



STATE UNIVERSITY – HIGHER SCHOOL OF ECONOMICS

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S&T POLICY IN RUSSIA

(main directions and some indicators)

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3 Stages of Russian S&T Reforms

“Market romanticism”
(early 90-th)

- ◆ Vain hopes for quick transformation
- ◆ Systemic crisis of national S&T complex

“Market formalism”
(middle 90-th)

- ◆ Reforms of S&T were lagging behind economic reforms
- ◆ Urgent measures to prevent this complex from final disintegration
- ◆ Deep stagnation of S&T complex

“Market pragmatism”
(the beginning of current century)

- ◆ Important strategic decisions - remitted for the future or have been just started
- ◆ Refusal of long-term programs and projects in favor of short and middle-term

Expenditures: a little to invest, a little to receive?

The increase of Gross Domestic Expenditures on R&D (GERD) in Russia

- ◆ 1998-2007: more than 20 times
- ◆ at constant prices – more than 2 times

An the same time

GERD as a per cent of GDP

Russia – 1,16% (24 position in the world);
Israel – 4,71%; Japan – 3,86%; USA – 2,68%;
China – 1,34%

GERD (PPP)

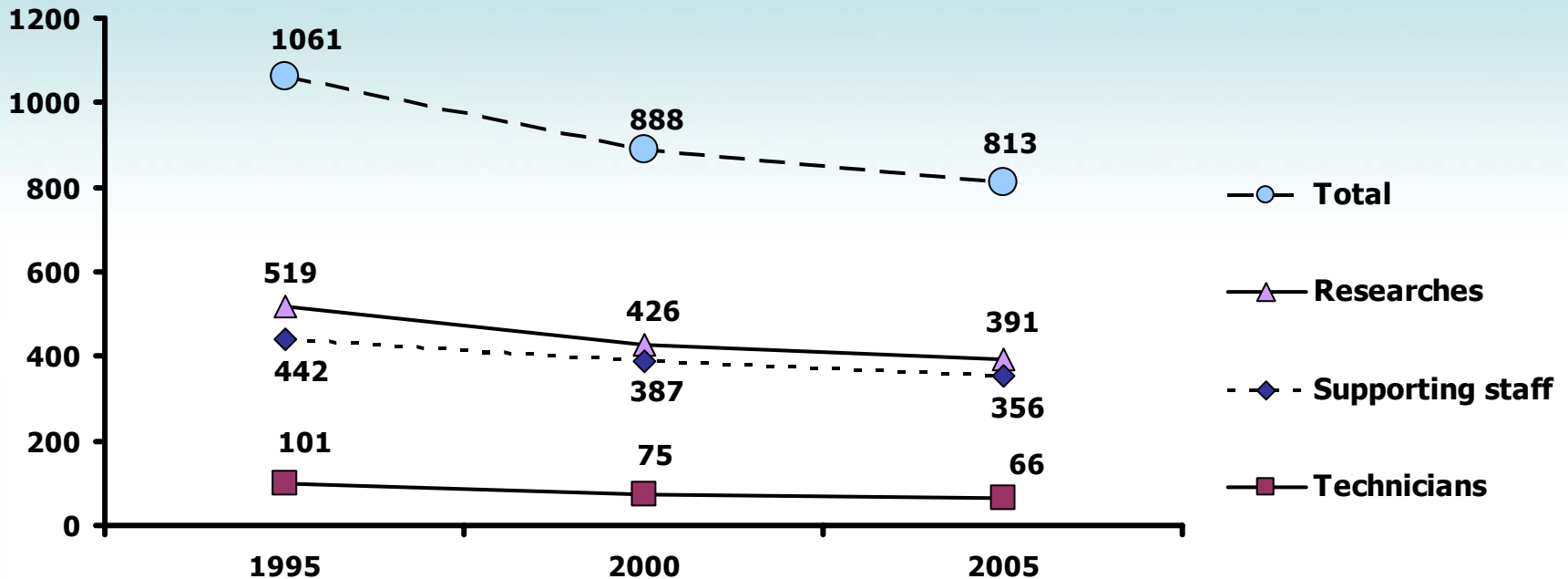
Russia – 16,5 bln. \$
19 times lower than in USA; 6,8 – than in
Japan; 6,2 – than in China; 2 – than in
Britain

**Government budget
appropriations on R&D (PPP)**

Russia – 9,5 bln. \$
2-2,5 times lower than in France, Germany,
Britain; 3,5 - – than in Japan; 14 – than in
USA

R&D personnel

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◆ Supporting staff and others – 44%

◆ 51% of R&D personnel have university degrees

Researches by age

60 and over

- ◆ 55% doctors of science
- ◆ 33% candidates of science

below 30

- ◆ 15% researches

middle ages

- ◆ Doctors of science – 61
- ◆ Candidates of science – 53

Parameters of productivity: loss of competitive positions

**Publications in World
Scientific Journals**

Russia – 2,3%, 11 position in the world (1995 - 7, 1980 – 3)
China – 4,2%, 6 position (1995 – 1,6%, 14 position)

Technology export

Russia – 389,4 mln. \$
Austria – 2,4 bln. \$
USA – 57,4 bln. \$

**Share in the world
hi-tech market**

Russia – 0,3%
Singapore, Korea,
Taiwan: 4 - 8%

**Innovative activity
of enterprises**

Russia – 9,3% (1992 – 16.3%)
EC: 27% (Greece) – 75% (Ireland)

Specific features of Russian S&T infrastructure, 2004

R&D organizations (3656 units)

Types of units

- ◆ **70% - research institutes separated from universities and firms. They contribute with 80% of R&D personnel and expenditures.**
- ◆ **11% - universities**
- ◆ **7% - companies**

Ownership

- ◆ **70% - owned and established by federal and regional governments**
- ◆ **28% - private or mixed ownership**

Funding

- ◆ **40% - budgetary-funded institutions**
- ◆ **23% - belong to public scientific academies**

Ownership of R&D organizations (main groups, %)

	1994	1997	2000	2002	2004
Total (100%)	3968	4137	4099	3906	3656
Government-owned	74,0	72,5	71,6	72,1	73,2
e.g. – federal	70,1	68,9	67,2	67,7	69,0
NGO	0,3	1,1	1,5	0,8	0,7
Private	3,8	7,3	9,5	11,7	11,5
Private + Mixed	23,8	25,2	25,5	25,2	24,3
(without foreign participation)					
Foreign + Mixed (Russian and foreign shareholders)	–	1,0	1,5	1,5	1,6

Primary fields for Government S&T and innovation intervention

- a. technology transfer**
- b. favourable environment and direct support to S&T**
- c. public–private partnership (cooperation), motivating of private business to co-fund and participate in projects initiated by the government**
- d. innovation activity and innovation climate (efficient innovators, competitive environment, legislation)**
- e. increasing level of professional education**
- f. long-term sustainable technological development**

Key policy measures to restructure Government S&T sector

- ◆ **Introduction of new forms
for public R&D institutions**
- ◆ **Modernization of the state
academies**
- ◆ **Integration of science and
education**

Autonomous Institutions (AIs)

- ❖ **Still government-owned and oriented on the State`s functions**
- ❖ **Not funded through fixed Government budgets. Wider clientele**
- ❖ **Greater responsibility for spending resources and obtaining results**
- ❖ **Will have certain autonomy and independence in attracting (and spending) funds from non-government sources, including credits and investments**

Strategy of Science and Innovation

- ◆ **By 2008 AIs should amount to 12% of all government R&D institutions**
- ◆ **By 2010 - to 22%**
- ◆ **At least 200-250 R&D institutions should receive the new status in a rather short period of time**

Other necessary measures to improve the institutional structure of Russian S&T

- ❖ **To create conditions for development of independent NGO**
- ❖ **To expand the opportunities for privatization of R&D organizations and development of private S&T sector**

What are scientific academies with government status?

- ❖ **Academic institutes are government-owned**
- ❖ **At least 80% of all public funds allocated for basic research go through academies**
- ❖ **Five scientific academies in Russia - Russian Academy of Sciences (RAS) and sectoral academies (agricultural, medical, educational, architectural)**
- ❖ **The modernization issues are especially important for RAS: over 450 R&D organizations (more than half of all academic organizations)**

Integration of science and education

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Russia inherited from the USSR one of the largest and successful R&D and education complexes

Soviet practice showed good examples of combination of fundamental education and deep science specialization

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As a whole, science in the USSR was separated from higher education. The official universities' function was training only. Except few leading universities, R&D was considered unnecessary and funded very poorly

Before the breakdown of the USSR universities received just 7% of all civilian R&D funding. Almost twenty years later this figure became even smaller – 5,8% in 2005

Draft Law on integration of science and education

- ❖ **describe forms and areas of integration**
- ❖ **regulate the legal status and property ownership of different integration units (basic departments, laboratories, etc.)**
- ❖ **allow R&D organizations to implement some educational programs**

Thank you

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