Утверждена академическим советом
магистерской программы
«Стратегическое управление финансами
фирмы» (протокол от 14.09.2018, №1)

Федеральное государственное автономное образовательное учреждение высшего образования

НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ УНИВЕРСИТЕТ «ВЫСШАЯ ШКОЛА ЭКОНОМИКИ»

Факультет экономических наук
Школа финансов

ПРОГРАММА

подготовки к экзамену для поступающих на образовательную программу магистратуры «Стратегическое управление финансами фирмы»

по дисциплине
«Экономика»

Москва, 2018 год

National Research University Higher School of Economics
Faculty of Economic Sciences
Master's program 'Strategic Corporate Finance'

Entrance exam for Master's programs "Strategic Corporate Finance" consists of two blocks of disciplines.

The entrance exam for programs "Strategic Corporate Finance" performed in writing, in the form of tasks on topics disciplines. Duration of exam 180 minutes. The exam is evaluated by 100 points system. Score regarding from 1 to 20 is considered to be a failure.

1.1 Microeconomics

Topic 1. Preferences.

Consumer preferences. Examples of preferences. Properties of preferences.

Utility. Utility function and Indifference Curves. Examples of Utility Functions. Marginal Utility and Marginal rate of substitution.

Budget Constraint. Properties of the Budget Set; Taxes, Subsidies and Rationing.

Consumer Choice. Constraint optimization and graphical interpretation of results in the case of two goods.

Demand functions. Comparative statics. The reaction of demand to the income changes: normal goods and inferior goods. Engel Curves. The Price Offer Curves. Ordinary Goods and Giffen Goods.

The alternative approach in consumer preferences modeling: The Idea of Revealed Preferences. Principles of Revealed Preferences; The Weak Axiom of Revealed Preferences; Price Indices; The strong Axiom of Revealed Preferences.

Slutsky Equation. Slutsky Decomposition (Slutsky Substitution Effect, Hicks Substitution Effect, Income Effect). Hicks Compensated Demand.

Consumers surplus. Compensating and Equivalent Variation.

Consumers Behavior in the presence of Natural Income. Net Seller and Net Buyer. Modification of Slutsky Equation in the presence of Natural Income; Individuals Labor Supply; Example: multiperiod choice.

Topic 2. General equilibrium.

Allocation concept, feasible allocation, Pareto optimal (or Pareto efficient) allocations: definition and identification. Edgeworth box and graphical presentation of Pareto optimal allocations in the model with two consumers and two goods.

Walrasian equilibrium concept; graphical presentation of equilibrium in Edgeworth box in the model with two consumers and two goods. Walras' law.

Equilibrium and optimality in an exchange economy. First Welfare Theorem, Second Welfare Theorem.

Topic 3. Individual behavior: producer theory.

Ways to describe technology and examples of technology. Properties of technologies. Marginal rate of technological substitution.

Cost minimization. Costs minimization as a necessary condition for profit maximization. Solution of cost minimization problem. Conditional demand for factors of production, law of conditional demand. Graphical representation of cost minimization problem for the case of two factors of production. Relationship between long-run and short-run cost curves.

Profit maximization and supply of competitive firm. Graphical representation of profit maximization problem with one variable factor. Comparative statics analysis in profit maximization problem. Demand and supply laws.

Profit of a producer and producer surplus; graphical representation of firm's profit and producer's surplus.

Topic 4. General equilibrium in an economy with production.

Modification of equilibrium definition (inclusion of production); The Robinson Crusoe economy: graphical representation. Walras' Law in the model of general equilibrium with production; the existence of equilibrium in an economy with production.

Efficiency of general equilibrium in an economy with production. The model: two goods, tow producers, two consumers. Pareto efficient allocations in the economy with production.

Topic 5. Partial equilibrium (Perfect competition).

Market demand. Consumer surplus analysis on the basis of market demand curve. Supply of competitive industry. Analysis of producer surplus. Partial competitive equilibrium and optimality. Comparative statics.

Markets of factors of production. Labor market. Investment, savings and capital market. Multiperiod production decisions; demand for borrowings and supply of loans, equilibrium interest rate.

Investment in two-period model. NPV criterion and its application.

Multiperiod model with production and separation theorem of consumption and production decisions.

Topic 6. Market failures: externalities and public goods.

Possible reasons for competitive markets failures.

Externalities: types of externalities. Externalities and inefficiency. Approaches to solution of inefficiency problem.

Public goods. Classification of goods. Samuelson equation. Equilibrium inefficiency in presence of public goods, free rider problem. Solution of inefficiency problem through introduction of Lindale prices.

Topic 7. Market structures: monopoly and monopolistic behavior.

Monopolist profit maximization. Inefficiency of resources allocation. Comparative statics: introduction of tax/subsidy on monopolist production. Reasons of monopoly existence, natural monopolies and their regulation.

Monopsonist profit maximization. Inefficiency of resources allocation. Example: monopsony and monopoly on production factors markets.

Price discrimination.

Topic 8. Market structures: strategic interaction.

Strategic interactions of firms. Cournot's, Stackelberg's, Bertrand's and price leadership models.

Collusion: cartel formation. Profits comparison in cases of collusion and oligopolistic competition.

Repeating interactions in context of oligopolistic competition.

Product differentiation: monopolistic competition.

Topic 9. Theory of choice under uncertainty.

(Individually) rational behavior under uncertainty. Decision-making model under uncertainty. Attitude towards risk. Risk premium.

Problem of optimal investment portfolio choice (for the case of one risky and one risk-free assets). Problem of optimal insurance choice.

Risk exchange (models under uncertainty): Contingent goods and markets. Contingent goods' exchange model. Equilibrium in contingent goods' exchange model (equilibrium characteristics).

Equilibrium in contingent goods' exchange model under asymmetric information. Cases of hidden information and hidden actions.

Main readings:

1. Varian, H. R., & Repcheck, J. (2010). Intermediate microeconomics: a modern approach (Vol. 7). New York: WW Norton.
2. Pindyck, R. S., & Rubinfeld, D. (2005). Microeconomics (6th edn).

Additional literature.

1. Katz Michael, L., & Rosen Harvey, S. (1991). Microeconomics.-Richard D. IRWIN.
2. Nicholson W., Microeconomics Theory. Basic principles and extensions. 7th edition, Dryden Press, 1997
3. Varian H., Microeconomics Analysis, 3rd edition, Norton & Company, N.Y., London, 1992.

1.2 Macroeconomics

Introduction to macroeconomics

Topic 1. Introduction to macroeconomics. Main macroeconomic indicators.

Macroeconomic policy. Methods of macroeconomic analyses. Real versus nominal variables. Flows and Stocks. Discounting. The role of expectations. Short-run, Medium-run, Long-Run analyses in macroeconomics. Main macroeconomic flows. Main macroeconomic identity.

Gross domestic product, gross national income, net national income, personal income, and disposable income. Real and nominal GDP. Potential and actual GDP.

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

Topic 2. Equilibrium in the goods market

Market of goods and services. Components of aggregate spending. Consumption spending and its structure. Consumption in the short run. Marginal and average propensity to consume. Saving. Marginal and average propensity to save. Investment and their types. Investments in the short run. Planned and actual aggregate expenditures. Keynesian cross. Equilibrium in the goods market. Types and causes of non-equilibrium states. Multiplier effect. The paradox of thrift.

Government spending, their types and impact on economy. Taxes and their role in economy. Government budget constraint: operating deficit and its financing. Fiscal policy and government debt.

Multipliers of government expenditures, lump-sum and income taxes, transfers, and balanced budget. Fiscal policy and its instruments. Types of fiscal policy: expansionary and contractionary policy. Discretionary and non-discretionary fiscal policy. Built-in stabilizers.

Topic 3. Money Market Equilibrium.

Money. Types of demand for money. Quantity theory of money and the transactions demand for money. The Baumol-Tobin model. Money demand function.

Financial market and its structure. Financial intermediaries and financial instruments. The money supply. Monetary aggregates. Modern banking system and its structure. Banks as financial intermediaries. Bank reserves and their types. Reserve requirements. The role of commercial banks in money creation. Bank (depositary) multiplier. The central bank and its functions. Monetary base and money supply. Monetary multiplier.

Monetary policy: its guideline and intermediate objectives. The instruments of monetary policy. Loose and tight monetary policy. The mechanism of monetary transmission. Money market equilibrium. Equilibrium interest rate and equilibrium money supply.

Monetary policy and inflation. Inflation and inflation expectations. Real effects of inflation. Inflation tax.

Topic 4. Goods and money market equilibrium in a closed economy: IS-LM model

Main assumptions of the model. Investment and savings: IS curve. Money market equilibrium and LM curve. Equilibrium in IS-LM model. Fiscal and monetary in IS-LM model. Fiscal and monetary policy multipliers in IS-LM model. Comparative efficiency of monetary and fiscal policies in IS-LM model. Crowding out effect in closed economy. Mechanism of monetary policy. Possible failures in the mechanism of monetary transmission.

IS-LM model as a model of aggregate demand. Derivation of AD curve. Reasons for shifts of AD curve.

Topic 5. Short-run model of open economy: IS-LM-BP model

Balance of payments and its structure. Current account. Capital account. Foreign exchange reserves.

Equilibrium in foreign exchange market. Nominal and real exchange rate. Determinants of the real exchange rate. Exchange rate regimes. Fixed and flexible exchange rates.

The concept and types of arbitrage. Purchasing power parity theory. Covered and uncovered interest parity theory.

Goods market in an open economy. The function of net export. IS curve in an open economy. Financial market in an open economy. International capital flows. Factors that influence capital flows. Degree of capital mobility. Financial market equilibrium in the model of open economy. LM curve in an open economy. BP curve.

IS-LM-BP model. Equilibrium in a small open economy with fixed and flexible exchange rate.

Topic 6. AD-AS model

Classical model (economy with full employment). Labor market equilibrium in an economy with full employment. Aggregate demand and aggregate supply in an economy with full employment. Natural rate of unemployment and natural output (potential GDP). Equilibrium in goods market and money market in full employment economy. Principle of neoclassical dichotomy and money neutrality. Macroeconomic policy in a full employment economy.

Keynesian model. Alternative explanations of positive slope of aggregate supply curve in short-run. AD-SRAS-LRAS model. Macroeconomic policy in AD-SRAS-LRAS model. Quasi-statistical analysis: fiscal and monetary policy multipliers. Problem of money non-neutrality in short-run. Real effects of fiscal and monetary policy in short-run and long-run.

Topic 7. Labor market, natural rate of unemployment and Phillips curve.

Labor market and unemployment. Types of unemployment. Natural rate of unemployment. Consequences of unemployment. Okun's law. Neockassical theory of labor market. Labor unions and unemployment.

The Phillips curve. The Phillips curve and macroeconomic policy trade-off. The evolution of the Phillips curve.

Inflation and expectations: adaptive and rational expectations hypotheses. Influence of inflation expectations on wages demanded by workers. Modified Phillips curve.

Topic 8. Financial market. Theory of consumption and investments.

Financial market and business cycles. Rational expectations and efficient market hypothesis. Arbitrage and asset-pricing. No-arbitrage condition. Fundamental value, bubbles and Ponzi scheme.

Intertemporal budget constraints of households and the government. No-Ponzi game condition. Ricardian equivalence.

Life-cycle hypothesis. Permanent income hypothesis.

Basic theories of investment. Jorgenson theory: user costs of capital. Accelerator models. Market value of the firm. Tobin's (average) q.

Topic 9. Economic growth and economic fluctuations.

Economic growth: definition and empirical evidence. The Solow model. Assumptions. Production function. Dynamics of capital accumulation and the steady state. Balanced growth path. Growth rates of different variables on the balanced growth path. The impact of the saving rate on capital, output and consumption on the balanced growth path; Golden rule of capital accumulation. Dynamics caused by the change in savings rate. Convergence in Solow model.

Economic fluctuations: stylized facts and modelling. General characteristics of output fluctuations. Trend removal: Hodrick–Prescott filter. Output non-stationarity issue. Volatility characteristics. Correlation with output: pro-cyclical, counter-cyclical and acyclical dynamics of main macroeconomic variables.

Introduction to the Real business-cycle theory. Stochastic models of fluctuations: impulse-response mechanism. Mechanics and inertia of demand and supply shocks. Productivity shocks. Impulse-response analysis. Intertemporal substitution effects in consumption and labor supply. Pareto efficiency of real business cycles. Comparative analysis of traditional economic fluctuations approach and real business-cycles theory.

Main Reading:

1. Burda M, Wyplosz Ch. Macroeconomics: a European Text. 1998
2. Dornbusch R., Fischer S. Macroeconomics. M., 1997.
3. Sachs J., Larrain F. Macroeconomics. 1996.
4. Mankiw G. Macroeconomics. 1996.
5. Blanchard O. Macroeconomics, Third edition, University Prentice Hall. 2003.

2. Corporate finance

Topic 1. Corporate finance: Introduction.

From accounting to financial approach. Market capitalization and enterprise value. Maximizing the value of the business as a key shareholders' goal: financing decisions, investment decisions, payout policy. Financial decisions: changes across the lifecycle.
Company's stakeholders: their goals and agency conflicts. Theory of the firm: ownership versus control of corporations. Corporations in emerging and developed markets: does business environment matter?

Topic 2. Fundamentals of Corporate Capital Valuation: Corporate Debt and Equity Capital

Intrinsic value of stand-alone bond. Discounted cash flow valuation of corporate bonds. Corporate bond's types. Bond's covenants: assets covenants, dividend covenants, financing covenants. The influence of covenants over bond's valuation. Bond's yields: promised yield to maturity, realized (horizon yield), promised yield to call. Bond ratings and yields to maturity. Types of preferred stock by voting rights, dividend rates and dividend payments. Discounted dividend model (DDM) for preferred (preference) shares. Discounted dividend model for common stock (ordinary shares): the criteria for stable growing company, Gordon constant growth dividend rate model. Multistage DDM: 2 stages dividend growth, negative rate of dividend growth. Growth opportunities value. The limitations of DCF valuation.

Topic 3. Risk and return relationship

Cost of equity. Shareholders, rational expectations and expected return estimation. Capital asset pricing model as a basis for expected return estimation. Fama-French model as an example of a multifactor model.

Cost of debt. Return required by debtholders: bank loans & bond issues. Market view on cost of debt estimation: YTM and credit ratings.

Weighted average cost of capital: opportunity cost of capital and a hurdle rate for investment projects.

Topic 4. Investment decisions

Investment opportunities of a corporation. Cash flows of an investment project. Project risk, cost of capital and discounted cash flows. Applying net present value methodology in capital budgeting. Mutually exclusive projects. Profitability Index as a relative measure of present value. Internal rate of return: methodology and limitations. Time constraints: discounted payback method. Value creation with efficient investment projects.

Topic 5. Capital structure choice and corporate value

Modigliani and Miller theorem (MM) on capital structure, perfect capital market assumptions and basic MM irrelevance propositions. Shareholder reaction to changes in capital structure. MM propositions with corporate income taxes. Income tax shield as motivation to take debt. The effect of personal taxes on capital structure. Miller equilibrium model. Tradeoff theory as a model of optimal capital structure: tax shield vs financial distress costs. The pecking order of financing theory. The information conveyed by capital structure decisions. A debtholder - equityholder conflict: debt overhang problem, asset substitution problem, debt covenants and monitoring opportunities as means to agency costs. An equityholder-manager conflict: overinvestment problem, deficient management efforts, aligning the conflicting interests with capital structure. Minimizing the total cost of two agency conflicts with capital structure choice.

Topic 6. Interrelation of financing and investment decisions

Adjustments to capital budgeting techniques when evaluating a project under certain financing plan. Adjusted present value (APV), weighted average cost of capital (WACC) approach and free cash flow to equity (FCFE): three classic approaches.

Topic 7. Payout policy and corporate value

Types of dividends: cash dividend, stock dividend, share repurchase. Payout policy as a financing problem. Lintner's stylized empirical facts. The Modigliani&Miller payout irrelevance theorem. The effect of investor taxes: a preference for capital gains compared to cash distributions. The dividend puzzle. Static clientele theory. Signaling role of dividends. Payout decisions as means to align the interests of managers and shareholders.

Main readings:

1. Richard Brealey, Stuart Myers (B&M). Principles of Corporate Finance. McGraw Hill. 6th Edition.
2. Jonathan Berk, Peter DeMarzo (B&D). Corporate Finance. Pearson: 3rd edition, 2013.