



Korean Economic System: Driven by education fever



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South Korea and Spain



Korea (**Spain**) at a Glance

- Population: 49 million (**46 million**)
- GDP per capita: \$20,000 (**\$30,000**)
- Territory: 100,000 km² (**506,000 km²**)
- Largest metro area: 24 million (**6.5 million**)
- Export: \$460 billion (**\$250 billion**)
- % of pop. of 65 and older: 11.4% (**17.1%**)
- % of pop. of 0-14 years old: 19.4% (**14.4%**)

Dismal Beginning of Korean Education

- 1910-45: Under Japanese colonial rule
- 1948: South Korea (Rep. of Korea) and North Korea (Democratic People's Republic of Korea) were established
- 1950-53: Devastating war between North and South Korea
- In mid-1950:
 - Less than 50% attended primary schools
 - Less than 20% attended in lower secondary schools
 - Less than 2% went to universities
 - Totally inadequate education resources (many Japanese teachers left and the war destroyed many school buildings, and the post-war baby boom)
- Political regime changed
 - Corrupted Chaos (1950s)
 - -> Orderly Dictatorial (developmental state) (1960s through late 1980s)
 - -> Pluralistic Democratic (since late 1980s)
- Education system changed
 - Free entrepreneurial for profits
 - -> Heavy government control (allowing strong competition among students)
 - -> More egalitarian but less direct government control

Current Situation

- Compulsory education for 9 years
- Virtually universal education up to 12th grade
- Very high advancement to higher education (more than 80%, more than 50% to 4-yr universities)
- Korea spends 4.2% (0.8% private) of GDP for primary & secondary schools and 2.6% (1.9% private) in HE (OECD average 3.8%, 1.5% respectively)
- Household pays additional 1.8 % of GDP for private tutoring
- Teachers are relatively well paid and heavily unionized.
- HE is highly privatized (both supply and financing).
- Very strong performances in international achievement tests for primary and secondary students
- Not so strong rankings among global universities, but the situation improving rapidly
- Highly internationalized university students and HE system
- Active and effective continuing/adult education system

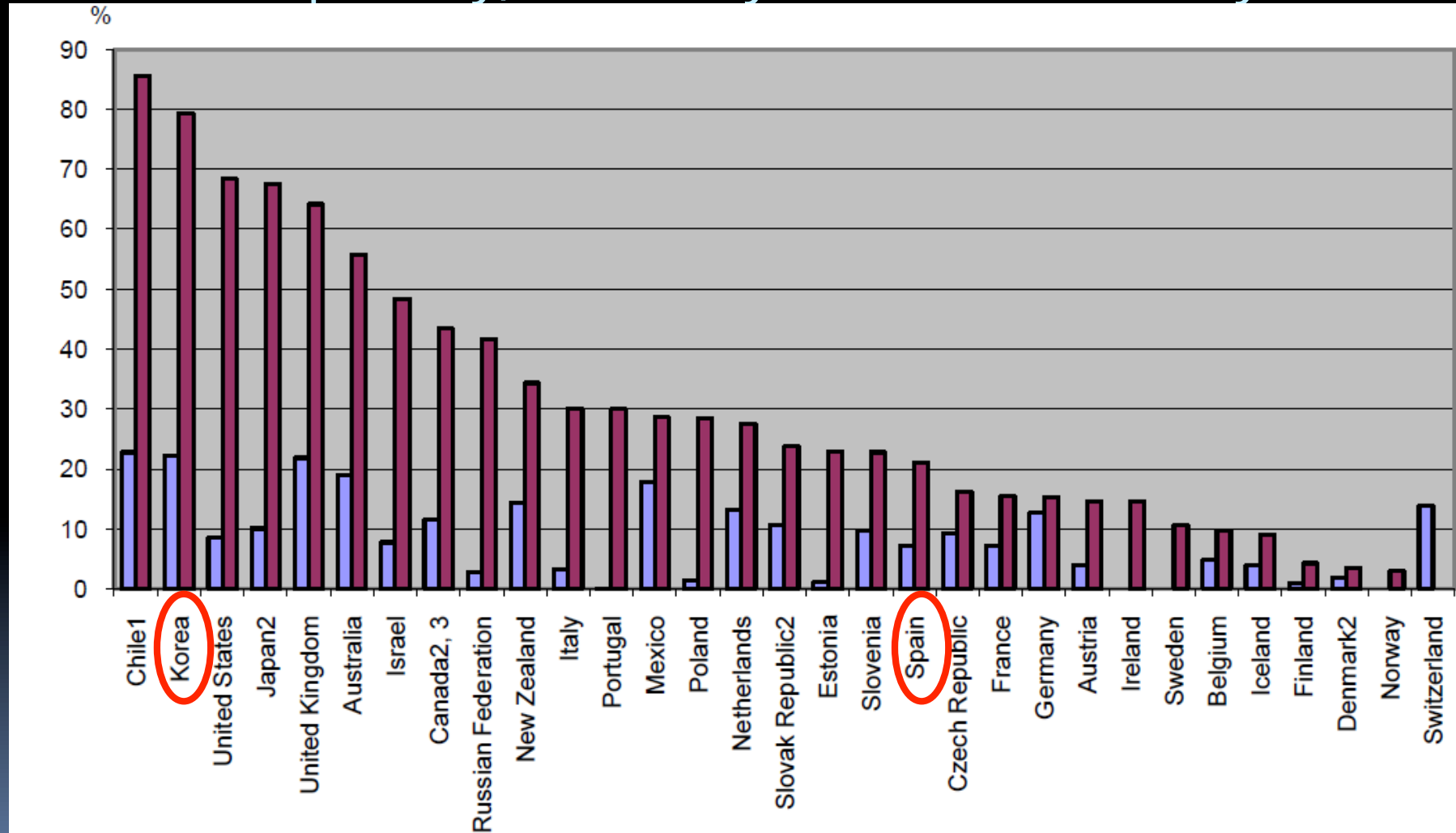
Korean Education System (2011)

- 6-3-3-4

	Schools	Students (in million)	Teachers (in 1,000)	S/T Ratio
Kindergarten	8,424	0.57	38.7	14.8
Primary (6 yr)	5,882	3.13	180.6	17.3
Lower Secondary (3 yr)	3,153	1.97	110.7	17.7
Upper Secondary (3 yr)	2,225	1.96	131.1	15.0
Junior Colleges (2 yr)	147	0.77	12.9	60.3
Universities (4 yr)	202	2.15	60.7	36.3

Share of private. exp. on institutions

blue - primary/secondary red - tertiary



Data: OECD

Some quality indicators

1. OECD PISA Ranking

	2000	2003	2006	2009
Reading	6	2	1	2-4
Math	2	3	1-4	3-6
Science	1	4	7-13	4-7

1. PISA: Programme for International Student Assessment
2. 43 countries in 2000, 41 countries in 2003, 57 countries in 2006, 65 countries in 2009

2. IEA TIMMS

		1995	1999	2003	2007
Korea	Math	3	2	2	2
	Science	4	5	3	4
Japan	Math	2	5	5	5
	Science	2	4	5	3
Singapore	Math	1	1	1	3
	Science	1	2	1	1
U.S.A.	Math	18	19	15	9
	Science	12	18	9	11

- IEA: International Association for the Evaluation of Education Achievement
- TIMSS: Trends in International Mathematics and Science Study

3. Global University Rankings

	The Times – QS			Shanghai Jiatong		
	2009	2010	2011	2009	2010	2011
SNU	47	50	42	151-200	101-150	101-150
KAIST	69	79	90	201-300	201-300	201-300
Yonsei	151	142	129	201-300	201-300	201-300
Korea	211	191	190	301-400	201-300	301-400

QUESTION:

How did Korea achieve rapid quantity expansion & quality improvement at the same time?

- Cascading expansion from lower level education expansion to higher education
- Meritocracy
- High returns to education has been maintained
- Mobilizing private resources
- Study abroad & Internationalization

Rapid Expansion of Korean Education: Cascading effect

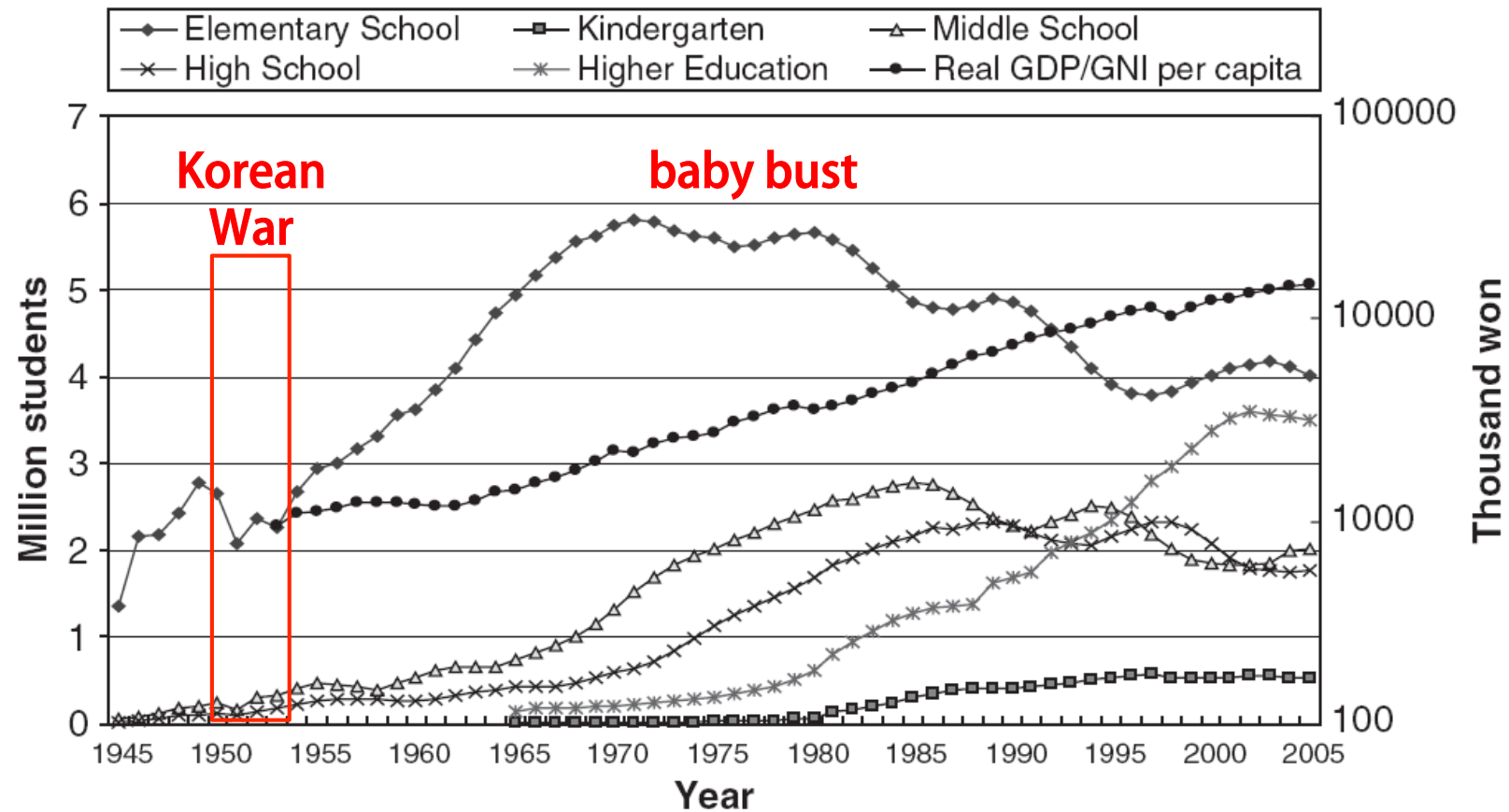


Fig. 1. Trends of School Enrollment in South Korea and per Capita Income, 1945–2005.

Meritocracy & Open Competition

- Confucius tradition
 - selecting high ranking officials through government sponsored exams for hundreds of years
- Collapses of the established social structure
 - Japanese imperialism
 - Korean war
 - Reshuffling the elite group several times -> favoring human capital over physical assets
- Public elite schools & competitive entrance exam
 - Low cost and high quality public schools had competitive admission process by high stake exams
 - Secondary school equalization policy in the 1970s-80s drastically changed the landscape



Demand driven expansion

- Over-promise of the government
 - Not enough public resources to fulfill gov't policy
 - Supply restriction
 - Elite public schools
 - Private supply and private funding
- High returns to education
 - Successful economic development
 - Changing industrial structure

Still heavy burden on households

- With the economic dev't and gov't took larger share of the lower level education expenses
- Relatively high college tuitions (even in public universities)
- High stake exams put great physical and psychological burden to students
- Rampant private tutoring to enter better universities never stopped
- Gov't tried very hard to reduced private tutoring activities, but never succeeded

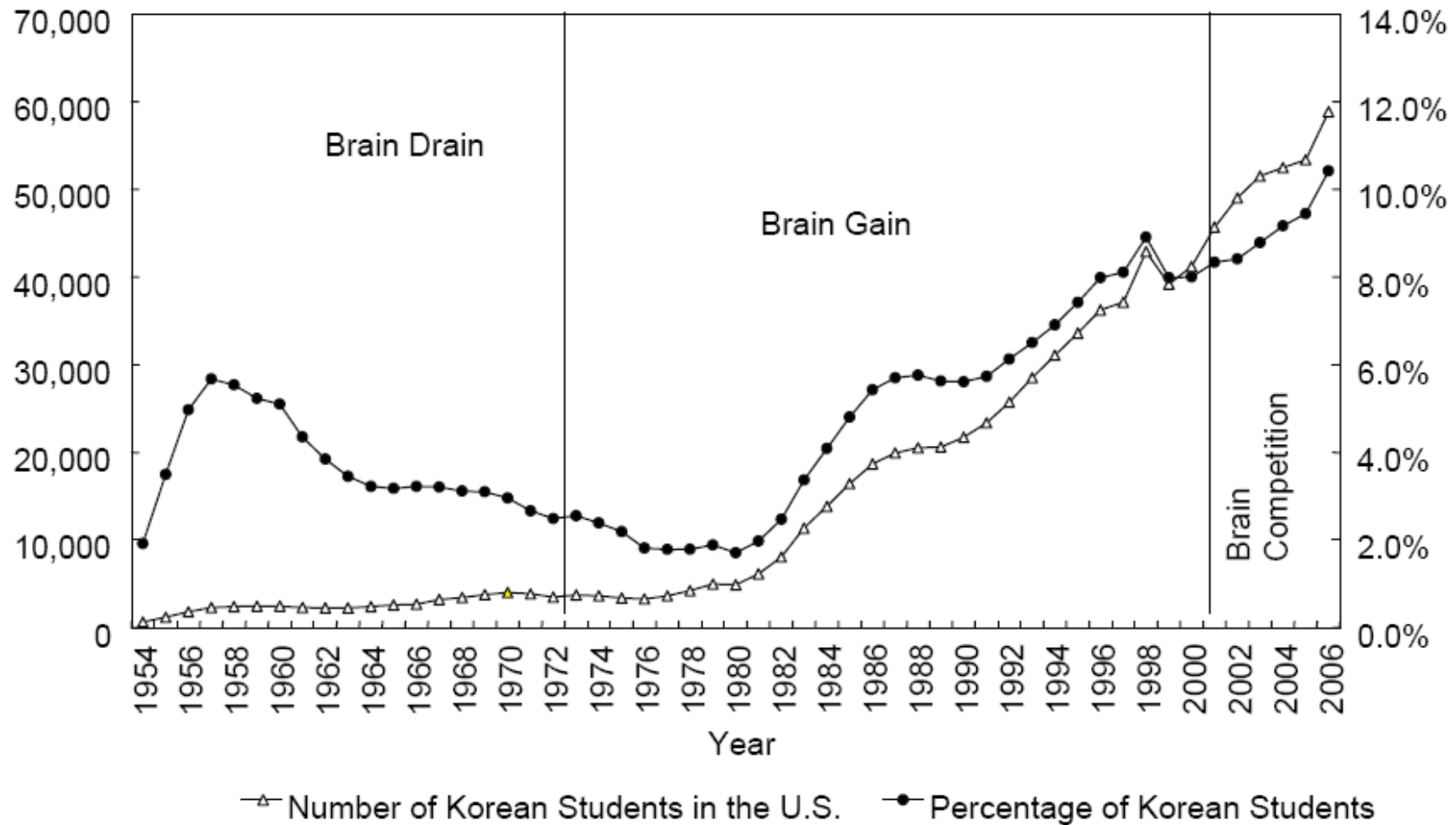
Private Tutoring

- 87% of primary, 72% of junior high, and 61% of high school students participated in private tutoring.
- Average spending on private tutoring is 250,000 KRW per month. (21 trillion KRW = about US 200 billion)
- Better students participate in private tutoring more.
- Aggregated amount: 1.8% of GDP in 2010 = about one half of gov't expenditure on primary & secondary education.
- Children spend 4-20 per week on private tutoring.
- Even public schools provide after-school private tutoring.

Internationalization of Korean HE

- The Korean War created boom of study abroad to the U.S. in the early 1950s.
- Up until 1980s, Korea practically outsourced graduate education to the U.S.
- Things are changing recently.
 - Students abroad: graduate => undergraduate
 - Engineering/science => more diverse fields
 - Students => faculty/researcher
 - Fledgling exchange programs => cross-national branches
- Brain drain => brain gain => brain competition

Korean students in the U.S.



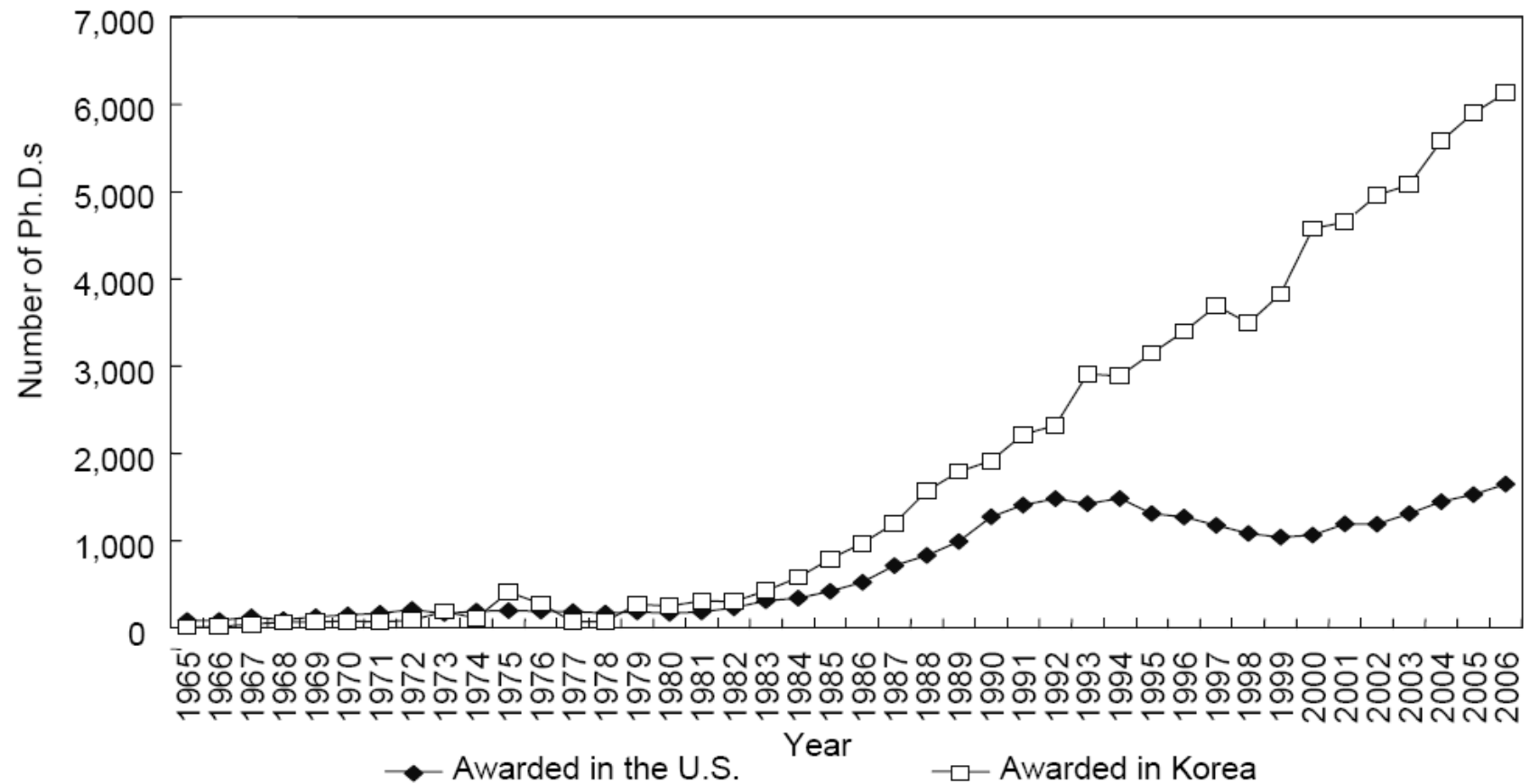
Foreign Students' Places of Origin, 2008-9

Place	Students	1-year change	Place	Students	1-year change
India	103,260	9.2%	Iran	3,533	15.5%
China	98,235	21.1%	Sweden	3,279	-0.4%
South Korea	75,065	8.6%	Australia	3,203	3.7%
Japan	29,264	-13.9%	Israel	3,060	1.9%
Canada	29,697	2.2%	Ghana	2,988	3.2%
Taiwan	28,065	-3.2%	Sri Lanka	2,976	14.9%
Mexico	14,850	0.1%	Bulgaria	2,889	-9.9%
Turkey	13,263	10.2%	Poland	2,772	1.5%
Vietnam	12,823	46.2%	Bangladesh	2,706	17.4%
Saudi Arabia	12,661	28.2%	Romania	2,612	-10.0%
Nepal	11,581	29.6%	Trinidad & Tobago	2,475	-6.3%
Germany	9,679	8.7%	Argentina	2,380	-6.1%
Brazil	8,767	15.7%	Ecuador	2,268	5.4%
Thailand	8,736	-3.0%	Jordan	2,225	23.7%
United Kingdom	8,701	4.0%	Kuwait	2,031	11.4%
Hong Kong	8,329	0.5%	Chile	1,953	15.9%
Indonesia	7,509	-2.4%	Egypt	1,915	8.4%
France	7,421	5.3%	Greece	1,896	-4.3%
Colombia	7,013	5.3%	Netherlands	1,870	11.3%
Nigeria	6,256	0.5%	Cameroon	1,826	-3.4%
Malaysia	5,942	9.5%	Lebanon	1,823	0.9%
Kenya	5,877	0.7%	Bahamas	1,773	15.0%
Pakistan	5,298	-0.9%	Ukraine	1,716	0.1%
Russia	4,908	0.0%	Kazakhstan	1,714	17.7%
Venezuela	4,678	5.2%	South Africa	1,703	5.1%
Italy	4,275	20.9%	Ethiopia	1,583	20.3%
Philippines	4,226	1.3%	Mongolia	1,522	16.4%
Singapore	3,989	0.3%			
Jamaica	3,902	0.8%			
Spain	3,849	5.2%			
Peru	3,598	-2.0%			

Note: Includes only places with more than 1,500 students in U.S. institutions.

SOURCE: INSTITUTE OF INTERNATIONAL EDUCATION

No. of Doctorates awarded: Korea vs. US



Source: *Survey of Earned Doctorate (US)* and Author's tabulation based on *Korean Education Statistics Yearbook*

Note: Korean statistics do not include professional doctorate degrees such as law and medicine.

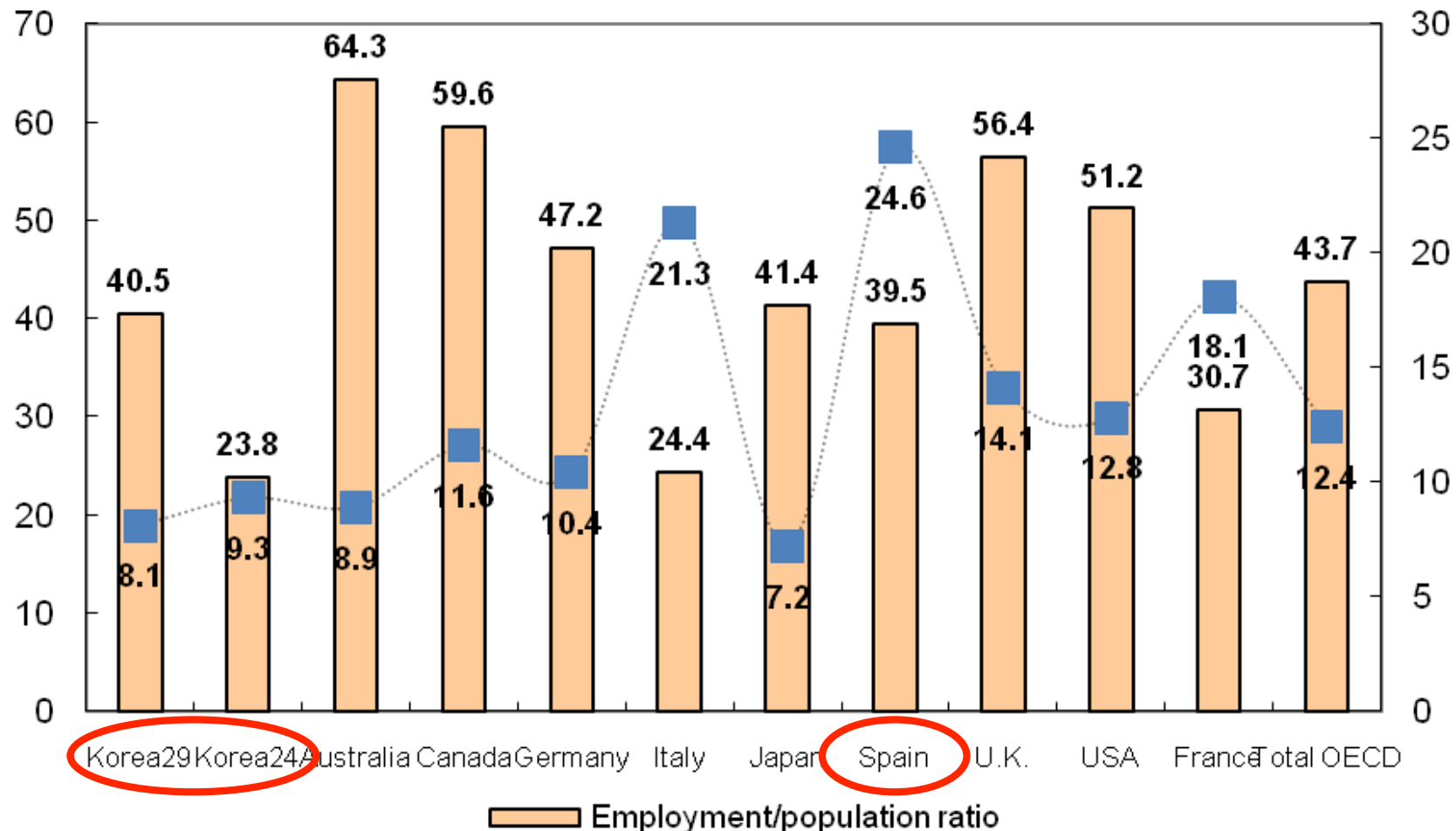
Major Issues

- Obsession to enter better university => private tutoring (1/2~3/4 of the gov't edu. expenditure) & long hours of studying
- Excess supply of educated workers => tough job market for young educated workers => low returns to education
- Strong union in prim./sec. teachers and private supply of HE (academic profiteering /corruption) => politicization of education policy making
- Expensive/low quality/competitive (low education value) => studying abroad => separated family ("goose father syndrome")
- Less social mobility through education
 - Elite system produced opportunities for selected few
 - Egalitarian education produced more access but less social mobility

Major issues in the near future

- High cost (money & time) / high output (quantity & quality) system
 - Heavy financial burden by households
 - Lack of diversity and second chances
 - Excessive study abroad -> goose father syndrome
- Over-education human resources
 - Lower returns to HE
 - Tight job market for young graduates
- Improving competitiveness of HE
 - Improving research capability of global universities
 - Demographic change and closure of weak institutions
 - Establishing effective HE governance system
- Promoting social mobility through education system

Youth (age 15-29) employment ratio & unemployment rate



What should the education system do?



Allocating
talents



Human
capital
investment



Promoting
social
mobility

Efficient production system




Needs to cater all objectives

- For efficient allocation of talents: Open and fair competition in job market as well as student admission is necessary
- For efficient human capital accumulation: proper signals for returns-to-education is necessary
- For effective social mobility: Mechanism for under-privileged students be successful.
- For efficient production: Proper governance structure and incentives system of school systems are necessary.

Difficulties in Education Reform


Why?

- Multiple goals
- Lack of clear consensus
- Diverse stakeholders and different self interests
- Highly politicized decision making process – unions, government officials
- No clear metric of success – prone to be ideologically driven



Excellent education system can be designed in a variety of ways:

but needs to worry about common pitfalls

- Publicly vs. privately financed system
 - Centralized vs. decentralized system
 - Regulated vs. market-oriented system
 - Competitive vs. egalitarian system
- 



THANK YOU