

# FINANCIAL MARKETS AND INSTRUMENTS

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Module 1, 2022/23

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## Course description

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This course provides a comprehensive view on the functioning of modern financial markets: specifics of different types of securities, organization of trading, and financial intermediaries. For each topic, we discuss both traditional financial institutions and alternatives offered by fintech. The classes involve much interaction with students, and everyone is expected to contribute to the discussions.

We start by discussing the specifics of financial sector and its links with the real economy. Then, we study basic financial instruments (debt and equity) and derivatives (forwards, futures, and options). We continue with the structure of primary and secondary markets comparing IPO with ICO and traditional stock exchanges with alternative trading systems. Then we discuss the organization, risks, and strategies of the largest financial intermediaries (commercial and investment banks, mutual and hedge funds, etc.) and their fintech competitors such as P2P lending platforms and robo-advisors. Finally, we study the main problems in the financial industry (e.g. asymmetric information and conflicts of interest), the global financial crisis of 2008, and the role of regulators. Throughout the course, we pay attention both to the specifics of the Russian marketplace and to global trends and perspectives.

The course pursues two main objectives. Firstly, students should get a holistic picture of the financial system, its structure and evolution. Secondly, students should get an impression about the main concepts and models covered by the subsequent courses at the program.

## Course requirements, grading, and attendance policies

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The course grade will be based on the best 4 out of 6 or 7 quizzes (20%), two home assignments (20%), and final exam (60%). The closed-book quizzes are conducted at each seminar and devoted to the topic of the preceding lecture. They consist of 5 short questions and take 7 minutes to complete. The closed-book final exam consists of two parts: (i) questions that require short specific answers, and (ii) problems embracing different segments of the financial system that require extended analysis. To pass the course, one should score at least 30% for the exam. Active class participation during the lectures may contribute to the grade when it is on the margin (note that quality rather than quantity of your interventions will count).

## Course contents

Week	Topic	Readings
1	<p><b>Introduction:</b> role and structure of the financial system, impact of financial innovations on the society, links between financial sector and real economy <u>Mini-case:</u> Micro-finance (bank Grameen)</p> <p><b>Interest rates:</b> time value of money, real and nominal rates, risk-free rate and risk premium <u>Mini-case for the seminar:</u> LIBOR-gate</p>	<p>[1] ch.1-2 [2] ch.1 <a href="#">Zingales, 2015, Does Finance Benefit Society?</a> [1] ch.3, 5</p>
2	<p><b>Debt and equity:</b> corporation vs. single ownership, rights and risks of debtholders and stockholders <b>Fixed income instruments:</b> money market instruments, specifics of government bonds and corporate bonds, yields and pricing <u>Mini-case:</u> Junk bonds <b>Stocks:</b> specifics of preferred stocks, depositary receipts, indices, valuation and risks <u>Mini-case for the seminar:</u> Stock market bubble</p>	<p>[1] ch.11-13 [2] ch.2, 14, 18</p>
3	<p><b>Derivatives:</b> motivation, main types (forwards, futures, and options), applications, no-arbitrage approach to pricing, risks <u>Mini-case:</u> Mexico's hedging of oil price risk <u>Mini-case for the seminar:</u> CDS</p>	<p>[1] ch.24 [2] ch.20, 22 [3] ch.1, 2, 3, 5, 10-12</p>
4	<p><b>Organization of primary markets:</b> costs and benefits of IPO, reasons for underpricing, role of the underwriters, specifics of ICO <u>Mini-case:</u> People's IPOs <b>Organization of secondary markets:</b> motivation for trading, trading infrastructure, exchanges vs. over-the-counter markets, alternative trading systems <u>Mini-case for the seminar:</u> Algo-trading</p>	<p>[2] ch.3</p>
5	<p><b>Commercial and investment banks:</b> role of financial intermediaries, banking vs. P2P lending, bank runs and deposit insurance, separation of the commercial and investment banking, evolution of IB sources of earnings and risks <u>Mini-case:</u> Bank run <u>Mini-case for the seminar:</u> Digital banking</p>	<p>[1] ch.7, 17-19, 22</p>
6	<p><b>Mutual and hedge funds:</b> organization and fees, different types of mutual funds, active funds vs. index funds and ETF, typical strategies of hedge funds <u>Mini-case:</u> Robo-advisors <u>Mini-case for the seminar:</u> Archegos</p>	<p>[1] ch.20 [2] ch.4, 26</p>
7	<p><b>Regulation:</b> conflicts of interests, approaches to regulation, separate vs. unified regulation <u>Mini-case:</u> Global financial crisis of 2008</p>	<p>[1] ch.8, 18</p>

## **Description of course methodology**

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The course requires intensive preparation to the classes including reading of the textbook and other materials. Before each class, I will send you the list of the assigned materials: required readings (including the mini-case), optional readings (articles and web links), questions for self-preparation (that you should learn before the class), and topics for in-class discussions (that you should think about beforehand).

The lectures will examine the key concepts illustrated with mini-cases from international and Russian practice. During the seminars you will have a chance to discuss things left unclear at lecture, study mini-cases and quizzes from the previous years.

## **Sample tasks for course evaluation**

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*Sample questions from the quiz:*

1. Name at least two features of Grameen micro-loans, which could NOT be successfully applied in Russia.
2. How does the openness of capital account contribute to the country's financial development?
3. Why are financial markets more developed in common law countries like US and UK than in countries with continental law like Germany?
4. Can nominal rate be lower than real rate? Motivate your answer.
5. Is Treasury rate higher than LIBOR (assuming same term and currency)? Why?
6. Describe two different approaches to measure risk-free rate in Russia.
7. Why is the average P/E ratio in the stock market higher in the US than in Russia?

*Sample question from the home assignment:*

Specify main risks for the company's minority shareholders. Choose one of the main risks, which can be hedged by derivatives available at the market (OTC or exchange-traded). Choose the derivative, which fits the most. Motivate your choice and discuss the hedging strategy.

*Sample question from the exam:*

Specify at least three different sources of external financing for a large corporation. What is the preferred order of these sources for a company (which one comes first, second, and so on)? Which factors influence the company's choice of these instruments? Which (financial and non-financial) institutions help the company to attract financing (specify them for each source)? What is the role of financial regulator(s) in this process (describe it for each source)?

## **Course materials**

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### **Required textbooks and materials**

1. Mishkin and Eakins, Financial Markets and Institutions, global 8<sup>th</sup> edition.
2. Bodie, Kane, and Markus, Investments, 10<sup>th</sup> edition.
3. Hull, Options, Futures, and Other Derivatives, 10<sup>th</sup> edition.

### **Additional materials**

4. Горяев и Чумаченко, 2009, [Финансовая грамота](#).

[1] is a required reading containing an overview of modern financial markets and institutions. The [accompanying website](#) contains plenty of student resources, including web links, mini-cases,

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web exercises, and quizzes. [2] is an alternative textbook that may replace or complement [1] for most topics (except for banks). [3] is an advanced supplementary reading on derivatives. [4] describes basic notions of personal finance including investment into bonds and stocks. Note that these books do not cover the whole material; thus, students are expected to study the additional materials made available at the course page at my.NES.

**Academic integrity policy**

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Cheating, plagiarism, and any other violations of academic ethics at NES are not tolerated.