

Transition to the Creative Economy :Gender Perspective

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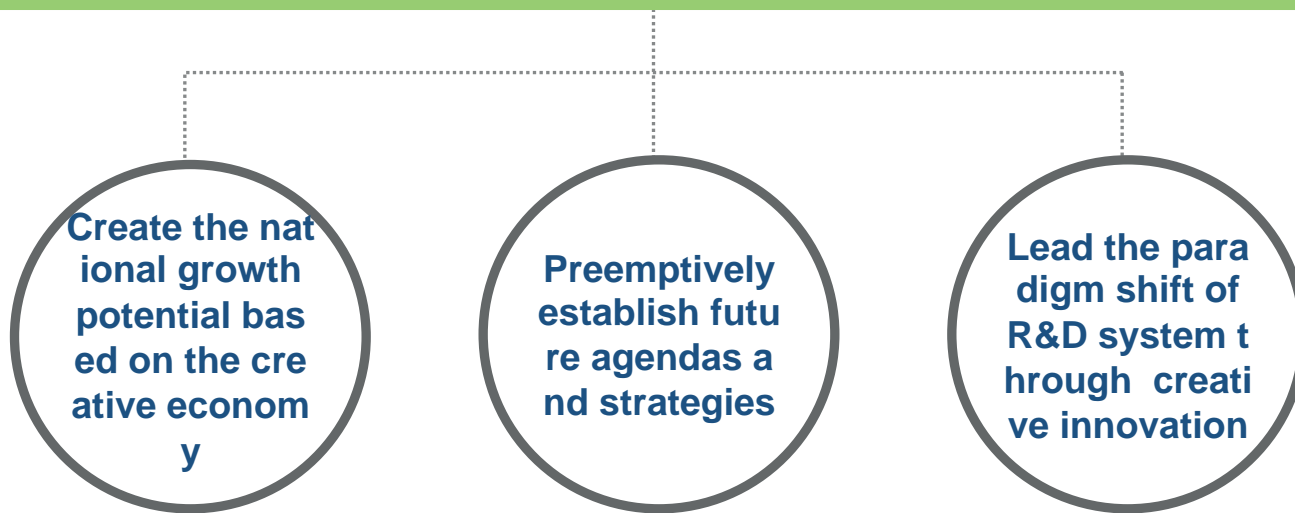
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Introduction of **KISTEP**

Introduction of KISTEP

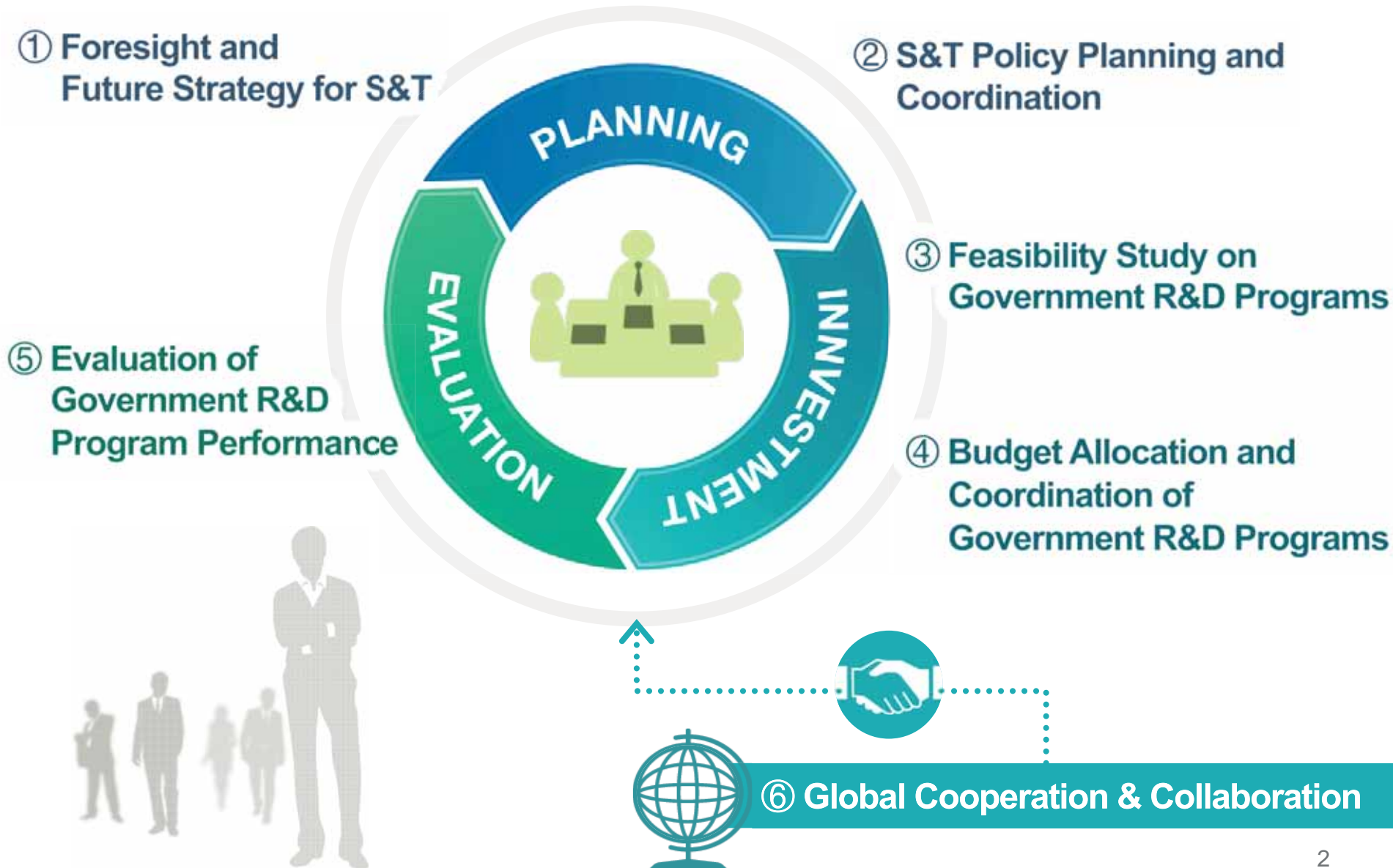
KISTEP, Key to Creative Innovation

As a global institute, KISTEP contributes to economic growth and public welfare through strategic S&T planning and R&D evaluation



- ❖ KISTEP is a government-funded institution under the Ministry of Science, ICT and Future Planning (MSIP) specializing in S&T planning and evaluation
- ❖ KISTEP provides the future vision, strategies and guidelines for the entire national R&D system

Major Functions

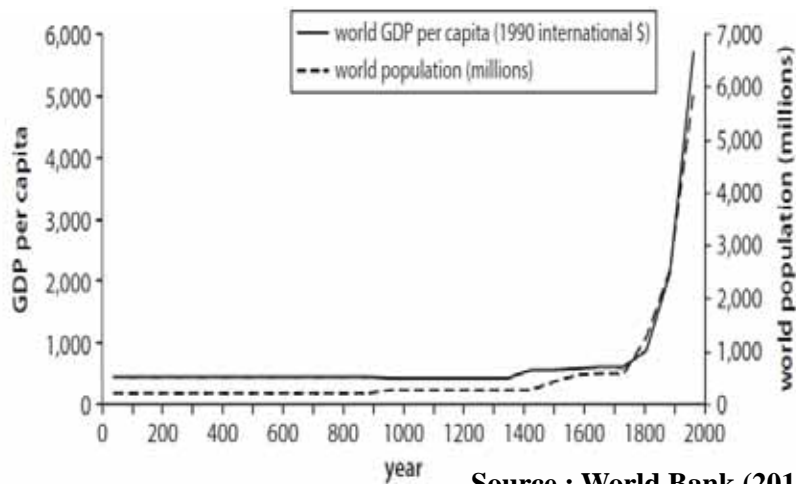


Global Challenges and **S&T**

S&T Progress Leads to World Prosperity

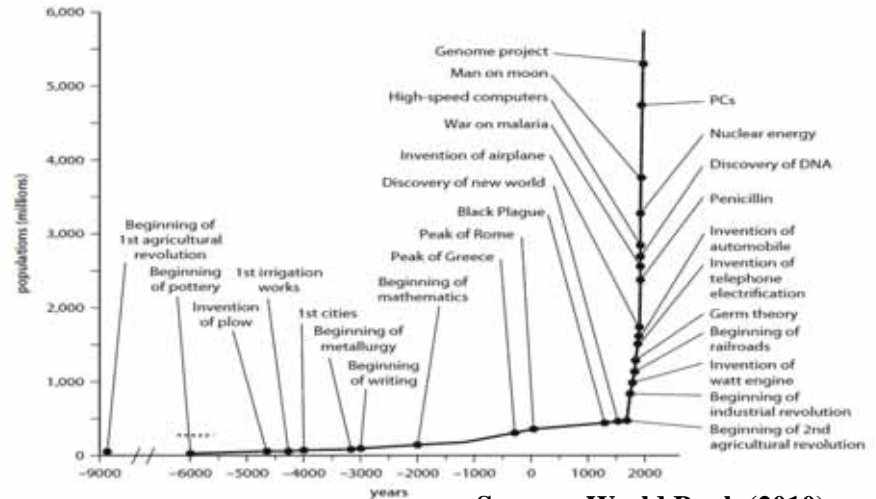
Innovation freed the world from the Malthusian Trap

Growth in Population and GDP per Capita in the Past 2,000 years



Source : World Bank (2010)

World Population Growth and Major Technological Events

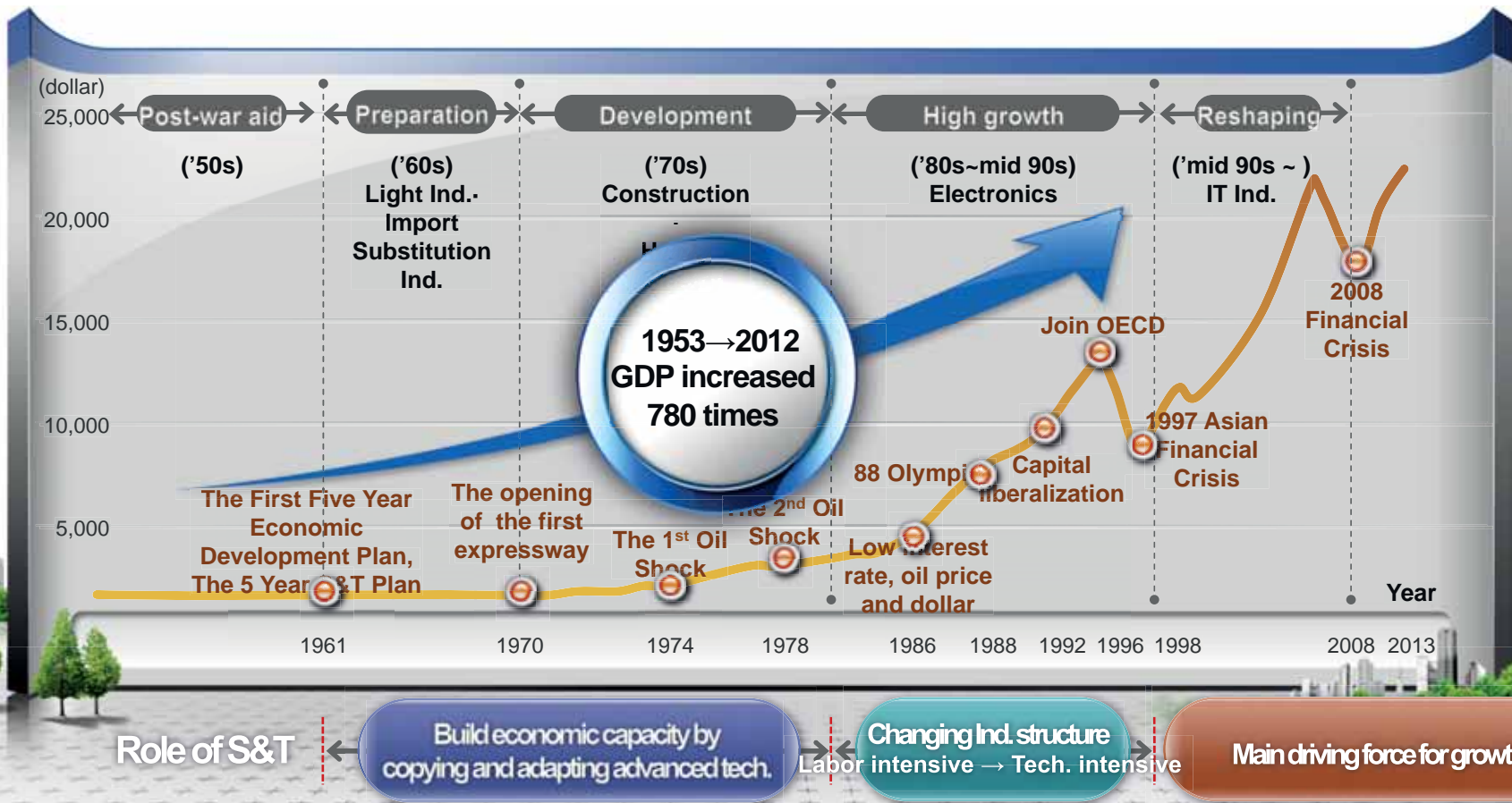


Source : World Bank (2010)

Technological progress led to explosive growth of population and income

Korea's Experience of Economic Development

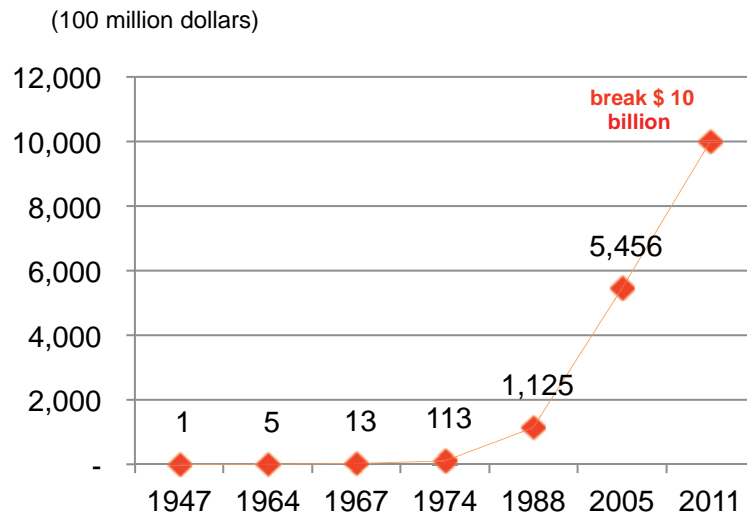
GDP per capita



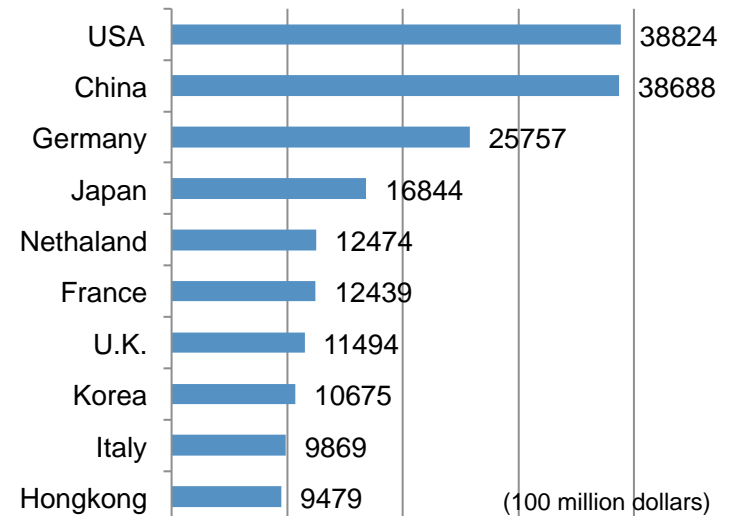
Status of Korea in Global Economy

- Export increased approx. 670 times from 863 million dollars in 1970 to 559,632 million dollars in 2013
- Ranked 8th in the world for trade volume (greater than 1 trillion dollars in 2012) (W TO, 2013)
- 13 Korean companies listed in Fortune Global 500 (Rank 8) (Fortune, 2013)
- Ranked 3rd in manufacturing business competitiveness (Boston Consulting Group)

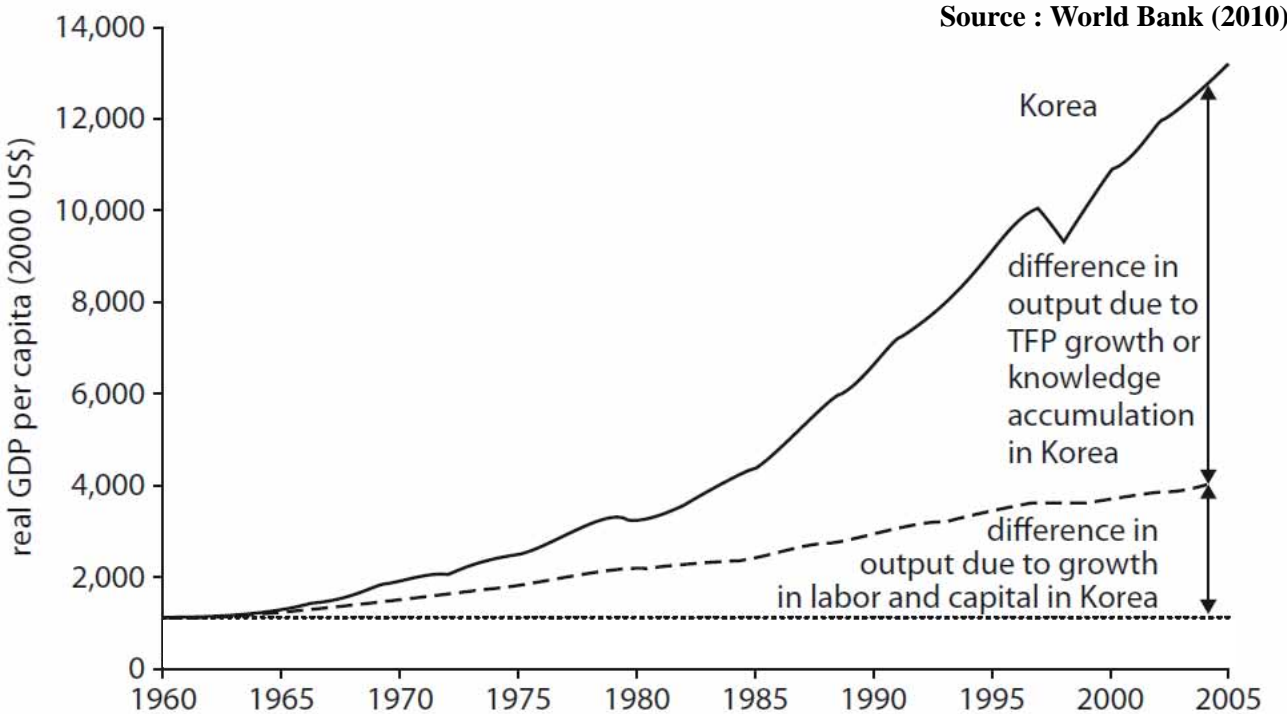
Trade Volume, 1947~2011



Trade Volume Rank, 2011



Technology Progress Leads to Economic Development in Korea



Advancement of S&T Itself Does Not Solve Global Challenges Today : Inequality

Global Inequality

The global pattern of **income distribution** is **highly uneven**, with average income levels **significantly lower** in **African and Asian countries**.

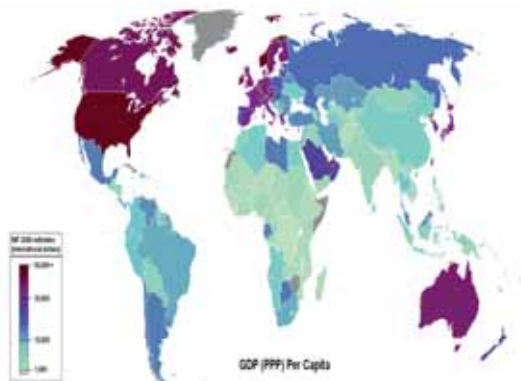
Income Inequality

The recent increase in **income inequality** reduces levels of **trust and social capital**, and gives rise to controversy on **social system**.

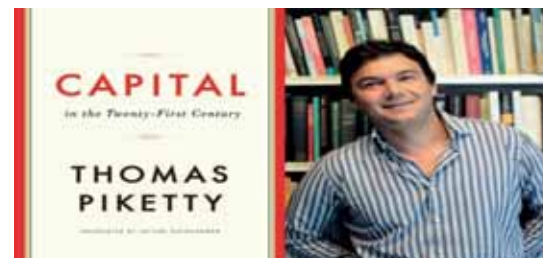
Job Polarization

The **global workforce** has undergone a dramatic **restructuring** in response to changes in technology, trade, and consumption patterns.

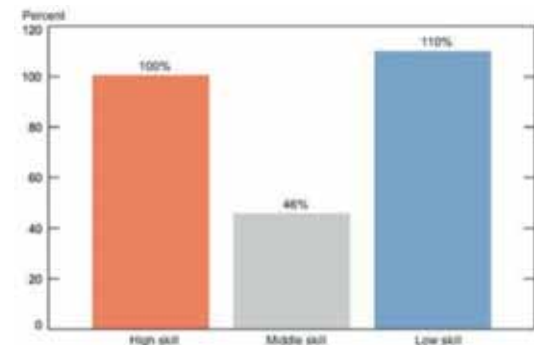
GDP per Capita Distribution



Source : Geocurrents (2011)



% Change in Employment by Occupation Group, 1980-2009



Source : Federal Reserve Bank of New York (2011)

Global Challenges : Low Economic Growth

Economic Recession

Even though the world recovered from huge recession caused by **financial crisis in 2008**, its **negative impacts** on economic growth and **uncertainty last**.

% Change in World GDP, 2007-2013

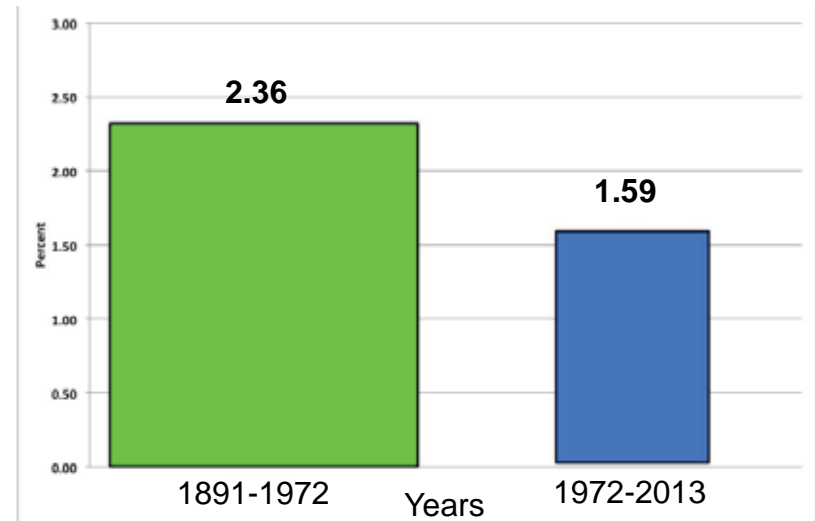


Source : IMF (2013)

The Productivity Slowdown

Despite the ICT revolution have contributed to human welfare, **productivity** has already **slowed** substantially and **the growth outlook is negative**

Annualized Growth Rates of Output per Hour, 1891-2013



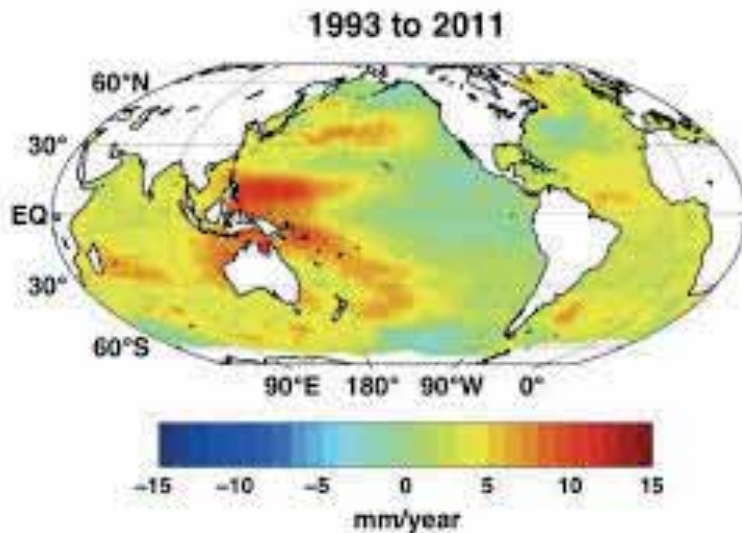
Source : Gordon (2014)

Global Challenges : Climate Change and Energy

Lack of Sustainability

The current **development path** originated from Industrial Revolution **cause environmental disruption, climate change and energy exhaustion** etc.

Sea Level Rise, 1993-2011



Source : CSIRO (2012)

Climate Injustice

Underdeveloped countries that are not responsible to climate change **suffer from natural disaster** caused by it. And they should also **pay cost of climate change** by international agreement in the future.

Average CO2 Emission per Person

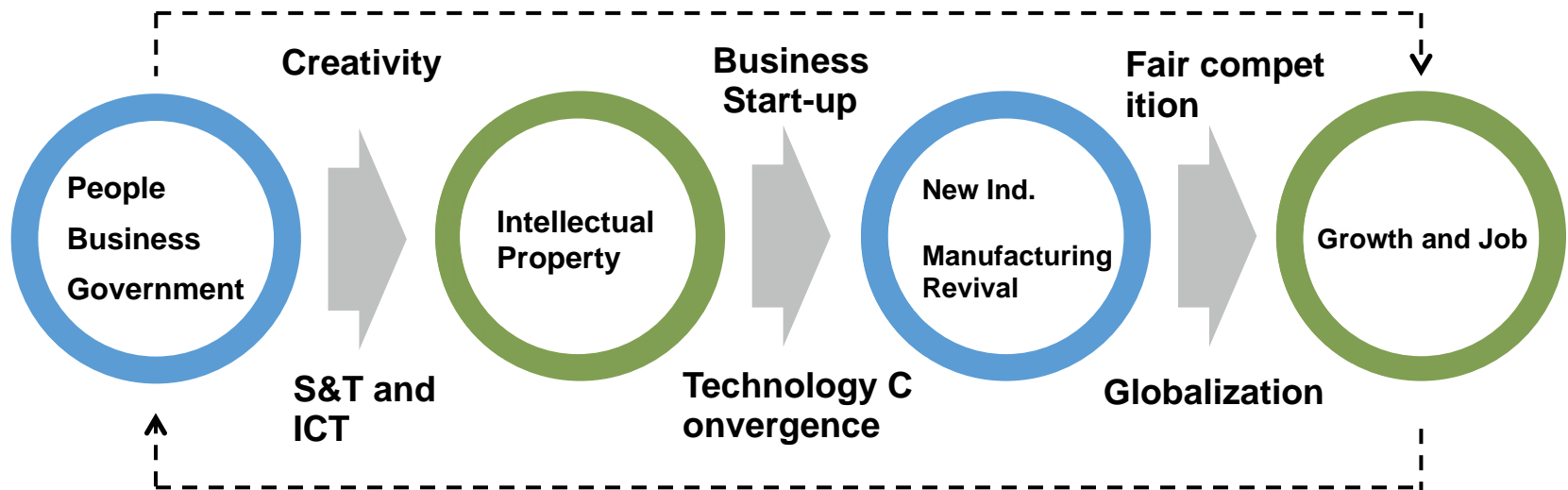


Source : World Bank (2010)

Emergence of **the Creative Economy**

What is the Creative Economy?

The Creative Economy is all about creating new markets and jobs, building on **the creative ideas** of economic players.



The Creative Economy pursue not just “technological innovation” but also “social innovation”

It try to overcome 1) barrier of regulation, 2) barrier of education, 3) barrier of finance, and 4) barrier of border

Why the Creative Economy?



Overcoming Inequality Challenge

- ✓ **Emphasizing on “human development”**
- ✓ **Creativity is inherent in all economic players of all countries unlike capital or resources**



Overcoming Growth Challenge

- ✓ **Emphasizing on “new market” or “new industry”**
- ✓ **the law of diminishing returns does not apply to the economy**

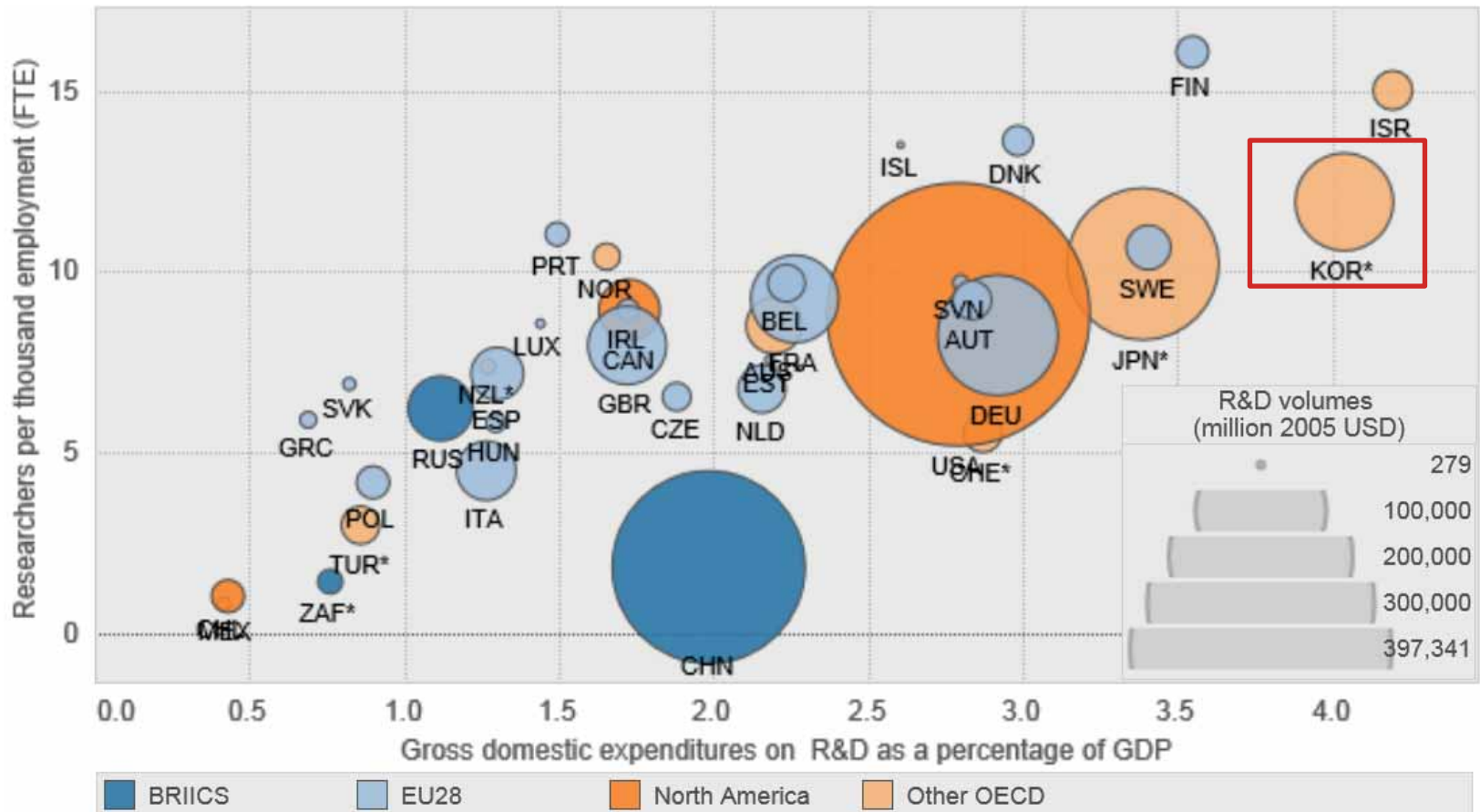


Overcoming Environmental Challenge

- ✓ **Emphasizing on “creativity”**
- ✓ **Unlike mineral resources, creativity neither depletes no matter how much it is used nor involves environmental side effects**

Korea's Experience and the Next

Human and Financial Resources Devoted to R&D, 2012

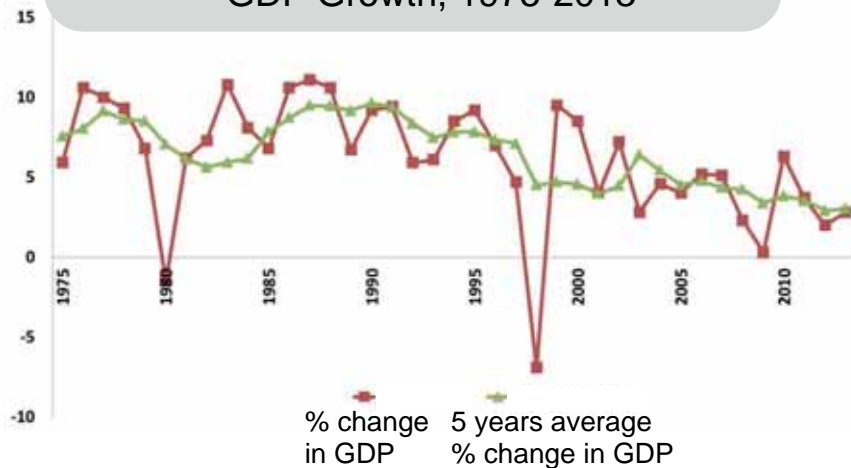


* Latest available data prior to 2012

Source : OECD (2014)

**Korea is one of the biggest S&T player in the world
in terms of resources devoted to R&D**

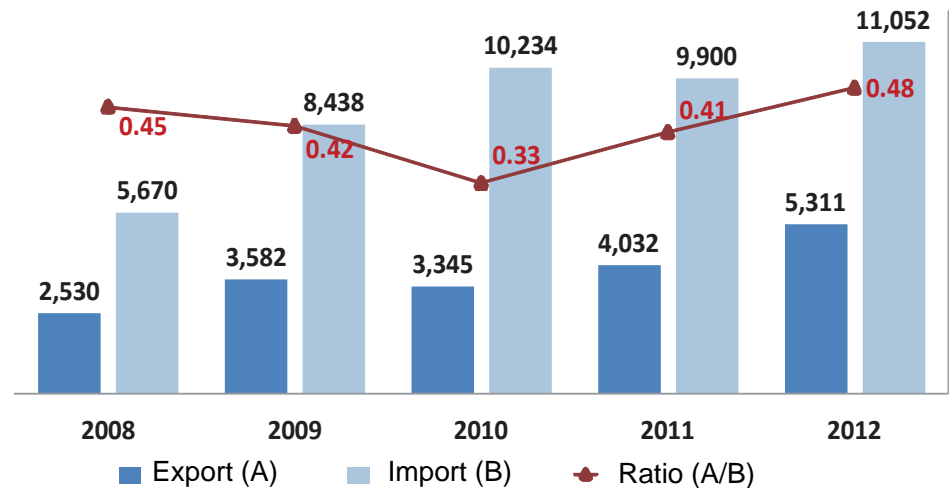
GDP Growth, 1975-2013



The rate of increase in GDP has slowed down recently due to low productivity, population aging, weak domestic demand, etc.

“Catch-up” strategy based on R&D investment is not an effective strategy for economic development anymore.

Technology Trade Balance, 2008-2012



Korea is shifting its economic paradigm to the “Creative Economy” to overcome limits to growth



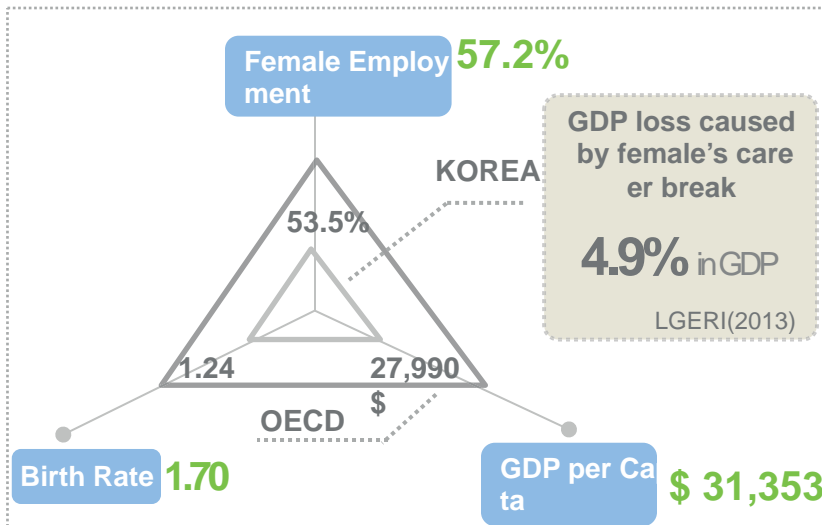
Creative Economy and **Gendered Innovation**

“Gendered Innovation” Increases Economic Capability and Creativity

Women’s Participation

Raising **women’s economic participation** is key to improve **potential growth rate**.

Relationship among Employment, GDP and Birth Rate



Source : Institute for Global Economics (2015)

Organization’s Diversity

A group of people with diverse **individual** expertise would be better than a homogeneous group at **solving complex, non-routine problems**.

CREATIVITY

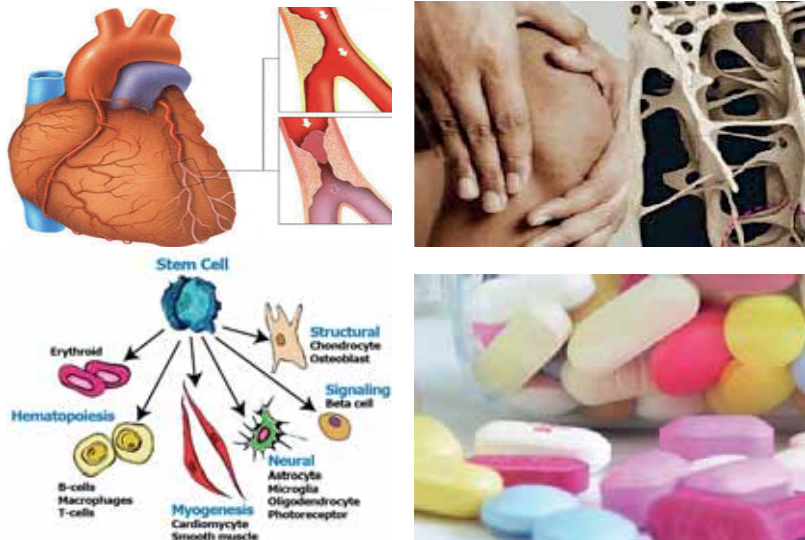


“Gendered Innovation” Improves Knowledge and Creates New Market

Knowledge Capital

By considering sex and gender dimension in research, we can accumulate **more and better knowledge capital**, the **key resource** for the Creative Economy

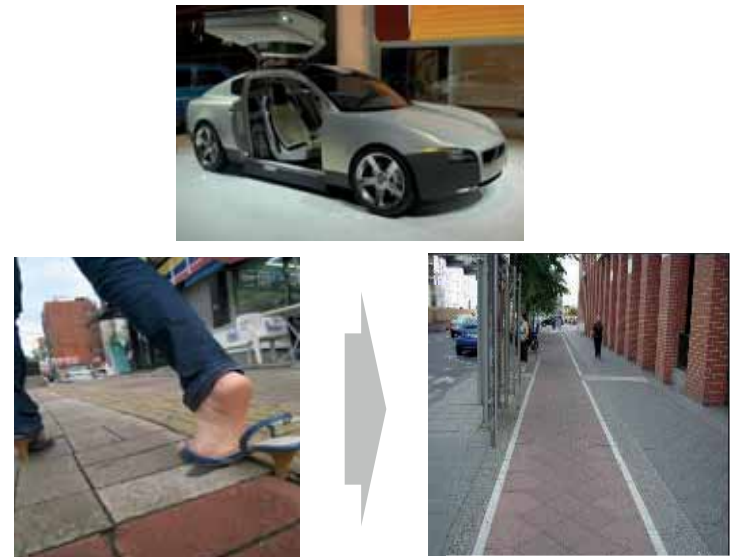
Gendered Innovation in Research



New Market

Product development that incorporates **gender aspects** can open **new markets** and enable innovation in products or services.

Gendered Innovation in Development





Korea's Efforts and Limits in **Gendered Innovation**

Women's Policy in KOREA

- » **「*the Equal Employment Opportunity Law*」** (1987.12)
 - to give equal job opportunities and conditions to both sexes

- » **「*Framework Act on Women's Development*」** (1995.12)
 - to promote equality between both sexes in every areas and develop women's capabilities
 - **「*Gender Impact Assessment*」** in Article 10

- » Establish the **“*Master Plan for Women's Policy*”**
 - 1st plan ('98-'02): Equality, Participation and Welfare
 - 2nd plan ('03-'07): coexistence, competence, representability, welfare & human right
 - 3rd plan ('08-'12): manpower utilization, protection of right, policy infra.
 - 4th plan ('13-'17): equality & participation, safety, work compatibility with household

- » Submit **“*Gender Sensitive Budget Bill 2011*”** as a legal document (2010 . 10) to the Assembly

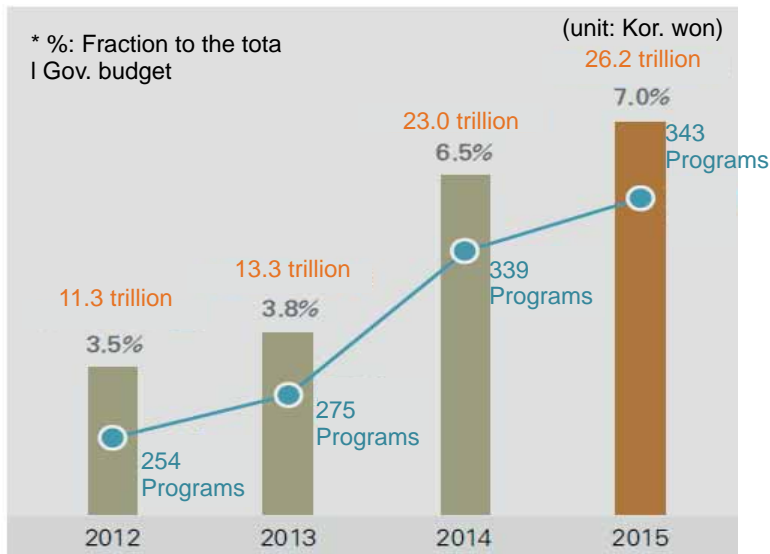
- » **「*Gender Impact Analysis and Assessment Law*」** (2011.9)

Best Practice in Women's Policy

Gender Budgeting (GB)

- (Goal) GB is to promote gender equality by influencing budget process
- (Legal base) National Finance Act, National Accounting Act, Local Finance Act
- (History) the first gender budget statement was made in 2009

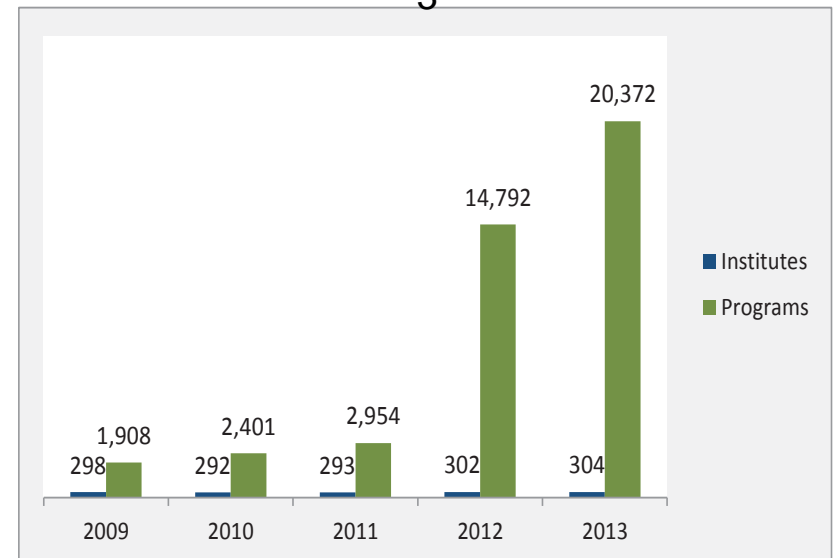
Gender Budget, 2012-2015



Gender Impact Assessment (GIA)

- (Goal) GIA is to promote gender equality by analyzing gender characteristics and gap in policy making
- (Legal base) Gender Impact Analysis and Assessment Act
- (History) the first plan to introduce GIA was prepared in 2004

Gender Impact Assessment, 2009-2013



Women's Policy in S&T field in KOREA

- ▶▶ Initiate **WISE (Women in Science and Engineering) program** (2001.09)
 - to develop talented female student through mentoring program with senior women scientist or engineer

- ▶▶ 「**Act on Fostering and Supporting Women Scientists and Technicians**」 (2002.12)
 - to strengthen the capacity of women in SET
 - to allow women in SET to fully perform the skills and capabilities in research and technical positions

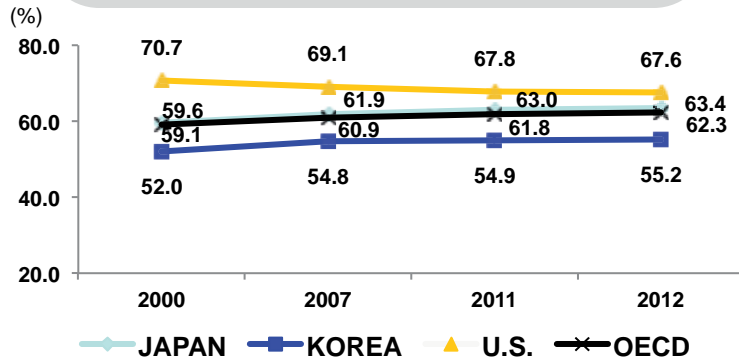
- ▶▶ Establish the “**Master Plan for Female S&T Workforce Promotion and Support**”
 - 1st plan ('04-'08): S&T Education, Ability, Infrastructure & Culture
 - 2nd plan ('09-'13): HRD, Participation/Diversity & Infrastructure
 - 3rd plan ('14-'18): Ability, Challenge, Balance, Diversity

& Gendered Innovation in R&D

- ▶▶ Establish supporting institute for women in SET (2004.12)
 - **Center for Women in Science, Engineering and Technology (WISET)**

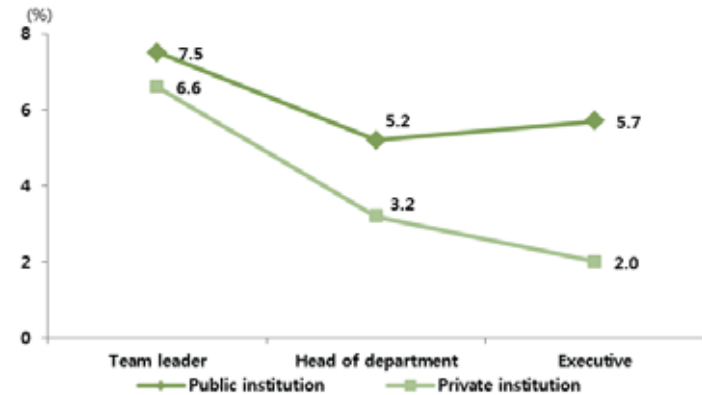
However, A Long Way to Gendered Innovation

% Female Labor Force Participation (ages 15-64)



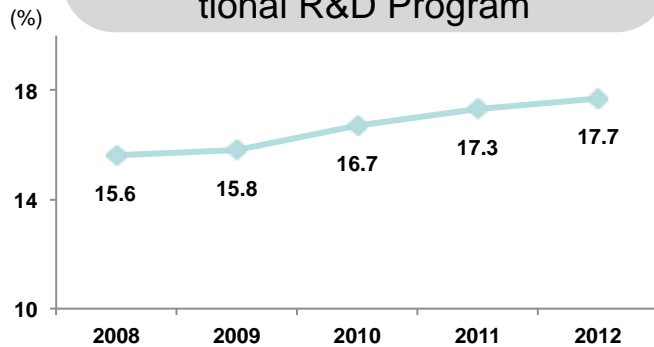
Source : OECD (2013)

% of Female Leaders in organization



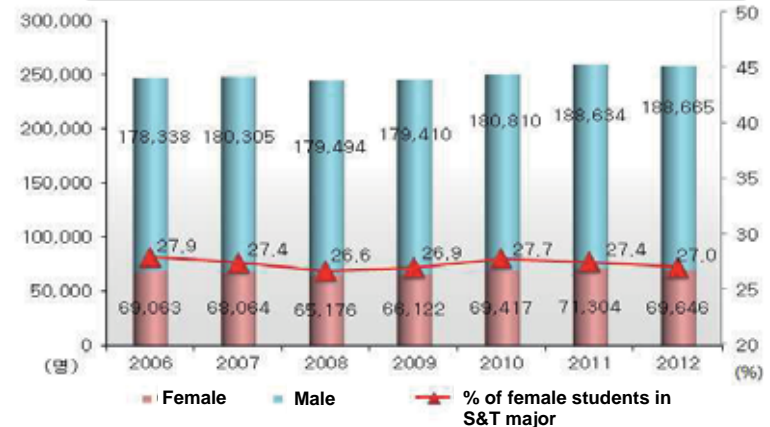
Source : MSIP (2013)

% of Female Participation in National R&D Program



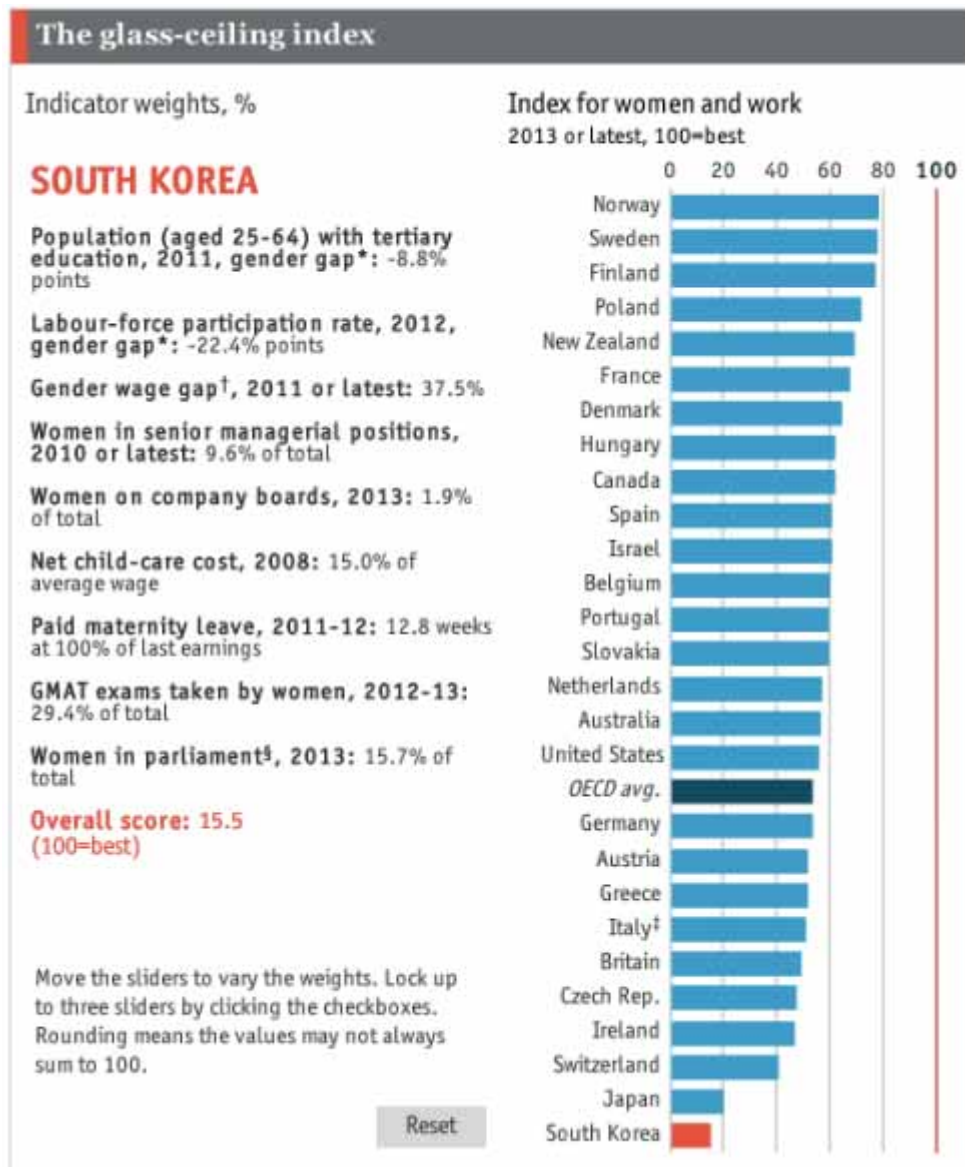
Source : MSIP (2013)

% of Female Students in S&T Majors



Source : MSIP (2013)

The Glass-ceiling in Korea



The Glass-ceiling Index

The Index is designed to show where women have the best chance of equal treatment at work. Based on data mainly from the OECD, it compares five indicators across 26 countries (100=best, 0=worst)



New Policy Agenda for **Gendered Innovation**

New Agenda to Promote Gendered Innovation



- From “*Sollen*” to “*Sein*”
- Developing “Gender-Mainstreaming” in S&T Policy
 - ✓ Expanding the scope of Gender Impact Assessment, Gender Budgeting and to general R&D program
- Diffusion of Gendered Innovation perspective in S&T
 - ✓ Learn and apply gender methods in R&D
 - ✓ Expand gender diversity in workplace and lab
 - ✓ Women’s participation in national R&D programs and Research cooperation
- Participate in regional (or global) Gendered Innovation network to deal with region specific (or global) gender issues

Gender Summit 6 Asia-Pacific

Better Science & Technology for Creative Economy: Enhancing the Societal Impact through Gendered Innovations in Research, Development and Business

26 – 28 August 2015

The Plaza Hotel, Seoul, KOREA

Conveners:



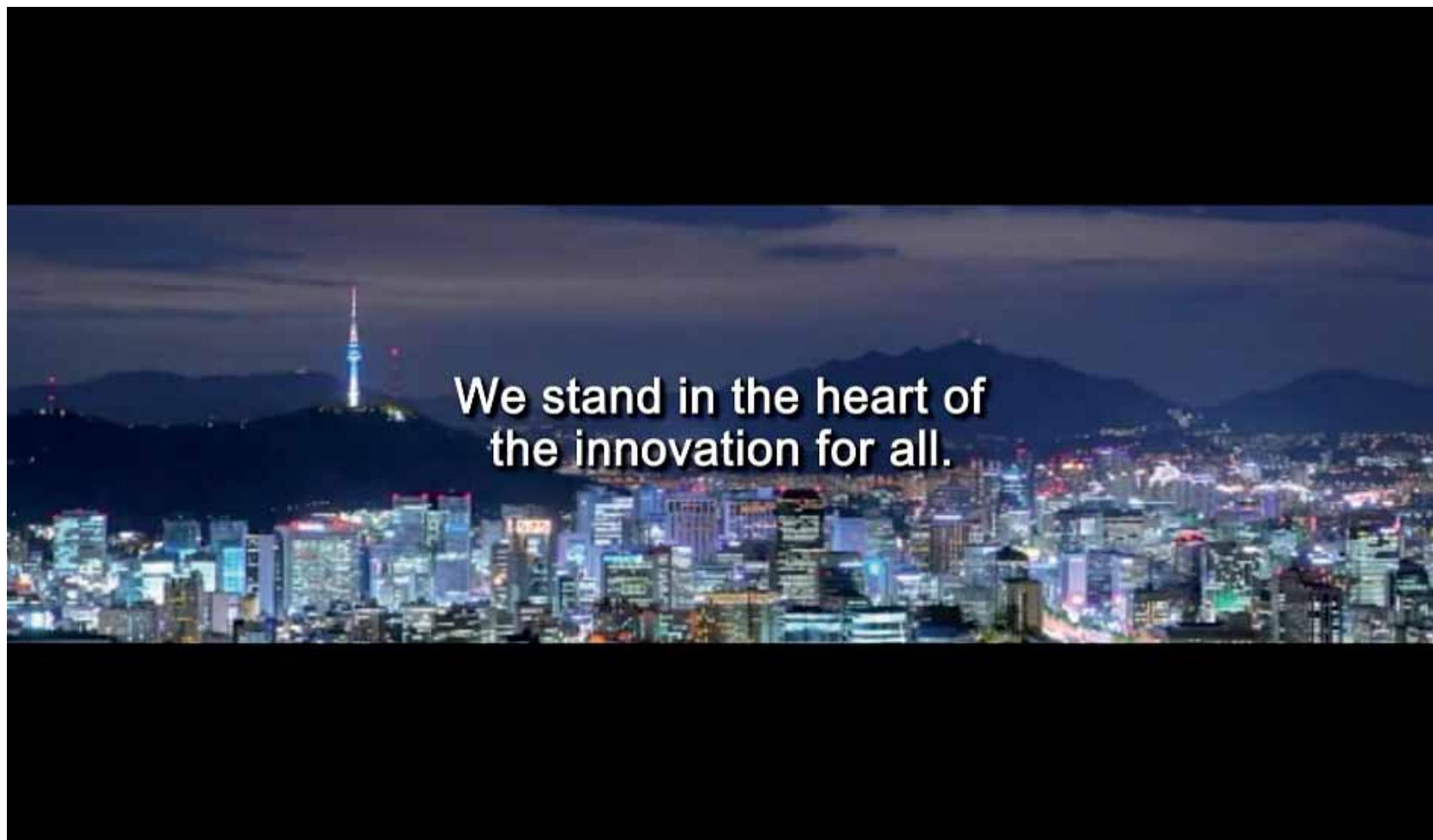
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The 1st Asian Innovation Forum



**Towards Better Asia:
Seeking New Possibilities of Innovation**

Date : August 25th – 26th, 2015

Venue : Grand Ambassador Seoul, Korea

The Asian Innovation Forum aims to bring together leading figures in S&T and Innovation (STI) policymaking, education and research to enable open discussion on Asian innovation.

By sharing innovation experiences and development strategies, we hope to establish platform for active communication and joint growth. Please join us to celebrate the inaugural forum that will become the hub of future Asian innovation!

Asian STI Think Tanks Network

will serve as a unique place to promote innovation by building networks between Asian innovators and sharing country-specific knowledge and experience. Through this unique network, we will strive together to solve the most pressing issues prevalent in Asia.

For more information, please contact aif@kistep.re.kr



Thank You!

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