ÎNTRUNIREA CONDUCĂTORILOR DE DOCTORAT

13 IUNIE 2012, Chisinău

DOCTORATUL: INTERFAȚA EDUCAȚIE UNIVERSITARĂ –CERCETARE- ECONOMIE – SOCIETATE

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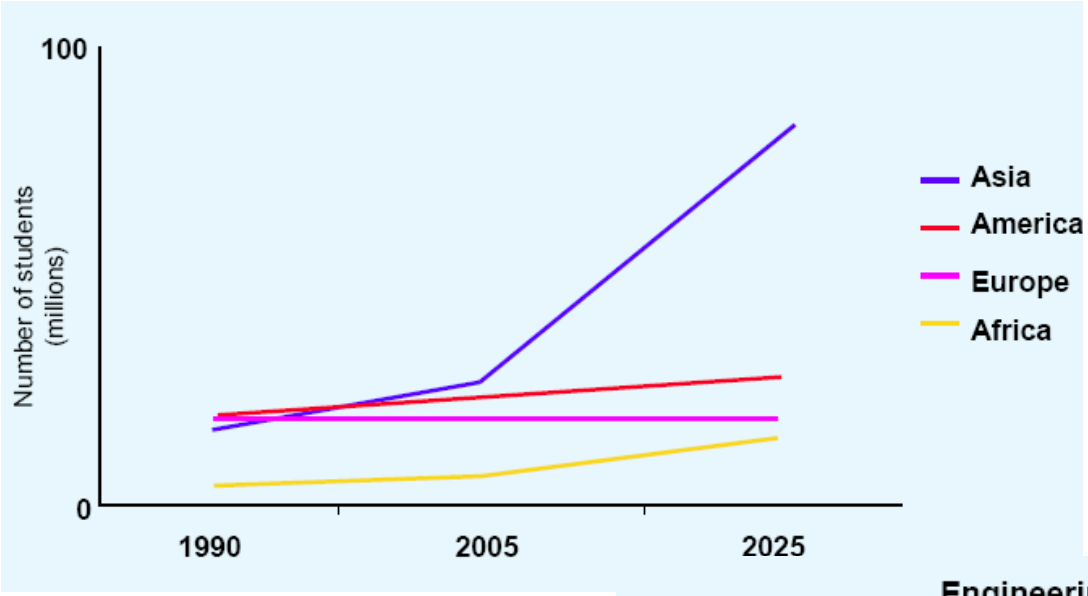
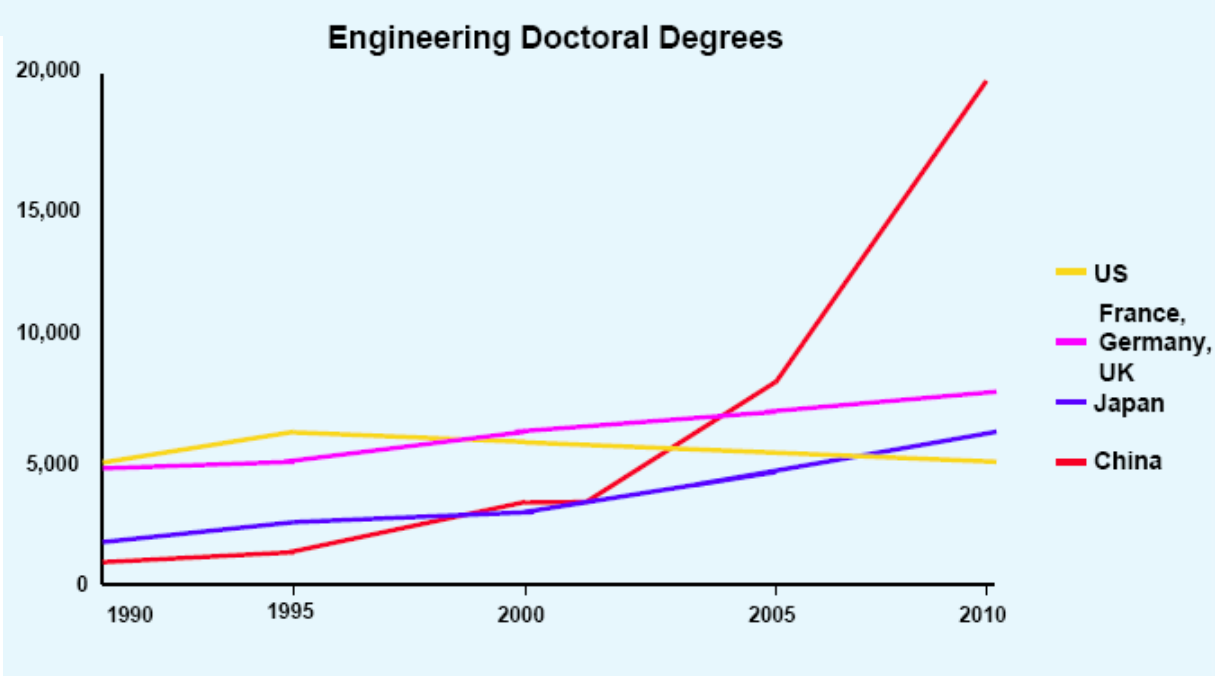
Rising Demand for Higher Education andDoctoral Graduates





China Miracle

•Chinese university undergraduate and graduate enrollments more than doubled in the decade 1995 - 2005.

- The revival of a research in PRC universities has already given the universities the edge in the number of most cited PRC papers in the Science Citation Index.
- The average age of Chinese researchers at the Chinese Academy of Sciences has dropped by nearly ten years between 1991 and 2003 as the older generation retired and younger researchers, many educated in the United States and other foreign countries, took their place.
- Scientists born in China won four Nobel Prizes in Physics.

Science and technology have long preoccupied China's leaders; indeed, the People's Republic of China's third and fourth generations of leaders come almost exclusively from technical backgrounds—both Jiang Zemin and Zhu Rongji were trained as electrical power engineers—and have a great reverence for science. Hu Jintao was trained as a hydraulic engineer.

http://en.wikipedia.org/wiki/Science_and_technology_in_China#Communist_Party_of_China_oversight

India the next Asia Miracle?

How many engineers are produced per year in India?

According to the All India Council for Technical Education, India produced 401,791 engineers in 2003-04, 35 per cent being computer engineers. In 2004-05, the number of engineering graduates increased to 464,743, of which 31 per cent were computer engineers.

Compared to India and China, the United States produces only 70,000 engineering graduates every year. All of Europe produces just 100,000.

India currently has 113 universities and 2,088 colleges, many of which teach various engineering disciplines. Engineering colleges in the country have been growing at 20 per cent a year, while business schools have grown at 60 per cent.

(Engineering education: Can India overtake China? **George Iype |** June 09, 2006)

LATIN AMERICA BASIS FOR EMERGING GROWTH

TOP UNIVERSITIES IN LATIN AMERICA 2006

		World Ranking
2	UNIVERSITY OF SAO PAULO	112
1	UNIVERSITY NACIONAL AUTONOMA DE MEXICO **	110
3	STATE UNIVERSITY OF CAMPINAS	192
4	UNIVERSITY OF CHILE	230
7	TECNOLOGICO DE MONTERREY	374
8	UNIVERSITY OF BUENOS AIRES	376
5	FEDERAL UNIVERSITY OF SANTA CATARINA	342
6	FEDERAL UNIVERSITY OF RIO DE JANEIRO	366
9	FEDERAL UNIVERSITY OF RIO GRANDE DO SUL	379
11	PONTIFICAL CATHOLIC UNIVERSITY OF RIO DE JANEIRO	539
12	PONTIFICAL CATHOLIC UNIVERSITY OF CHILE	572
15	UNIVERSITY OF GUADALAJARA	692

http://www.webometrics.info/top200_latinamerica.asp

** *UNAM has been ranked among the best 100 universities in the world by another ranking organizations*

Selected Challenges for Education induced by Globalization

1. Globalization has different effects on different regions of the world: Brain gain, brain drain, or brain circulations
2. English is becoming the means of doctoral seminar instructions, a step towards internationalization – a step towards further distancing science from the local population
3. Worldwide university ranking schemes are becoming a motivational factor for quality improvements- a step towards further homogeneity of accepted knowledge production

4 key mega-trends are causing big changes for the innovation process

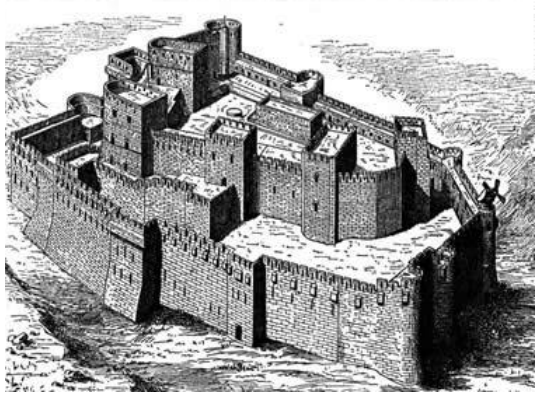
1955 70 000 papers / year	1/ KNOWLEDGE INFLATION	2010 (without INTERNET) 1000 000 papers / year
Vertical industry Steel→ CAR MAKER → Car	2/ FOOD CHAIN SEGMENTATION	Vertical industry Part/Sub-systems/Car/Design
Big Firms & Big Labs Bell-Lab, IBM, Siemens etc…	3/ VENTURE CAPITAL	2000 (in USA) 2/3 R&D done in SME (< 10 k)
Life-time employment	4/ PERSONAL MOBILITY	Job-swapping Silicon valley < 12 month

Dilema: Producerea Cunoștințelor –Cercetarea Fundamentală SAU Asamblarea cunoștințelor – cercetare aplicativă și dezvoltare tehnologică

- Seeking for knowledge is more efficient than creating it
- Assembling knowledge is the key source for new products
- Innovation is often in the business model (Dell, Ikea)
- Start-up are becoming innovation champions

CLOSED INNOVATION

R&D fortress



MEGATRENDS

KNOWLEDGE INFLATION

FOOD CHAIN SEGMENTATION

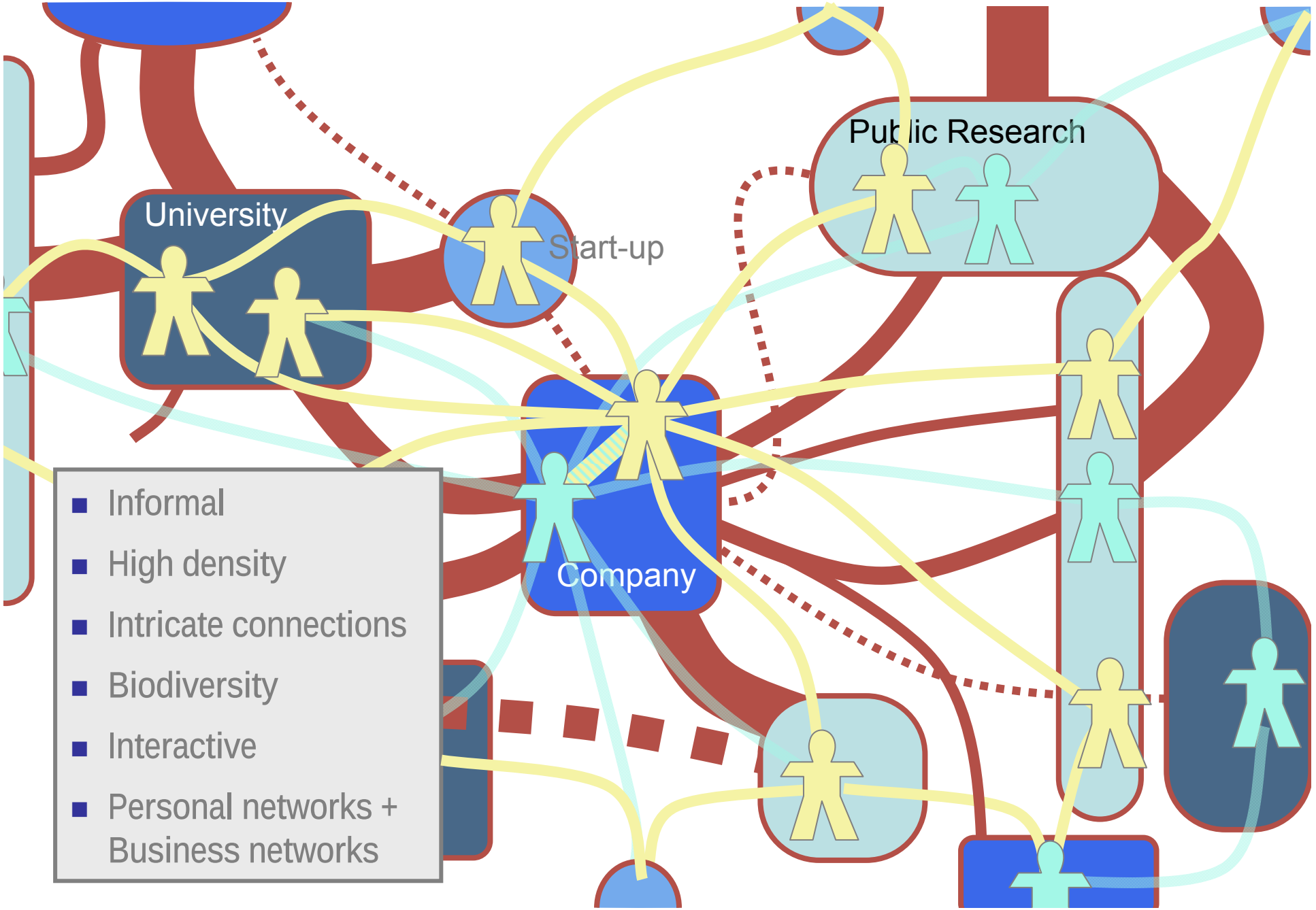
VENTURE CAPITAL

PERSONAL MOBILITY

OPEN INNOVATION

R&D ecosystem

INTERFAȚA EDUCAȚIE UNIVERSITARĂ –CERCETARE- ECONOMIE – SOCIETATE



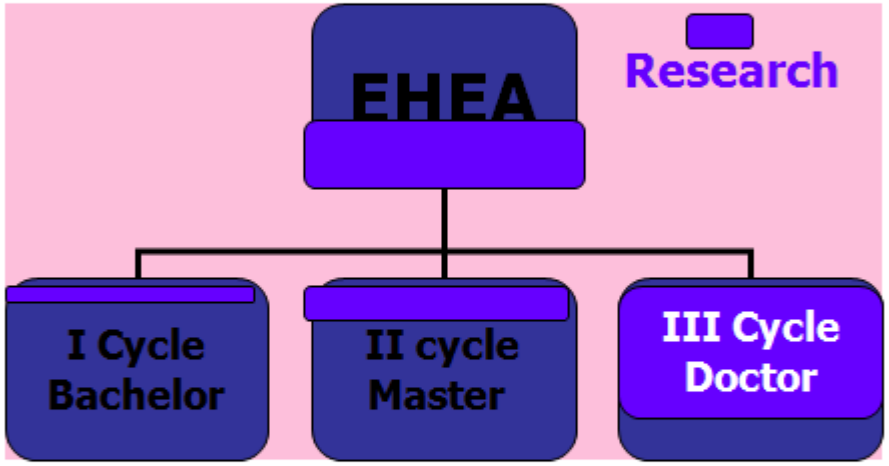
Science / Engineering Graduates

- 1970 Over 50% of world's science and engineering doctorates from US
- 2001 EU granted 40% more science and engineering doctorates than US. By 2010, EU will produce twice as many.
- 1975 China graduated very few doctoral students
- By 2003 13,000 doctoral students had graduated. 70% in science and engineering
- In 2000 only 17% of undergraduate degrees in US in science and engineering
- World average 27%
- China 52%

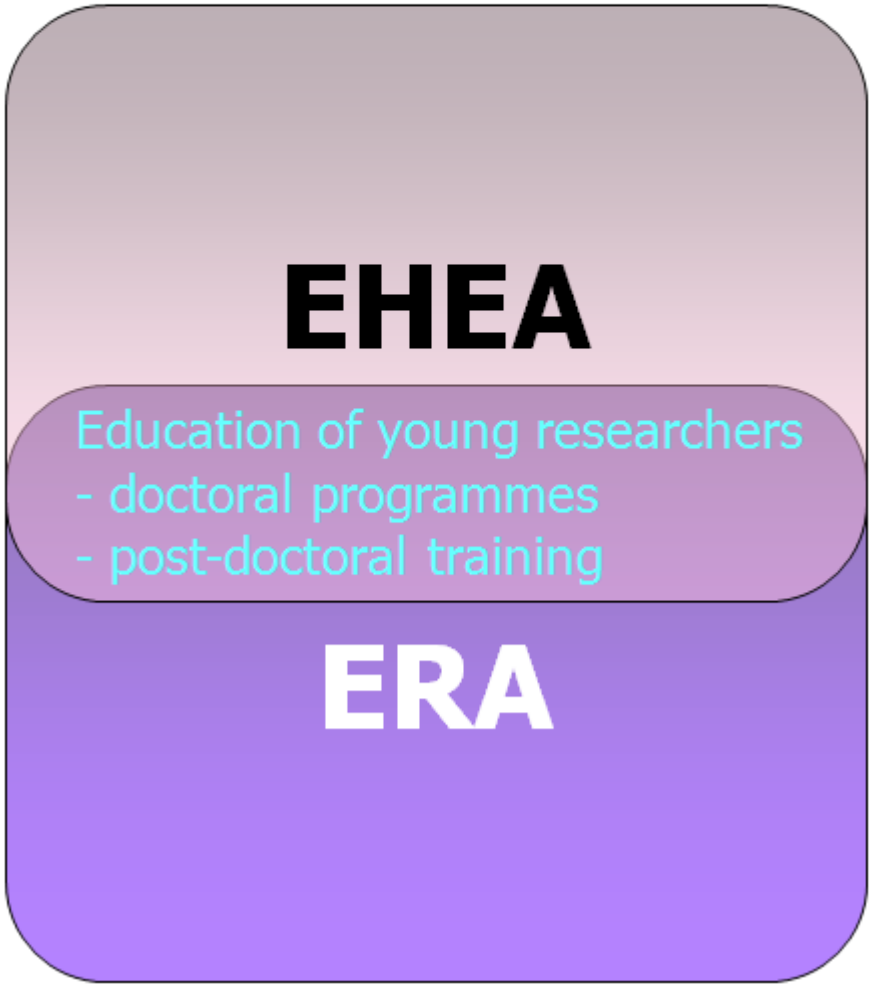
Challenges faced in the Doctoral Studies or Higher Degree Research (HDR)

- Deficits of all kinds of resources (human, infrastructure, funds, etc.);
- Critical mass required to sustain development;
- Under-preparation of students;
- Consistency of policy.

EHEA i ERA – two pillars in the development of „Europe of Knowledge”



European Research Area
ERA
(Research and Innovation Area)



EU Policy on Researchers and Universities

- If we want to increase the research intensity of our economies and reach the R&D target of 3% of GDP, the EU will need at least an estimated **one million new research jobs4**. This will require a better matching of supply (training of researchers) and demand (recruitment of researchers), a necessity acknowledged most recently in the Europe 2020 Flagship Initiative Innovation Union, in the three interconnected commitments, nrs. 1, 4 and 30:

1. By the end of 2011, Member States should have strategies in place to train enough researchers to meet their national R&D targets and to promote attractive employment conditions in public research institutions. Gender and dual career considerations should be fully taken into account in these strategies

4. In 2012, the Commission will propose [on the basis of the provisions on ERA in the New Lisbon Treaty a European Research Area framework and supporting measures to remove obstacles to mobility and cross-border co operation, aiming for them to be in force by end 2014.
They will notably seek to ensure through a common approach:
•quality of doctoral training, attractive employment conditions and gender balance in research careers;
•mobility of researchers across countries and sectors, including through open recruitment in public research institutions and comparable research career structures and by facilitating the creation of
•European supplementary pension funds;

30. By 2012, the European Union and its Member States should put into place integrated policies to ensure that leading academics, researchers and innovators reside and work in Europe and to attract a sufficient number of highly skilled third country nationals to stay in Europe.

Latest Trends in Doctoral Education

- Graduates wanted skills they felt were *not* provided during their PhD - teaching, leadership, public speaking, project management, teamwork experience, industry experience.
- Supervisors - support, availability, interest, enthusiasm and ability to give career guidence rated as more important than technical 'know-how'
- Specialised research in a field is not more valued than other more generalised research skills such as problem solving and critical thinking
- Mismatch between aims of PhD programs of ‘adding to knowledge’, ‘making an original contribution to a field’ and experience/benefits of a PhD

Triple “i” dimension of doctoral studies

Quality points in the PhD STUDIES

1. Entry of students – domestic, international, co-tutelle, co-badged
2. Evaluation of student's knowledge, capacity to undertake research prior to entry
3. Induction program
4. Quality of research training environments
5. Quality of supervision
6. Quality of academic training
7. Quality of professional development program
8. Quality of infrastructure and facilities provided for HDR students
9. Quality assessment of the PhD thesis
10. Graduate destinations

Salzburg Principles II (2010)

- Achieving critical mass: Doctoral programmes should seek to achieve critical mass and should draw on different types of innovative practice.These range from graduate schools in major universities to international, national and regional collaboration between universities.
- Duration: doctoral programmes should operate within an appropriate time duration (three to four years fulltime as a rule).
- The promotion of innovative structures: to meet the challenge of interdisciplinary training and the development of transferable skills.
- Increasing mobility: Doctoral programmes should seek to offer geographical as well as interdisciplinary and intersectoral mobility and international collaboration.
- Ensuring appropriate funding: the development of quality doctoral programmes and the successful completion by doctoral candidates requires appropriate and sustainable funding

Salzburg Principles II (2010)

- The core component of doctoral training is the advancement of knowledge through original research.
- Embedding in institutional strategies and policies: universities as institutions need to assume responsibility for ensuring that the doctoral programmes and research training they offer are designed to meet new challenges and include appropriate professional career development opportunities.
- The importance of diversity: the rich diversity of doctoral programmes in Europe – including joint doctorates – is a strength which has to be underpinned by quality and sound practice.
- Doctoral candidates as early stage researchers: should be recognized as professionals – with commensurate rights
- The crucial role of supervision and assessment: in respect of individual doctoral candidates, arrangements for supervision and assessment should be based on a transparent contractual framework

Excellence as the distinctive trait of doctoral training

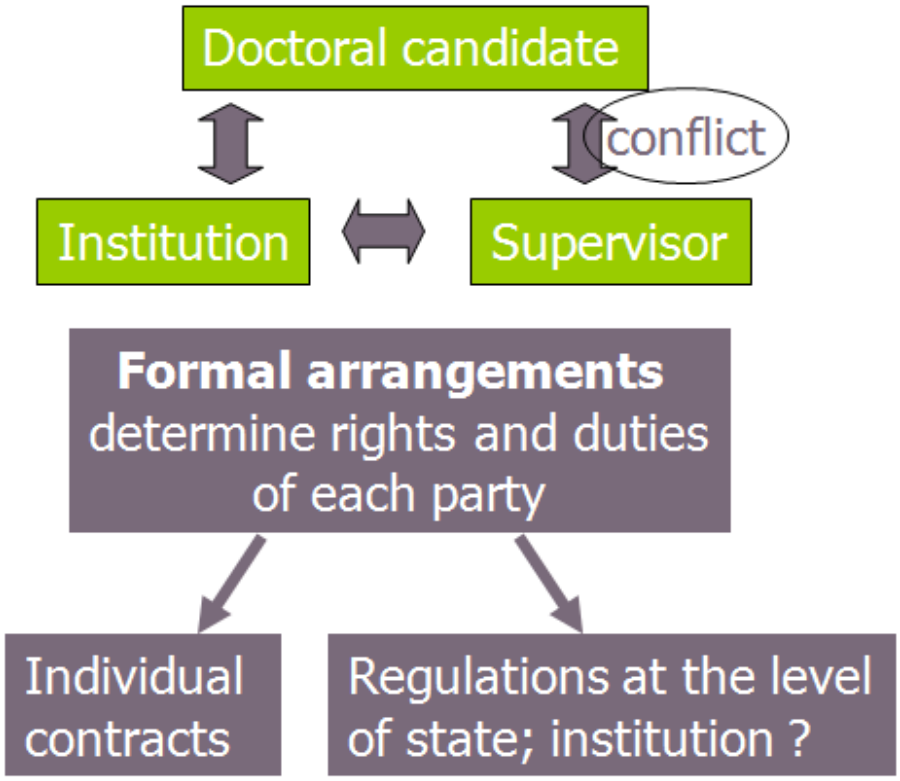
SUPERVISION AND ASSESSMENT

Starting point - Salzburg Recommendation (2005)

V. **The crucial role of supervision and assessment**: In respect of individual doctoral candidates , arrangements for supervision and assessment should be based on transparent contractual framework of shared responsibilities between doctoral candidates, supervisors and the institution (and where appropriate including other partners).

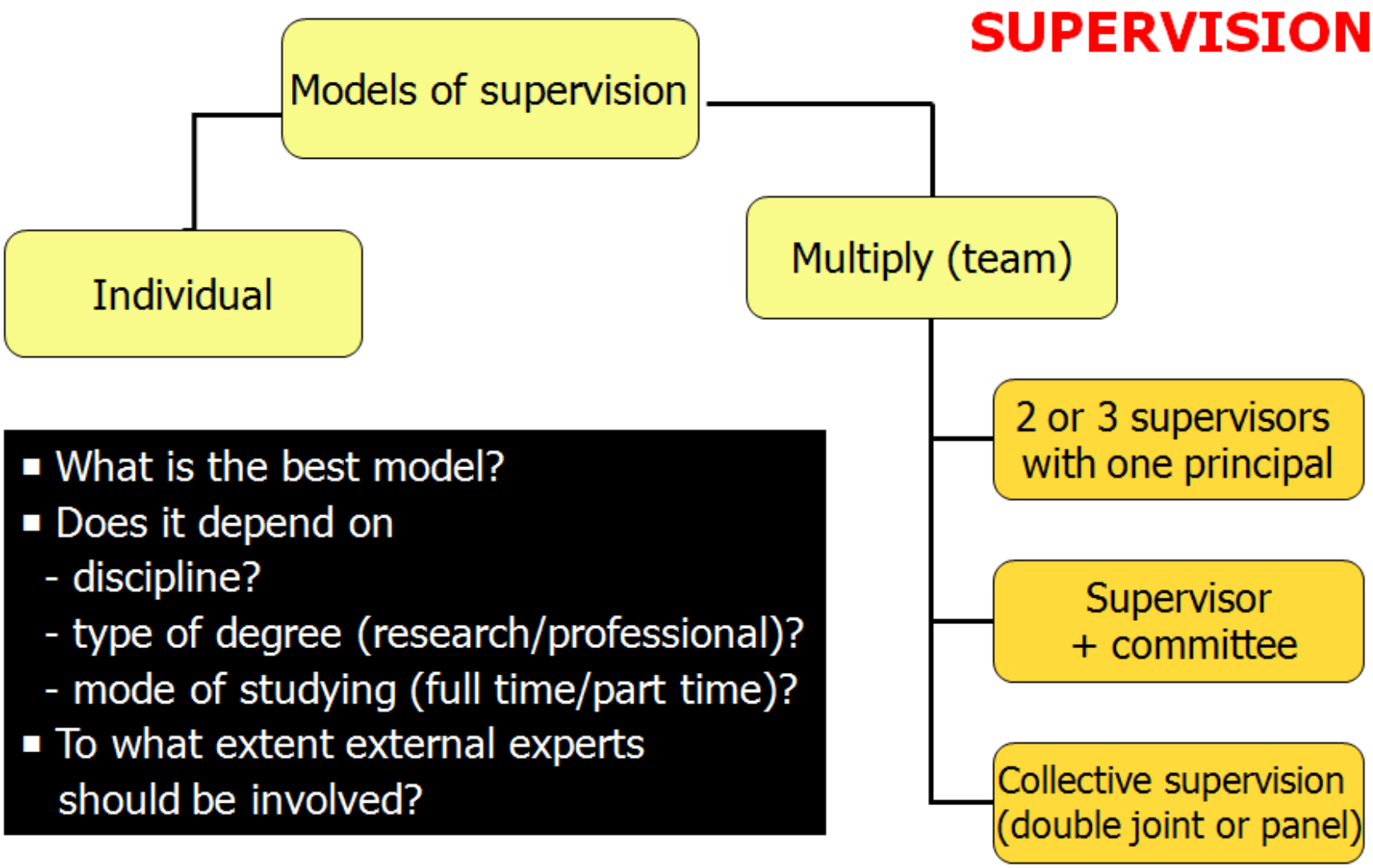
It is a good practice in many HEIs but....

discussion is needed on formal arrangements



What is better ?

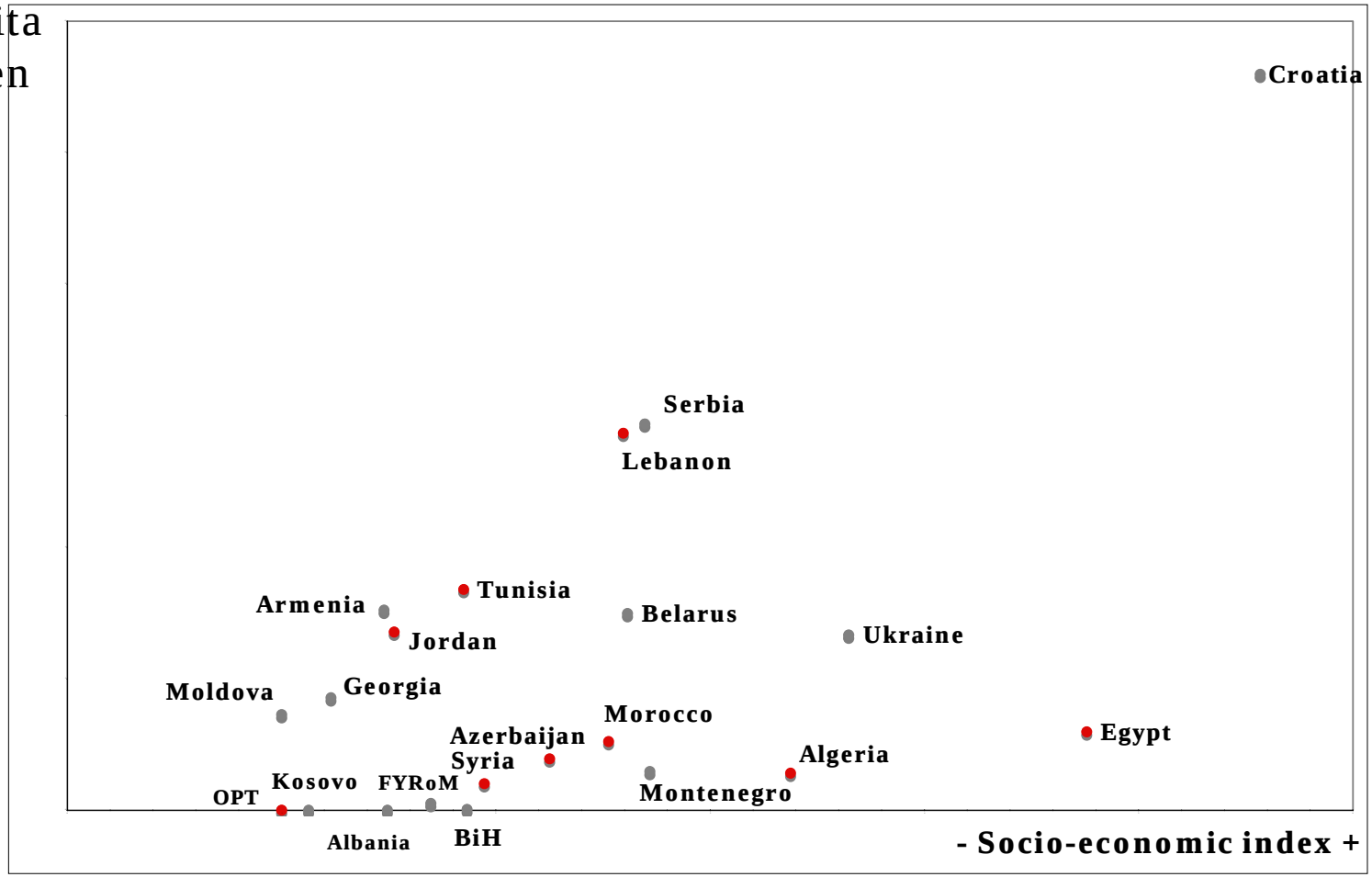
Excellence as the distinctive trait of doctoral training



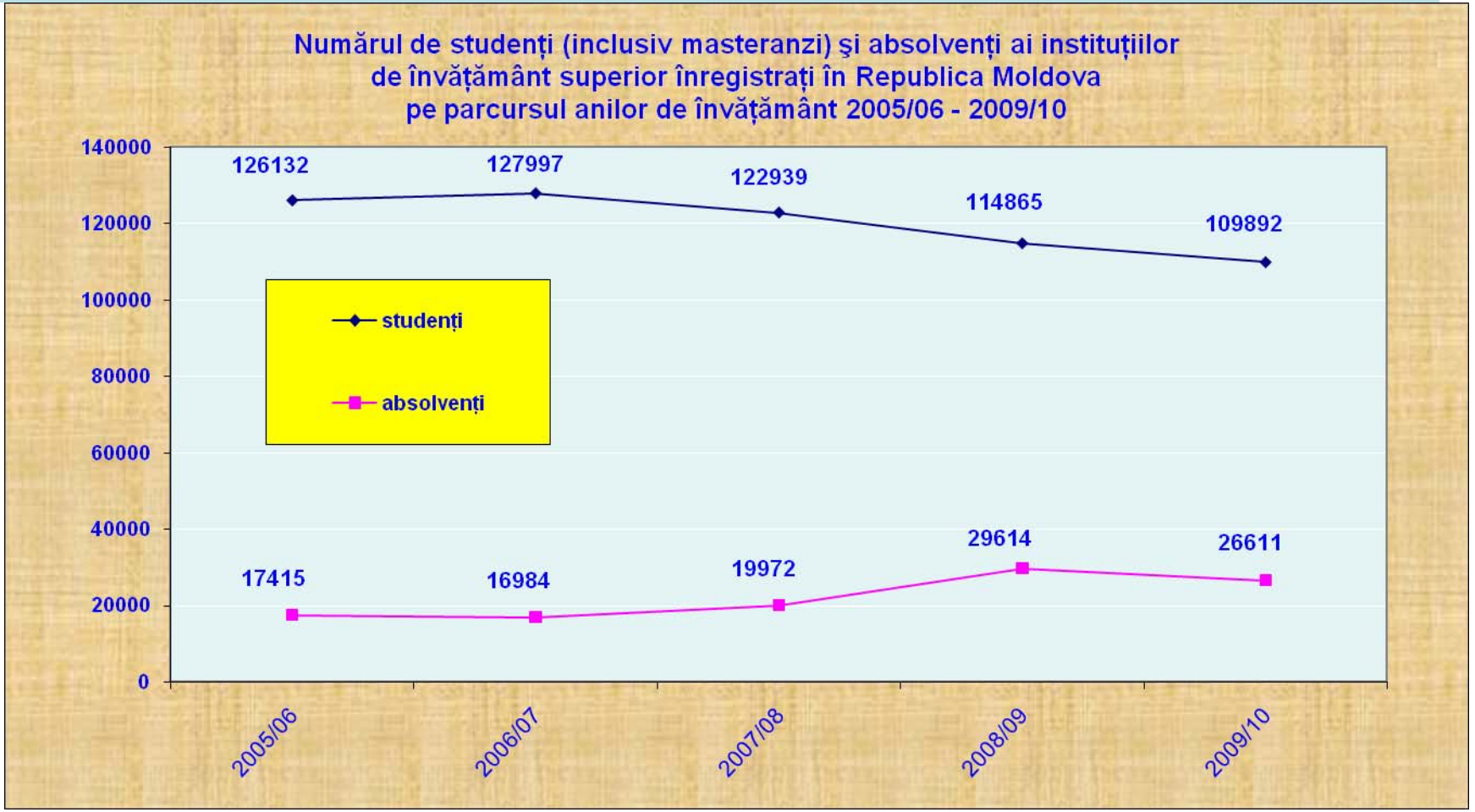
Background data

Socio-economic indicators

- 440.5m inhabitants (497.7 in EU27) - 7 countries 80%
- Opposite dynamics in population evolution (WB and Caucasus VS Southern Mediterranean countries)
- GDP per capita range between 1.2 to 5k€ compared (25K€ in EU27)

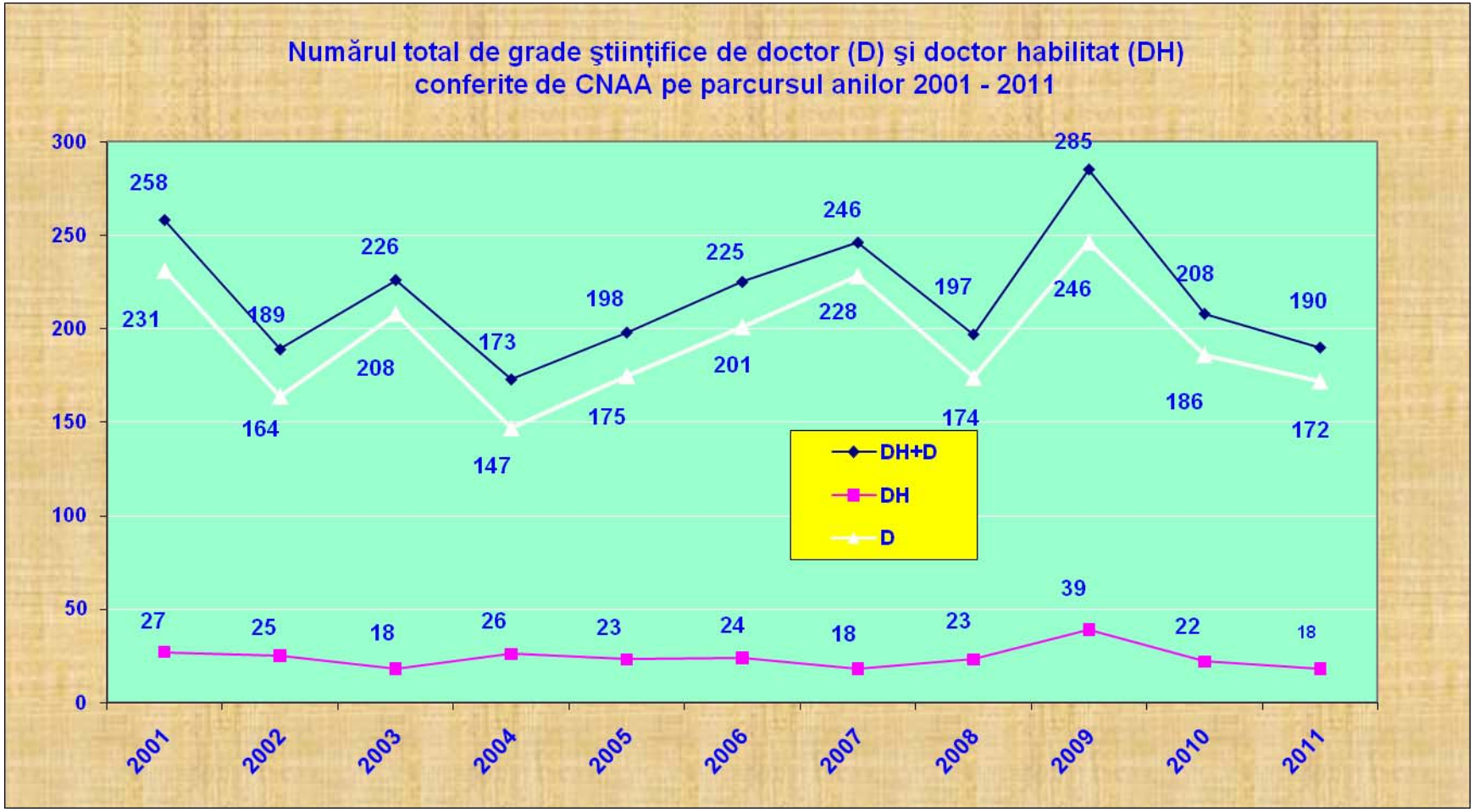


THE DYNAMIC OF NUMBER OF STUDENTS (INCLUDING MASTER STUDENTS) AND GRADUATE IN THE REPUBLIC OF MOLDOVA DURING THE SCHOOL YEARS 2005/2006 – 2009/2010



The number of PhD students in 2009/2010 year **was 1610-** enough far from **critical mass !!!!!**

NUMĂRUL TOTAL DE GRADE ŞTIINȚIFICE DE DOCTOR (D) ŞI DOCTOR HABILITAT (DH) CONFERITE DE CNAA PE PARCURSUL ANILOR 2001 - 2011



NUMĂRUL DE STUDENȚI; MASTERANZI ŞI DOCTORANZI CARE ÎŞI FĂCEAU STUDIILE ÎN REPUBLICA MOLDOVA ÎN PERIOADA ANILOR 2009 – 2011 (Raportul (nr. M+nr. D)/ nr. S: UE - 33 %; SUA – 40 %, Japonia – 50 %)

Nr. crt.	Numărul de studenți/ masteranzi / doctoranzi	2008/09	2009/10	2010/11
1.	Numărul de studenți (S)	109623	98919	94958
2.	Numărul de masteranzi (M)	5242	10973	12855
3.	Numărul de doctoranzi (D)	1574	1601	1550
4.	Numărul de masteranzi + numărul de doctoranzi	6816	12574	14405
5.	Raportul nr. M / nr. S (%)	4,78 %	11,09 %	13,54 %
6.	Raportul nr. D / nr. S (%)	1,44 %	1,62 %	1,63 %
7.	Raportul (nr. M+nr. D)/ nr. S(%)	6,22 %	12,71 %	15,17 %

NUMĂRUL DE INSTITUȚII ORGANIZATOARE DE DOCTORAT DIN REPUBLICA MOLDOVA ŞI UNELE ȚĂRI ALE LUMII RAPORTAT LA NUMĂRUL DE LOCUITORI ŞI NUMĂRUL DE PERSOANE CARE OBȚIN ANUAL GRAD ŞTIINȚIFIC ÎN ȚĂRILE RESPECTIVE

ȚARA	Nr. de locuitori	Numărul de gr. şt. conferite anual	Nr. IOD	ȚARA	Nr. de locuitori	Numărul de gr. şt. conferite anual	Nr. IOD
R. Moldova	3 563 800	190	48	Germania	81 802 000	24 946	97
Albania	3 195 000	ND	36	Italia	60 626 442	9 604	89
Austria	8 404 252	2158	31	Lituania	3 225 300	326	15
Belarus	9 481 100	ND	28	Olanda	16 731 600	2 993	14
Belgia	10 827 519	1718	15	Polonia	38 610 097	5 917	18
Danemarca	5 560 628	910	12	Spania	46 148 605	7 159	73
Elveția	7 866 500	3381	12	SUA	313 238 000	56 309	420
F. Rusă	142 905 200	34 494	1500	Suedia	9 428 054	3 781	21
Franța	65 821 885	9 818	87	Ucraina	45 724 242	6 717	521

DATE STATISTICE 1993 – 2011

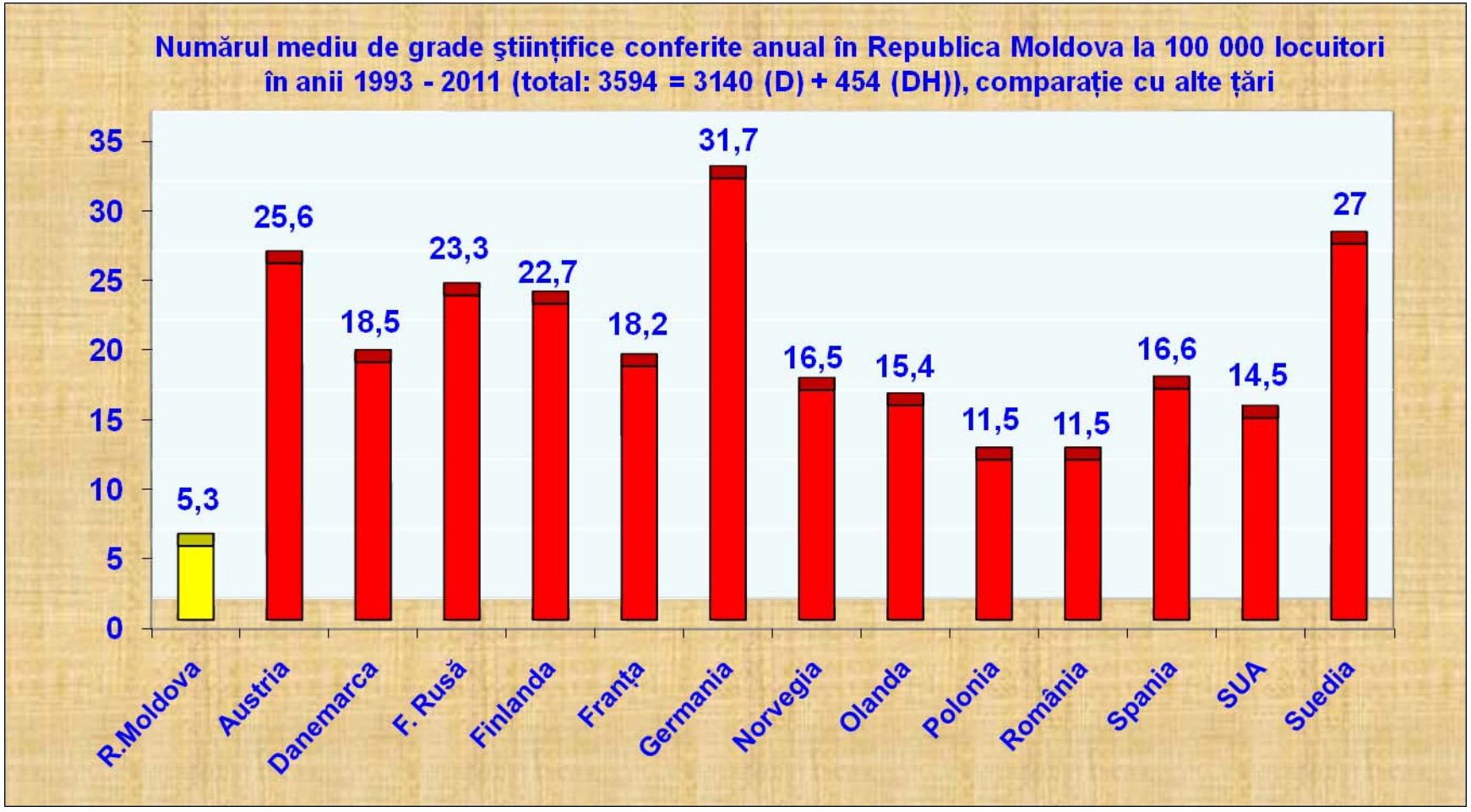
La 1.01.2012 în Republica Moldova :

- **48 organizații din sfera ştiinței şi inovării abilitate ca instituții organizatoare de doctorat la 200 specialități din totalul de 349 specialități**
- **Instituțiile organizatoare de doctorat dispun de 1134 conducători de doctorat abilitați, dintre care 600 cu gradul ştiințific de doctor habilitat**
- **La 1.01.2011 lucrau asupra tezelor de doctorat 3852 persoane (346 (DH) + 3506(D))**
- **În cadrul instituțiilor organizatoare de doctorat activau 162 seminare ştiințifice de profil**

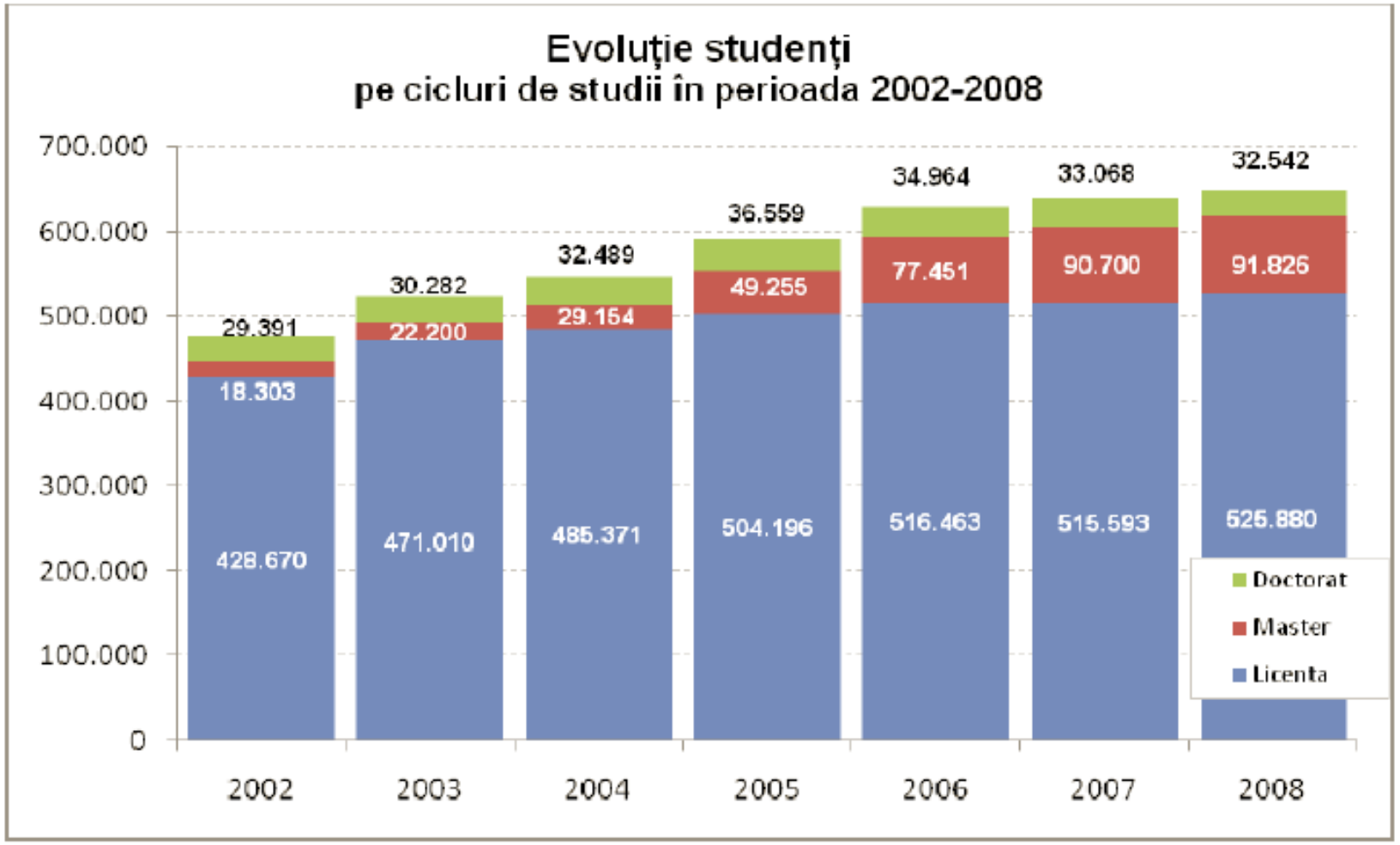
În perioada anilor 1993 – 2011:

- **Au fost conferite grade ştiințifice: DH – 454; D – 3140**
- **Au fost conferite titluri ştiințifice: PC – 34; CC – 617**
- **Au fost conferite titluri ştiințifico-didactice: PU – 402; CU – 1803**
- **Au fost recunoscute şi echivalate grade şi titluri: 966**

NUMĂRUL MEDIU DE GRADE ŞTIINȚIFICE CONFERITE ANUAL ÎN REPUBLICA MOLDOVA LA 100 000 LOCUITORI ÎN ANII 1993 – 2011 (TOTAL 3594 = 3140 (D) + 454 (DH))



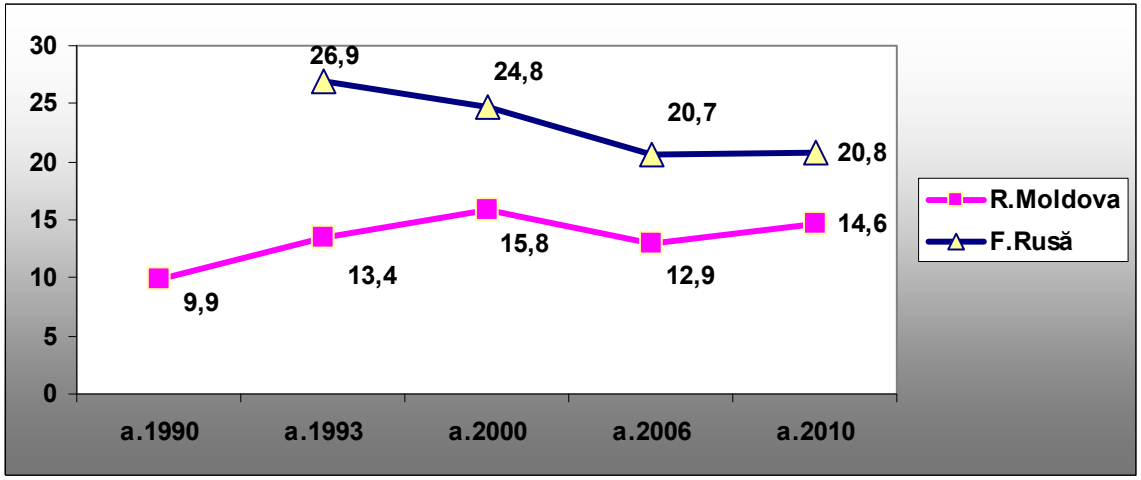
Evoluția numărului de studenți din învățământul superior de stat, în perioada 2002 – 2008 (România)



Similar correlation should be established in R.Moldova too !!!!!!!!

1000 studenti treapta 1; 170-180 masterat; 50-60 doctoranzi

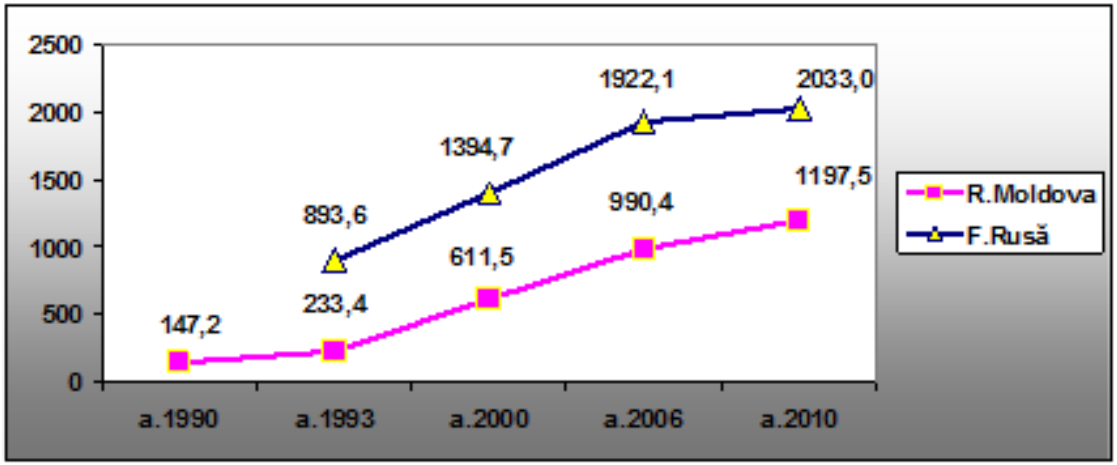
PhD Students – Comparative Analisis



UE 45-100
doctoranzi la 1000 studenți

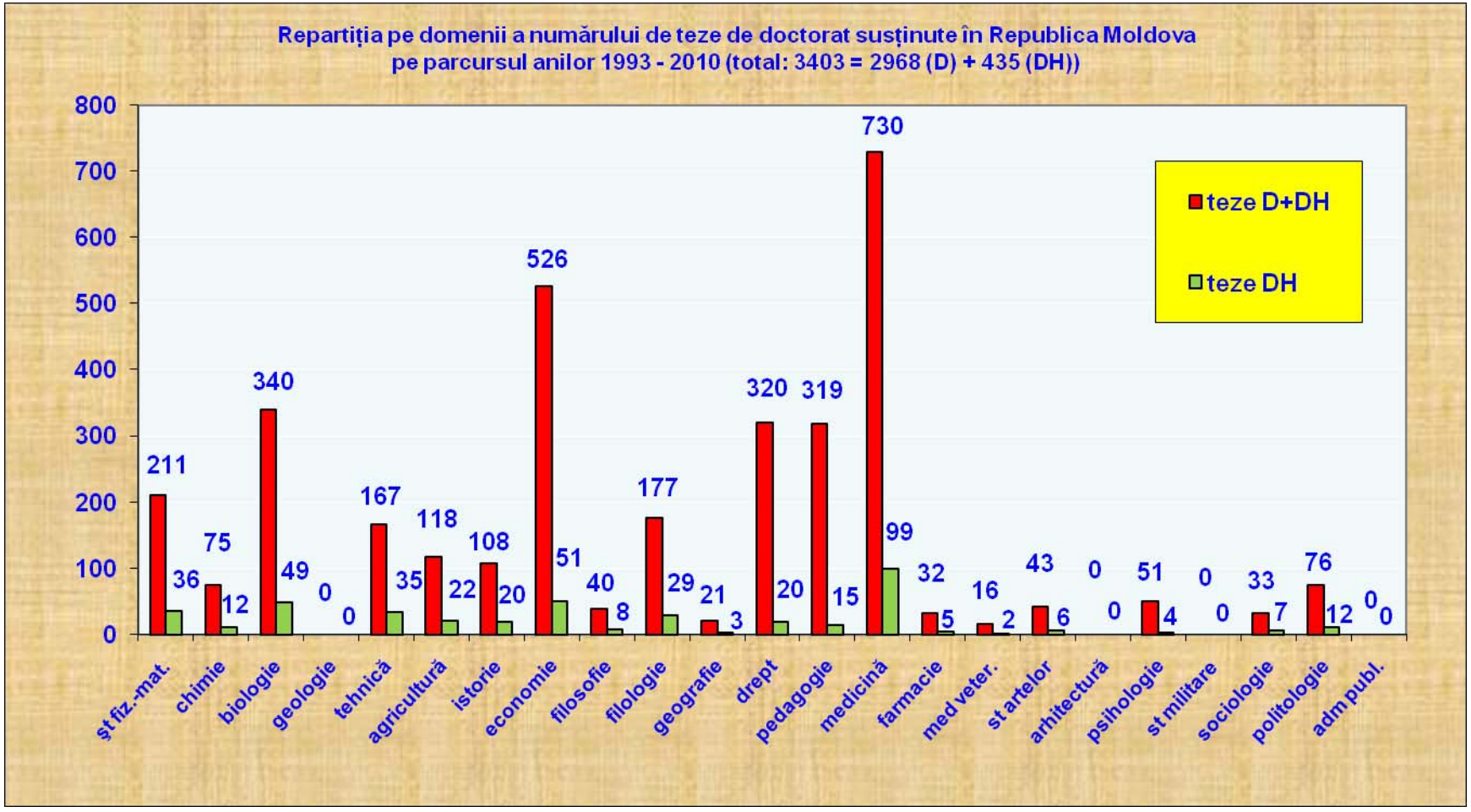
România 50 doctoranzi la 1000 studenți
R.Moldova 15 doctoranzi la 1000 studenți

Number of PhD students vs 1000 university students



Number of PhD students vs 1000 researches

DISTRIBUTION OF THE NUMBER OF DEFENCED DOCTORAL THESES (SCIENTIFIC) DEFENDED DURING THE YEARS 1993 – 2010 ON RESEARCH BRANCHES



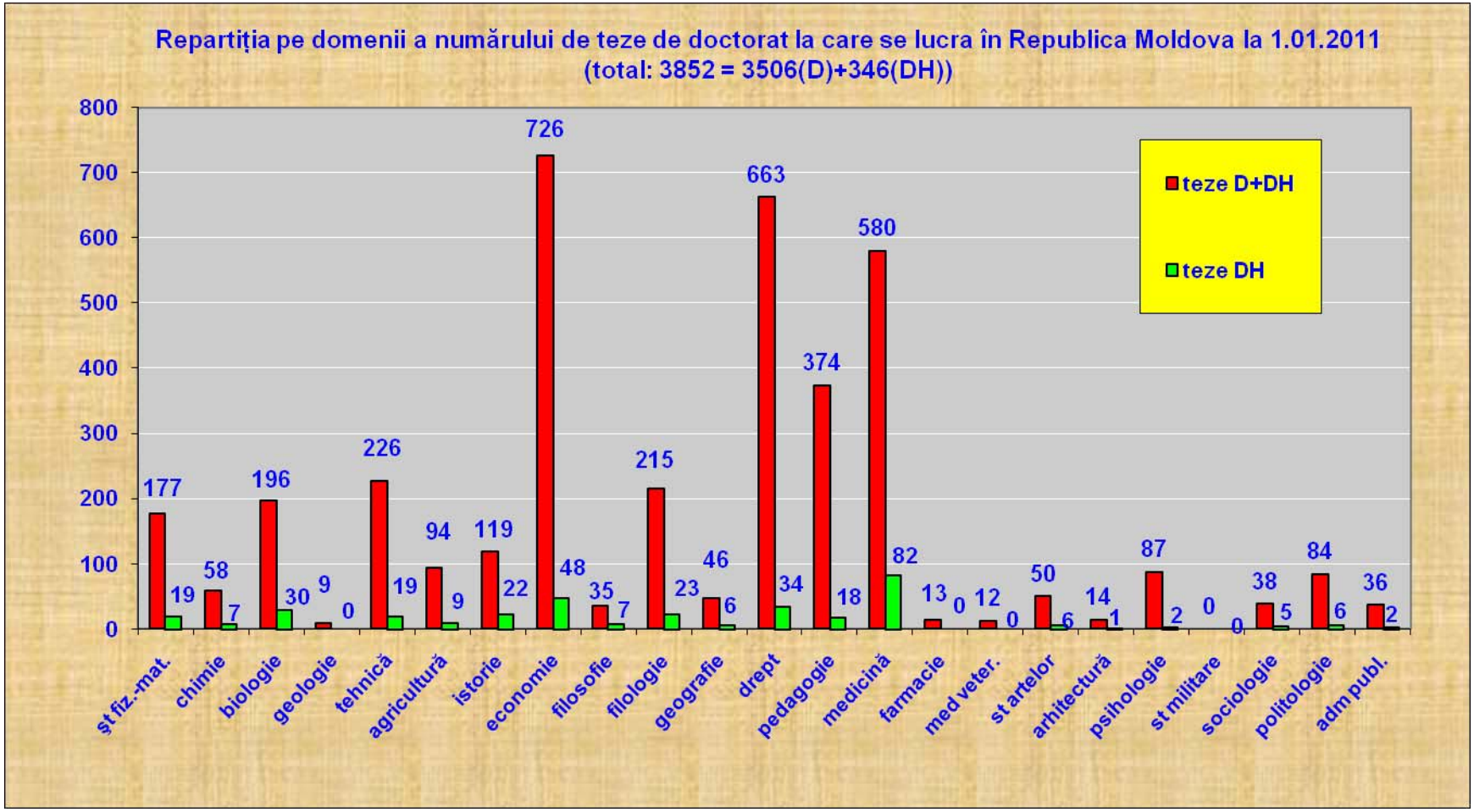
THE RHITHM OF REPRODUCTION OF THE SCIENTIFIC GRADUETED PERSONEL (ON BRANCHES OF SCIENCE)

(The reproduction coefficient R = (the number of doctors and doctor habilitat who was gradueted during the years 1996–2010 in the branches of science, reported to the total number of graduated scientists existing in domain at 1995) x 100%)

Reduced reproduction R < 50%	Moderate reproduction 50%< R < 75%	Intensive reproduction 75% <R <100%	Highly intensive reproduction R >100%
Geology – 0,	Biology – 50,9	Medicine – 79,3	Economics – 119,5
Architecture – 0,	Philology – 72,4	Geography – 81,8	Pedagogics – 158,9
Military sc. – 0,		His.&th. arts – 95,5	Pharmacy – 181,2
Publ.admin. – 0,			Sociology – 387,5
Agriculture – 18,4			Law – 542,4
Engineering – 18,8			Psychology – 1000,0
Philosophy – 21,1			Politology – 1850,0
Chemistry – 26,9	Vet. medicine – 32,4		
Phys.mat.sc.–29,4	History – 42,4		

The number of PhD students should be increased differentially in different research area

DISTRIBUTION OF THE NUMBER OF DOCTORAL THESES ELABORATED AT 1.01.2011 (TOTAL: 3852 = 3506 (D) + 346 (DH)) ON RESEARCH BRANCHES



The rate of PhD students obtaining PhD degree is about 35% !!!!!!

PROBLEME

- Pregătirea cadrelor pe diverse profiluri este foarte diferită: **în ştiinţe agricole, fizico-matematice, tehnice etc cota de pregătire sub limita minimală a cotei de reproducere, iar în drept, pedagogie, economie este excesivă.**
- **Cota susţinerii tezelor în ansamblu (susţineri raportate la numărul admişi la doctorat în anul respectiv) este redusă**

  – anul 2009 – 38%, iar în termen la finalizarea doctoranturii – 7%

  – anul 2010 – 33% (în ţările UE 45-65%)
- **Vârsta medie a celor care susţin tezele de doctor este relativ mare (36 – 38 ani)**
- **Antrenarea foarte redusă doctoranzilor în realizarea proiectelor de cercetare, *cu excepţia celor pentru tineret*,**
- Exigenţă slabă şi formală la aprobarea temelor de doctorat şi conducătorilor, la examenele de doctorat
- Lipsa monitorizării activităţii conducătorului de doctorat (nu există măcar un registru respectiv)

PROBLEME

- Lipsa Standardelor la studii de doctorat, termenul de doctorat este mic (în multe țări UE termenul este de 4 ani (1an de studii avansate şi pregătirea proiectului de doctorat şi 3 ani realizarea proiectului)
- Exigență slabă şi formală la atestarea anuală a doctoranzilor şi promovare în anul următor de studii (o măsură ar fi nu exmatricularea, ci suspendarea aflării în doctorat până când se ridică la exigențele necesare
- Bursa doctoranzilor sub orice nivel
- Protecție socială a doctoranzilor redusă
- Lipsa resurselor financiare pentru executarea cercetărilor, participarea la conferințe, expoziții (în doctoratul din România este prevăzută 1 stagiere de 6 luni sau 2 de 3 luni în centre din străinătate; finanțarea cercetărilor de doctorat în multe țări UE se face prin proiecte de cercetare doctorat)

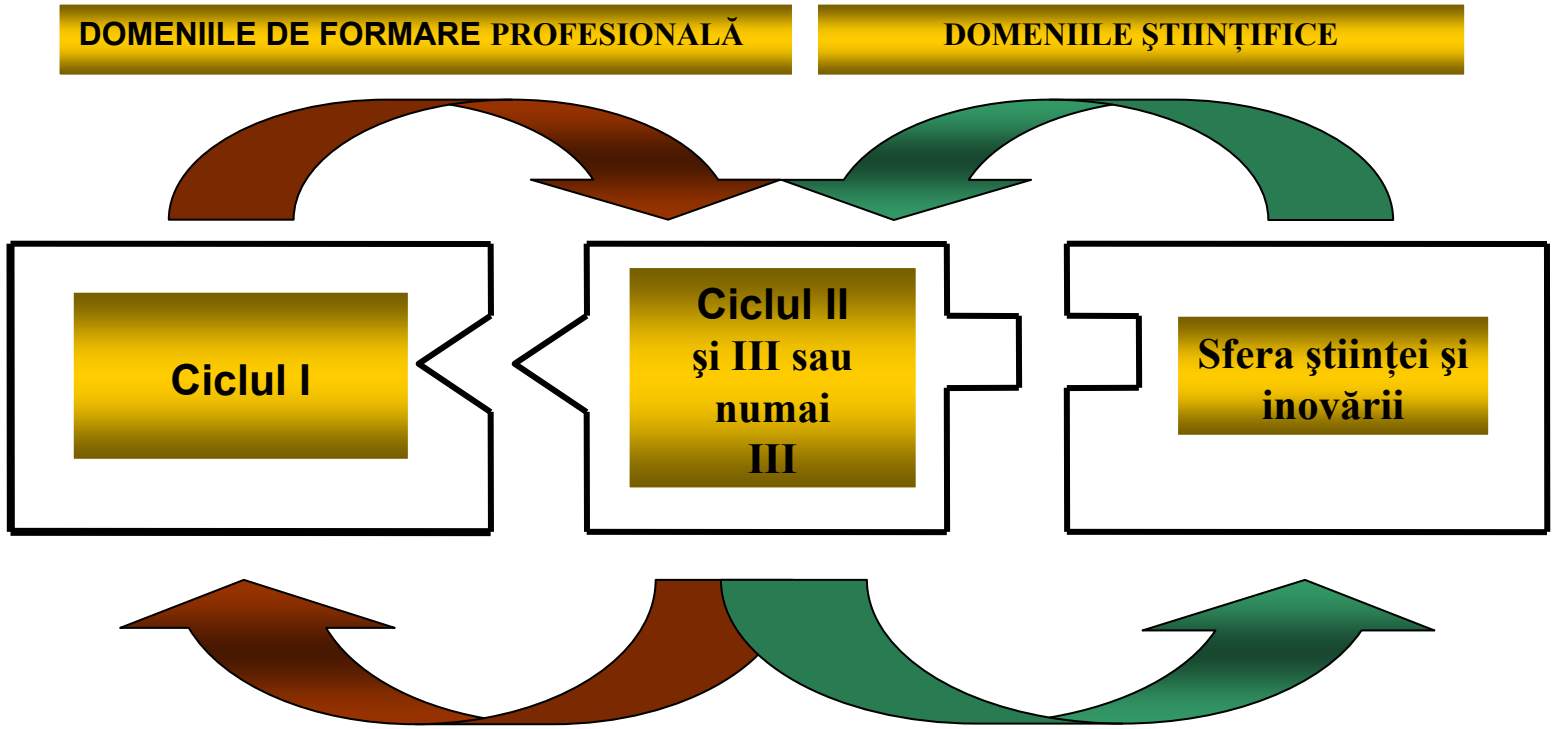
Elemente de Bază in modernizarea doctoratului

- Divizarea învățământului doctoral în 2 faze,
- 1) de studii şi 2)de cercetare
- Studii avansate de 1 an de zile, integrate cu studiile masterat si finantate din resursele pentru educatie
- Acordarea unei diplome de studii avansate , superioare celei de masterat, după absolvirea programului de studii de către Universitate
- Promovarea la programul de cercetare prin susținerea proiectului de doctorat și acordarea de granturi din resursele pentru cercetare
- Modificarea statutului doctorandului la etapa a doua, la cea de cercetător ştiințific stagiar sau asistent de CD
- Conferirea gradului de doctor după susținerea publica a tezei şi eliberarea diplomei de către CNAA

Nomenclatoare domenii ştiinţifice şi de formare profesională: ajustare prin doctorat

Carta Bologna impune un nomenclator nou de formare profesională

Aderarea la PC7 impune un nomenclator nou al domeniilor de cercetare



What and How we study and investigate during Doctorate?

What shall we teach?

1. Subjects of the discipline
2. Modern methods of research
3. High school pedagogy
4. Communication and management

How shall we teach?

1. Individual teaching programs
2. Workshops
3. Interdisciplinary approach.

How efficiently do Doctorate programs prepare graduates for their future careers.

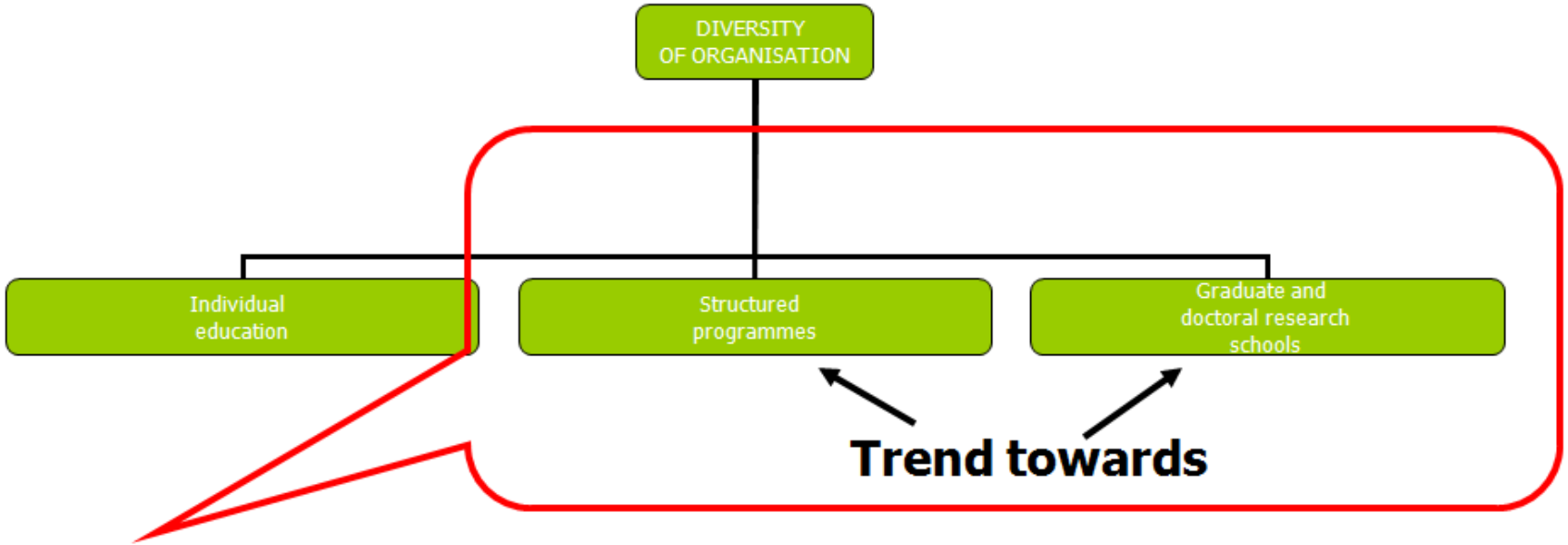
• How efficient are Doctorate programs in respect with preparation of the future professors and teachers.

This and other questions must be answered by the Quality Assurance System

Syllabus of PhD training in the field of natural sciences

- ***Training Courses.*** **2 or 3 theoretical; 1 or 2 practical;philosophy and English courses**
- ***Scientific Seminars of the Laboratory (Center)*****. candidate not only familiarizes with other research workers, but also reports on own experiment results and literature review concerning the topic.**
- ***Participation in Conferences***
- ***Publications*****. During the whole period of the PhD training each candidate must prepare 3 obligatory articles. For this type of work he may receive from 15 to 20 credits (5 credits per each article in a research journal and 1 credit per abstract in the conference proceedings).**
- ***Internship*****. 3 to 6 months in a similar research center inside the country or abroad would be very useful.**
- ***Teaching*****. Th e PhD candidate may be off ered to do teaching as a complementary type of work in order to receive up to 5 credits**.

Organisation, conditions and regulations on doctoral training



Different models

- Master students & doctoral candidates with crosscutting administrative support & transferable skills development
- Doctoral candidates only, often organised around a discipline or research theme may involve several institutions

Doctoral/Research school in EU

Country	School Name	Amount
Germany	Gradueiertenkollege	283
Olanda	Research School	107
Norway	Doctoral University College	26
România	Şcoli Doctorale	36
Sweden	National Graduated School	39

The views of a Member State on international cooperation at the doctoral

Doctoral studies in France – Recent reforms

u Recent legislation and governmental reforms have led to **greater autonomy of universities** and the creation of new structures having a positive impact on doctoral-level studies:

u Liberties and Responsibilities of Universities Law (*LRU*)

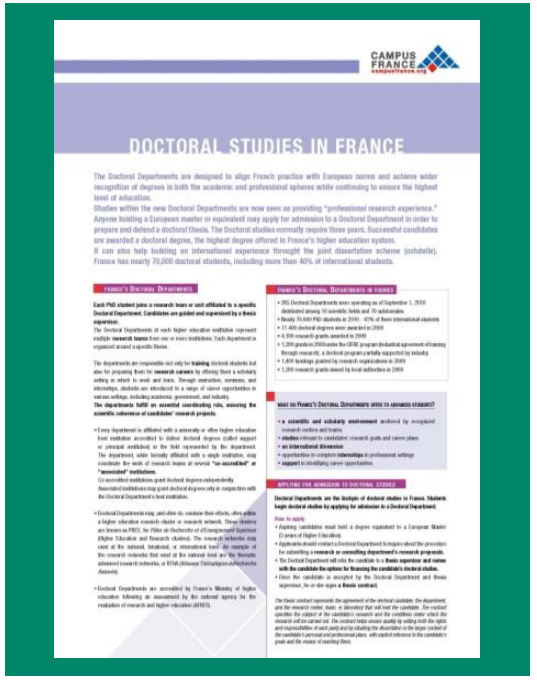
u Higher education and research clusters (*PRES*)

u Competitiveness clusters

u Thematic networks for advanced research

u "Investments for the future"

u *Opération Campus*

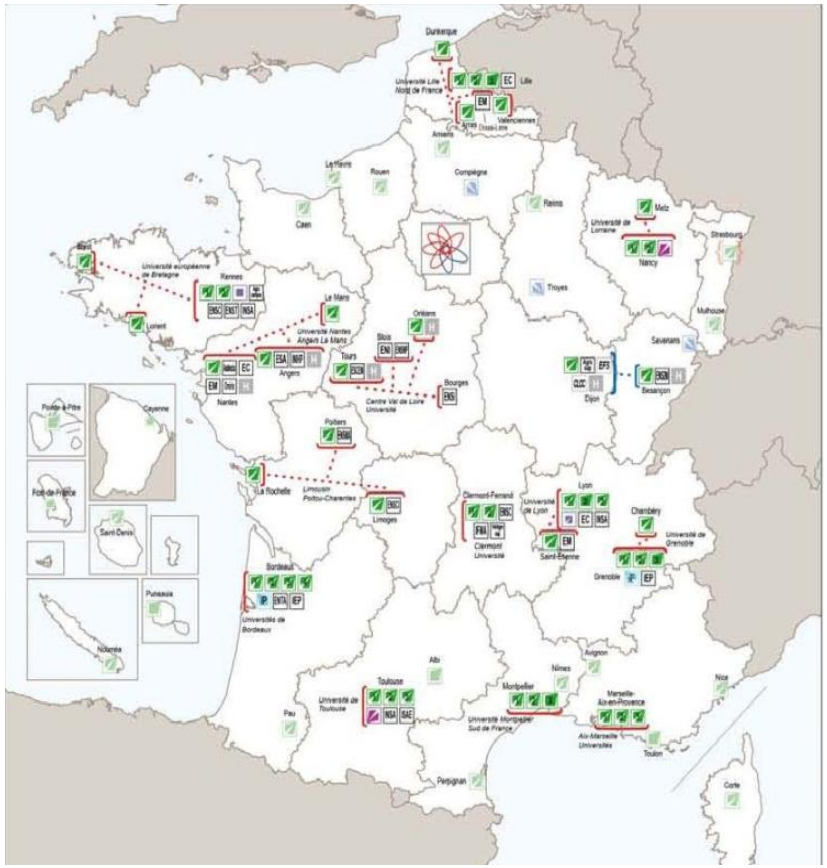


CAMPUS FRANCE campusfrance.org

CampusFrance
The national agency for the promotion of French higher education abroad

The views of a Member State on international cooperation at the doctoral

Doctoral studies in France – Recent reforms



HE and research clusters (June 2011)

Source: *MESR*

***Opération Campus* (Dec. 2010)**

CAMPUS FRANCE
campusfrance.org

CampusFrance
The national agency for the promotion
of French higher education abroad

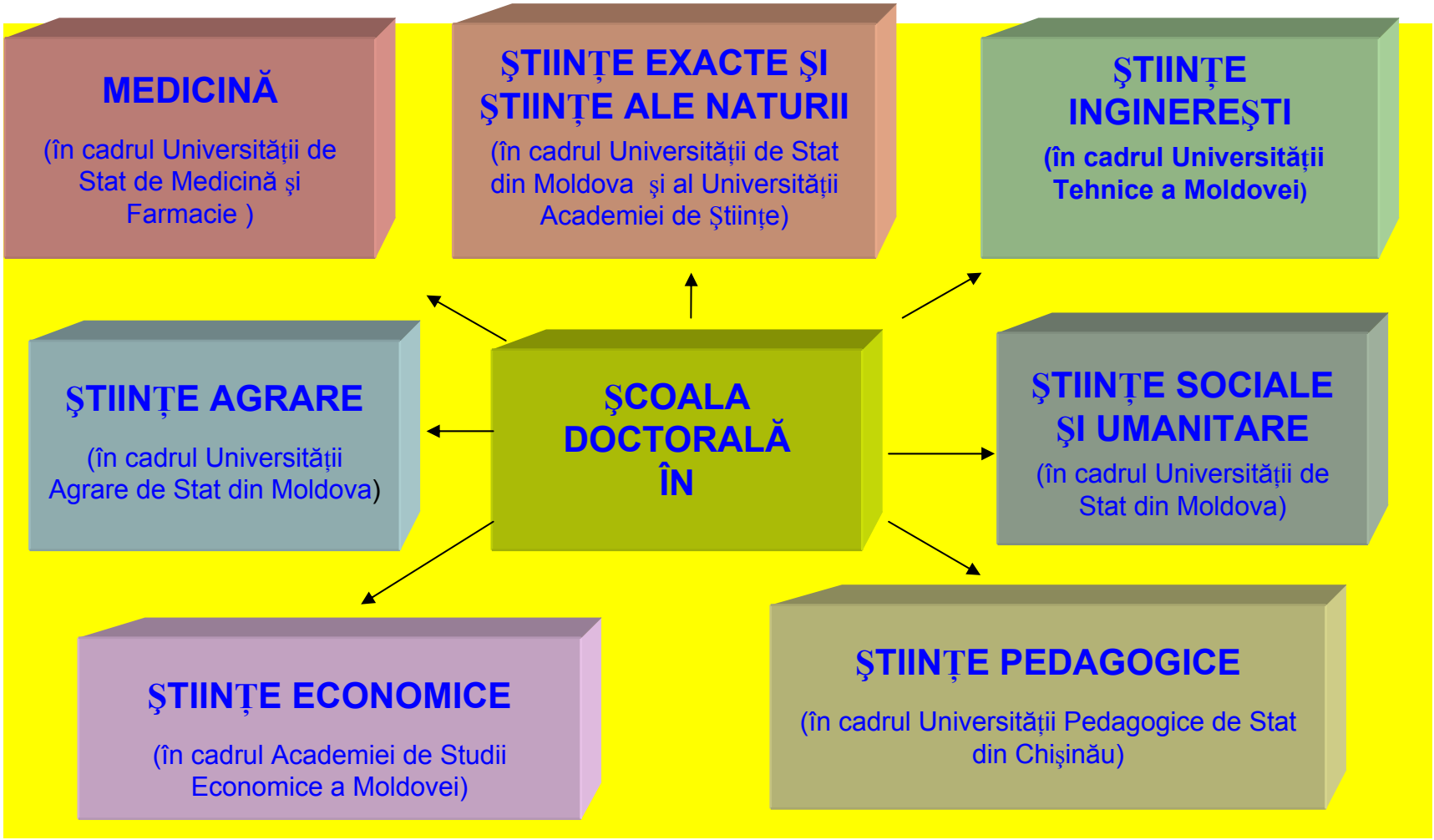
Doctoral studies in France – Organisation of doctoral studies

- **Doctoral departments (*écoles doctorales*):**
- number nearly 300 in 10 fields
- are composed of multiple research teams from more than one institution
- provide a **"professional research experience"** to doctoral candidates
- ensure the scientific coherence of candidates' research projects
- administer **doctoral contracts** for funded students

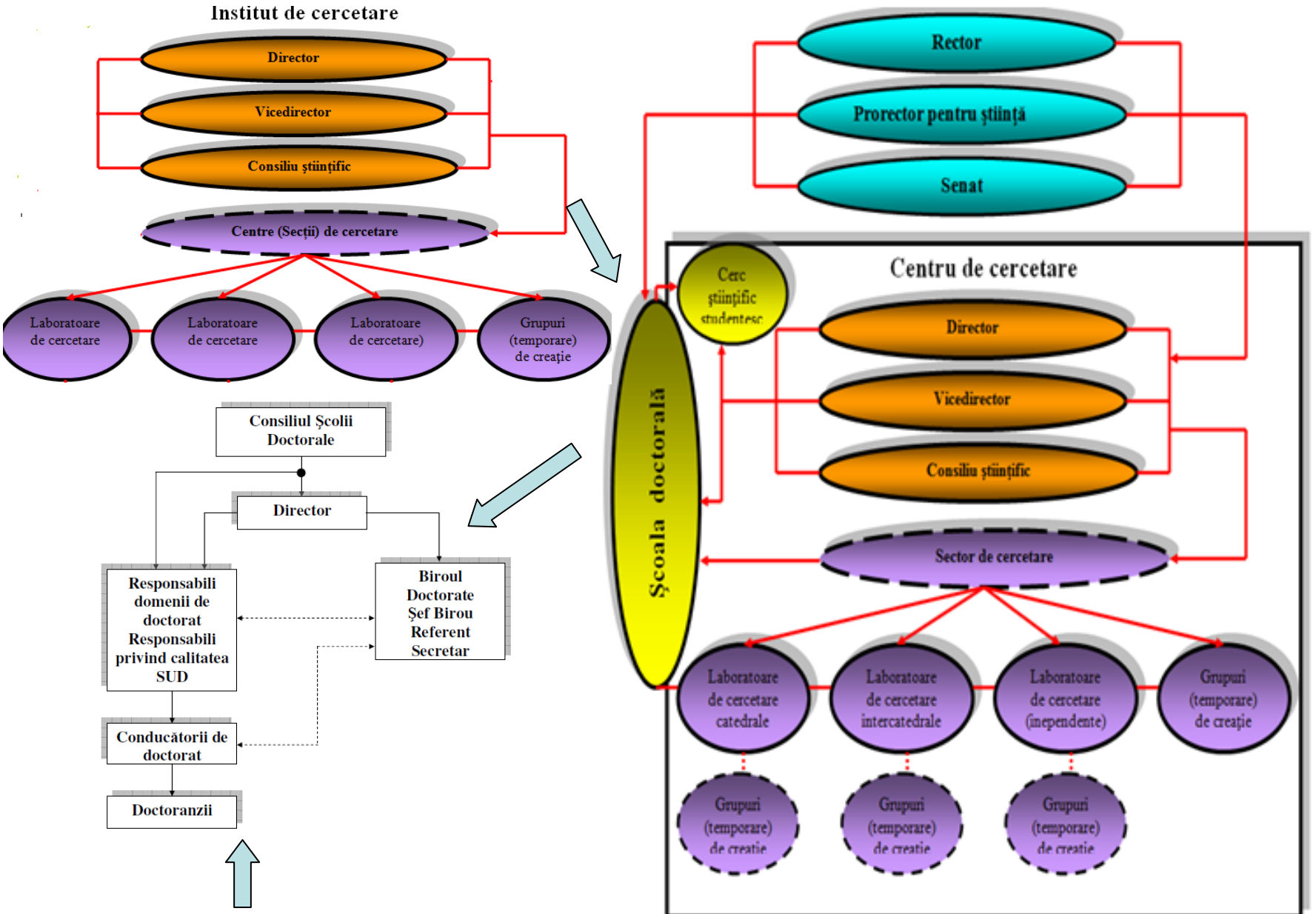
Conceptul şcolilor doctorale R.Moldova

- Şcoala Doctorală este structura-cadru de organizare şi desfăşurare a învățământului universitar la ciclul III – studii de doctorat şi a activităților de postdoctorat;
- Şcoala Doctorală se organizează în consorțiu de Universități şi Institute de cercetare în baza criteriilor de înființare şi a Regulamentului Cadru de funcționare, aprobat de Guvern;
- Şcolile Doctorale se constituie ca subdiviziuni autonome pe lângă Universități cu un Consiliu Ştiințific şi Director al Scolii în baza deciziei ME şi AŞM;
- Şcolile Doctorale se acreditează de către CNAA în baza criteriilor şi metodologiei de acreditare.

REȚEAUA DE ŞCOLI DOCTORALE PRECONIZATĂ A SE CREA INIȚIAL ÎN REPUBLICA MOLDOVA



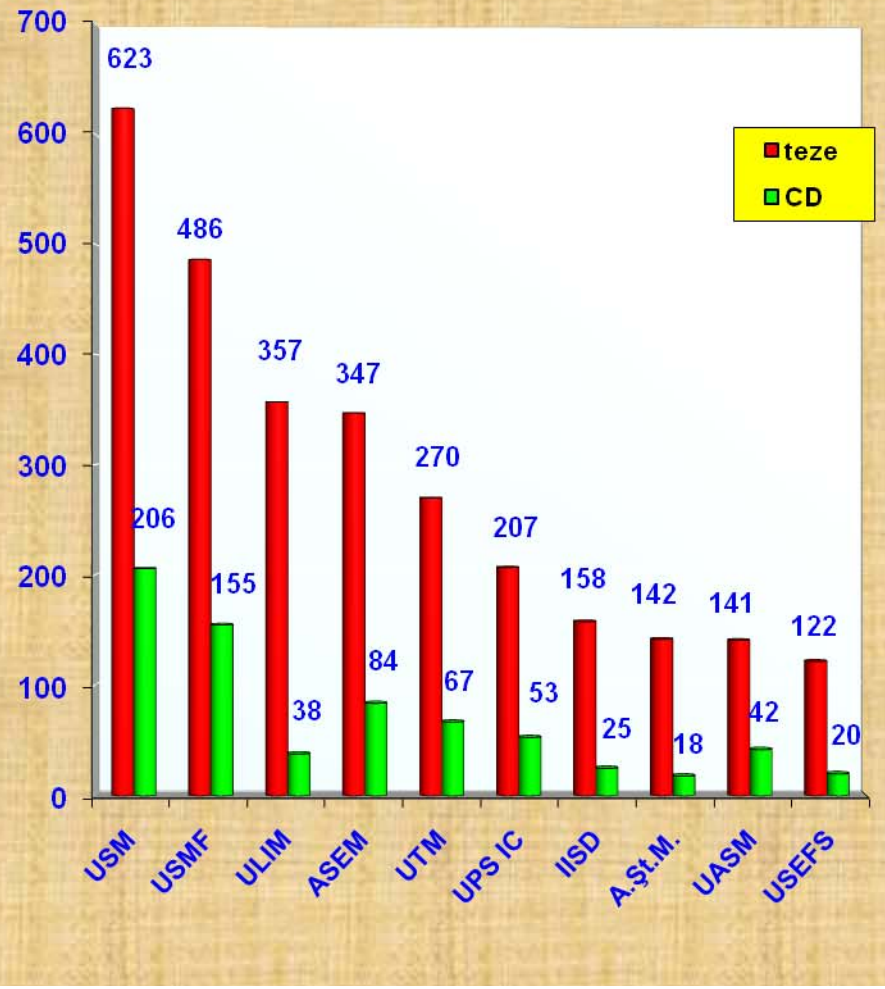
Universitatea,Institutul și Școala Doctorală



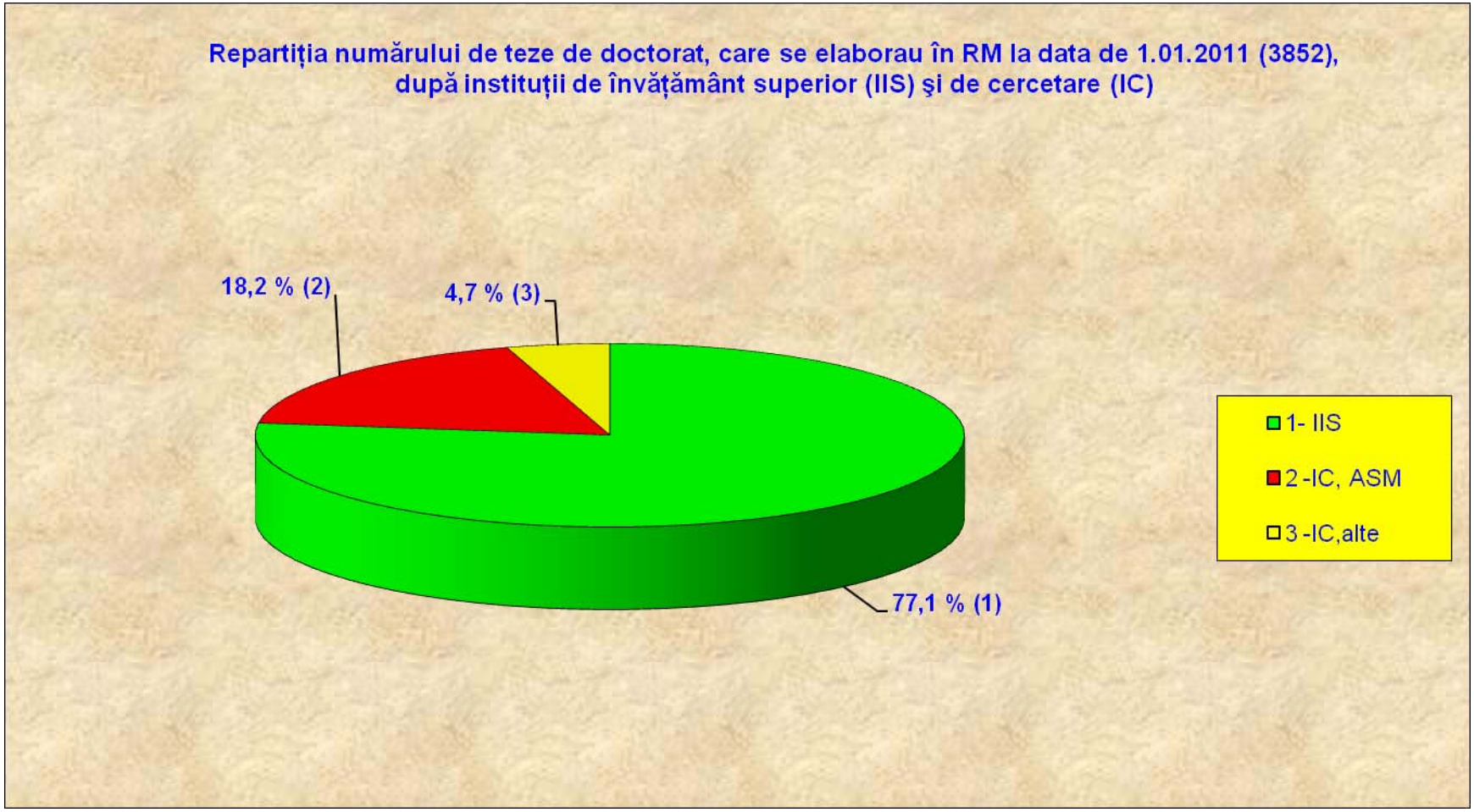
Variantă Organigramă Şcoala Doctorală

TOP OF DOCTORAL INSTITUTIONAL ORGANIZATION WITH NUMBER OF PERSONS WHO ELABORATES THE DOCTORAL THESES GREATHER THAN 100, SITUATION ON 1.01.2011

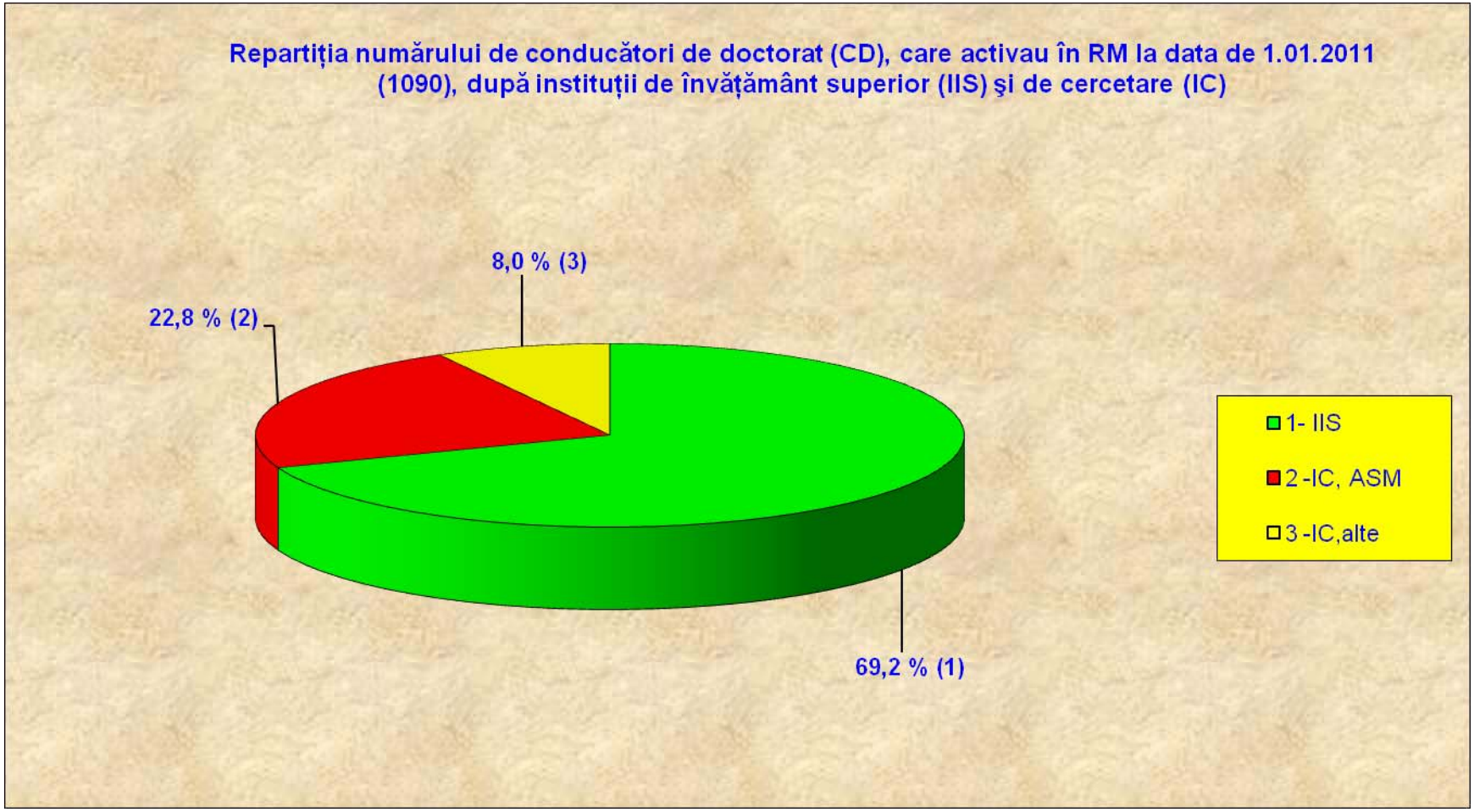
Topul instituțiilor organizatoare de doctorat cu număr de persoane care elaborează teze de doctorat mai mare de 100, situația la 1.01.2011



THE DISTRIBUTION OF THE NUMBER OF DOCTORAL THESES ELABORATED AT 1.01.2011 IN REPUBLIC OF MOLDOVA (3852) BY TYPE OF INSTITUTION (UNIVERSITY, RESEARCH INSTITUTE)



THE DISTRIBUTION OF THE NUMBER OF SUPERVISORS OPERATING IN REPUBLIC OF MOLDOVA TO 1.01.2011 (1090) BY TYPE OF INSTITUTION (UNIVERSITY, RESEARCH INSTITUTE)



Întrebări și Probleme in discuție

- Cum încadrăm conducătorii de doctorat în școlile doctorale?
- Cum monitorizăm și apreciem munca conducătorului de doctorat?
- Cum formatăm Programele de studii doctorale ? Cum introducem sistemul de credite transferabile.
- Care ar fi criteriile de evaluare a doctorandului și cine îl atestează?
- Cum evaluăm competența și abilitățile obținute de doctorand?

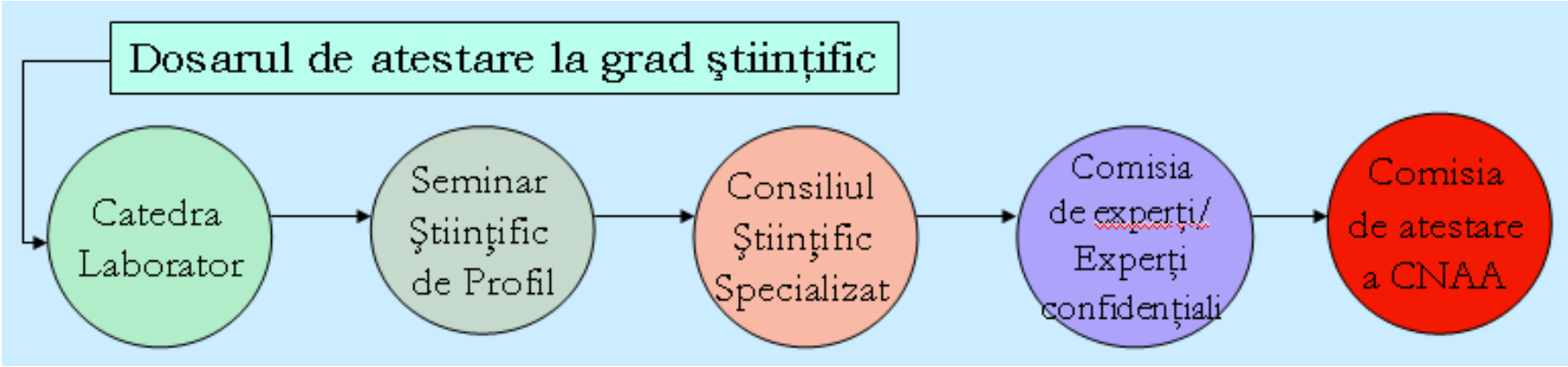
Întrebări și Probleme in discuție

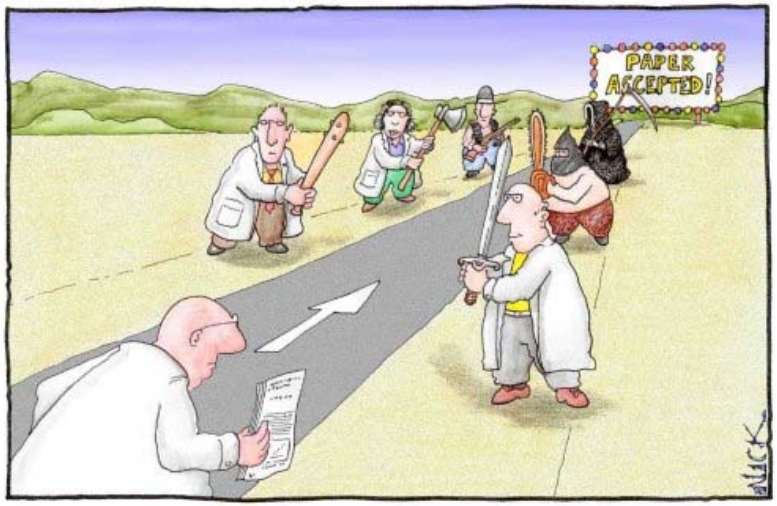
- Ce teme de doctorat alegem si cum alegem? Care-i autonomia in alegere?
- In dependenta de caracterul cercetări –
- Fundamental – libertate deplina a creației, dar apreciere a cercetărilor de doctorat dupa criterii europene
- Aplicativ – avizarea de către eventualii beneficiari - apreciere a cercetărilor după gradul lor de implementare

Întrebări și Probleme in discuție

- Cum încadrăm doctoranzii în proiectele de cercetare?
- Ce examene să treacă doctoranzii?
- Cum evaluăm lucrul asupra tezei de doctorat? Prin publicații, alte produse finite ale cercetării.
- Cum apreciem calitatea tezei? Care ar fi standardele de calitate?
- Cum antrenăm experții din strinătate?
- Cum modoficăm procedura de susținere?

Traseul actual al susținerii tezelor şi conferirii gradelor şi titlurilor ştiințifice în R.Moldova





Most scientists regarded the new streamlined peer-review process as 'quite an improvement.'


THANK YOU