

INNOVATION AND COMMERCIALIZATION ISSUES IN MONGOLIA

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Content

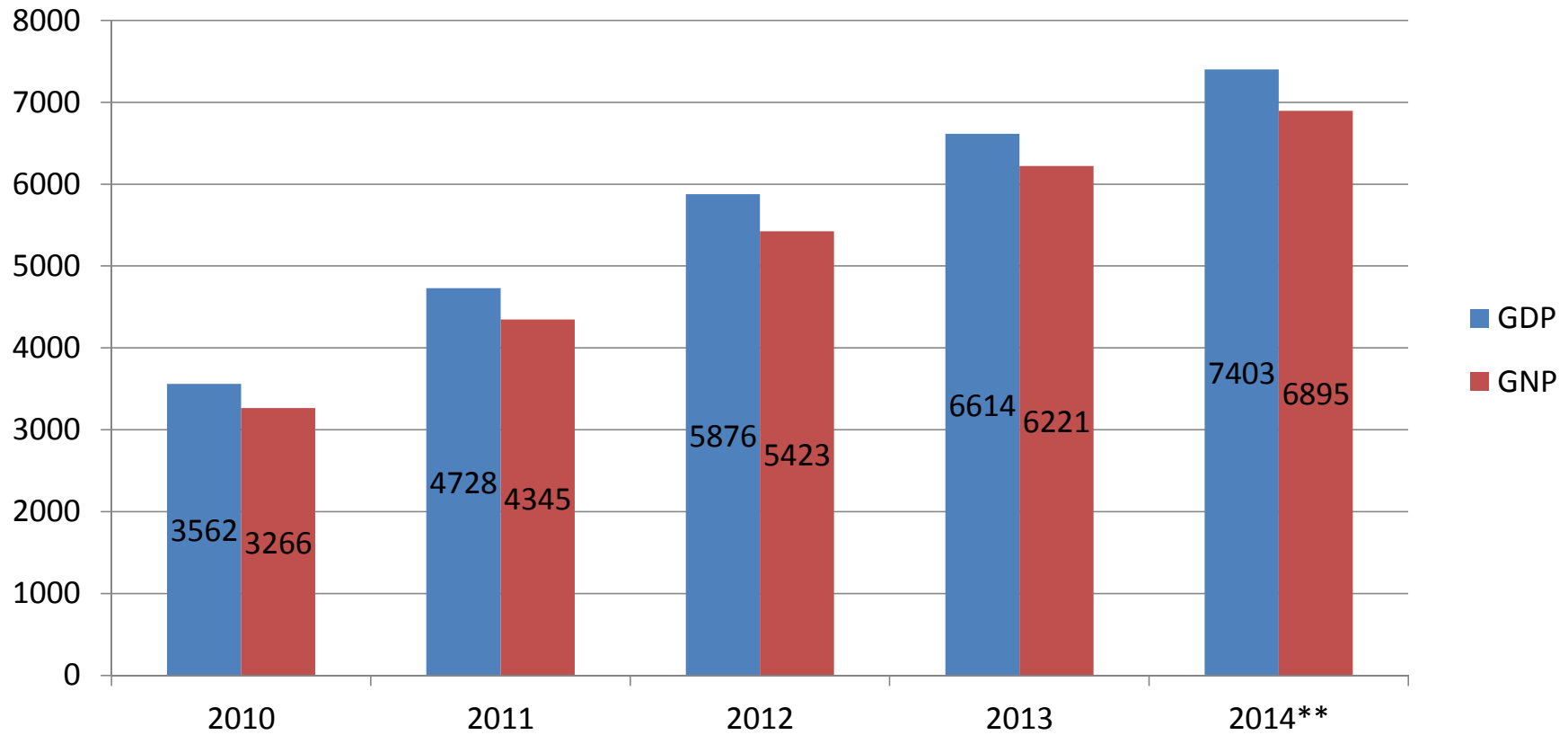
- ❑ Current condition in Mongolia
 - Economic indicators
 - Main indicators of Science and Technology
- ❑ Legal framework of innovation and technology commercialization
 - Innovation law and its implementation
 - Problems and obstacles
 - Commercialization cases
 - Opportunities



Current condition in Mongolia

Economic indicators

GDP per capita /current price, thousand MNT/



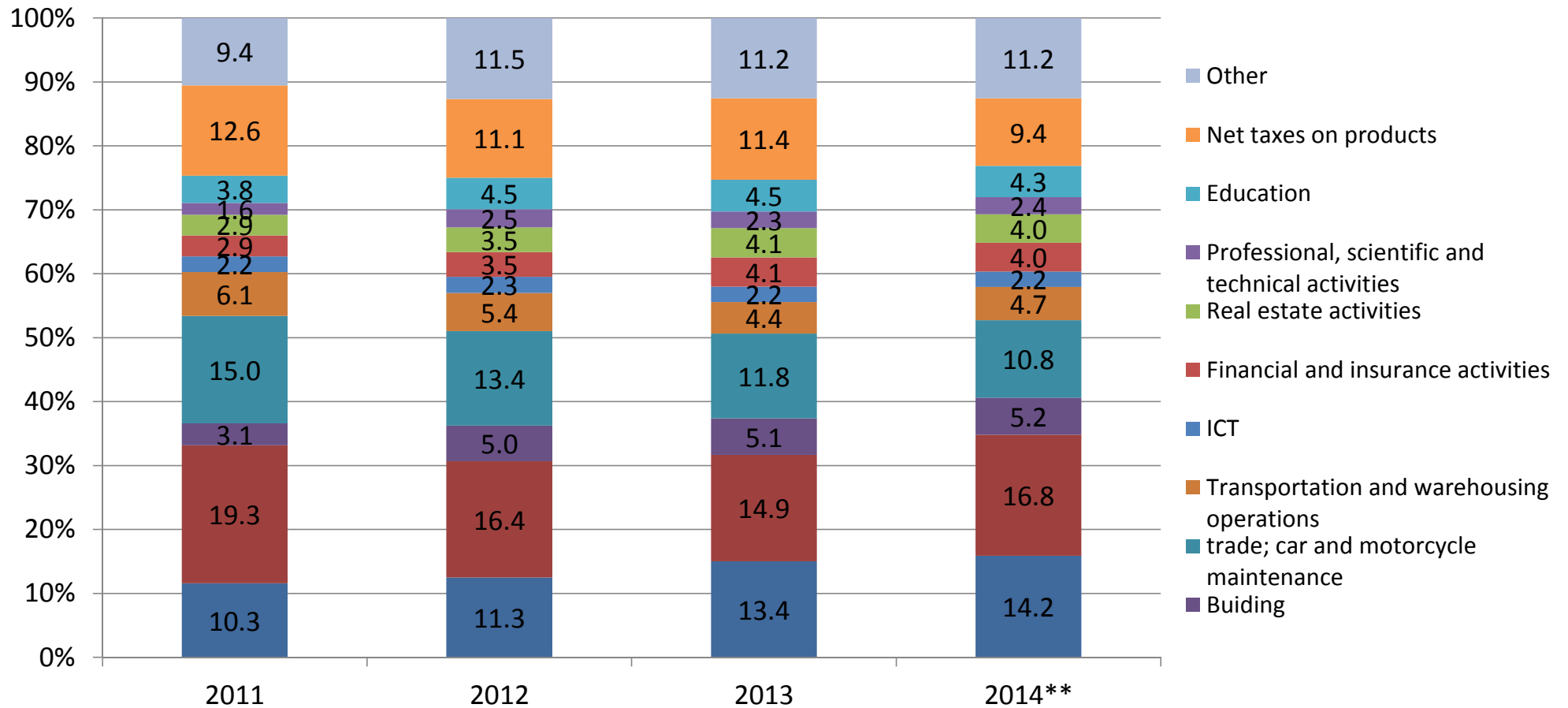
(source: National Statistics Office of Mongolia)



Current condition in Mongolia

Economic indicators

GDP, by sector /percentage, %/

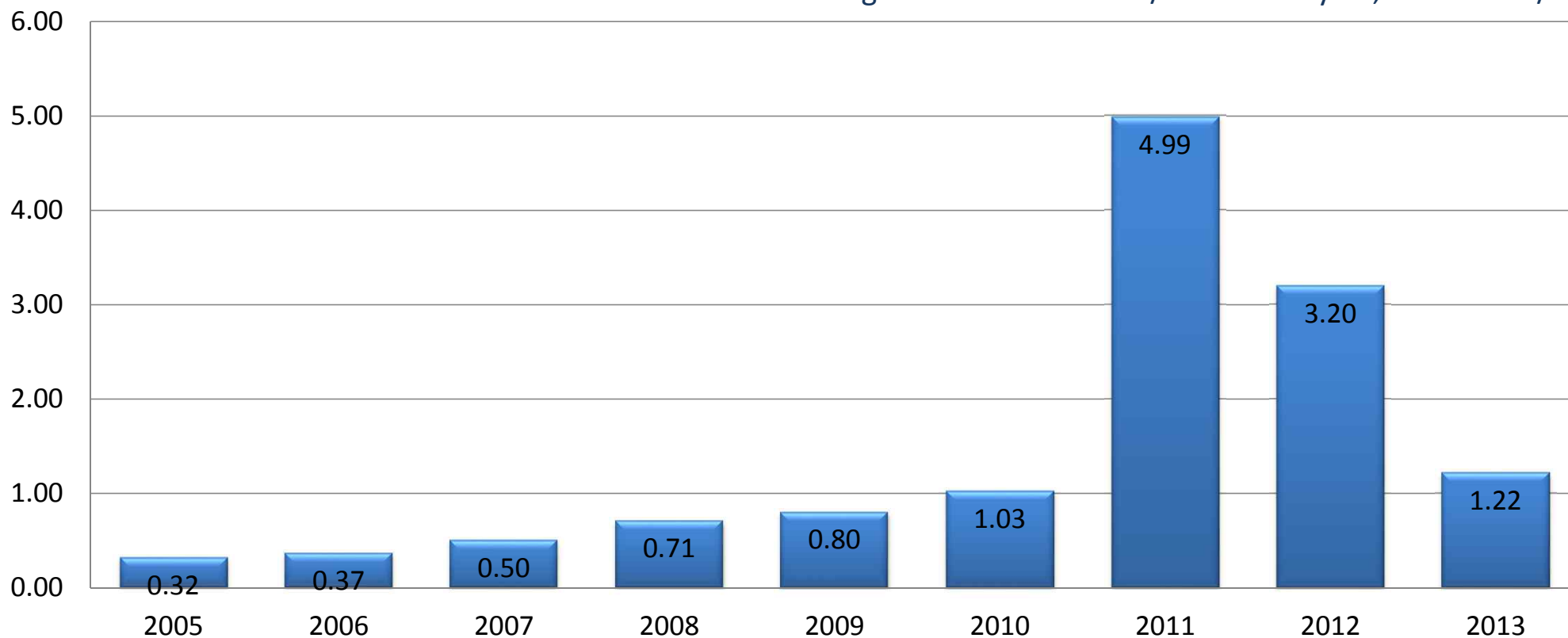


(source: National Statistics Office of Mongolia)

■ Current condition in Mongolia

Economic indicators

Foreign Direct Investment /2005-2013 year, billion USD/

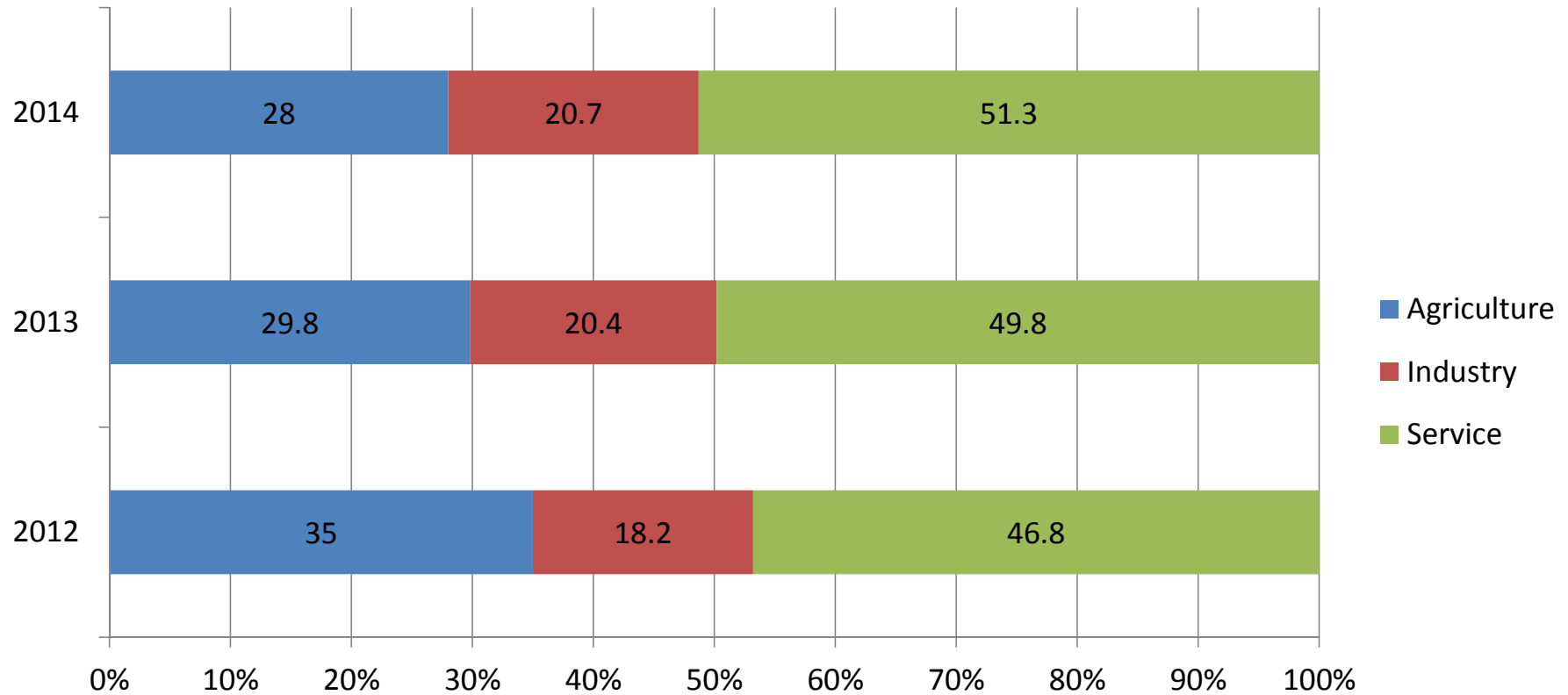


(source: Invest Mongolia Agency)

■ Current condition in Mongolia

Economic indicators

Employment by economic sector /percentage, 2012-2014 year/



(source: NSO of Mongolia)

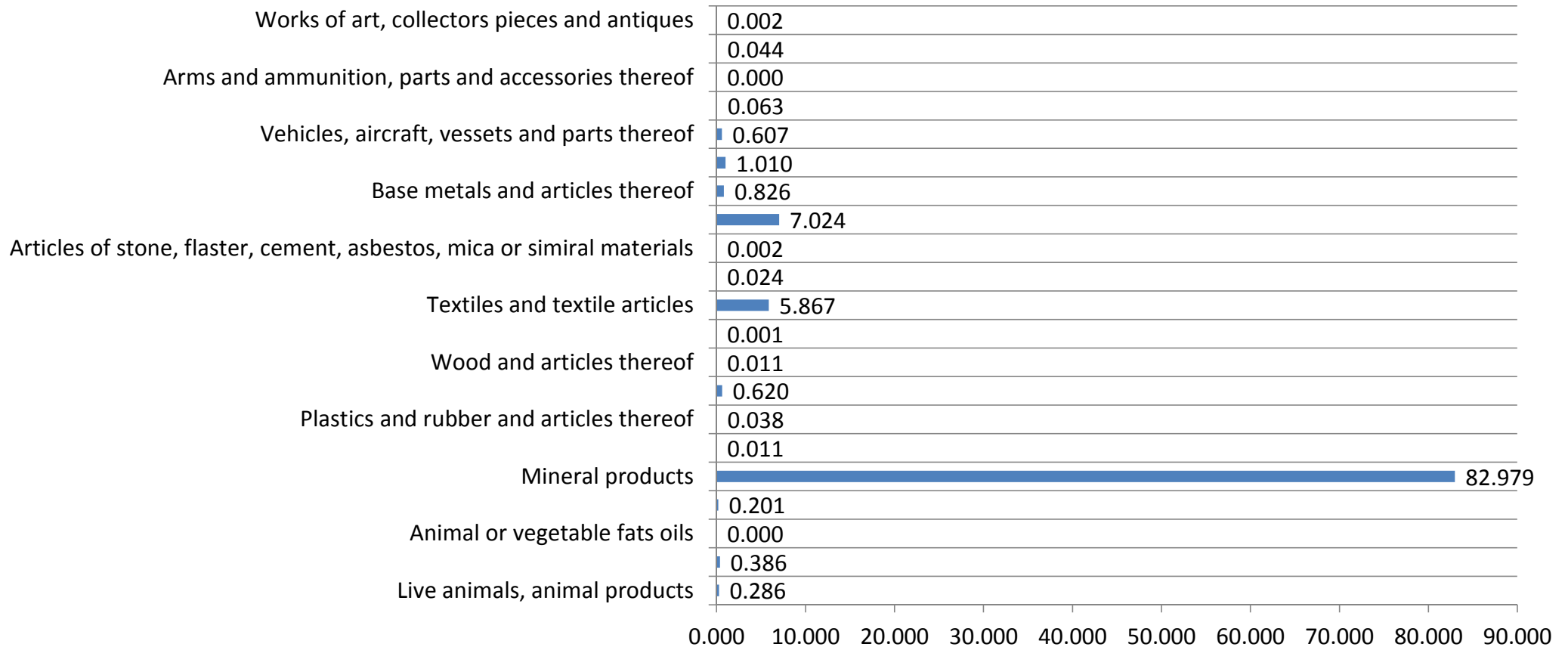


Current condition in Mongolia

Economic indicators

Export Technology Intensity

Export Commodity Description /2015 year/



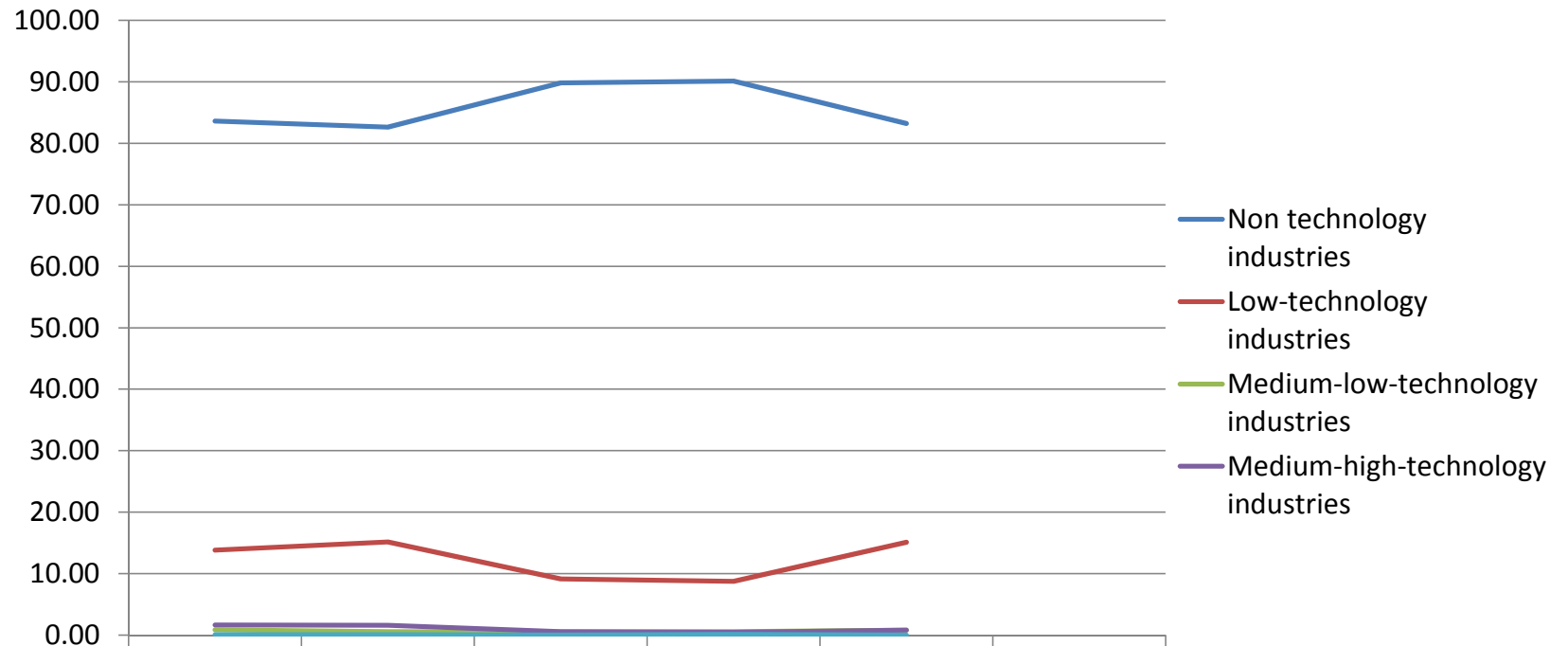
(source: Mongolian customs)



Current condition in Mongolia

Economic indicators

Export Technology Intensity



	2014	2013	2012	2011	2010	
Non technology industries	83.65	82.66	89.82	90.14	83.23	
Low-technology industries	13.79	15.16	9.11	8.75	15.12	
Medium-low-technology industries	0.86	0.57	0.49	0.53	0.82	
Medium-high-technology industries	1.63	1.57	0.56	0.45	0.8	
High-technology industries	0.06	0.04	0.02	0.12	0.03	

Current condition in Mongolia

Economic indicators

The Global Competitiveness Index

Year		2010-2011	2011-2012	2012-2013	201-2014	2014-2015	2015-2016
All countries		139	142	144	148	144	140
Rank		99	96	93	107	98	104
Basic requirements		100	101	92	108	105	112
1 st pillar:	Institutions	122	119	113	113	98	95
2 nd pillar:	Infrastructure	117	118	112	113	112	112
3 rd pillar:	Macroeconomic environment	49	34	52	130	125	133
4 th pillar:	Health and primary education	98	98	76	76	65	69
Efficiency enhancers		109	105	96	94	92	80
5 th pillar:	Higher education and training .	89	84	83	82	68	62
6 th pillar:	Goods market efficiency	99	92	85	96	81	79
7 th pillar:	Labor market efficiency	29	31	33	51	42	41
8 th pillar:	Financial market development	129	129	127	129	124	125
9 th pillar:	Technological readiness	105	102	70	66	81	67
10 th pillar:	Market size	123	124	116	119	120	100
Innovation and sophistication factors		119	112	112	121	112	107
11 th pillar:	Business sophistication	127	119	121	128	115	113
12 th pillar:	Innovation	100	102	100	109	106	97

(source: The Global Competitiveness Report)

Current condition in Mongolia

Economic indicators

Knowledge Economy Index /2012 year/

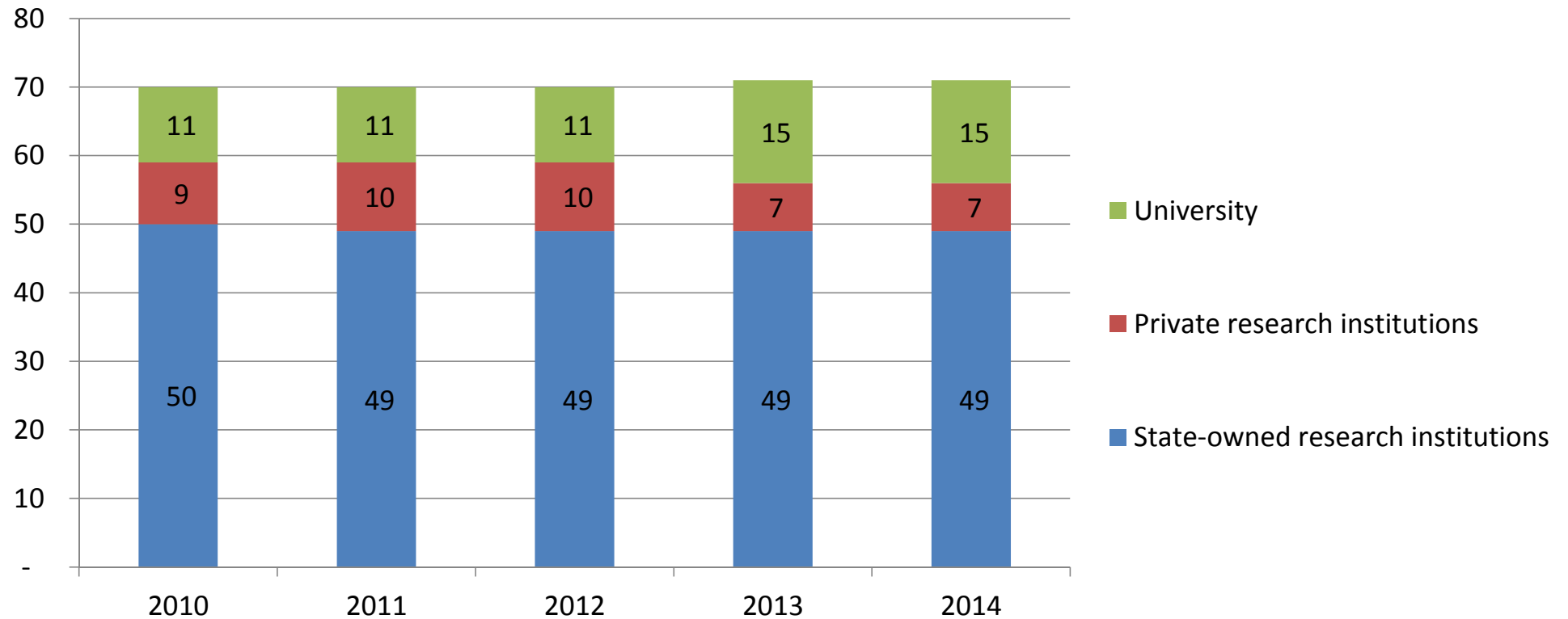
Rank	Country	KEI	KI	Economic Incentive Regime Index	Innovation Index	Education Index	ICT Index
1	Sweden	9.43	9.38	9.58	9.74	8.92	9.49
2	Finland	9.33	9.22	9.65	9.66	8.77	9.22
3	Denmark	9.16	9	9.63	9.49	8.63	8.88
4	Netherlands	9.11	9.22	8.79	9.46	8.75	9.45
5	Norway	9.11	8.99	9.47	9.01	9.43	8.53
80	Tunisia	4.56	4.8	3.81	4.97	4.55	4.89
81	Lebanon	4.56	4.65	4.28	4.86	5.51	3.58
82	Albania	4.53	4.48	4.69	3.37	4.81	5.26
83	Mongolia	4.42	4.45	4.3	2.91	5.83	4.63
84	China	4.37	4.57	3.79	5.99	3.93	3.79
85	Botswana	4.31	3.81	5.82	4.26	3.92	3.23
145	Mwnamar	0.96	1.22	0.17	1.3	1.88	0.48
146	Haiti	n/a	n/a	1.85	1.66	n/a	2.36

(source: Word Bank)

Current condition in Mongolia

Main indicators of science and technology

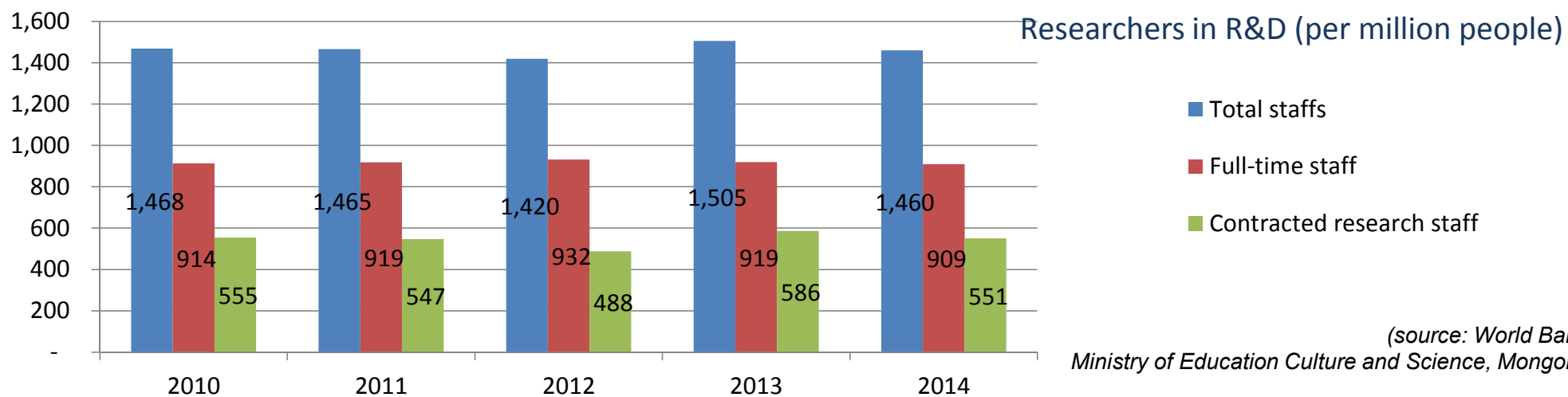
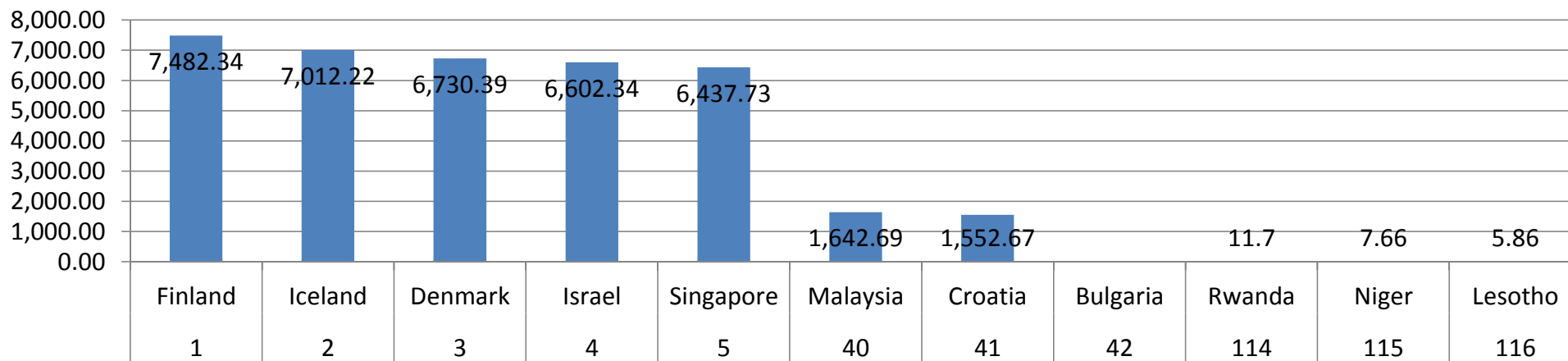
Number of scientific and research institutions



Current condition in Mongolia

Main indicators of science and technology

Researchers in R&D (per million people) - Country Ranking /2012year/

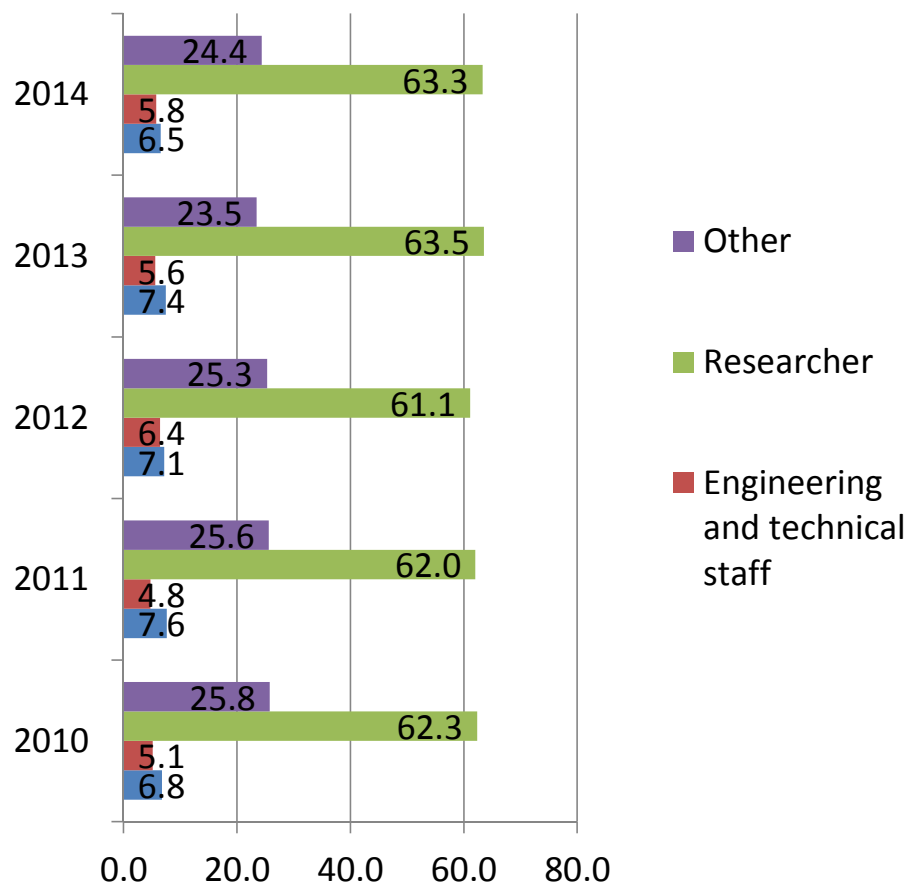


(source: World Bank;
Ministry of Education Culture and Science, Mongolia)

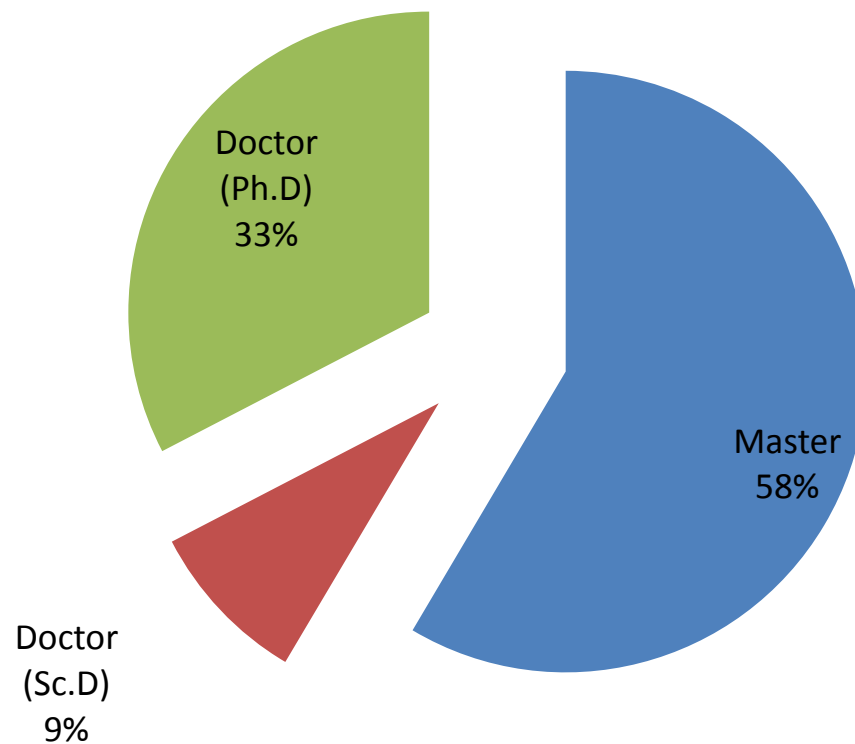
Current condition in Mongolia

Main indicators of science and technology

Full-time staffs by tittle /percentage/



Full-time staffs by academic degrees, /percentage, 2014 year/

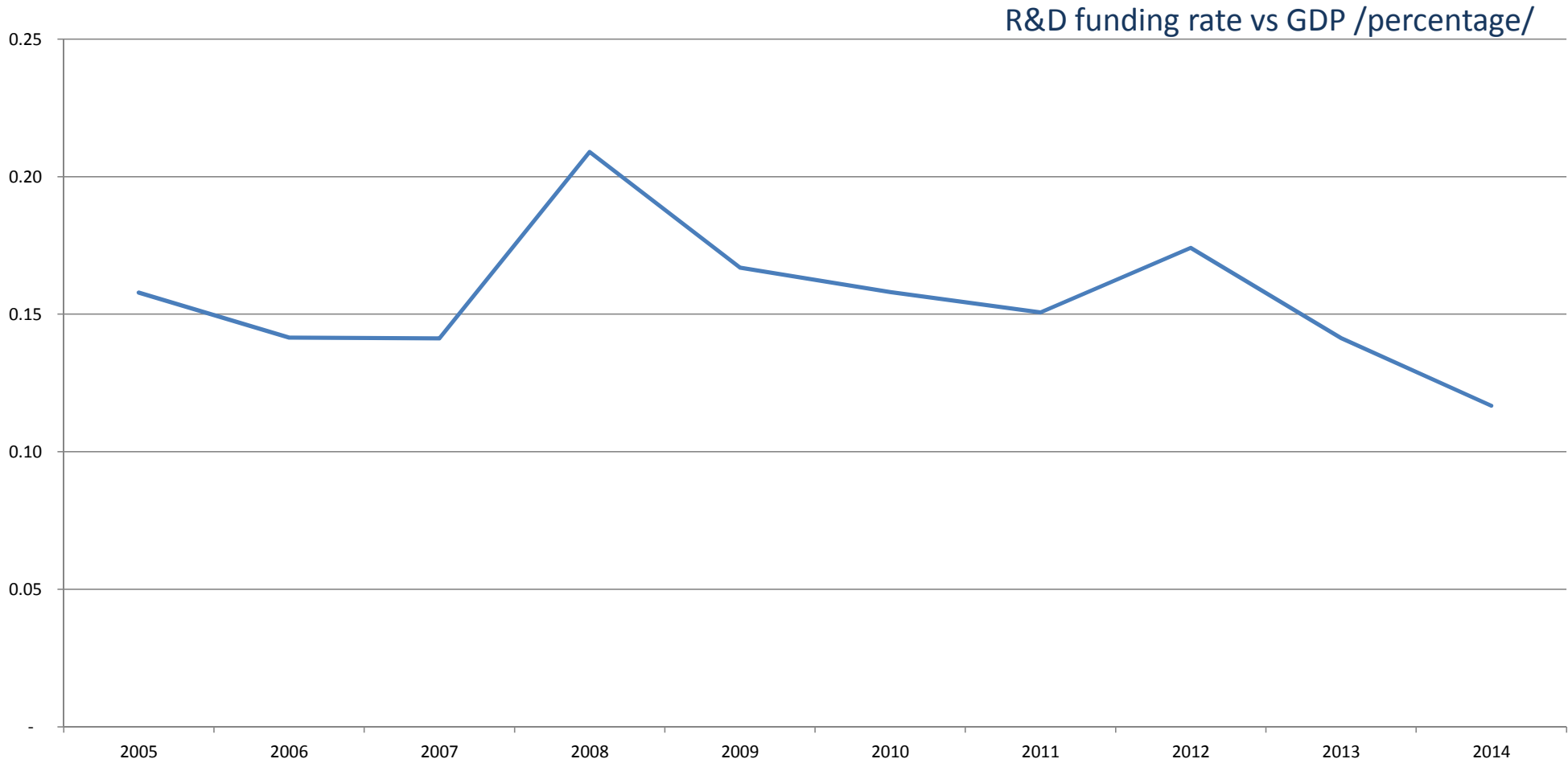


(source: Ministry of Education Culture and Science, Mongolia)



Current condition in Mongolia

Main indicators of science and technology



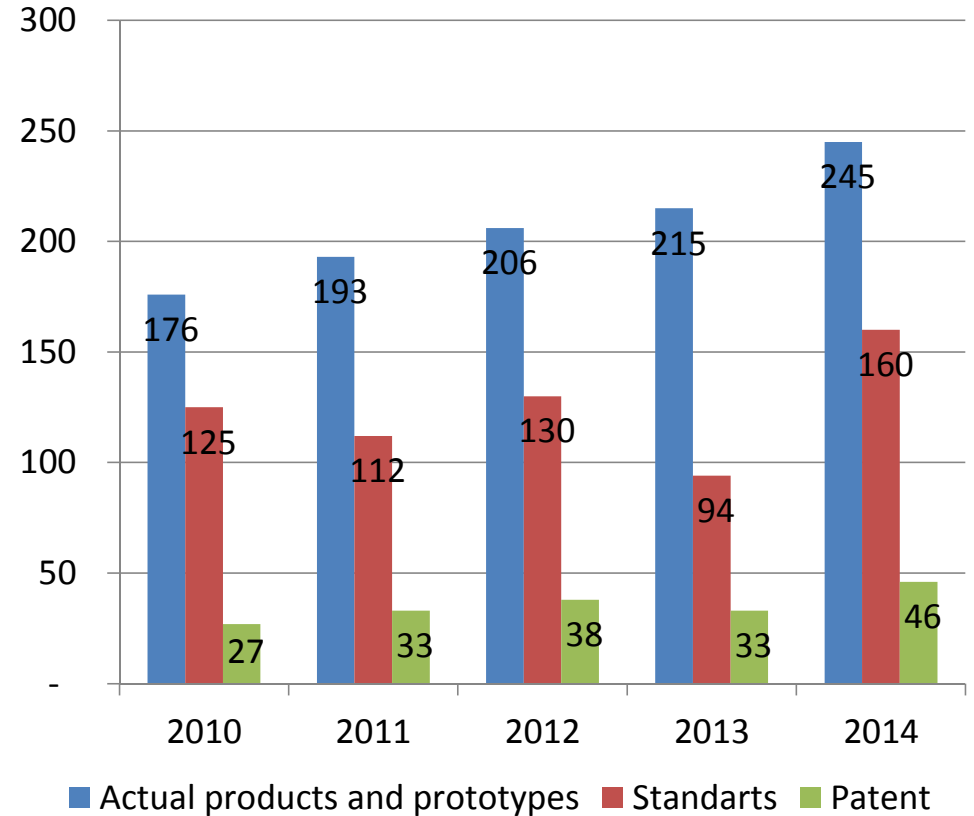
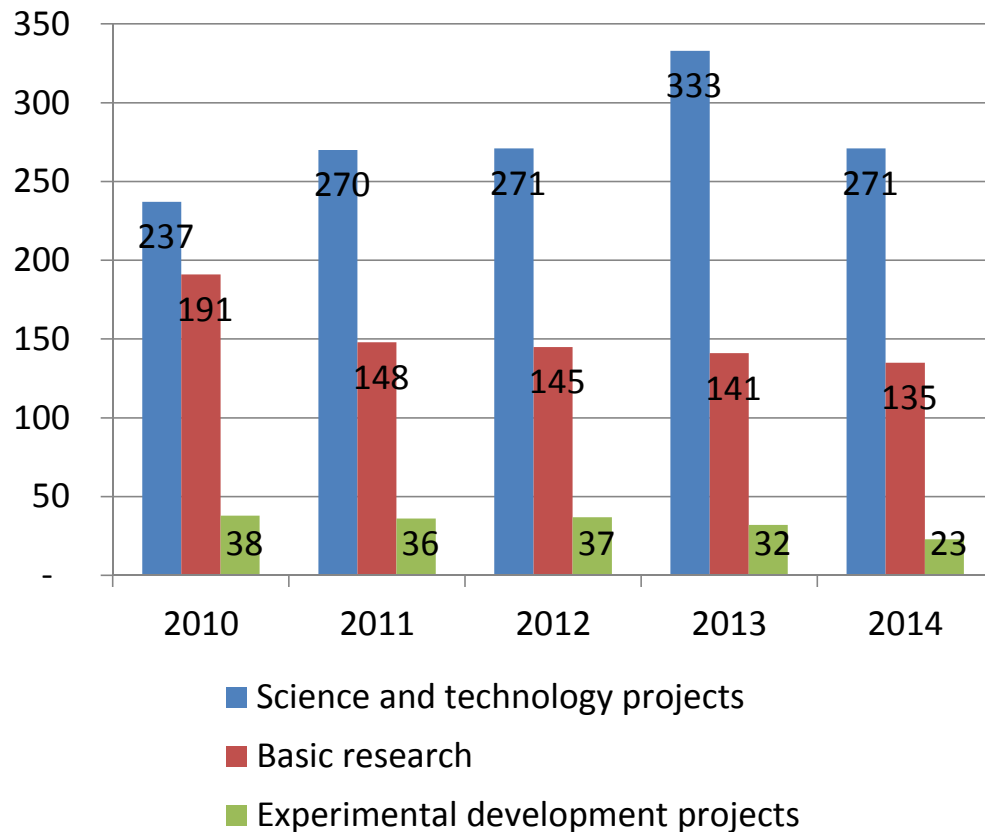
(source: Ministry of Education Culture and Science, Mongolia)



Current condition in Mongolia

Main indicators of science and technology

Outputs of research and experimental development

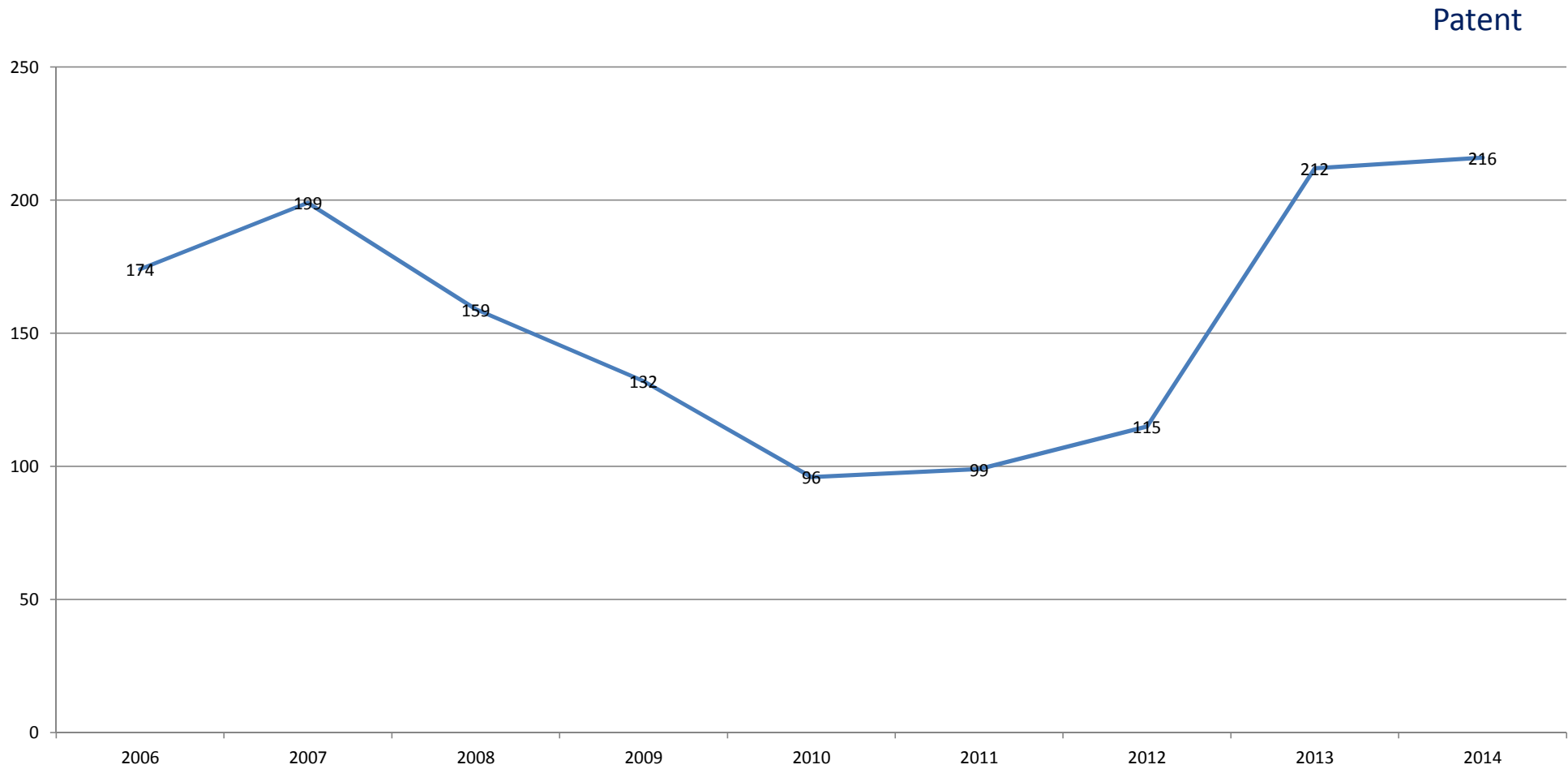


(source: Ministry of Education Culture and Science, Mongolia)



Current condition in Mongolia

Main indicators of science and technology



(Source: IPO of Mongolia)



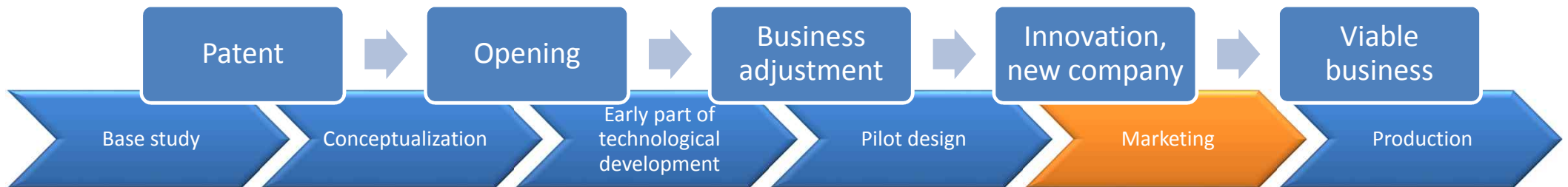
Legal framework of technology commercialization

Legal framework for innovation

- ❑ National security framework of Mongolia, 1994, 2010
- ❑ Millennium development goal based comprehensive National development strategy, 2008
- ❑ Action plan of the Government of Mongolia
- ❑ Government subprogram for Biotechnology (1999-2005), 1998
- ❑ Master plan on development of Science and Technology in Mongolia, 2007
- ❑ The government's priority list for large scale projects, 2009
- ❑ Policy on high technology industrialization of Mongolia, 2009
- ❑ Program on development of National innovation system in Mongolia, 2007-2015
- ❑ **Law on innovation, 2012**

Legal framework of technology commercialization

Commercialization cases



Legal framework of technology commercialization

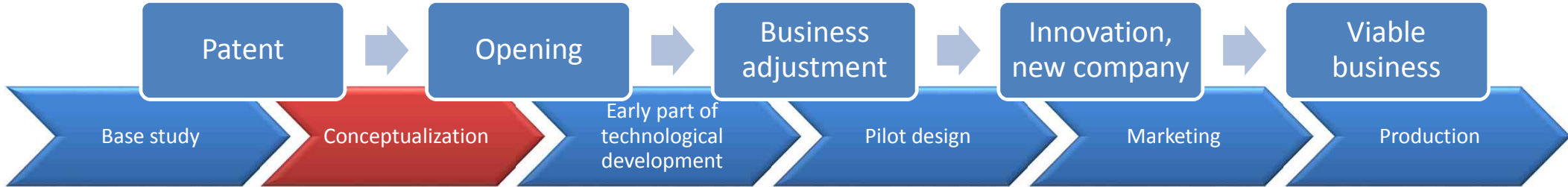
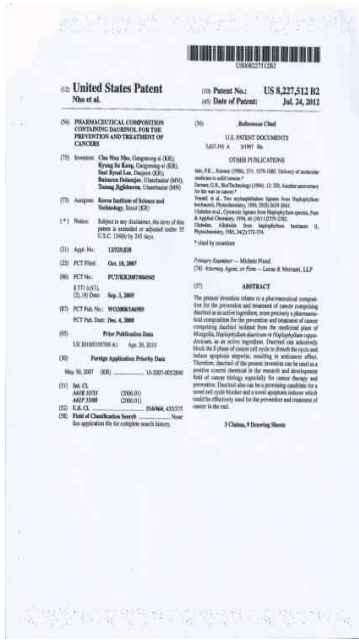
Commercialization cases

A PHARMACEUTICAL COMPOSITION CONTAINING DAURINOL FOR THE PREVENTION AND TREATMENT OF CANCERS

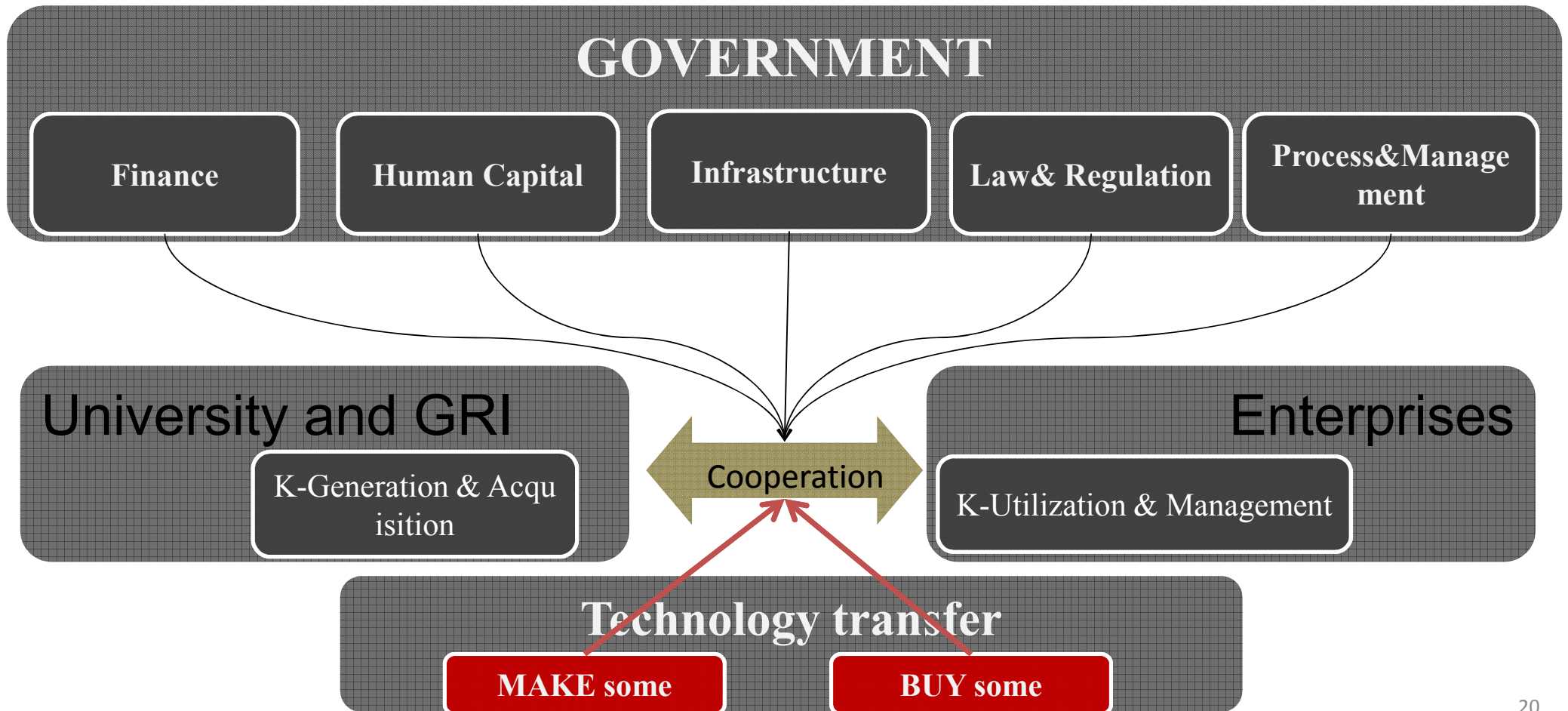
Haplophyllum dauricum(L)
G.Don

D.Batsuren,
J.Tunsag
/Mongolian Institute
of Chemistry and
Chemistry-
Technology/

C.W.Nho.,
K.S.Kang,S.B.Lee
/KIST/



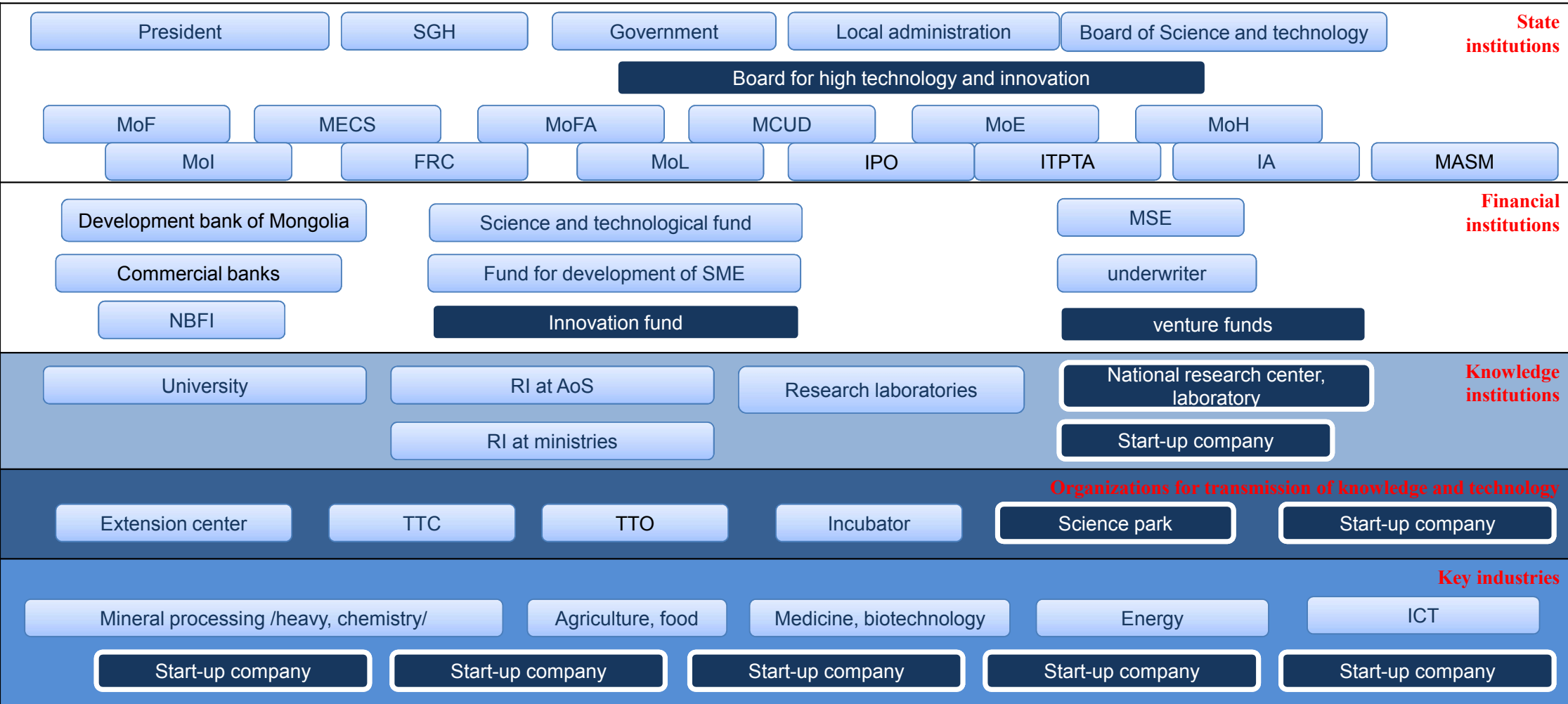
Legal framework of technology commercialization
Problems and obstacles



Legal framework of technology commercialization

Problems and obstacles

National innovation system created as a result of adoption of Law on Innovation



Legal framework of technology commercialization

Problems and obstacles

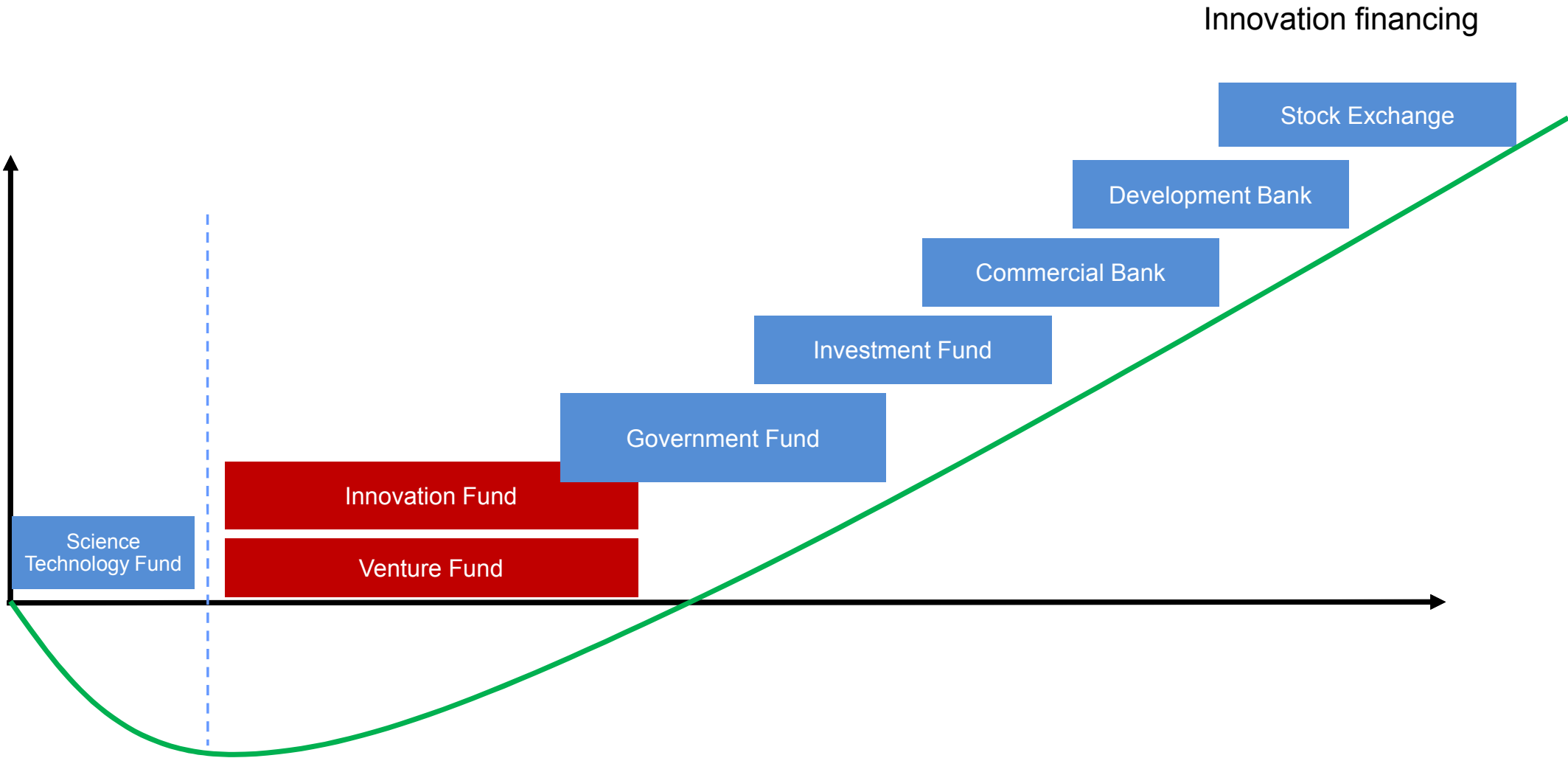
Technological capacity of enterprises

1/ Mining companies	2/ SME	3/ Manufacturing factories
<ul style="list-style-type: none"> ✓ Raw materials export ✓ Non-technological, low-technology products ✓ Surplus value less added ✓ Below technological standard ✓ Less competitiveness 	<ul style="list-style-type: none"> ✓ Low productivity ✓ Weak economic efficiency ✓ Commonly to create work places and reduce poverty 	<ul style="list-style-type: none"> ✓ Domestic market oriented ✓ Weak technological processing ✓ Dependable on external technologies ✓ Weak surplus value network and clustering development ✓ Weak capacity of research and innovation ✓ Weak links between science and industry ✓ Less regional differences ✓ Low productivity and competitiveness



Legal framework of technology commercialization

Problems and obstacles

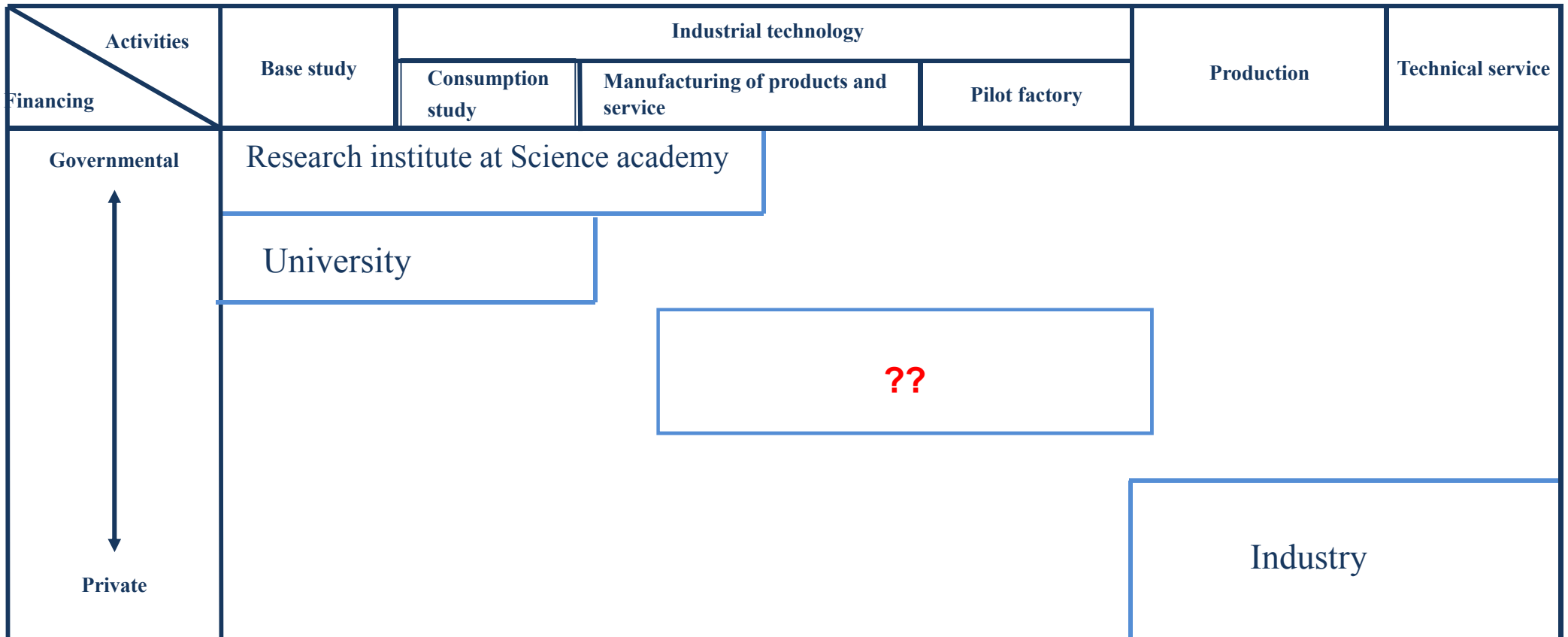




Legal framework of technology commercialization

Problems and obstacles

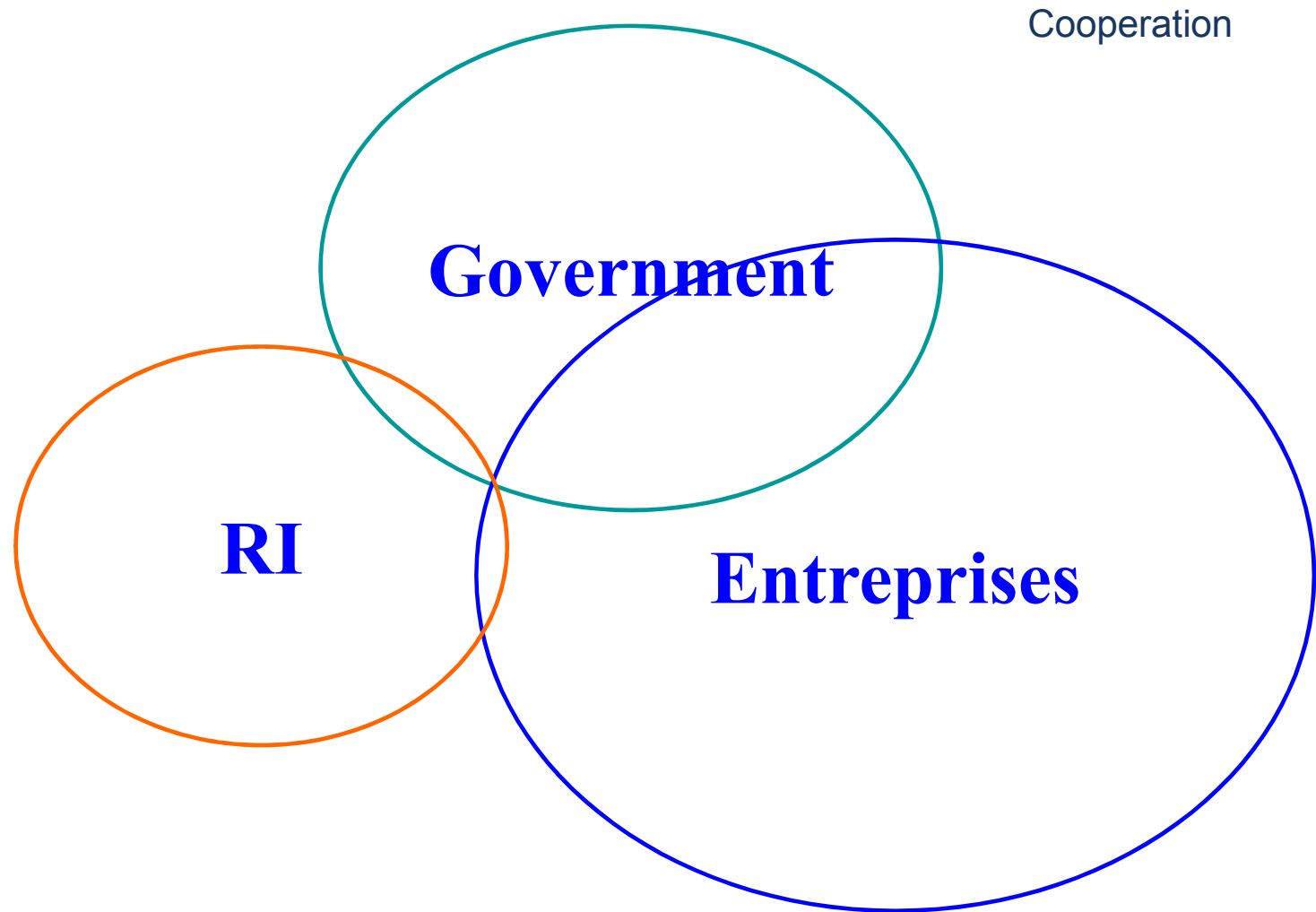
Innovation infrastructure





Legal framework of technology commercialization

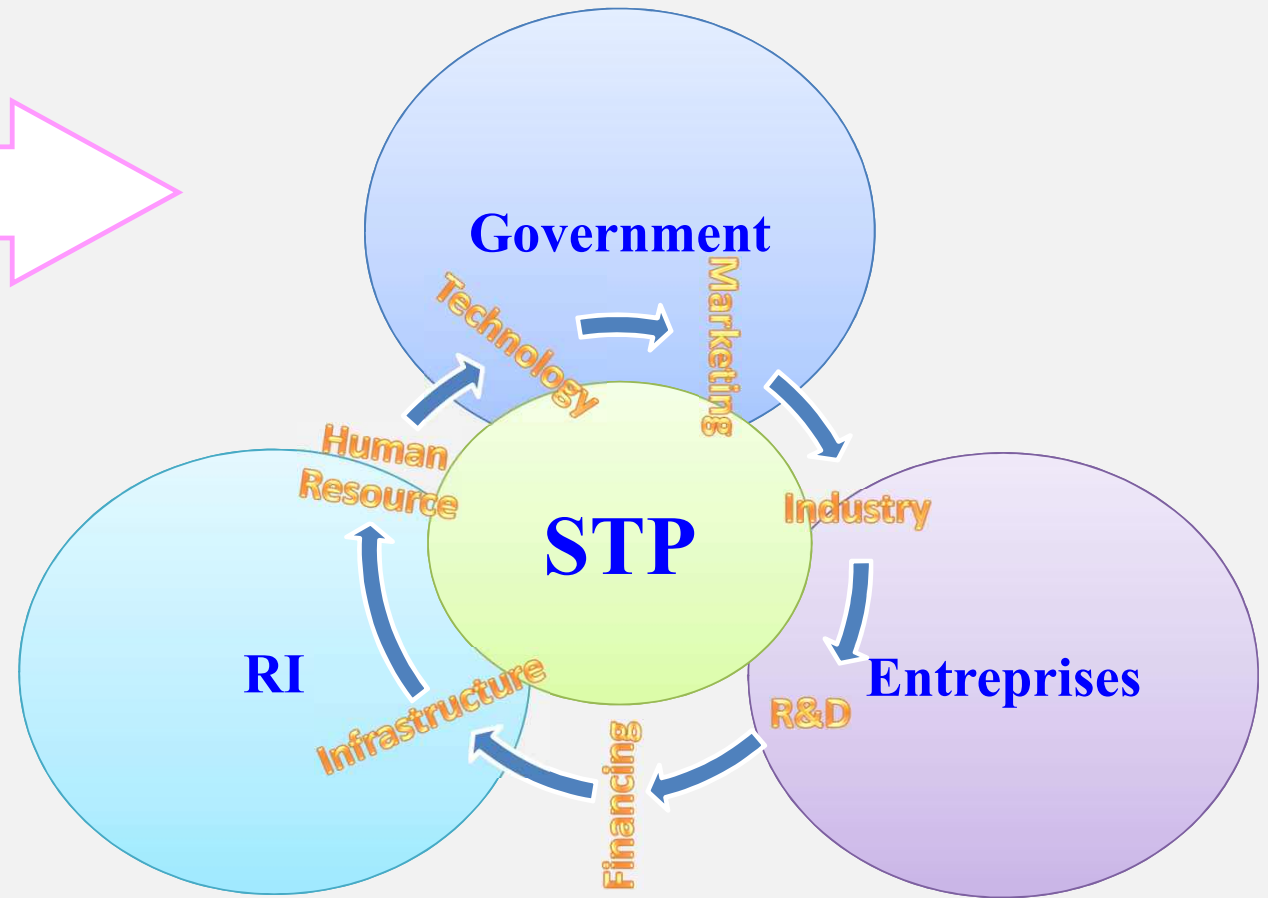
Problems and obstacles



Legal framework of technology commercialization

Opportunities

Complex of Science and Industry



QUESTIONS AND COMMENTS

THANK YOU FOR YOUR ATTENTION

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