



26th Annual Conference of the American Evaluation Association

The Transformation of China's research evaluation: from Native Mode to International mode

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2012.10.25

Outlines

- Background
- Two Evaluation modes
 - Native mode
 - International mode
- Challenges

Background

□ Evaluation is widely used in China to promote S&T development

- Institute Evaluation: CAS
- Program Evaluation: NSFC, MOST
- Talent Evaluation: Bairen Talent Project, Qianren Talent Project
- Discipline evaluation: Tsinghua university, Peking university, etc.
- ...

□ S&T Evaluation is an attractive issue in China

- Quantitative evaluation brings problems in S&T development
- Reforming the S&T evaluation has reached a consensus

Background

- ❑ How to reform the research evaluation? Are there any successful practices in China?
- ❑ We put forward two modes of China's research evaluation:
Native mode and International mode
- ❑ China's research evaluation is transferring from native mode to international mode

What is native mode?

Evaluation Indicators:

Focus on quantitative indicators, such as number of SCI papers, number of patents, amount of the funds.

Evaluation methods:

Mainly by quantitative evaluation

Native mode

Evaluation Benchmarks:

Comparison with domestic counterparts, lack of international benchmark

Evaluation Results:

Ranking or grading according to quantitative evaluation
Linked with resource allocation

Case; evaluation of CAS Institutes in 1993~1998

Evaluation Indicators:

awards, academic articles, citations, publications, patents, funds, etc.

Evaluation methods:

Institutes were given a score according to the quantitative indicators

Evaluation of CAS Institutes in 1993~1998

Evaluation Benchmarks:

Comparison with the institutes in CAS

Evaluation Results:

Ranking or grading according to the scores

Why native mode?

□ In the era of planned economy

- Established a S&T system: Government research institutes, universities, etc.
- Resource allocation, management of the institutes following the Planning

□ After reform and opening up

- Project: introduced competition in S&T management system
- Universities, research institutes has more autonomous rights
- S&T evaluation was introduced to the S&T management

□ S&T development level was low

- Several articles published in *Nature* and *Science* by Chinese scientists
- Far behind the international level

What is International Mode?

Evaluation Indicators:

Research quality, impact,
international status

Evaluation methods:

Mainly by peer review
Experts from overseas attend
evaluation

International
mode

Evaluation Benchmarks:

Comparison with
international counterparts

Evaluation Results:

Focus on diagnosis



Cases

Recruitment evaluation in Academy of Mathematics and Systems Science,CAS

- E-peer review by 4~5 experts from overseas and 4~5 experts from China
- Focus on Research quality, international status
- Competed among international counterparts

Research direction evaluation in Institute of Physics,CAS

- E-peer review by at least 4experts from overseas
- Focus on the importance, significant, innovativeness, impact of the research directions

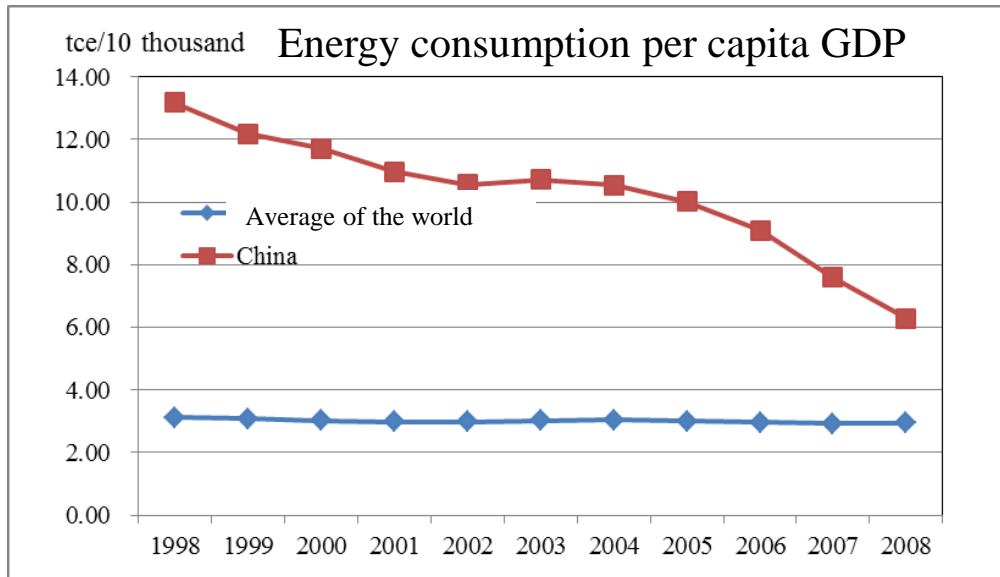
Disciplines evaluation in Tsinghua University, Peking University, Shanghai Jiaotong University,etc

- E-peer review and on-site review by experts from overseas
- Focus on the international status of the disciplines

Why International mode?

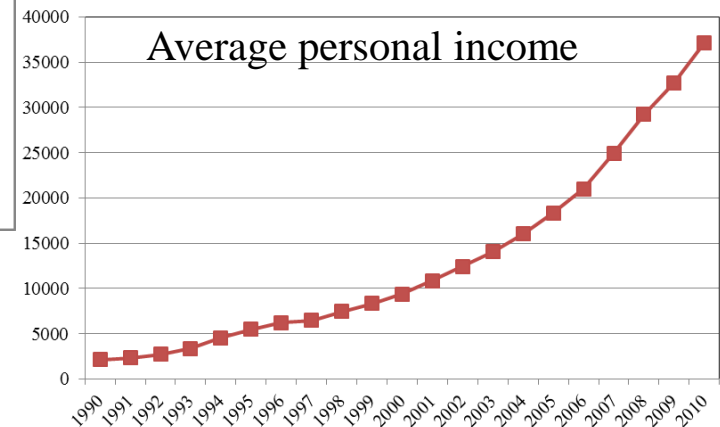
□ Requirement of economic development

Traditional development pattern of China's economy is facing big challenges



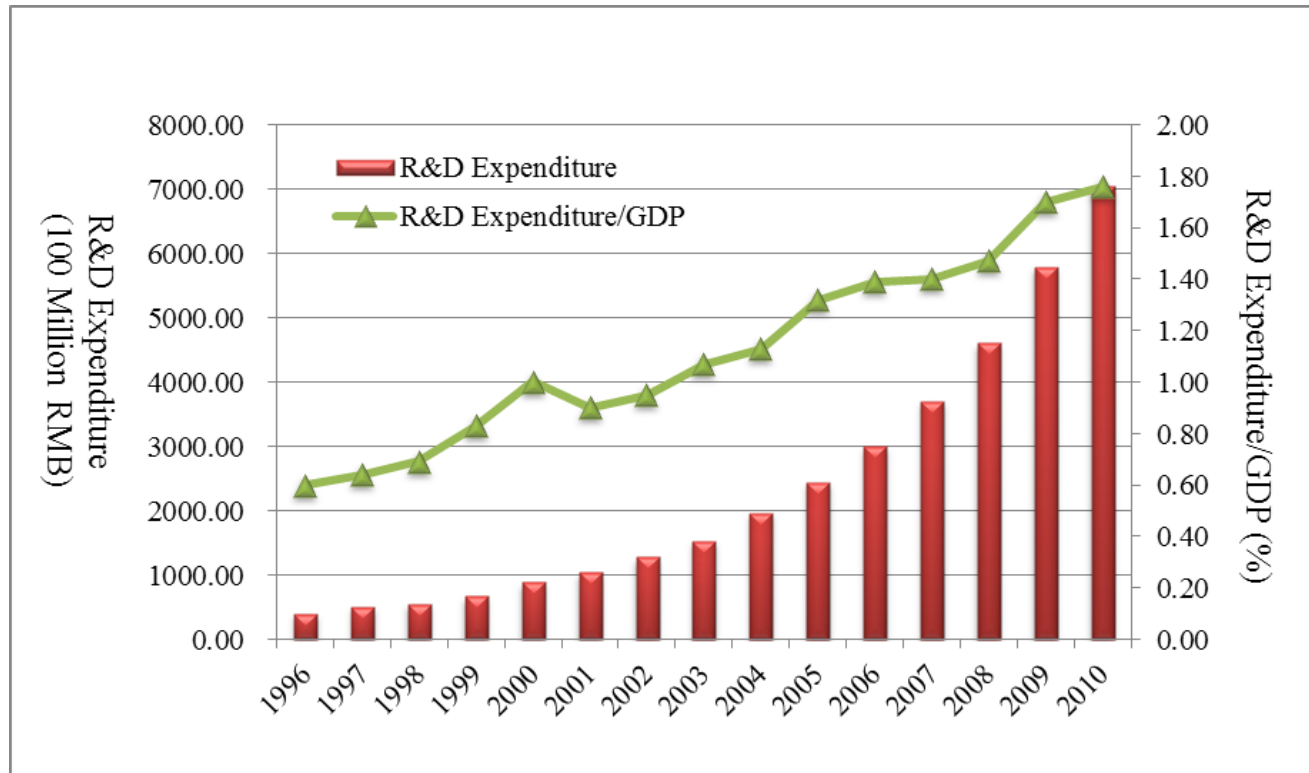
Energy consumption

Labor cost



Why International mode?

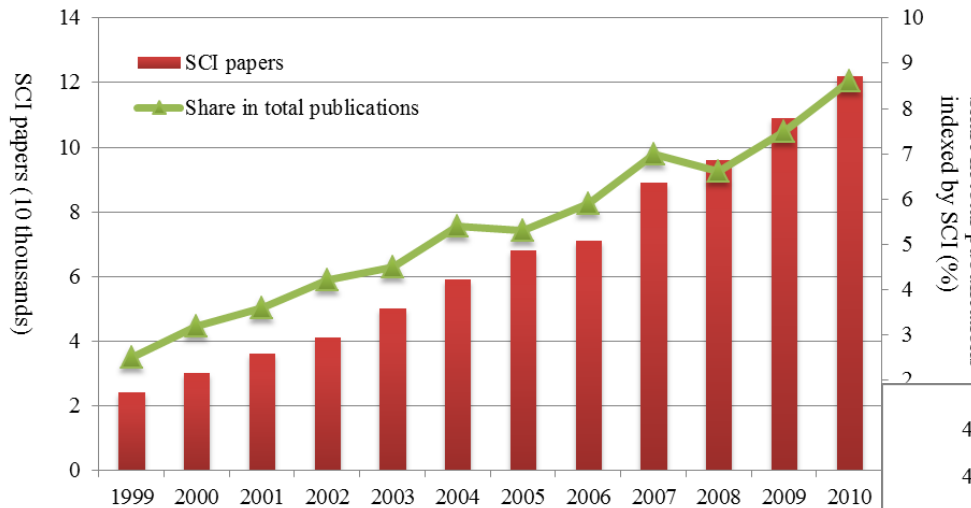
R&D investment increased rapidly



S&T should play its leading role on accelerating the transformation of the pattern of economic development and construction of innovative country

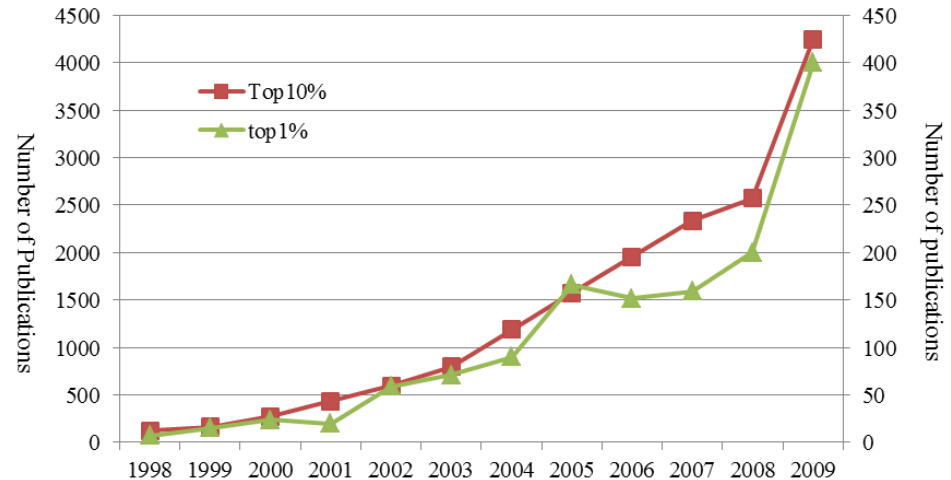
Why International mode?

□ S&T progress



Number of SCI papers and the share in total

Top 1% and Top 10% articles by CAS



Number of publications

Why International mode?

□ S&T progress

Invention patents granted in selected countries

件 case

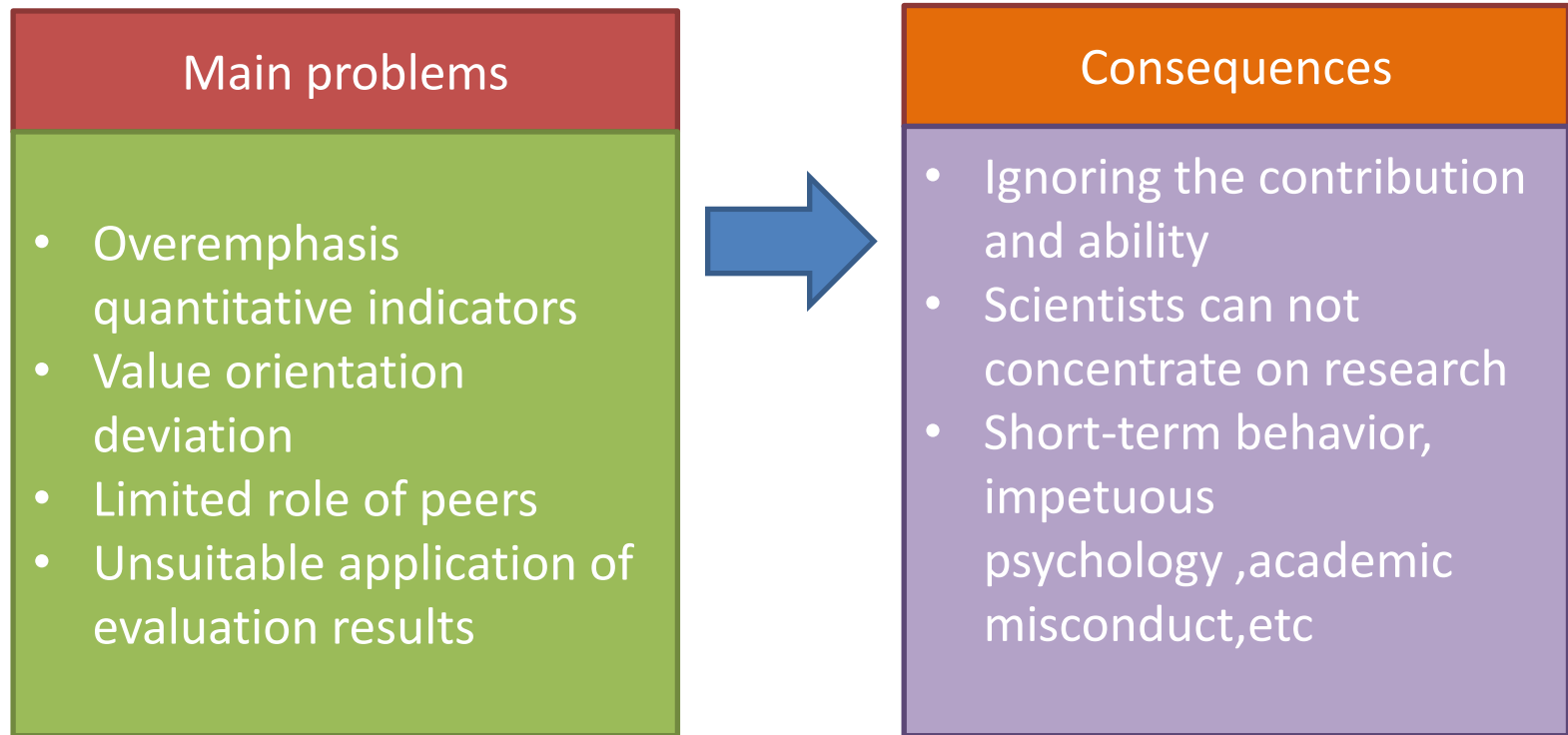
	中国 China	日本 Japan	美国 USA	韩国 Korea	欧洲 专利局 EPO	俄罗斯 Russia	加拿大 Canada	意大利 Italy	德国 Germany	法国 France
国内 Domestic	65391	164459	82382	42129		26294	2029	16319	10284	9228
国外 Foreign	63098	28890	84967	14603	51969	8530	17468	1958	4151	1301
合计 Total	128489	193349	167349	56732	51969	34824	19497	18277	14435	10529
合计位次 Rank	3	1	2	4	5	6	7	8	9	10

数据来源：世界知识产权组织工业产权统计（2011）。

Source: WIPO, Industrial Property Statistics (2011).

Why International mode?

□ Problems of native mode



Challenges

- ❑ How to deal with the imbalance of developments in different agencies, disciplines or regions?
- ❑ How to make the international evaluation better and better?
expert selection,
quality control...
- ❑ How to promote the transformation? How to change the value orientation?

Conclusions

- ❑ Research evaluation is playing more and more important role in China.
- ❑ China's research evaluation is transferring from native mode to international mode
- ❑ The improvement of S&T progress is the root causes of the transformation
- ❑ The transformation is still facing a lot of challenges. Two modes may coexist in a long period



Thanks for your attention !

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