

National Research University Higher School of Economics

Global competitiveness program

Strategic academic unit

ECONOMICS AND MANAGEMENT

Description

Moscow, 2016

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# 1. STRATEGIC ACADEMIC UNIT “ECONOMICS AND MANAGEMENT”

## 1.1 Project summary

*Goal:* To strengthen the leading positions of HSE as the preeminent scientific and educational center of excellence in economic sciences and management in the former Soviet Union and Eastern Europe; to gain global recognition in economics and econometrics.

*Main objectives:*

- To obtain world-level results in research in the areas of political economics and institutional transformation, financial economics, theory of markets, and business models, confirm by publications in international peer-reviewed academic journals;
- To recruit academics following international best practices with the aim of reaching a balance between the international and beginning-level faculty and researchers;
- To strengthen the leading role of HSE as the premier expert and analytical center in designing economic reforms for the Government of the Russian Federation, Federal authorities, and certain sectors of the economy;
- To promote HSE competitive degree programs in Economics on the global market through double-degree programs in partnership with leading European universities and through the international accreditation of programs in Management; to diversify and modernize existing Master’s programs through feedback from global employers.

*Main anticipated deliverables:*

- Completion of research projects in cooperation with foreign partners (key partners: London School of Economics and Political Science, University of California Berkeley, and Oxford University) in financial economics, theory of economic decision making, spatial and network aspects of company behavior, and business models in the emerging markets; publication of research results in international peer-reviewed academic journals (top 5, top field);
- Contribution to the expert and analytical activities in designing economic reforms in the Russian Federation in the form of regular monitoring and analysis of the economic situation, as well as the direct participation of STRA-U’s faculty and researchers in the government’s program design;
- Recruitment of core academic personnel from the international academic market following globally accepted procedures;
- Demonstrated demand for graduates of the Bachelor’s, Master’s, and Doctoral degree programs in Economics from top 100 international companies and post-graduate programs;
- International accreditation of degree programs in Management in the EPAS certification agency; two programs to be implemented in cooperation with the London University; the contents of the programs to be modified in accordance with the global employers’ recommendations.
- Confirmation of the rise of HSE’s international reputation by being included in the TOP 100 QS “Social Sciences & Management” ranking by faculty, TOP 100 of the QS “Development Studies” and “Economics & Econometrics” subject rankings, and TOP 200 of the QS “Business & Management” subject rankings.

*Brief description of the role and contribution of STRA-U for the university’s development and the achievement of goals and target performance indicators sey nu the Global Competitiveness Program.*

The Economics & Management STRA-U is the basis of HSE’s brand; it attracts the most talented applicants in the Economics and Management fields (the minimum Unified State Exam

score for enrolment in certain programs is 97 points; over 2/3 of the All-Russian Olympiad for high school students' winners enroll in the STRA-U's programs); is the primary designer of the All-Russian Olympiad in Economics for High School Students; and it makes a significant contribution to the quality of the university students (the average Unified State Exam score). The graduates of the STRA-U faculties are well-demanded in the global labor market and the post-graduate education market; they contribute to the international reputation of the university among the employers and researchers. The average salary of a graduate in 2015 amounted to 71,000 rubles, and the maximum salary was about 200,000 rubles according to internal monitoring data. The largest number of HSE internationally recruited faculty work at STRA-U (31 specialists).

STRA-U has made a major contribution to HSE's rise in the QS "Social Sciences & Management" ranking by faculty (161st place, second place in Russia after Lomonosov Moscow State University), in the QS "Development Studies" (51-100, the only Russian university), and "Economics & Econometrics" (151-200 the only Russian university) subject rankings in 2015.

## 1.2 Project Fact-sheet

*Key STRA-U subdivisions and associated units:*

1. Faculty of Economic Sciences (FES): <https://economics.hse.ru/en/>;
2. Faculty of Business and Management (FBM): <https://bm.hse.ru/en/>;
3. International College of Economics and Finance (ICEF), established within the framework of a contract between the HSE and the London School of Economics: <https://icef.hse.ru/en/>;
4. International Laboratory of Stochastic Analysis and its Applications: <https://lsa.hse.ru/en/>;
5. International Research Laboratory for Institutional Analysis of Economic Reforms: <https://lia.hse.ru/en/>;
6. International Laboratory of Decision Choice and Analysis: <https://www.hse.ru/en/DeCAN/>;
7. Center for Market Studies and Spatial Economics: <https://ces.hse.ru/en/>
8. International Laboratory of Financial Economics: <https://lfe.hse.ru/>.

*STRA-U Research Adviser:* Konstantin Sonin, HSE Department of Applied Economics, Professor; University of Chicago, Professor; <https://www.hse.ru/en/staff/ksonin>.

*STRA-U Academic Leader:* Oleg Zamulin, HSE Faculty of Economic Sciences, Dean; HSE Department of Theoretical Economics, Professor; <https://www.hse.ru/en/org/persons/26335048>.

### *Key educational programs and their development*

The STRA-U offers 7 Bachelor's programs (4464 students; incl. 250 international); and 25 Master's programs (1619 students; incl. 176 international).

Currently, STRA-U programs are well recognized on Russian and global markets. The international quality of the programs allows students to work both in the Russian Federation and abroad, and to build successful business careers at leading companies in the banking, financial, and real sectors (at companies including VTB, Sberbank, Goldman Sachs, Citigroup, HSBC, Barclays, McKinsey, EY, PwC and KPMG, etc.), to hold high-level offices in the Ministries of Finance and Economic Development, as well as enroll in post-graduate programs offered by top

world universities, including Harvard, MIT, Princeton, Stanford, LSE, Toulouse, and others. HSE graduates who obtain a PhD degree go on to work at leading global universities, such as MIT, Stanford, and Oxford, as well as in top universities of the Russian Federation, including HSE and the New Economic School.

The Economics & Management STRA-U educational programs are developing intensively: in recent years, many of them have undergone wide-scale transformations focused on bringing them to the global level. In the near future, the priority is to develop these programs in the new format.

All STRA-U educational programs can be divided into the following major groups:

1. Double-degree programs implemented in partnership with leading foreign universities:

– The English-language Bachelor's double-degree program led by HSE and University of London and implemented by the International College of Economics and Finance (ICEF) is the only program in the Russian Federation where the quality of the education level is confirmed by a diploma issued by one of the leading universities in the world. Among the more than 1000 graduates of the program, the majority holds first and upper second degree diplomas. ICEF holds the status of the Authorized Center of the University of London for Bachelor's programs in economics, management, and social sciences;

– Master's programs in Economics after their recent modernization: the Applied Economics program, focuses on training professionals for the real sector and the government; and the Research Program in Economics prepares students for doctoral training. The first graduates from these programs are planned for 2016. Students in these programs have an option of spending their second year at the Humboldt University, Erasmus University, or Sorbonne, and receiving a second diploma;

– The Strategic Corporate Finance Master's program is integrated with the Corporate Finance Scientific-Educational Laboratory. Key foreign partners in the program are the Duisenberg School of Finance (Netherlands), Lancaster University, University of Bologna, Paris 1-Panthéon-Sorbonne University, Humboldt University, and Maastricht University. Beginning in 2016, the program's language of instruction will be English, which is anticipated to help significantly increase the number of foreign students;

– In ICEF's Financial Economics English-language Master's program, the research component is significantly expanded within the framework of ARDP (Advanced Research and Doctoral Placement Program), implemented by ICEF's internationally recruited faculty. Highly talented foreign students are admitted to the program and the number of students is growing. There are plans to expand cooperation and academic student exchange programs with the leading universities in the sphere of financial economics: Oxford University, London School of Economics, Tilburg University, University of Warwick, and Bocconi University.

2. The Bachelor's programs in Economics, ensuring in-depth fundamental training in modern economics, mathematics, information technologies, statistics, econometrics, and foreign languages, in combination with applied disciplines and a large research and project-oriented component:

– The main Bachelor's program in Economics has been in place since the foundation of the University. Currently, the program follows a new format that includes self-study and electives, as well as an expanded research component. Among others, the research stream is formed from the advanced students who demonstrate special academic achievements and interest

in research. A number of elective courses are taught in English, thus further expanding the international exchange program.

– In 2011, a cutting-edge Bachelor’s program was launched in cooperation with the New Economic School that is fundamentally new for Russia. This program is based on the concept of liberal arts and more than half of the curriculum lies outside of economics and mathematics. A special focus is placed on mastering oral and written communication skills, following the practice of the world’s leading universities. The key partners in the program’s implementation are the major international auditors – KPMG, PwC, and EY – who participate in the development of the educational environment and provide comprehensive support for the program during an adaptation course designed to prepare student economists to their future work. Company representatives arrange various training sessions, seminars, master-classes, and other events for the business skills development.

3. A range of degree programs in Management, designed in accordance with the most recent global trends in managerial education and labor market demands:

– The “Strategic Management and Corporate Governance,” “Project Management,” and “Marketing” Master’s programs have well-developed systems of tracks that allow students to enroll in double-degree programs with leading European universities, such as ESCP Europe, Lancaster University, Warwick University and Université Laval, etc. The EPAS international certification is planned to do that, based on the program evaluations recommendations from the European Foundation Management Development international experts group, the number of the courses taught in English language will be increased, and the work with alumni and the business sector will be institutionalized;

– In the “Strategic Management in Logistics” Master’s program (international double-degree track with BBW University (Berlin, Germany)), the research component is well-developed, and interaction, cooperation, and student exchanges with the leading global universities are expanding, with the following universities and centers: MIT (Center in the Field of Logistics and SCM), Cranfield University (Cranfield Center for Logistics and Supply Chain Management - CLSCM and Cranfield Supply Chain Research Center (SCRC)) (Cranfield, UK), Kühne Logistics University (Hamburg, Germany).

– In the “Business Informatics” Master’s program, within the framework of cooperation with ERCIS (European Research Center for Information Systems), the significant growth of the research component is planned. Also, there are plans to expand student exchanges with leading European universities that implement the business informatics programs (University of Cologne, University of St. Gallen, University of Duisburg-Essen, University of Liechtenstein).

– For “Big Data Systems,” it is planned to increase the scope of student project and advisory work in partnership with the program’s leading partner companies (IBM, Microsoft, SAP, Oracle, Tableau, SAS, IBS, ATK (Qlick), to expand the scope of cooperation with European universities, as well as faculty and student academic mobility within the framework of the ERASMUS project devoted to the field of big data.

Doctoral program:

– In 2014, the Doctoral schools in economics and management were established; these schools have fundamentally changed the approach to doctoral training. Control over the work of graduate students and scientific advisors, executed by the newly created Doctoral School Councils, has been increased; new certification requirements for the students have been introduced. The full-time Advanced Doctoral Program has been set up using the western PhD

standards. Students in this program are provided with higher than others scholarships and spend six months at a foreign university. One of the strategic objectives is competitiveness of the Doctoral program graduates in the global academic market.

#### *Key Research Projects and Their Development*

The Economics & Management STRA-U includes a number of research teams; their achievements prove not only that they are leaders in Russian science, but also that they are making important contributions to the global scientific agenda. In particular, it is worth highlighting the political economics and institutional transformation research by K. Sonin and his co-authors, published in the *Journal of Political Economy* and *Quarterly Journal of Economics*; financial economics research by A. Bulatov, published in the *Review of Economic Studies*; monopolistic competition research by Zhelobodko E., Kokovin S., Thisse J., published in *Econometrica*. These journals are in the economics and finance TOP 5.

The value of STRA-U in the global market is emphasized by the availability of foreign scientists who permanently cooperate with the university: E. Maskin (Harvard, Nobel Prize in Economics, 2007), M. Janssen (University of Vienna), B. Taub (University of Glasgow) and others. It is worth noting that F. Aleskerov from HSE is the only Russian partner in COST Action IC1205 EU's program, devoted to the computational social choice theory.

HSE's internationally-recruited academic specialists and international laboratories play a critical role in the university's research development.

Key research projects:

*1. Modelling of individual and collective choice in economics, politics, and society.*

Project Leads: Fuad Aleskerov, Eric Maskin, Alexei Zakharov, Konstantin Sonin.

In the crisis environment, with limited financial and other resources, higher requirements are imposed on justification of choice and on the analysis of decisions in the social, economic, and political domains.

The project describes game-theory models of individual, collective, and multiple criteria choice, aggregative models of deterministic and non-deterministic data, and choice under uncertainty. These models have a wide range of applications, including international relations, improvement of energy efficiency, collective interactions problems, efficient migration, monetary and fiscal policies, evaluation of quality and aggregation of the expert information, improvement of the election legislation, and others.

Among the current work in progress, it is worth noting ongoing research devoted to the robustness of the decision-making rules to the deliberate distortions of the participants' actions. The result is the comparison of about 30 well-known rules in the widest theoretical context. The results can be used for choosing the optimal rule for decision-making in small groups. The significance of results is recognized by publications in highly reputable international journals and in presentations made at leading scientific conferences. Additionally, it is worth noting the published game-theory models of the agency relations with incomplete information (A. Zakharov, K. Sorokin, HSE), studies devoted to the political economy of the democratic and dictatorial regimes (D. Acemoglu (MIT), G. Egorov (Northwestern), K. Sonin (Chicago and HSE), studies of the non-cooperative basis for the coalition formation. Research in these areas is in progress; in addition, at HSE, the regular international scientific political economy seminar is held, the first in the Russian Federation.

The main Russian project partners are Moscow State University researchers (Faculty of Computational Mathematics: professor A. Vasin), Moscow Institute of Physics and Technology (professor A. Shananin), Russian Academy of Sciences Computing Center (professor F. Ereshko), RAS Institute for of Control Sciences (RAS corresponding member, professor D. Novikov) RAS Institute for Systems Analysis (RAS corresponding member, professor Yu. Popkov), Saint Petersburg State University (professor L. Petrosyan).

Among the key foreign partners are California Institute of Technology (professors Ch. Plott and T. Palfrey), Paris 1-Pantheon-Sorbonne University (professor M. Grabisch), Cambridge (professor K. Patel), Hebrew University of Jerusalem Center for Rationality (professors Sh. Zamir, E. Winter and I. Gilboa), New York University (professor E. Ok), and University of Helsinki (professor J. Nurmi).

### *2. Microstructural and macroeconomic aspects of financial markets.*

Project Leads: Alexei Bulatov, Dmitri Makarov.

The recent financial crises have demonstrated the key role of financial markets in the macroeconomic business cycles, in the specific markets functioning, such as the real estate market, and the problem of the market participants' coordination, which needs to be analysed at the microeconomic level. This project is focused on studying the links of the macroeconomic (monetary policy, exchange rates, and interest rates) and the microeconomic (corporate governance structure, microstructure) features of the financial markets.

It is planned to address a number of theoretical and empirical problems coming from the imperfections of the financial markets, peculiarities of interaction between different participants, state regulation, market and information structure. The sequence of projects will yield results that characterize the inter-relations among the behavior of corporations in the money markets, strategic interaction between players in the financial assets markets, and their joint influence on the macroeconomic performance of specific countries and the global markets status. These results are interesting both from the modern global economy fundamental regularities description viewpoint, and for better understanding of the development and the prospects of specific financial instruments in the emerging markets, especially the Russian Federation market.

The research in financial economics is conducted in cooperation with the colleagues from the London School of Economics (C. Julliard), University of Glasgow (B. Taub), University of British Columbia (S. Severinov), Berkeley (D. Livdan, T. Hendershott), and the University of Oxford (D. Tsomocos). One of the top international scientific seminars in economics and finance in Russia is functioning. Every November a regular international conference on financial economics is held; this conference brings together the leading specialists in the finance domain from all over the world.

### *3. The role of spatial structure in economics.*

Project Leaders: Jacques Francois Thisse, Kristian Behrens, Sergey Kokovin.

Empirical studies of international and inter-regional trade show presence of sufficiently rich and varied behaviors of market prices and the level of market power by companies in response to exogenous shocks, such as a change in the degree of trade openness, the redistribution of income as a result of changes in the tax system, improvement of transport infrastructure, etc. The study is aimed at developing models of imperfect markets which would explain these effects and utilize them for implementing new economic policy. The project will lead to the development of the theory of hybrid market structures with applications to the analysis of well-being, modelling of urban and regional development. Special attention will be paid to the analysis of the relationship between the factors of gains and losses from trade in the



framework of international trade models with variable elasticity of substitution. Other issues include identification of the nature of the impact of different types of heterogeneous agents in the sectoral and spatial structure of the economy, development of new approaches to modelling bounded rationality of decision-making and the network of interactions between agents in markets with imperfect competition, as well as investigating the role of agglomeration and dispersion forces in the heterogeneity of distribution of economic activity. These problems are relevant in light of the need for the formation of a new economic policy for international trade and regional development, to respond efficiently to the challenges of modernity.

The project is implemented jointly (joint authorship) with the leading researchers in this area, including G. Felbermayr (LMU Munich), G. Mion (LSE), M. Parenti (Université Libre de Bruxelles), B. Nahata (University of Louisville), G.I.P. Ottaviano (LSE), F. Robert-Nicoud (University of Geneva), J. Südekum (Heinrich-Heine University), Y. Zenou (Stockholm University).

#### *4. Business models in developing markets.*

Project Leader: Olga Tretyak.

This project addresses the problem of a company's embeddedness into the system of interactions with market entities in order to gain the biggest value for the participants of the interaction. A system of types of activities, resources, and market interactions that the company organizes in the market in order to create and distribute value and gain profit has been labeled in the scientific circles as the "business model" (BM). In the modern studies in management, BMs are one of the most actively addressed subjects. Despite the fact that many researchers consider BMs as a separate unit of analysis, the problem of the unified theoretical foundation of BMs is still open.

This project (initiated in 2013) includes the polling and interviewing of both the heads of companies and the market experts; in this project, a methodology for studying BMs as a separate unit of analysis is developed using the cutting-edge achievements in strategic management, marketing, finance, innovative and operational management in order to gain a deeper understanding of BMs. The fundamental difference in the approach is the usage of the network context as the basis for creation and distribution of value, its recognition and transformation into the revenue generated by the network and by each single participant of the network. As a result, a conceptual model is developed, operationalization of the distinguished three levels of the BMs analysis is provided in the proposed model; and then the model is tested in various industries in the developing market. Based on the model testing, existing BM diagnostics procedure is substantiated, and its development directions are substantiated.

The main project partners are the Direct Selling Association (DSA), Internet Trading Companies Association (ITCA), which provide support in establishing the contacts with the companies management, as well as the team of researchers lead by Mangematin Vincent (Directeur de la recherche, Grenoble Ecole de Management, France).

#### *5. Russian manufacturing subsidiaries of foreign corporations - monitoring management practices and market strategies.*

Project Lead: Igor Gurkov

The project was initiated in 2012 and includes polling and interviewing the heads of the enterprises, as well as the heads of their subsidiaries and regional headquarters on a wide range of subjects, including: inter-relations with the parent company and sister-subsidiaries, elaboration and implementation of the developmental projects, peculiarities of the innovative activities arrangement, HR systems buildings. This research covers over 50 leading global

corporations, including PepsiCo, Unilever, Nestle, P&G, Peugeot-Citroen, Siemens, GE, and others.

For 2016, it is planned to create a database of all production facilities commissioned by Western corporations in Russia in 2012-2016, mapping of these facilities, determining the geographical allocation patterns of the facilities, providing in-depth analysis of the manufactured products structure (by 4-digit SIC-codes), and uncovering the technological ties of newly launched production, as well as the in-depth study of changes in HR management practices. The project is implemented in close cooperation with the Levada Center, which provides support in contacting the management of the foreign corporations operating in Russia.

#### *Key external parties who benefit from STRA-U's activities*

Public authorities, including the Ministry of Economic Development of the Russian Federation, Ministry of Finance of the Russian Federation, the Central Bank of the Russian Federation; key employers, including banks (Sberbank, VTB Group), consulting companies (KPMG, PwC, EY, Deloitte&Touche, McKinsley), industrial and trading companies (Unilever, L'Oreal, Ashan, Procter&Gamble, Euroset, MTS JSC, Burger King).

#### *STRA-U infrastructure*

Informational systems: Bloomberg, Reuters.

HSE's subscription to electronic library resources platforms (one of the largest among the European higher education institutions, about 30 platforms), includes:

- academic journal databases: JSTOR, ScienceDirect, EBSCO, ACM Digital Library, Annual Reviews, ProQuest, PsycARTICLES, DigiZeitschriften;
- the World Bank, IMF, and OECD statistical and analytical resources platforms;
- New Palgrave Dictionary of Economics Online;
- databases of company profiles, market reports, marketing summaries, exchange rates, pricing parameters: Passport (Euromonitor), Factiva, EIU;
- HSE Joint Economic and Social Data Archive (<http://sophist.hse.ru/eng/>), the archive's section devoted to economics contains more than 390 thousand electronic spreadsheets.

#### *Current StraU personnel composition*

Average number of academic personnel per year - 493, average age of academic personnel - 46, share of academic personnel holding an academic title – 76%, the information about the key academic personnel is provided in the “Key R&D projects and their development” and the “STRA-U structure and system” sections of this Project Data Sheet.

#### *Academic personnel development*

1. By 2020, it is planned to increase the number of tenure-track and tenured faculty members hired from the international market, with the requirement to publish in TOP 5 or top-field journals, to about 50.

2. International recruitments and the operation of international laboratories in the STRA-U will help create an English-speaking research environment.

3. At the internal academic market, a system for regular certification of academic personnel will be created based on international best practices, including expert appraisal of scientific publications, evaluation of the teaching quality, and STRA-U service.

4. Involvement of post-doctoral fellows in STRA-U research units (about five per year) complements the international recruitment, stimulates the creation of international academic environment.

5. Internally hired instructors and graduate students will be able to raise their level of competence through cooperation with the leading foreign scientists within the framework of the international laboratories. Currently, there are five international laboratories in the Economics & Management STRA-U.

The additional information about the academic personnel development is provided in section 2.5.

#### *STRA-U structure and system*

The Economics & Management STRA-U corresponds to the first type of HSE STRA-U's. The information about STRA-U structure, planned organizational changes, STRA-U level of autonomy, and STRA-U governance bodies functions is provided in section 2.1, 2.2, and 2.6.

STRA-U Steering Committee (Heads of key STRA-U subdivisions):

1. Oleg A. Zamulin, Faculty of Economic Sciences, Dean.  
<https://www.hse.ru/en/org/persons/26335048>.

2. Nikolay B. Filinov, Faculty of Business and Management, Dean.  
<https://www.hse.ru/en/org/persons/4013353>.

3. Sergey M. Yakovlev, International College of Economics and Finance, Director.  
<https://www.hse.ru/en/org/persons/42749>.

4. Fuad T. Aleskerov, International Laboratory of Decision Choice and Analysis, Head.  
<https://www.hse.ru/en/org/persons/140159>.

5. Alexis V. Belianin, Laboratory for Experimental and Behavioural Economics, Head.  
<https://www.hse.ru/en/org/persons/131721>.

6. Olga A. Tretyak, Laboratory of Network Organizational Forms, Head.  
<https://www.hse.ru/en/org/persons/61003>.

7. Igor B. Gurkov, Laboratory of Corporate Strategies, Organizational Structures, and Management Innovations, Head. <https://www.hse.ru/en/staff/gurkov>.

STRA-U International Expert Committee:

1. Richard Jackman, Professor, London School of Economics, ICEF Project Director:  
<http://www.lse.ac.uk/economics/people/facultyPages/RichardJackman.aspx>

2. Christian Julliard, Associate Professor, London School of Economics, Academic Director of the HSE International Laboratory of Financial Economics:  
<http://personal.lse.ac.uk/julliard/defaults/Home.html>

3. Eric Maskin, Professor, Harvard University; Chief Research Fellow, International Laboratory of Decision Choice and Analysis; Chairman of the HSE International Advisory Committee:  
<http://scholar.harvard.edu/maskin/home> , <https://www.hse.ru/en/org/persons/30242508>

4. John Nye, Professor, George Mason University; Leading Research Fellow, HSE International Research Laboratory for Institutional Analysis of Economic Reforms:  
<http://economics.gmu.edu/people/jnye> , <https://www.hse.ru/en/org/persons/28281845>

5. Konstantin Sonin, Professor, University of Chicago and HSE, StraU Academic Supervisor:

[http://harris.uchicago.edu/directory/faculty/konstantin\\_sonin](http://harris.uchicago.edu/directory/faculty/konstantin_sonin),

<https://www.hse.ru/en/staff/ksonin>

6. Maarten Janssen, Professor, University of Viena and HSE

<https://homepage.univie.ac.at/maarten.janssen/>,

<https://www.hse.ru/en/org/persons/28281083>

### 1.3 Performance indicator of Strategic Academic Units

№	Indicator	2015 actual	2016 plan	2020 plan
1.	Position in broad field (specific subject) rankings (ARWU, THE, QS) as university KPI for which the STRA-U is valuable (according to the “roadmap” of the relevant university)			
1.1	QS «Social Sciences & Management» by faculty	161		51-100
1.2	QS «Development Studies» by subject	51-100		51-100
1.3	QS «Economics & Econometrics» by subject	151-200		51-100
1.4	QS «Business & Management» by subject	-		151-200
2.	Number of publications in the Web of Science per one faculty member of the STRA-U	0,50	0,69	1,32
3.	Number of publications in Scopus per one faculty member of the STRA-U	0,92	1,35	2,14
4.	Average citation index per one faculty member of the STRA-U calculated on the basis of the total number of publications indexed by the Web of Science	0,56	0,84	2,35
5.	Average citation index per one faculty member of the STRA-U calculated on the basis of the total number of publications indexed by Scopus	0,95	1,42	3,25
6.	Percentage of international faculty in the STRA-U's team including Russian citizens with PhDs from foreign universities	11,0%	11,8%	16,5%
7.	Percentage of international students enrolled in higher education degree programs provided by the STRA-U (including CIS students)	7,0%	7,3%	15,7%
8.	Average Unified State Examination (USE) grade for students enrolled in full-time federal funded Bachelor and Specialist-level programs delivered by the STRA-U <sup>1</sup>	93,4	no less than 90	no less than 90
9.	Percentage of the STRA-U's income from non-budgetary (non-government) sources	40%	no less than 40%	no less than 43%

<sup>1</sup> The actual value of indicator could be adjusted depending on changes in the scaling system of Federal Education and Science Supervision Agency in the relevant year. Besides, HSE undertakes to remain in TOP-5 Russian Universities for the quality of admissions.

#### 1.4 Quantitative characteristics of the STRA-U's development

<b>№</b>	<b>Indicator</b>	<b>2015 actual</b>	<b>2016 plan</b>	<b>2020 plan</b>
1.	Number of higher education degree programs with international professional or public accreditation delivered by the STRA-U	3	3	5
2.	Number of higher education degree programs delivered by the STRA-U entirely in a foreign language	4	4	5
3.	Number of higher education dual degree programs delivered by the STRA-U	24	24	24
4.	Percentage of the STRA-U's students involved in R&D of this unit and enrolled in higher education degree programs provided by this unit, among the total number of students enrolled in the STRA-U's higher education degree programs	6,5%	6,5%	6,5%
5.	Percentage of the STRA-U's students enrolled in higher education degree programs among the total number of students enrolled in higher education degree programs of the relevant university	32%	30%	29%
5a.	Same for Bachelor-level programs (Specialist-level)	32%	31%	29%
5b.	Same for Master's programs	31%	29%	29%
5c.	Same for Ph.D. programs	29%	29%	29%
6.	Percentage of the STRA-U's faculty members who authored publications indexed by Scopus or the Web of Science among the total number of faculty of the STRA-U	40%	55%	84%
7.	Percentage of the STRA-U's employees among the total number of employees of the relevant university	14,0%	14,0%	14,0%
8.	Number of intellectual deliverables/intellectual products (IP) created by the STRA-U's employees	1,00	1,00	3,00
9.	Source-Normalized Impact per Paper (SNIP) of journals indexed in Scopus where the articles authored by the STRA-U's faculty members were published in the reporting year	1,035	1,08	1,25

## 1.5 Financial Model

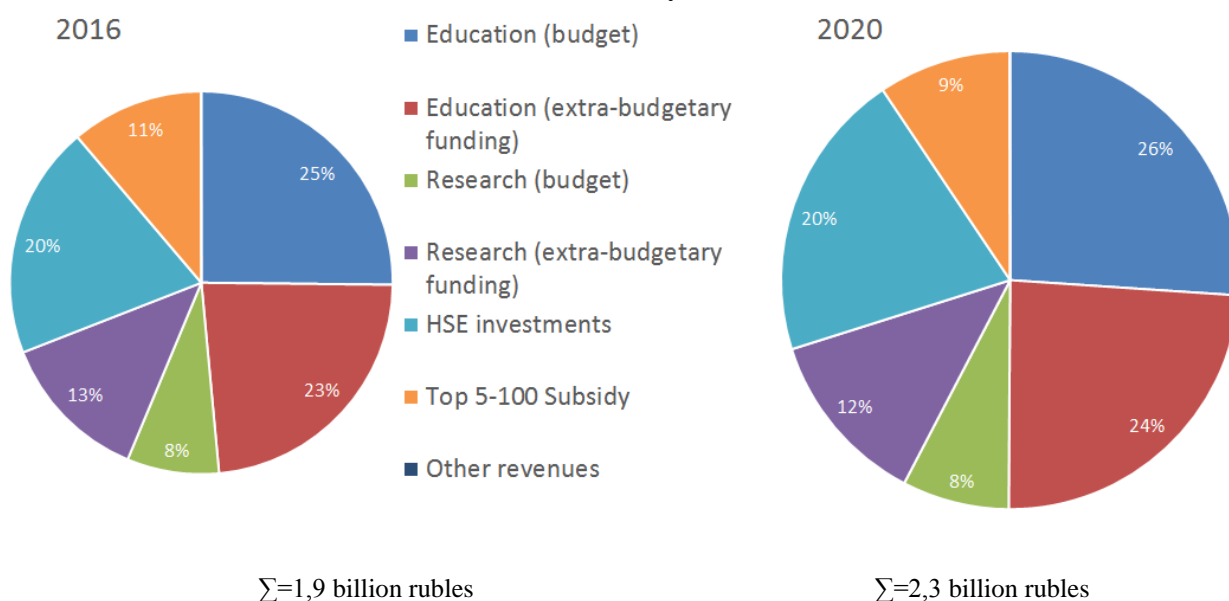
STRA-U budgets are managed by the university and heads of participating units; they are financed from the following three sources:

1. Government-funded education and research projects. STRA-U contributions to the government projects is expected to be about 30% for educational services and 22% for research. STRA-U units' KPIs include economic efficiency indicators for educational programs.

2. Funding from **external sources** (extra-budgetary revenues) derived from fee-based educational services, research and expert review projects in the interests of the government and corporate clients, donations and other special purpose contributions. The share of STRA-U extra-budgetary revenues is expected to be no less than 43% in 2020. Funding from external sources is one of the KPIs of STRA-U units heads.

3. **HSE special purpose funds** provided to STRA-U units for development (academic development funds, centralized HSE programs such as Academic Fund, Fund of Educational Innovations, etc., acquisition of special research and laboratory equipment, inviting international faculty and researchers, etc., including funds of the subsidy under Global Competitiveness Program).

Planned STRA-U's structure and revenues dynamics:



The growth in STRA-U revenue in the years leading up to 2020 will be achieved thanks to an increase in the number of students in fee-based programs, including students in the new fee-based Master's programs in company management (in the energy sector, retail, etc.).

Continuing education programs will become a stable source of STRA-U revenue, including special personnel training programs at the request of HSE partners in the framework of cooperation agreements (Sberbank, Gazprom, Transneft, Unified Space Rocket Corporation), and continuing professional development programs for faculty from other institutes in a broad variety of disciplines, including microeconomics, macroeconomics and econometrics.

In the next 3-5 years, revenue from mass online-courses is expected to grow consistently both on international platforms and in Russia – along with the development of the National Open

Education Platform. STRA-U is planning to launch online courses in such fields as Economics, Finance, Management, and Business Informatics.

Increases in STRA-U revenue derived from research will be accompanied by changes in revenues structure and the share of project work in partnership with the leading Russian and international companies (for example, VEB Group, Gazprom and Rosseti) is expected to grow.

STRA-U units will continue to actively participate in Russian-funded research grant programs, most notably in fields such as industrial economy, finance, socio-economic development forecasts, economics of entrepreneurship, organization and management of enterprises, as well as social aspects of the economy and labor market. In case of improvements in the international market, revenue from participation in international research grant programs is also expected to rise.

The total increase in STRA-U revenue in 2020 versus 2016 will be about 20% (370 million rubles). As compared with the funds received by STRA-U under Global Competitiveness Program, the anticipated growth of income will reach 170%.

STRA-U expenditures include personnel salaries (68-72%) and other operating expenses (teaching and research process, academic mobility, acquisition of information, etc.).

General and administrative expenses are centrally managed by HSE. All facilities, dormitories, IT infrastructure and administrative services are provided by the university.

STRA-U's financial stability is achieved through the combination of revenues from all types of its operations and HSE investments – through centralized academic development instruments (programs and projects). HSE is ready to provide additional resources to the STRA-U by reallocating HSE's centralized funds if necessary.



### 1.6 Schedule (Roadmap) for controlled changes

	Objective	Years				
		2016	2017	2018	2019	2020
<b>1. Organizational changes</b>						
1.1	STRA-U organizational structure has been established, including the team, management, collegiate and executive management bodies	X				
1.2.	Adaptation to the mega-faculties structure, including transition from department to faculty structure at the Faculty of Economic Sciences	X	X	X		
1.3.	Project teams have been set up, and required information and material resources for their operations have been defined	X	X	X	X	X
<b>2. Required changes and results of the educational activities</b>						
2.1.	Development of the research and project component in the undergraduate programs	X	X	X	X	X
2.2.	Launching and developing new the Master's programs in Applied Economics and Economics: research program	X	X	X	X	X
2.3	Launching and developing the Master's program in Statistical modelling and actuarial calculations	X	X	X	X	X
2.4.	EPAS international accreditation of the undergraduate program in Management and one of the Master's programs in Management				X	X
2.5.	Agreements with new international partners for double-degree programs			X	X	X
2.6.	Student academic mobility programs, student exchange programs	X	X	X	X	X
2.7.	Promotion of undergraduate and the Master's programs on the global market, organization of international students' admission	X	X	X	X	X
2.8.	Professors from the best centers in the field, experts from the real sector of economy have been invited to deliver courses	X	X	X	X	X
<b>3. Changes and results of the research and technical activities</b>						
3.1.	International recruitment of associate professors and professors	X	X	X	X	X

3.2.	Engagement of students and postdocs in research projects implemented by STRA-U (at least 50 people on an annual basis)	X	X	X	X	X
3.3.	Outgoing academic mobility of researchers	X	X	X	X	X
3.4.	Special advanced study programs for researchers, including lectures, master classes and seminars with participation of leading international scholars	X	X	X	X	X
3.5.	Hosting large international conferences with participation of international specialists and experts in the STRA-U-specific topical areas	X	X	X	X	X
3.6.	Publication and promotion of monographs of foreign authors in English, edited by the STRA-U's personnel at the Springer Publishers		X	X	X	X
3.7.	HSE Working Papers Series	X	X	X	X	X
3.8.	Development of the research infrastructure	X	X	X	X	X
<b>4. General changes and results, including at the University's level</b>						
4.1.	Facilitating the HSE achievement of leading positions in education and research at the regional and global level, evidenced by the promotion in global rankings	X	X	X	X	X

## **2. TRANSFORMING THE UNIVERSITY BY ESTABLISHING THE BREAKTHROUGH AREAS ACROSS STRATEGIC ACADEMIC UNITS**

### **2.1 Organizational Transformation of the University**

HSE is in the process of systemic transformations, first launched by the university in 2010, and aims to create centers of excellence and to disseminate the experiences of these centers throughout the university.

In the first stage of transformation, the university established 10 international laboratories lead by the prominent foreign researchers. The development of international laboratories in economic, social, computer, and mathematical sciences has contributed to overcoming the long-term isolation of Russian social and economic sciences and enabled HSE to join the global network-based research market and strengthen the university's position as the center of advanced research in select areas of expertise. As a result of the university concentrating its resources on the development of those areas, the number of research publications in the international databases Web of Science and Scopus has grown five times over the last five years. Globally renowned scientists such as Nobel Laureate Eric Maskin, Fields Medal Winner Andrei Okounkov have joined the university. The number of international laboratories grew to 22 in 2015 and these research centers have enabled the university to integrate the new academic culture into more traditional forms through the creation of faculties and moving further to the next transformation stage.

The second stage in the transformation of the university's organizational model is the transition from highly specialized faculties and academic departments, designed with the primary purpose of teaching, to the model of mega-faculties, or large research and education units conducting research (including multidisciplinary research) and faculty training in broad areas of expertise: economic sciences, social sciences, business and management, humanities, computer and engineering sciences, mathematics, law, communications and design and urban studies. The integration process was completed in 2015 when 21 faculties and division networks were replaced with 10 mega-faculties. The former faculties and academic departments became departments and schools, and mega-faculties were merged with previously independent HSE research units to conduct basic and applied research and focus on expert analytical work and consulting. The new organizational model is currently finalizing its operating mechanisms.

The university merger of interrelated fields of expertise encourages the development of promising research areas at the intersection of sciences and ensures the principle of crossdisciplinary interaction in research and teaching. This contributes to the rapid development of the mega-faculties' educational programs built into the framework of new fast-growing areas of expertise that are implemented by research scientists, key employers, international experts; students become involved in real scientific research projects while still in the training. Such integration is provided by research units, departments and schools within the mega-faculties.

The conversion ensures an integrated approach to mega-faculties-based management and the development of all areas of the university's expertise, including higher education and continuing education, basic and applied research, innovation, expert analytical work and consulting. International laboratories still act as the drivers of research, set standards for other research teams and play an important role in graduate and postgraduate education. Regular evaluation of laboratories' performances by internationally recognized experts constitutes the basis for decision-making on the laboratories' existence. Mega-faculty management is based on the principles of academic self-governance, which is implemented at all levels of decision making.

In 2015, the right to managing independently financial resources and the responsibility for achieving planned results (KPIs for the mega-faculties' deans are set) were delegated to the mega-faculties. This significantly simplified the decision-making process, allowed more specific considerations on account of individual disciplines and enhanced their development. Currently, almost 50% of resources from the university-wide academic development fund (scholarships for

academic mobility of faculty members, researchers and students, conferences, etc.) are managed by the mega-faculties. The mega-faculties' academic development funds are competitively distributed in accordance with the decision of mega-faculties' governing bodies, composed of researchers and instructors. The mega-faculties' academic and financial autonomy will be further increased; resources will be managed and decisions made based on KPIs.

The university is currently in the third stage of its transformation: HSE continues to improve the mega-faculties and establish better conditions for their development through the individual research and education units under these new interdisciplinary centers of excellence. The centers use the mega-faculties' infrastructure, human and other resources and have become growth points for promising areas where the university intends to enter the global market. Successes have been achieved in some subject areas as evidenced by high quality publications in the leading journals (See sections below).

## **2.2 Strategic Academic Units**

The mega-faculties and research units (including international laboratories) are used to establish large areas of expertise with interdisciplinary connections: Strategic Academic Units (STRA-U). There are two types of STRA-U – international consortia and centers of excellence, which are currently being formed based on the following criteria:

- 1) Research must be consistent with the global research agenda and international research networks;
- 2) Research must be relevant to Russia's geopolitical interests and/or sectoral priorities;
- 3) STRA-U must serve as expert analytical centers for the development of public policy in the economic and social sectors, education, science and technology forecasting and state-building; each STRA-U should make a significant contribution to the development of Russian economy;
- 4) Educational programs are implemented at various levels (undergraduate, specialist, graduate and post-graduate programs).

The first type of STRA-U includes major consortia that address the university's existing core areas. They are recognized internationally (reflected in their international rankings), and have a high capacity for further dynamic development. These consortia are formed from one or more mega-faculties and academic units of the university, which implement educational programs at all levels and their research has been integrated or is capable of being integrated into the global research agenda:

- Economics and Management (QS Economics & Econometrics – 151-200, QS Development Studies – 51-100, QS Social Science & Management – 161<sup>2</sup>);
- Challenges for Social Development (QS Development Studies – 51-100; QS Sociology – 151-200; QS Social Sciences & Management – 161);
- Mathematics, Computer Science and Information Technology: scalable mathematical methods (QS Mathematics и QS Computer Science & Information Systems – 400+, ranks 6th in Russia);
- Humanities Consortium “Humanus” (QS Philosophy – 151-200, QS Arts & Humanities – 289).

The second type of STRA-U includes centers of excellence: individual structural units that have been created as new growth points in relatively narrow and promising interdisciplinary areas of research and education and are integrated into the global research agenda and implement

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<sup>2</sup> HSE position in QS World University Rankings 2015 (by subject and by industry) are given in brackets. This position has been secured thanks to the contribution of the respective STRA-U.

Master's and doctoral educational programs. In the long run, these units are capable of growing into new research and educational areas:

- Foresight and Science, Technology and Innovation Studies (QS Development Studies – 51-100; QS Social Sciences & Management – 161);
- Cognitive Neuroscience: from Computational Models to Neurotechnology (QS Economics & Econometrics – 151-200; QS Social Science & Management – 161);
- Education and Human Development in changing world (QS Sociology – 151-200; QS Social Science & Management – 161);
- Urban and Transportation policy: guiding urban transformation from industrial to digital age (QS Development Studies – 51-100; QS Social Sciences & Management – 161).

Not included in STRA-U's are key HSE faculties such as World Economy and International Affairs, Law, and Communications, Media and Design, as well as the Department of Foreign Languages, because these units are currently focused mainly on the Russian market.

#### *Strategic Academic Unit Management*

Each Strategic Academic Unit is managed by:

- the research adviser, a leading scholar in the STRA-U area, well known by the international academic community, whose main functions are to establish the STRA-U research and education agenda and strategies, help enhance STRA-U leadership within the international academic community and engage STRA-U leading experts in relevant fields;
- the leader, a famous academic and experienced research and/or education administrator whose main functions are to ensure achievement of STRA-U goals, coordinate research and education communication among the divisions within STRA-U and make personnel and financial decisions.

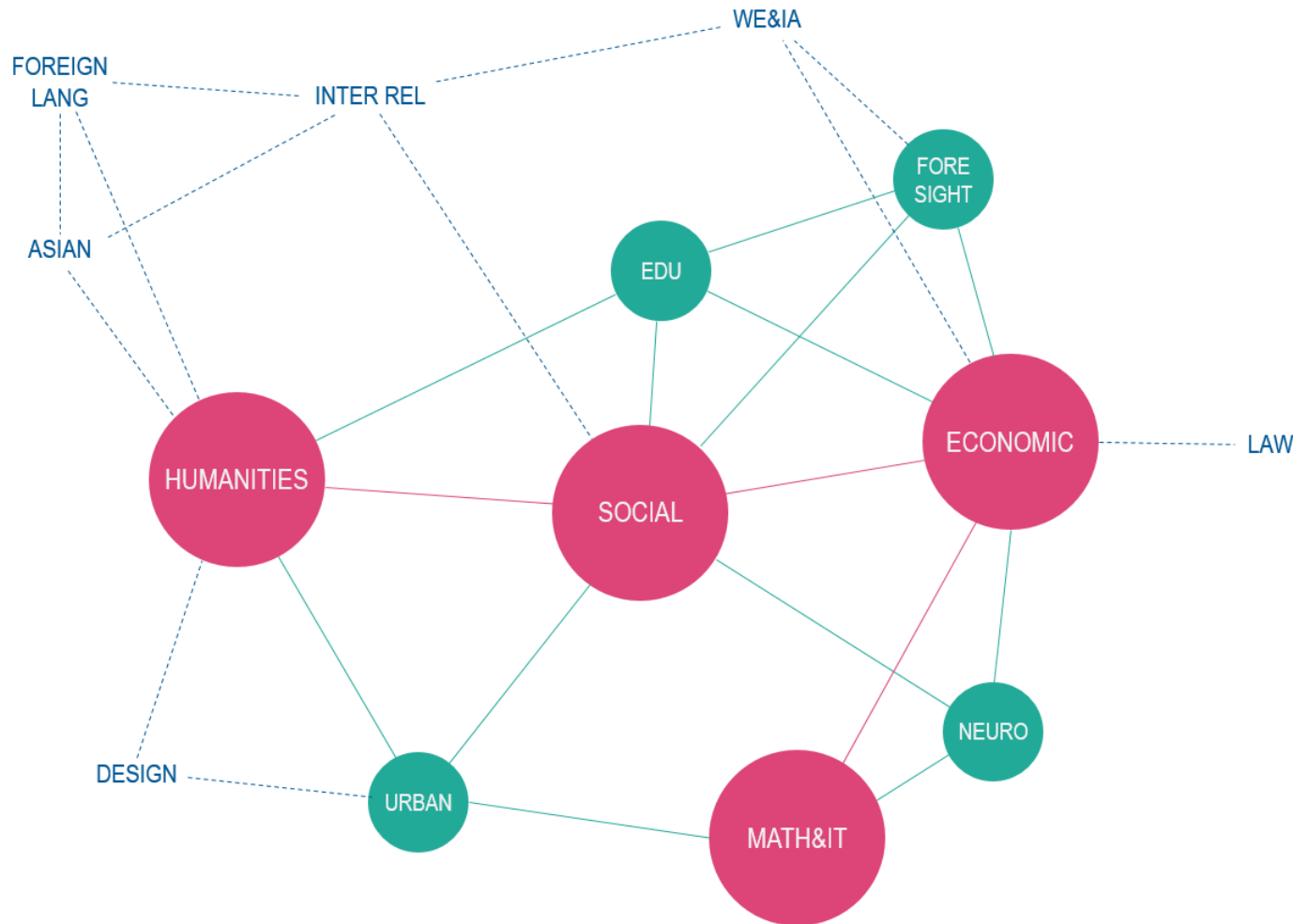
STRA-U is managed by the Management Board, which makes programmatic and resource decisions on each of the STRA-U's tasks delivery and ensures monitoring of STRA-U's tasks delivery.

Some STRA-U's have already established International Expert Committees and others will establish them by the end of 2016. International Expert Committees will conduct external evaluations of STRA-U research and educational activities and provide recommendations regarding STRA-U development strategy. They will also promote international partnerships and the integration of STRA-U researchers in international research networks.

The university's management practices have been tested within the mega-faculties model and have proved to be viable and effective. They will also be used in the next stage of the university development within STRA-U's framework (see more details in respective sections of each STRA-U fact-sheet).

The scheme of interaction between STRA-U's and other units that haven't been integrated as a STRA-U yet is defined in the following figure.

# STRATEGIC UNITS INTERACTIONS



## **StraU's of I type** CONSORTIUMS

- >ECONOMIC< ECONOMICS AND MANAGEMENT >
- >SOCIAL< CHALLENGES FOR SOCIAL DEVELOPMENT >
- >MATH&IT< MATHEMATICS, COMPUTER SCIENCE AND INFORMATION >
- >HUMANITIES< SCHOOLS AND INSTITUTES CONSORTIUM «HUMANUS» >

## **StraU's of II type** CENTERS OF EXCELLENCE

- >FORESIGHT< FORESIGHT AND SCIENCE, TECHNOLOGY AND INNOVATION STUDIES >
- >NEURO< COGNITIVE NEUROSCIENCE: FROM COMPUTATIONAL MODELS TO NEUROTECHNOLOGY >
- >EDU< EDUCATION AND HUMAN DEVELOPMENT >
- >URBAN< URBAN AND TRANSPORTATION POLICY: GUIDING URBAN >

## OTHER UNITS

### **2.3 Research and innovation activities**

*Research and science project areas are described in detail in each STRA-U Fact-sheet.*

HSE strategy for basic research sets rigorous requirements for research quality, and personnel incentives are aimed at facilitating research in the most cutting-edge areas and topical fields. This has caused a significant growth in the number of quality publications. Articles by HSE faculty and researchers are published in top international journals, including Review of Economics and Statistics, Acta Mathematica, Journal of Personality and Social Psychology, The Lancet, IEEE Transactions on Pattern Analysis and Machine Intelligence, Nature Genetics, Journal of Political Economy, Physical Review Letters, American Economic Review, Behavioral and Brain Sciences, Journal of Materials Processing Technology, Annals of Statistics, Communications in Mathematical Physics.

The university has robust research and innovation cooperation with major Russian and foreign companies and organizations which are not only customers of research and consulting projects but also partners in implementation of customized educational programs of mainstream and continuing education. The demand for the university's research is evidenced by steady growth in R&D total revenues, which is currently almost 40%. HSE has partnership relations with such major companies as Gazprom, Rosatom, Rosneft, Novatek, Gazprom Neft, Alrosa, Norilsk Nickel, Aeroflot, Rosgeologiya, Nissan, Sibur, Gazprombank, Lukoil, Transneft, Yandex and others. HSE is constantly expanding the network of joint departments (currently - 40) established in cooperation with leading research and science centers, global consulting companies, ICT companies, analytical centers, and others.

The university's innovative activities are designed to provide diverse forms of communication with project teams which include undergraduate, graduate and post-graduate students, professors and research scientists. Those activities range from annual competitions of business plans for innovative projects to supporting the start-ups at various stages of maturity. A prominent place in the Russian innovation ecosystem is taken by the HSE's Business Incubator which provides coaching and advisory services to student teams; the Innovation Center which provides organizational support to the spin-off companies, and Prototyping Center that provides an experimental platform for technological projects and boasts state-of-the-art equipment.

According to UBi Global rating, in 2015, HSE Business Incubator ranked 14 among global university business incubators (sole university business incubator in Russia to rank in global Top-25).

### **2.4 New organizational model for the education process**

Establishing mega-faculties through the merger of academic units has enabled the implementation of a university-wide organizational and management model for the education process on the basis of "academic adviser - academic council - student office". In spite of a wide variety of programs, the quality of the education process and outcomes is ensured by general principles incorporated in the unique educational standards aimed at a higher level of complexity.

The implementation of undergraduate programs is based on a model that provides for:

- a limited number of courses (no more than five) to be studied by a student in any given semester, at least half of which are electives;
- a fixed part of the program within which a student works on projects and research papers primarily in actual research departments at the university;
- select clusters of courses (minors) available to all students (20 ECTS in two years);
- independent assessment of students' knowledge of the English language at the end of the second year through the process of international exams, and mandatory study of at least two major courses in English;
- mandatory preliminary thesis defense in English.

The implementation of graduate programs is based on the following model:

- no more than 12 courses to be studied by students over two years;
- two professional “core” disciplines (the second disciplines is to be selected by the academic program management and by the students themselves);
- research and independent work must constitute at least 70% of the load;
- opportunity for first-year students to select courses from the general pool of disciplines with broad humanities, social science and economic focus (MagoLego).

HSE’s educational programs are focused on the international market: the share of foreign students is currently 7.5%; 18% of disciplines are taught in English; 15 programs in the current academical year and 20 programs in the new academic year will be fully focused on English-speaking students; 43 (29%) educational programs are implemented in partnership with leading foreign (41) and Russian universities (2). HSE is actively involved in the work of universities’ consortium representing massive on-line courses on Coursera international platform: in 2015, over half a million students from 195 countries, representing 5% of all Coursera students, signed up for 36 HSE’s online courses taught in Russian and English.

## **2.5 Development of Academic Personnel**

Academic personnel development within the new STRA-U framework will be provided by the instruments of academic development and through competitive procedures established in HSE in recent years and described in detail in the Roadmap of the Program for Enhancing HSE Competitiveness of the second stage.

The main instrument for attracting international experts is the international recruitment strategy, which has been in place at HSE since 2010. The ruble devaluation has significantly restricted Russian universities’ capacity to compete as employers in the global academic market; therefore, specialist recruitment on the international market in 2016 will change: most cited scientists in high demand by strategic academic units will be selected through the international recruitment procedure. Foreign researchers will be engaged in scientific projects under short-term contracts and remote work contracts. Particular emphasis will be placed on engaging talented young scientists in international research projects through the postdoctoral research fellow program, which will be enhanced starting from 2016.

Mandatory engagement of faculty members in research and involvement of researchers in the educational process is guaranteed by the single contract with academic personnel implemented by HSE in 2015. Faculty members’ teaching load is alleviated by teaching assistants, who are selected from among the best students and thus get a chance to start their academic career. Personnel rotation and academic faculty selection is performed through creating competitive academic environment - an open competition for academic faculty positions is held annually and attracts many external candidates. The competition procedure involves the multi-stage selection of candidates: evaluation of research, professional level, interviews, and open lectures. The selection is carried out by expert subject committees, mega-faculties’ personnel, and the personnel committee of the HSE Academic Council. The open procedure and similar evaluation criteria for HSE professors and external candidates provide conditions for the selection of the best specialists to be employed by the university on a full-time basis. They meet the university’s requirements focused on the global market: HSE academic faculty was renewed approximately by one third in 2013.

The merit-based personnel selection system is supported by a wide range of incentives that provide for professional development and the opportunity to select the optimum academic path for each faculty member. The instruments include stipends for publications at the international level, contributions to the university’s reputation, teaching courses in English, development of new teaching methods and training courses, individual and collective research and academic mobility scholarships, international partnership development scholarships, comprehensive professional development program which includes internships and PhD



education at foreign universities and academic English courses at Academic Writing Center. All of these procedures are carried out on a competitive basis.

HSE strives to create an English language-driven professional environment and to ensure the smooth integration of international students, faculty members and researchers into the university academic life. HSE has established special administrative units that provide guidance to international students and academic personnel in all aspects of the HSE experience (including medical insurance, social support, etc.). The university has created English language information resources and hires program coordinators with fluent English. In the coming years, the number of administrative personnel with English proficiency will be increased, and international faculty members will receive comprehensive information about what is occurring during their employment at HSE.

HSE's target personnel development model suggests that by 2020 at least 60% of academic personnel will be scientists (included in the global academic networks), about 20% will be the leaders of the Russian professional market, and the remaining 20% will be engaged only in teaching (mostly teaching foreign languages). It is also planned that 90% of full-time HSE faculty members will be able to teach and conduct research in foreign languages.

## **2.6 Financial sustainability and resource allocation for the establishment and development of Strategic Academic Units**

Resources for the Program of Enhancing Competitiveness and the university's financial sustainability in general are secured primarily through revenue from core activities (all types of educational services, research and expert and consulting activities). In aggregate, HSE revenues in 2016<sup>3</sup> will exceed 14 billion rubles (\$190M), which is higher than the revenue in 2012 by 44%. The university earns about 40% of the funds or 6 billion rubles per year (\$80M) in the open market: in terms of extra-budgetary revenue, HSE is among top three Russian universities. Global Competiveness Program program funding constitutes only 6.5% to the university's revenue.

In the years leading up to 2020, HSE will increase its overall revenue by 31% compared to 2015, mainly through extra-budgetary income, of which 70% will come from for-profit educational services, and 20% from applied R&D and consulting services. Overall, by the end of the period the share of extra-budgetary income will increase to up to 44%.

Resources for the implementation of the HSE Roadmap will be gathered by combining centralized incentive mechanisms and increasing the financial autonomy of the units. HSE makes target investments of more than a quarter of its income into the university's development projects. The share of funds managed at the level of research and educational units and their consortia is, on average, more than 50%.

The university's financial model is actually replicated within STRA-Us: the units' financial sustainability is achieved through a combination of revenues from all types of activities and diversification of sources of their financing. The tasks of resource allocation to the units within STRA-Us are reflected both in their budget structure, and in the KPI system of their leaders (see Section 2.1).

Key risks for the financial sustainability of the university and its units in the period of up to 2020 are mostly related to negative economic conditions:

- 1) the devaluation of the ruble caused a significant reduction in the competitiveness of Russian universities as employers in the international academic labor market; paying competitive salaries becomes increasingly difficult, especially when trying to maintain fair balance between Russian and foreign academics;

- 2) the devaluation has also resulted in the significant increase of other university costs that depend on currency exchange rates, such as international academic mobility, access to foreign sources of information, purchase of equipment, etc.

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<sup>3</sup> Excluding state capital investments

3) reduction of Federal Budget expenditures for 2015-2017 significantly restricts the university's income growth potential, both in education and in research.

The key measures taken by HSE to address those risks are:

- cutting operational and administrative costs (in 2016, operational costs were cut by 15%, administrative personnel costs were cut by 10%, etc.);
- reducing full-time employment of foreign personnel in favor of short-term and remote contracts, without compromising the requirements related to cooperation with Russian personnel and publication activity levels;
- stricter internal requirements related to the efficient utilization of resources: allocation of funds for research projects that foster academic personnel allowances; implementation of economic standards for educational programs and personnel schedule and workload; and introducing indicators for attracting external resources into managers' KPI systems;
- reducing (and closing) administrative and research units and educational programs that do not meet academic criteria of productive efficiency (in particular, in 2014-2015, the Master's programs portfolio was optimised, and a number of academic departments were reorganized).

Information on HSE-Moscow total revenues and expenses in 2015-2020 are given in the table below (mln rubles):

	mln rubles		
(excluding state capital investments)	2015	2016	2020
<b>REVENUES</b>	13150	13880	16197
<b>Educational services</b>	<b>7 127</b>	<b>8 228</b>	<b>10 375</b>
State assignment for educational services	4 703	5 352	6 176
Fee-based educational services – Higher education	1 331	1 652	2 311
Fee-based educational services – Continuing education	632	695	1 240
Pre-university education	168	301	386
Subsidy for the scholarship fund	293	228	262
<b>Research and Development</b>	<b>2 577</b>	<b>2 568</b>	<b>3 000</b>
State assignment for research	888	862	1 000
Applied research and development	1 690	1 705	2 000
<b>Other revenues</b> (special purpose subsidies, donations, other revenues)	<b>817</b>	<b>1 102</b>	<b>1 016</b>
<b>Funding under 5-100 Program</b> (special purpose subsidy)	<b>930</b>	<b>930</b>	<b>930</b>
<b>EXPENSES</b>	12 099	12 903	15 304
<b>Program and project expenses</b>	<b>3 109</b>	<b>3 364</b>	<b>3 969</b>
<b>Current operating expenses</b>	<b>7 961</b>	<b>7 920</b>	<b>9 960</b>
<b>Special purpose expenses</b> (scholarships, major repairs, taxes)	<b>1 029</b>	<b>1 293</b>	<b>961</b>
<b>Reserves</b>	<b>283</b>	<b>325</b>	<b>414</b>
<b>BALANCE (end of period)</b>	<b>1 052</b>	<b>977</b>	<b>893</b>