In Russian language)
4. A.S. Shvedov. Teoriya veroyatnostey i matematicheskaya statistika.– 2 (promezhutochnyi uroven'). Uchebnoe posobie. M., izd-vo VShJe, 2007. (In Russian language)
5. V.N. Tutubalin. Teoriya veroyatnostey. M., izd-vo MGU, 1977. (In Russian language)
6. Newbold (2006). Statistics for Business and Economics. London, Prentice-Hall, 6th ed.
7. Rice (2006). Mathematical Statistics and Data Analysis. Duxbury Press, 3th ed.

Section 3. Econometrics



Linear regression equations with independent additive errors. Classical regression model assumptions and its matrix notation. Estimation of model parameters with ordinary least squares (OLS). Properties of OLS estimates. Hauss-Markov theorem. Error variance and parameter estimates covariance matrix estimates.

Analysis of variance for the estimated regression equation. Determination coefficient and adjusted to degrees of freedom determination coefficient and their properties.

Linear regression estimation subject to linear restrictions (in form of equations) on coefficients.

Linear regression with independent and normally distributed errors. Assumptions. Properties of equation parameters OLS estimates, error variance estimates and residuals in an estimated equation. Relation of OLS estimates to maximum likelihood (ML) estimates. Linear hypotheses about model parameters formulation and testing. Confidence intervals for the parameters, error variance and expectation of the independent variable subject to fixed values of dependent variables.

Examples of taking into account of data heterogeneity (introduction of dummy variables). Significance testing of structural breaks in a regression equation.

Multicollinearity of data and its consequences to regression parameters estimation. Indicators of multicollinearity and methods to address it. Principle components analysis.

Deviations from the spherical disturbance of errors assumption. Generalized least squares estimator and its properties. Weighted least squares. Heteroscedasticity and its economic reasons. Breusch-Pagan, Goldfield-Quandt and Glejser tests. Estimation of regression coefficients in a presence of heteroscedasticity. White standard errors estimates.

Autocorrelation of random errors, economic reasons of autocorrelation. First order autoregression model for errors. Diagnostics of autocorrelation using Durbin-Watson statistics. Coefficients estimation in conditions of a revealed autocorrelation of errors. Lagrange multiplier test (LM-test, Breusch-Godfrey test) and its use to find autocorrelation of any order.

The choice of "the best" model subject to a given set of potential factors. Criteria of unbiased estimation of error variance and maximization of an adjusted determination coefficient. Testing of a hypothesis about a group of insignificant factors.

Consequences of the model misspecification (omitted and excessive variables cases).

Linear regression in a case of stochastic regressors. Measurement errors. Generalization of Hauss-Markov theorem to the case with stochastic regressors (without proof). Inconsistency of OLS estimates in the case of determination assumption violation. Instrumental variables (IV) approach. Two-step least squares estimator and its identity to IV estimator.

Recommended literature

1. С.А. Айвазян, В.С. Мхитарян. Прикладная статистика и основы эконометрики. М., ЮНИТИ, 1998.
2. Берндт Э. Практика эконометрики. Классика и современность. М.: Юнити, 2005.



3. Вербик Марно. Путеводитель по современной эконометрике. М., «Научная книга», 2008.
 4. Дж. Джонстон. Эконометрические методы. М.. Статистика, 1970.
 5. К. Дугерти. Введение в эконометрику. М., ИНФРА-М, 2010
 6. Johnston J. , Di Nardo J. Econometric methods. Fourth edition. Mc-Grow-Hill Book Company, Inc. 1997.
 7. Я.Р. Магнус, П.К. Катышев, А.А. Пересецкий. Эконометрика. Начальный курс. 8-е издание. М., дело, 2007.
 8. G.S. Maddala. Introduction to Econometrics. Third edition. John Wiley & Sons Publishing Company, 2001.
 9. W.H. Green. Econometric Analysis. Six edition. Prentice Hall International, Inc. 2008. Я.Р. Магнус, П.К. Катышев, А.А. Пересецкий. Эконометрика. Начальный курс. 8-е издание. М., Дело, 2007.
- G.S. Maddala. Introduction to Econometrics. Third edition. John Wiley & Sons Publishing Company, 2001.
- W.H. Green. Econometric Analysis. Six edition. Prentice Hall International, Inc. 2008

Section 4. Time Series Analysis and Modeling

Notion of a random (stochastic) process. Time series as a discrete random process. Weakly and strongly stationary random processes. Characteristics (moments) of random processes (expectation, variance, autocovariance and autocorrelation functions). Wold theorem. Lag operator.

Models of moving average MA(q). Invertability condition. Autoregression models AR(p). Stationarity condition. Autoregression models with moving average errors ARMA(p,q). Quality of fit of time series models. Akaike and Schwartz information criteria. "Porte-manteau" statistics. Box-Jenkins approach to identify the time series model.

Forecasting in Box-Jenkins model. Trend and seasonality in Box-Jenkins model. Determination coefficient in time series models.

Non-stationary time series. Random walk. Non-stationary variance series. Nonstationary expectation. Processes that can be transformed to stationary by detrending (trend stationary processes) or taking consequential differences (difference stationary processes). ARIMA(p,1,q) models. Box-Jenkins approach to identify the power of a time series integration.

Literature

1. G.G. Kantorovich. Analiz vremennyh ryadov. Ekonomicheskij zhurnal VShE, vol. 6, 2002 , vol. 7, 2003 (in Russian)
2. Mills, T.C. and R.N. Markellos, 2008, The Econometric Modelling of Financial Time Series, Cambridge University Press, 3rd ed.



3. Mills, T.C., 2008, 1999, The Econometric Modelling of Financial Time Series, Cambridge University Press, 2nd ed.
4. Enders, W., 2003, Applied Econometric Time Series, Wiley Publ., 2nd ed.
5. Hamilton J.D., 1994, Time Series Analysis, Princeton University Press.

Section 5. Optimization Methods in Mathematics

One variable function extrema. Local extremum (interior and corner) of one variable function. First order (necessary) condition of an interior local extremum. Second order (sufficient) condition of a local extremum of one variable function. A definition of a global maximum (minimum) of one variable function.

Multiple variables function. Contour lines of a multiple variables functions. Partial derivatives of a multiple variables functions. Differentials of a multiple variables functions. Directional derivative and a gradient of a multiple variables function. Contour lines.

Vector functions of multiple variables. Jacobi matrix.

Unconditional extremum of a multiple variables function. First order (necessary) conditions of an extremum. Second order (sufficient) conditions of an extremum.

Conditional extremum of a multiple variables function with restrictions in a form of equations. Lagrange function, Lagrange multipliers method. Stationary points. Sufficient (second order) conditions verifying using a second order differential sign or bordered Hessian.

Nonlinear optimization problem under non-negative constraints. Kuhn-Tucker theorem. Kuhn-Tucker theorem. Lagrange multipliers interpretation.

Linear optimization problem and its standard form. Dual problem of a linear programming. Lagrange multipliers method, duality theorem and complementary slackness theorem. Dual variables interpretation.

Literature

1. М. Интриллигатор. Математические методы оптимизации и экономическая теория. М., Прогресс, 1975.
2. З.С. Карлин. Математические методы в теории игр, программировании и экономике. М., Мир, 1964.
3. Х. Никайдо. Выпуклые структуры и математическая экономика. М., Мир, 1972.
4. Simon C.P., L. Blume, Mathematics for economists, W.W. Norton company Inc., 1994.

Section 6. Game Theory

Main notions of game theory. Strategies and payoff functions. Games classification. Normal and extensive forms of game description. Examples of game situations.



Games in a normal form. Examples of static games in normal forms ("Prisoners' dilemma and "Family dispute". Cournot and Bertran models). Normal form game extension: mixed strategies. Dominance and dominating strategies equilibrium. Eliminating of dominated strategies. Nash equilibria in mixed and pure strategies.

Games in extensive form. Examples of dynamic games and their description in normal and extensive forms. "Empty threats", backward induction and subgame perfect Nash equilibria.

Repeated games. Infinitely repeated games and folklore theorems.

Strategic games with incomplete information and Bayes-Nash equilibrium. Examples of static games with incomplete information.

Literature

1. V. L. Shagin. Teoriya igr. Uchebnik i praktikum dlya akademicheskogo bakalavriata. Moscow, «Izdatel'stvo Yurayt», 2015 (in Russian)
2. Gibbons R. Game Theory for Applied Economists. Princeton University Press, 1992.
3. Gibbons R. A Primer in Game. Harvester Wheatsheaf, 1992.

Section 7. Information and Computer Software for Economic Mathematical Models

7.1. Information Systems and Information Technologies in Economics

Types of information systems and information technology. Strategic impact of information technology on business. Strategy of the company in the field of information technology. Classification of information systems. Information systems and quality management. Information systems in logistics, marketing, production management, personnel management, financial management, project management. Information systems in banking and in the service sector. Contemporary approaches to information systems: technical, behavioral, social and technical. The development of information systems and organizational change. Characteristics of the information era. The evolution of inter-organizational information systems. E-Commerce. Functions of the organization and management of information technology. Evaluation of the effectiveness of information systems. The model of analysis of ethical, social and political consequences of using information technologies.

7.2. Case-technology

Basic concepts of CASE - technologies of creation of information systems (IS). Methodology of functional modeling of IS. Modeling methodology data IS. Integration of IS models. The composition, structure and functional features of CASE - tools. Data modeling tools and their relation to other components of CASE-systems. Classification of CASE - tools for IS design. Selection criteria of CASE - tools for IS design. The use of the data dictionary (DD) for storage, analysis and interrelation of models of the designed information system. Import information of the DD and its analysis. The use of DD information to quickly create the database (DB) scheme: screens, queries, reports, design of IS.

7.3. Database Design

Database and data storage, their purpose and composition. The concept of DBMS. Language features of modern DBMS. Schemes of data storage construction. The entity-relationship model. The composition of the entity-relationship model (ERM). ER-model. Dataohic modeling. Physical simulation. The relationship of design stages. Objects and classes of objects. The attributes of the objects. The types of objects. The types of links. Normalization of the data model. Factors affecting the design of the database. The concept of "DB integrity", "integrity constraints". Business logic databases (triggers and stored procedures).

7.4. System of Decision Support

Unstructured and weakly structured processes of decision-making. Characteristics of decision-making systems (DMS). Elements of the DMS. Building a DMS. The main problems of group decision-making processes. Support system group decisions (SSGD). Characteristics of SSGD. Simulation modeling for decision support. Expert systems. Method of analysis of hierarchies. The formation of the Pareto efficient solutions.

Literature

1. Гейтс Б. Бизнес со скоростью мысли. – М.: Экспо-Пресс, 2001.
2. Годин В.В., Корнеев И.К. Управление информационными ресурсами. – М.: «ИНФРА-М», 1999.
3. Грабауров В.А. Информационные технологии для менеджеров. – М.: Финансы и статистика, 2002.
4. Диго С.М. Проектирование и использование баз данных. – М.: Финансы и статистика, 2004.
5. Информационные системы в экономике./ Под ред. Дика В.В. – М.: Финансы и статистика, 1996.
6. Карминский А.М., Нестеров П. В. Информатизация бизнеса. – М.: Финансы и статистика, 1997.
7. Кравченко Т.К. Инфокоммуникационные технологии управления предприятием. – М.: ГУ-ВШЭ, 2003.
8. Кравченко Т.К., Исаев Д.В. Экономические информационные системы // В кн.: Информатика / Под общ. ред.: С.В. Назаров. Т. 1. М.: Национальный открытый университет «ИНТУИТ», 2012. С. 199 - 296.
9. Кравченко Т.К., Бабкин А.Е., Дружаев А.А., Исаев Д.В., Огуречников Е.В., Периков Ю.А. Руководство пользователю Экспертной системы поддержки принятия решений. – Методические материалы, М.: ГУ-ВШЭ, 2013
8. Кравченко Т.К. и др. Современные информационные технологии. – М.: ГУ-ВШЭ, 1999.
9. Минс Г., Шнайдер Д. Метакапитализм и революция в электронном бизнесе. Какими будут компании в ХХ1 веке. – М.: Альпина Паблишер, 2001.
10. Ойхман Е.Г., Попов Э.В. Реинжиниринг бизнеса. – М.: Финансы и статистика, 1997.



11. Тельнов Ю.Ф. Интеллектуальные информационные системы в экономике. – М.: МЭСИ, 1999.

12. Туманов В.Е. Проектирование хранилищ данных для систем бизнес-аналитики Учебное пособие М.: БИНОМ. Лаборатория знаний, Интернет-университет информационных технологий - ИНТУИТ.ру, 2010

Section 8. Modeling Methodology and Tools Used in the Management of Business Processes

8.1. Theoretical Bases of Management of Business Processes

Functional management and functionally-oriented organization. The definition of process approach to management. The concept of the object and when. Reflection of the process approach in the international standards.

The main provisions of the system analysis. Consideration of the organization as a system. The main provisions of the structural analysis. The concept of process. Classification of processes. The main elements of the process and its environment. Characteristics of the business process. Reference and a reference model.

8.2. Modeling of Business Processes

The concept of modeling activities. The concept of the method of modeling processes. Functional modeling. Basic principles of structural modeling of complex systems. Functional and dynamic models of economic processes. Classification of economic models. Features of business processes as objects modelling. The principles of functional modeling firm. Evolution of development methodologies describe. The basics of modelling business processes.

Modeling data streams. Objectives and basic concepts of data modeling. The purpose of data flow diagrams. The syntax and semantics of data flow diagrams.

The basic methodology of describing processes. SADT. The DFD methodology. ARIS methodology. UML methodology. The IDEF standards. Comparative analysis of modeling methodologies. Instrumental systems for simulation business. The requirements of tooling systems for modeling business. Tool system ARIS. Tool system Rational Rose. Graphic editor Visio. Comparative analysis tools.

8.3. The management of Business Processes

Methods of analysis processes. The analysis of time characteristics of the process and parameters of resources. The analysis of the cost characteristics of the processes. Controlling and monitoring processes. The certification processes. Benchmarking. The improvement of processes. Business-engineering. Reengineering (business process reengineering). The participants of the project of reengineering of business processes: project leader, regulatory Committee, the methodological center, the reengineering team, the managers of the processes. Methods for business reengineering: the collection of information from experts; modeling business processes; discussion of the project method "brainstorming".



Process improvement (business process improvement). Mature and immature organizations. The maturity of the process. Organization improvements. Administration process improvement.

Balanced scorecard (Balanced Scorecard) as a tool for strategic and operational management.

Operational risk management. The concept of operational risk, risk management. Manage processes in the quality management system.

The principles of quality management. The quality management system. Information support of management processes. WorkFlow technology.

Recommended literature

1. Каменнова М.С., Громов А.И., Ферапонтов М.М., Шматалюк А.Е. Ш.2.2. Моделирование бизнеса. Методология ARIS. Практическое руководство. – М.: Весть – Метатехнология, 2001.
2. Шеер А.В. Бизнес-процессы. Основные понятия. Теория. Методы. М.: – Весть – Метатехнология, 1999.
3. Харрингтон Д. Эсселинг К.С. Нимвеген Х.В. Оптимизация Бизнес-процессов. Издательство "Азбука", "Бмикро", С-Пб, 2002.
4. Хаммер М., Чампи Дж. Реинжиниринг копорации: Манифест революции в бизнесе. СПб.: Изд-во Санкт-Петербургского университета, 1997.
5. Робсон М., Уллах Ф. Практическое руководство по реинжинирингу бизнес-процессов. – М.: Аудит, издат. Объединение «Юнити», 1997.
6. Р.Каплан, Д.Нортон. Сбалансированная система показателей. От стратегии к действию. – М.: ЗАО Олимп-Бизнес. 2003.
7. Томас Л. Бартон, Уильям Г. Шенкир. Комплексный подход к риск-менеджменту. –ИД "Вильям". 2003.
8. Колопулос Томас М. Необходимость Workflow. Решения для реального бизнеса. –М.: Весть-Метатехнология.,1999.
9. Фишер Л. Совершенство на практике. Лучшие проекты в области управления бизнес-процессами и workflow. – М.: Весть–Метатехнология, 2000.
10. Глудкин О.П.,Горбунов Н.М.,Гуров А.И. Всеобщее управление качеством/Под редакцией Глудкина О.П. – М.: Радио и связь, 1999.
11. Калашников В.В. Сложные системы и методы их анализа. – М.:Знание, 1980.
12. Перегудов Ф.И., Тарасенко Ф.П. Введение в системный анализ. – М.: ВШ,1989.
13. Советов Б.Л., Яковлев С.А. Моделирование систем. – М.: ВШ, 1985.
14. Советов Б.Л., Яковлев С.А. Моделирование систем (курсовое проектирование). – М.: ВШ; 1985.



15. Оценка и аттестация зрелости процессов создания и сопровождения программных средств и информационных систем (ISO/IEC TR 15504). – М.: Книга и Бизнес, 2001.
16. ИСО 9000:2000. Системы менеджмента качества. Основные положения и словарь.
17. ИСО 9001:2000. Системы менеджмента качества. Требования.
18. ИСО 9004:2000. Системы менеджмента качества. Рекомендации по улучшению деятельности.

Section 9. Tools for Analysis and Production Management

9.1. Tools for Analysis and Forecasting of Economic Processes

Stability analysis of optimization problems, linear programming: graphical interpretation of concept of stability of solution structure of the sustainability report, assessment of the impact of changes in the target indexes.

Forecasting and projections of economic indicators: regression models, moving average models, exponential smoothing models, modeling events, modeling continuous distributions.

Computer analysis of statistical data using statistical packages.

The tools of applied econometrics.

9.2. Methodology Production Management

Master production scheduling (MPS). Material Requirements Planning (MRP). Statistical inventory control (SIC). The capacity requirement planning (CRP). Manufacturing resource planning (MRPII). Enterprise resource planning (ERP).

The main functions of computer systems MRPII: registration data about the products, activity planning, operations management, customer service, financial management and accounting.

Generalized algorithm of functioning of the computer MRPII systems: data sources for planning and control of production processes, procedures, planning and control of production processes.

Recommended literature

1. Зайцев М.Г. Количественные методы в менеджменте. М. Академия народного хозяйства при правительстве РФ, 2000.
2. Карлберг К. Бизнес-анализ с помощью Excel. – Киев-Москва, Диалектика, 1997.
3. Томашевский В., Жданова Е. Имитационное моделирование в среде GPSS. – М., Бестселлер, 2003.
4. Лукасевич И.Я. Анализ финансовых операций, – М., Юнити 1998.
5. Вендров А.М. Проектирование программного обеспечения экономических информационных систем. – М. Финансы и статистика, 2002.



6. Черемных С. В., Семенов И. О., Ручкин В. С. Моделирование и анализ систем. IDEF – технологии: практикум. – М., Финансы и статистика, 2002.
7. Маклаков С.В. Создание информационных систем с AllFusion Modeling Suite М., ДиалогМИФИ, 2004
8. Буч Г., Рамбо Д., Джекобсон А. Язык UML. Руководство пользователя. – М. ДМК, 2000.
9. Крачтен Ф. Введение в Rational Unified Process. – М., Изд. Дом Вильямс, 2003.
10. Колесников С.Н., "Стратегии бизнеса: управление ресурсами и запасами". – М., "Статус-Кво 97", 2000 (http://www.3ka.mipt.ru/vlib/citforum/cfin/mrp_erp/index.shtml).
11. Питеркин С.В., Оладов Н.А., Исаев Д.В. Точно вовремя для России. Практика применения ERP- систем. – М., Альпина-паблишер, 2002.
12. Тюрин Ю.Н., Макаров А.А.. Статистический анализ данных на компьютере. – М., Инфра-М, 1998.
13. Емельянов А.А., Власова Е.А.. Структурный анализ и имитационное моделирование в системе Poligrim. – М., МЭСИ, 1999.



Block 8. Direction "08.00.14 World Economy"

Section 1. World Economy: the Concept, Nature and Key Features

The concept and evolution of world economy. International division of labor, production and capital internationalization and globalization as the essence of world economy evolution. Economic development disparity in the contemporary world economy. Economic growth in developed and developing countries and its consequences for world economic growth.

The preconditions, essence and forms of contemporary economic globalization. Globalization and regionalization. Global development contradictions.

Resources in the world economy. Innovation capacity and its characteristics. Current demographic trends in different regions. Quality of the labor force and human capital.

Section 2. Types of Economic Systems and National Economy Models

Modern types/models of market economy. Key features of market and centrally-controlled economies. Mixed economy.

Transformation processes in the world economy. The role of institutions in economic systems transformation.

The concept of national economy model. Globalization of the world economy and its impact on national economies. Ranking countries by economic potential and social and economic development. Developed and developing countries. Economies in transition.

Global poverty issue and Millennium Development Goals (MDGs). The role and activities of international economic institutions in promoting development of national economies.

Section 3. Patterns of Socio-Economic Structure in Developed Countries

The role of developed countries in contemporary world economy. Key features of mature market economy. The role of large corporations in the economy. Capital transnationalization. The role of small and medium enterprises (SMEs) in the economy. Financial sector and capital movement. Modern trends in stock markets development.

The role of corporate governance in market economy. Government and business interaction. The goals, forms and instruments of government regulation of the economy. The role of interest unions and civil society structures in economic policy.

Social structure and social policy.

Section 4. The Rates and Ratios of Economic Growth. Reproduction and Sectoral Structure of World Economy.

Key factors of economic growth. Theories of economic growth. Types of economic growth on different stages of economic development: pre-industrial, industrial and postindustrial stages and their features.

Reproduction ratios in Western economies. Saving ratio, material and capital intensity of production. The structure of generated and consumed GDP. Key features of generated and consumed GDP in different countries. National income structure in developed countries.

Key trends in world economy enterprise proportions. Industry: the rise of mechanical engineering and "new economy". Energy production: key trends and pricing. The shifts in metal-



processing and chemical industry. The structure of consumer goods production. Agricultural production and food problem. Development of transportation and communication technologies. The growth and diversification in service industry. Private and public services. Key factors affecting the sectoral structure.

Economic fluctuations and cycles. The 2008-2009 economic crisis. Antirecessionary policy.

Section 5. Innovations in World Economy

The concept, key features and components of scientific progress and technological revolution. Science and education as factors of economic growth. The role of innovations in the world economy. Human resources management as a major factor of scientific and technological progress. R&D costs and their role in economic growth. Scientific progress in the market economy. The role of market-based incentives and competition in promoting innovations. Institutional and economic forms of business and science cooperation. Main centers of research and technology advancement. Key features of state R&D and innovations regulation in developed countries. Top innovative countries. Intellectual property rights.

Section 6. Theories of International Trade

Evolution of international trade theories. Mercantilism in international trade.

Smith's theory of absolute advantages. Ricardo comparative costs theory. The problems of empirical proof of Ricardian model. Heckscher-Ohlin model. Factor-price equalization theorem (Heckscher-Ohlin-Samuelson). Rybczynski theorem. The Dutch disease. Empirical tests for Heckscher-Ohlin theory: Leontief paradox. Criticism of factor model (on the example of developing markets).

Trade and economic growth. Export-oriented and import substitution models.

New theories of international trade. Scale economy model. Technology gap theory. Product life-cycle theory. Intra-industry trade. The impact of MNC's on international trade. Imperfect competition and trade.

Section 7. International Division of Labor. International Trade in Goods and Services

International division of labor: current features, factors and development stages. Economic and noneconomic factors affecting international division of labor. Changes in international division of labor: different country groups in international division of labor after 1990.

Cross- and intra-sectoral specialization. Forms of international intra-sectoral specialization: subject, constituent part and technological specialization. Features and forms of international cooperation. The role of multinational companies (MNC's) in specialization and cooperation. Interfirm cooperation. Industrial cooperation.

Global Value Chains (GVS) as a reflection of the current phase of division of labor. Involvement of national economies in the GVS. GVS in various industries. The impact of the GVS on the modern economy and trade.

International trade as the historic and basic form of international economic relations. World market development stages. The scale, structure and forms of international trade. Dynamics and development factors of international trade. The reasons of faster growth in international trade as compared to production.



Development disparity, competitive advantages and changes in patterns and geography of international trade. Data revolution and globalization. The impact of technological revolution on international trade structure.

The modern global trading system: WTO and regional integration groups (free trade zones, customs unions, mega-regional trade agreements). The role and functions of the WTO and the patterns of the formation of regional integration groups. Regulation of trade in goods (GATT) and services (GATS) within the WTO. Specifics of trade in services: a classifier of services and ways of supplying services. Trade aspects of intellectual property rights - the TRIPS agreement and its implications. Interests of country groups in the world trade. Trade contradictions and economic interdependence of the United States and China.

Section 8. Market Conjuncture. Competition in the International Market. International Market Pricing.

The concepts of international and national economy and market conjuncture. Key market factors. The issues of individual markets analysis and forecasting. Main features of commodity markets during globalization.

Energy market features and its impact on international economic development. New factors in energy sphere - energy saving and energy efficiency policy.

The concept of international competitiveness. Competitiveness of goods, firms, economy sectors and countries in the world market and factors affecting it.

Main forms of competition in the international market. Price- and nonprice competition. Domestic and export prices, the features of price competition for external markets.

New trends in competition, the impact of technological revolution and new forms of trade on competition. International trade and imperfect competition.

Pricing in international market. The impact of demand and supply on international prices. The features of commodity markets and main types of prices. Exchange rates and the problem of non-equivalent exchange. Export and import prices behavior in different country groups.

Section 9. Theories and Instruments of Foreign Trade Policy.

The concept and nature of regulation in international economic relations. The role of states and international organizations in regulating international economic relations. Free-trade and protectionism. National and international regulation of factor movement.

The impact of customs policy on trade and economic development of various country groups. Trade policy in perfect and imperfect competition. Tariff and non-tariff barriers.

Export policy. Means of export promotion and the role of state. Key methods of export promotion. The role of government lending and borrowing and foreign trade risks insurance.

Free economic zones: preconditions, classification and country features.

Section 10. International Labor Movement.

International labor markets. The causes and trends in international labor migration. Main directions and size of international migrations. The structure of international labor migration, the "brain drain" problem. Legal and illegal labor migration. The impact of international labor migration on balance



of payments, wages and incomes. The goals, means, contradictions and results of international labor migration regulation on national and international levels. Migrants' funds remittance.

Section 11. International Foreign Exchange Relations

The concept and forms of international foreign exchange relations. The role of foreign exchange relations in world economy and economic globalization. The evolution of foreign exchange system after World War II: the Bretton Woods and Jamaican monetary systems.

Modern currency types. The role of the US dollar and other currencies in contemporary international economic relations. The concept of monetary integration: necessity, elements and evolution. Creation of the European economic and monetary union. The impact of Euro introduction, problems and the Eurozone crisis.

Exchange rate policy and its forms. Exchange control. International experience in transition to currency convertibility. National and international regulation. The International Monetary Fund (IMF) and the evolution of its functions. Antirecessionary policy of the IMF.

Section 12. International Balance of Payments

Balance of payments: the structure and methods of classifying the accounts. Current account and financial account balance. Savings and capital flows. Factors affecting the balance of payments: business cycle fluctuations, government spendings abroad, changes in international trade, inflation, etc.

Methods of balance of payments regulation. Deflationary policy. Devaluation. Financial and monetary policy. Methods of balance of payments balancing and the issue of international regulation.

Account balance and its structure. The concepts of creditor and debtor countries.

Foreign-exchange reserves: the structure, volume and factors affecting FX reserves. Currency liquidity.

Section 13. International Capital Flows.

The concept and structure of world capital market. Saving and accumulation of capital. Theories of international capital flows. Main forms and types of capital exports: foreign direct, portfolio and other types of investments. Current trends in international capital flows. The role of exports and imports in national economy.

Government regulation of capital flows in developed and developing countries. International regulation of capital flows. Risks and risk analysis entities.

International lending and the issue of government external debt. Characteristics of external debt management in different country groups.

Section 14. International Foreign-Exchange and Financial Markets.

International financial flows and world financial centers. Factors affecting financial flows. Characteristics of global foreign-exchange, credit and financial markets performance during globalization.

Exchange markets. The concept of foreign-exchange market. Global, regional and national foreign-exchange markets. Exchange and OTC currency market.

Global debt market: resources and role in the global economy. Global credit and financial markets: the concepts, structure and factors affecting these markets. Sources of international lending



and financing. Foreign bonds. Creation of a single capital and financial services market in the EU. Financial derivatives.

Hedge funds. The speculative nature of hedge funds activities and its impact on global exchange markets and financial centers.

Monitoring systemic risks. Global and supranational monitoring centers and their inability of accurate risk assessment in the wake of 2008-2009 crisis.

Global financial crises: the root causes, mechanisms and stabilizing measures.

Section 15. Multinational Corporations and International Manufacturing.

The concept, forms and structure of MNCs. Evolution of MNC concepts in world economy. Criteria of the MNC. Leading MNCs, their operational scopes and geography. Evolution of MNCs. MNCs and transnational banks as the dominant agents of globalization.

International strategic alliances of the MNCs. International MNCs manufacturing and R&D and manufacturing cooperation. "Secondary economy" of the MNCs and leading countries.

The role of MNCs in international economic relations: trade in goods and services, trade in intellectual property rights, direct investments flows and global R&D exchange.

Section 16. Global Energy Sector.

Geography of world energy resources. Characteristics of global energy markets. Dynamics of fuel and energy resources supply. Non-conventional oil and gas reserves. Shale revolution. LNG market development. Interfuel competition. Dynamics of fuel and energy resources demand. Russia in global energy markets.

Energy sector and environmental issues. Greenhouse gas emissions and climate change. Kyoto Protocol and prospects for post-Kyoto agreements.

Section 17. Economy of USA.

General characteristics of the US economy. Characteristics of productive forces of the US economy. US economic development. The nature of economic crises in the US after World War II. Economic growth rates in the US after World War II, declining share of the US in the different macroeconomic indicators (GDP, export/import, foreign exchange reserves, etc) and the US government counter-measures. Reaganomics and its results, the reforms of 1990 - 2007.

Economic growth in the US in 1990 - 2007. The crisis of 2008 - 2009.

Large and small business in the US economy. Characteristics of government economic regulation. US economy institutional design. Regional aspects of the US economy. Current state of the US economy and its role in international economic processes. Innovations in the US economy. Social policy in the US. The US and NAFTA. US in the global economy and its external economic ties.

Section 18. Economy of Western Europe.

General characteristics of the Western European economy, its key features and aspects. Innovative development and structural changes in the economy. Assessing competitiveness of the Western European economy and its members. European social security model and problem of its modernization. Current state of the Western European economy (dynamics, inflation, unemployment), country differences.



Section 19. Economy of Japan.

General characteristics of the Japanese economy, its key features and aspects. Economic recovery and state measures after 1945 collapse. Program of economic recovery, reforms and governmental role. Factors of economic growth in 1955 - 1975. Factors of economic slowdown after 1975. Economic stagnation of 1990 - 2000. Abenomics and the role of Japan in global economy. External economic ties of Japan.

Section 20. Economic Integration in Europe.

The concept of economic integration. Theories and concepts of European integration. Factors and preconditions of integration process. Basics and mechanisms of integration strategy. Key steps of integration. Establishment of the European Coal and Steel Community, Treaty of Rome, economic and currency union. Europe after the Treaty on the European Union (Maastricht Treaty). Transition to a common monetary policy and introduction of Euro. Current fiscal policy in the EU. Treaties of Amsterdam and Nice. EU expansion in the East: preconditions, contradictions and consequences. EU institutions and decision-making process. The role of supranational bodies. The issue of institutional reforms. Debates on European Constitution. Key provision of the Lisbon Treaty. The causes and characteristics of the Eurozone crisis.

Russia - EU relations: achievements, problems and prospects. Experience of the EU development for Russia and economic integration in post-soviet space.

Section 21. Economy of Germany.

General characteristics of German social and economic model, its aspects and key features. The concept of social market economy and its implementation after World War II (L. Erhard reforms). German economic recovery after 1945. The breakup of Germany into West and East Germany. Economic miracle in West Germany in 1950s. Evolution of social market economy in 1960 - 1980s. Reunification of Germany and issues of East German economic transformation. Characteristics of economic development in the 21st century. Factors of economic slowdown and high unemployment rates in 2001 - 2005. Financial and social reforms in 2002 - 2007 (Agenda 2010). The impact of global financial crisis on German economy: dynamics of key macroeconomic indicators, government anti-recessionary policy and other factors of economic recovery. Key features of economic development in Germany under Third Angela Merkel Cabinet: energy sector, banking sector, social safety network, labor market, etc. Problems and prospects of social market economy. German role on the global economy. External economic ties.

Section 22. General Characteristics of Emerging Market Countries

Characteristics of the general development of developing countries. Social and economic underdevelopment and its interconnection with technological and economic backwardness. Mixed economy in the developing countries: the structure, scale and its role in economic dynamics. Persistent pre-capitalist and traditional social and economic forms. The role of foreign capital in economic development. The role of government regulation in economic growth.

Import-substitution and export-oriented industrialization: characteristics, advantages and disadvantages. Agrarian issue and food security in the developing countries: the impact on economic development and possible solutions.



Economic development differentiation of the developing countries, social and economic heterogeneity. Key groups of developing countries by level and character of economic development (UN classification): newly industrialized countries, key oil-exporting countries, least developed and other countries.

Development disparity of developing countries. Characteristics of economic growth and development in 1980s-1990s. Chronic structural economic crisis of the majority of developing countries. Anti-crisis measures on national, regional and international levels. Economic liberalization: main features, achievements and problems. Economic growth acceleration in 2000s.

External economic ties of the developing countries. Changes in the commodity composition and geography of foreign trade. Key integration projects of the developing countries and their impact on economic development.

Section 23. Modern Economic Development Trends of BRICS Economies, Newly Industrialized Countries and Oil-Exporting Countries.

General problems of BRICS economies. BRICS countries during the crisis of 2008 - 2009. Cooperation within BRICS group. Decision of the Fortaleza Summit.

Newly industrialized countries and output exporters. Newly industrialized countries of first and second generation. Growth in the level of economic development and its factors. Characteristics of economic, social and political structures.

The role of national and foreign capital on different stages of the NIC development. Characteristics of government market regulation.

Characteristics of NIC economic development in 1990s. Key economic ratios. Industrialization: the factors of fast development, successes and problems. Models and stages of industrialization. External economic ties. Participation in economic integration projects. Financial crises of 1990s-2000a: the causes and anti-crisis measures. Market liberalization and its forms.

Oil exporting countries. Level of economic development and its factors. Disparity of economic dynamics of the majority countries. Key social, economic and political issues of the countries. The role of national and foreign capital in the economic development. The role of government regulation. The concept and problems of the resource curse.

Key features of foreign economic ties. The role of OPEC in shaping common oil production policy of oil-exporting countries.

Section 24. Economy of the People's Republic of China.

General country profile. Demographic trends and economic development level.

Characteristics of government role in the economy. Economic reforms of 1980s-1990s. The success, problems and prospects of the reforms. Characteristics of economic and social policy. The issue of changing development model.

Key social and economic sectors (state-owned, Chinese private and foreign private firms), their role and impact on the economic development of China. The role of special economic zones in attracting foreign investments. Sector and reproduction structure of the Chinese economy. The issue of economic imbalances. Current economic dynamics and factors of fast economic growth. Successful industrial development. Agricultural sector. Energy sector in China. Social and ecological problems of China.



Fast export growth and trade surplus. Chinese-Russian economic relations. The problems of yuan (RMB) exchange rate.

Section 25. Economy of Central and Eastern Europe.

Characteristics of market reforms in Central and Eastern European countries in 1980s-1990s. Privatization characteristics. Government economic policy. Structural economic changes. Overcoming the transformation crisis and stabilizing social and economic spheres.

The accession of Central and Eastern Europe to the EU. Characteristics of cooperation with "old" EU members. Differentiation of EU and European economies. Indicators of macroeconomic dynamics, inflations, unemployment, public finance. Comparing the CEE countries indicators to Western Europe. External economic ties of CEE countries.

Section 26. Russia in the Global Economy of the Early 21st Century

The economic legacy of the Soviet economy. Difficulties of reforming the Russian economy. Economic reforms of 1990s. Social and economic development in 2000s. Russia's role in the global economy. Solving the external public debt problem. Investment climate, problems of attracting and using foreign investments. Capital outflow and capital export. Dynamics and structure of foreign trade. Key trading partners.

Russia in international economic integration projects and economic organizations. Russia's accession to WTO: problems, concerns and opportunities.

Current state and prospects of economic cooperation between Russia and EU, Asia-Pacific countries, CIS, BRICS. Opportunities and means of enhancing Russia's role on the global economy.

Questions

1. Contemporary world economy and its key development stages;
2. World economic globalization: characteristics, forms and development prospects;
3. Theories of economic growth;
4. Modern types and models of market economy. Key features of market and centrally-controlled economy;
5. Contemporary economic dynamics (rates and quality of economic growth) of market-economy countries;
6. Contemporary structure of the world economy and its development trends;
7. Sectoral and reproduction ratios in developed countries economies;
8. Comparison of key macroeconomic indicators of developed countries;
9. Changes in economic growth geography in the 21st century;
10. Key features of technological revolutions and its impact on global economy;
11. Employment and unemployment in modern world;
12. Mechanisms of innovative development. Government R&D regulation abroad;
13. Contemporary characteristics of international trade development: the scale, structure and forms. Factors and dynamics of global trade development;
14. International trade based on natural and technological advantages. A. Smith and D. Riccardo theories of comparative advantages;



15. International trade based on factor endowments comparative advantages. Heckscher-Ohlin theory and its modifications;
16. New theories of international trade. Paul Krugman theory;
17. Trade policy in perfect and imperfect competition. Tariff and nontariff barriers. Government export promotion;
18. The nature, forms and organization structure of MNCs. The role of MNCs in the global economy.
19. International stock movement and multinational corporations;
20. The global financial crisis of 2008-2009;
21. World Trade Organization: creation, structure, key principles and problems;
22. The impact of Russia's accession to the WTO on Russian economy;
23. The IMF activities and its anti-recessionary policy;
24. Development banks and the activities of the World Bank group;
25. The problem of climate change and attempts to resolve it. Kyoto protocol and prospects for post-Kyoto agreement;
26. UN Millennium Development Goals and their progress;
27. The role of informal supranational institutions - decisions made on the last summits of G20 and G7;
28. Dynamics and Russia's foreign trade. The structure of Russian foreign trade and problems of its improvement;
29. Dynamics, types and geography of international migration;
30. National balance of payments, current and capital account;
31. International foreign-exchange markets: principles and mechanisms of functioning;
32. Monetary policy of central banks in the open economy. Setting the interest and exchange rates;
33. Exchange rates as an instrument of government regulation. Advantages and disadvantages of floating and fixed exchange rates;
34. International monetary systems (Bretton Woods and Jamaican systems): key principles, advantages and disadvantages;
35. Global capital markets: types, instruments, development trends;
36. Global financial crises: the causes, mechanisms and stabilization measures;
37. Contemporary trends in world energy sector. The impact of shale revolution;
38. Key stages and mechanisms of European economic integration;
39. EU's enlargement to the East: reasons, preconditions and consequences;
40. Modern institutional design of the EU and the issue of EU restructuring after the Lisbon Treaty;
41. Country differentiation in the EU, budget and debt crisis in the EU.
42. Contemporary state and prospects of the US economy;
43. Social and economic model of the US and characteristics of the economic policy;
44. Contemporary state and prospects of the Japanese economy;
45. Economy of China and the problem of growth model change;
46. Contemporary state and prospects of the Eurozone economy;
47. Social and economic model of Germany and the issues of economic development;
48. Economic reforms in Central and Eastern Europe and their outcomes;
49. Transformation processes in the CIS and their contradictions;



50. The problems of BRICS countries social and economic development. Current state and prospects of cooperation within the group;
51. The concept of developing country. Key groups of development countries ranked by the level and type of economic development. Social, economic and political heterogeneity and economic development disparity in these countries;
52. The problem of social and economic underdevelopment of poor countries. The vicious circle of poverty;
53. Developing countries in the international division of labor and their external economic ties. The role of foreign capital in their economic development;
54. The economic development level and characteristics of economic, social and political structures of the newly industrialized countries;
55. Key economic, social and political characteristics of the oil-exporting countries;
56. General characteristics of the Chinese economy and society. Contemporary economic dynamics of the People's Republic of China and its driving factors;
57. Comparative analysis of the key macroeconomic of Western and Asian countries;
58. Russia's role in contemporary global economy and in 2020;
59. Foreign capital in Russia: problems and contradictions. The causes and forms of capital export/outflow from Russia;
60. Characteristics of foreign economic activities and government regulation in Russia;
61. Russia's accession to the WTO: risks and opportunities;
62. Contradictions of the CIS integration projects;
63. Eurasian Economic Union: current state and prospects for development

Recommended literature:

Basic literature:

1. Мировая экономика в XXI в./под ред. Л.М. Григорьева. М: Директ-Медиа, 2013 (World economy in the 21st century/Ed. By Leonid Grigoriev, Moscow, 2013)
2. Кудров В.М. Мировая экономика: Учебник. - М.: Юстиц-Информ, 2014 (Kudrov Valentin, World Economy: Textbook., Moscow, 2014)
3. Международные валютно-кредитные и финансовые отношения: Учебник / Под. Ред. Л.Н. Красавиной. - М.: Финансы и статистика, 2005 (International currency, credit and financial relations: Textbook / Ed. by L. Krasavina, Moscow, 2005)
4. Глобальное экономическое регулирование. Отв. Ред. Зуев В.Н., Островская Е.Я., М.: Магистр, 2009 (Global economic governance / Ed. by Vladimir Zuev, Moscow, 2009)

Additional literature:

1. Change of Global Economic Landscape: the Problems and the Search for Solution / Ed. by Efim Hesin, Igor Korolev, HSE, 2011
2. Contours of the World Economy 1-2030 AD: Essays in Macro-Economic History / Angus Maddison, Oxford University Press
3. Ломакин В.К. Мировая экономика. М.: ЮНИТИ-ДАНА, 2007 (World Economy / V. Lomakin, Moscow, 2007)
4. The Elusive Quest for Growth / William Easterly, The MIT Press, 2001

5. Григорьев Л.М., Паршина Е.Н. Экономическая динамика стран мира в 1992 - 2010 гг.: неравномерность роста // Вестник Санкт-Петербургского университета. Серия 5: Экономика, №4, 2013 (Economic Dynamics Across Countries in 1992–2010: Growth Divergence, L. Grigoriev, E. Parshina, A journal of science and theory. «Vestnik of Saint-Petersburg University». Series 5: Economics)
6. Robert E. Lucas, Lectures on Economic Growth, Harvard University Press, 2004.
7. Буторина О.В. Европейская интеграция. М.: 2011 (O. Butorina, European integration, Moscow, 2011)
8. Митрова Т.А., Галкина А.А. Межтопливная конкуренция // Экономический журнал ВШЭ, №3, 2013 (Tatiana Mitrova, Anna Galkina, Inter-fuel competition // Higher School of Economics economic journal, №3, 2013)
9. ИНЭИ РАН, АЦ при Правительстве РФ. Прогноз развития энергетики мира и России до 2040 г. М., 2014. (Institute of Energy Studies RAS, Analytic center of the Russian Federation government. Global and Russian energy markets forecast 2040., Moscow, 2014)
10. Анализ экономических систем. Основные понятия теории хозяйственного порядка и политической экономики. Пер. с 6-го немецк. изд. / Под общей ред. А. Шюллера и Х.-Г. Крюссельберга. – М.: Экономика, 2006. (Alfred Schüller zusammen mit Hans-Günter Krüsselberg, Grundbegriffe zur Ordnungstheorie und Politischen Ökonomik, 6. durchgesehene und ergänzte Auflage, Marburger Gesellschaft für Ordnungsfragen der Wirtschaft e. V., Marburg 2004.)
11. Joseph E. Stiglitz, Globalization and Its Discontents, W. W. Norton & Company, Inc., 2002
12. Глобализация мирового хозяйства и национальные интересы России / Под ред. В.П.Колесова. – М., ТЭИС, 2002. (World economic globalization and Russian national interests / Ed. by V. Kolesov, Moscow, 2002)
13. Глобализация экономики и внешнеэкономические связи России / Под. ред. И.П. Фаминского. – М.: Республика, 2004. (Economic globalization and Russian external economic ties / Ed. by I. Famisky, Moscow, 2004)
14. Мир вокруг России: 2017 / Отв. ред. и рук. авт. колл.: С.А. Караганов. – М., 2007. (The world surrounding Russia: 2017 / Ed. by. Sergey Karaganov, Moscow, 2007)
15. Jagdish Bhagwati, In Defence of Globalization, A CFR Book. Oxford University Press, 2007.
16. Афанасьев М., Мясникова Л. Мир в начале тысячелетия. Время глобализации // Мировая экономика и международные отношения, №10, 2005. (M. Afanasyev, L. Myasnikova, The world in the beginning of new millennium. The time for globalization. / World economy and International relations, №10, 2005).
17. Григорьев Л.М., Иващенко А.С. Мировые дисбалансы сбережений и инвестиций. // «Вопросы экономики», №6, 2011 (L. Grigoriev, A. Ivashenko, Global savings and investments imbalances / Voprosy Ekonomiki, №6, 2011)
18. Портанский А.П. Миссия России в ВТО // Россия в глобальной политике, №. 4, Том 9, 2011, С. 131-141. (A. Portanskiy, Russian mission in the WTO / Russia in global affairs, №4, Vol. 9, 2011, pp. 131 - 141)
19. Макаров И.А. Глобальное изменение климата как вызов для мировой экономики и экономической науки // Экономический журнал ВШЭ, №3, 2013. (I. Makarov, Global climate change as a challenge to global economy and economics / Higher School of Economics economic journal, №3, 2013)



20. "Экономика США: ресурсы, структура и динамика" Под ред. В.Б.Супяна, Москва, Магистр, 2014 (US economy: resources, structure and dynamics / Ed. by V. Syryan, Moscow, 2014)
21. "Экономика США: эволюция модели в условиях глобализации", Под ред. В.Б.Супяна. Москва. Магистр, 2014 (US economy: evolution of the model in the context of globalization / Ed. by V. Syryan, Moscow, 2014)
22. Стратегический глобальный прогноз 2030. Краткий вариант / под ред. акад. А. А. Дынкина; Рос. акад. наук, Ин-т мировой экономики и международных отношений. М.: Магистр, 2011. 88 с. 5. Стратегический глобальный прогноз 2030. Расширенный вариант / под ред. акад. А. А. Дынкина; Рос. акад. наук, Ин-т мировой экономики и международных отношений. М.: Магистр, 2011. 480 с. (Strategic global forecast 2030 / Ed. by A. Dynkin, Institute of World Economy and International Relations, Moscow, 2011)
23. Gilpin R. Global Political Economy: Understanding the International Economic Order. Princeton University Press, 2001.
24. Современная Германия. Экономика и политика. Под общ. ред. В.Б.Белова, М.: Издательство «Весь мир», 2015.



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