

International Evaluation of NSFC's Funding and Management Performance

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*Views expressed are personal and do not reflect those of the NCSTE.



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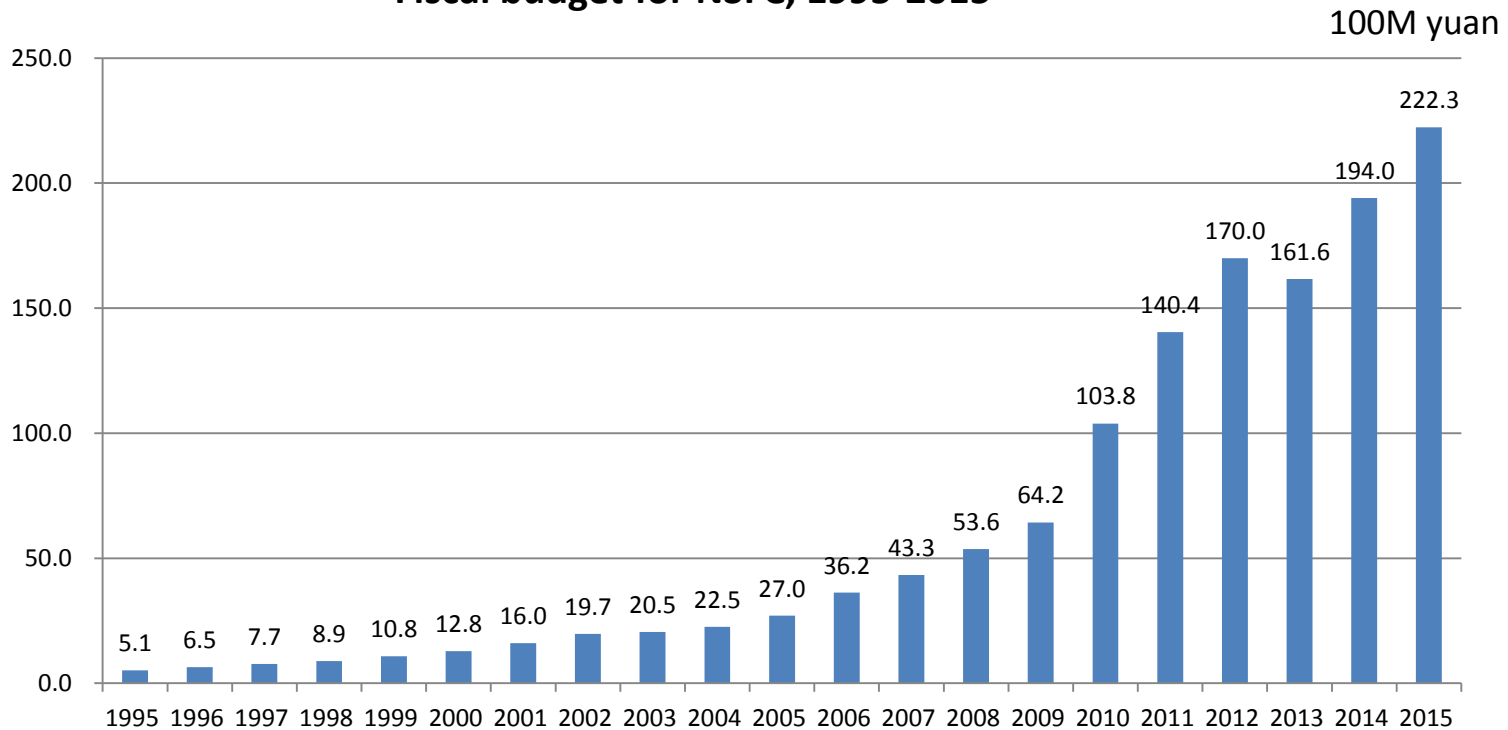
1. Background
2. Design and implementation of the evaluation
3. Utilization of evaluation results



1. Background

- Founded in 1986, the National Natural Science Foundation of China (NSFC) is the largest funder for basic research in China.

Fiscal budget for NSFC, 1995-2015



Source: NSFC



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1. Background

- ❑ NSFC leadership has three major components:
 - A president,
 - A 25-member General Assembly, and
 - A Council meeting.
- ❑ Supervisory Committee
- ❑ Project management
- ❑ Departments responsible for planning, budgeting, policy-making etc.



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1. Background

- ❑ Eight funding fields:
 - Mathematical and Physical Sciences
 - Chemical Sciences
 - Life Sciences
 - Earth Sciences
 - Engineering and Materials Sciences
 - Information Sciences
 - Management Sciences
 - Health



1. Background

□ Funding system

Three categories of Programs	Main Funding Instruments
I. Program for Research Promotion	General Program
	Key Program
	Major Program
	Major Research Plan
	International (Regional) Joint Research Program
II. Program for Talent Training	Young Scientists Fund
	Fund for Less Developed Regions
	Excellent Young Scientists Fund
	National Science Fund for Distinguished Young Scholars (including applicants with foreign citizenship)
	Science Fund for Creative Research Groups
	Joint Research Fund for Overseas Chinese Scholars and Scholars in Hong Kong and Macao
III. Program for Infrastructure Construction	Programs of Joint Funds
	Special Fund for Basic Research on Scientific Instruments
	Tianyuan Fund for Mathematics



1. Background

- ❑ Purpose of the evaluation
 - Chinese government increasingly emphasizes on performance of public funding, which requires to evaluate the performance of NSFC's funding
 - NSFC had internal demand to review the NSFC's funding and management in the past 25 years so as to contribute better to China's STI development.

2. Design and implementation of the evaluation

- ❑ Objectives of the evaluation:
 - To **independently assess** the overall performance of NSFC's funding and management in the past 25 years, from a truly global perspective;
 - To **recommend** to improve NSFC's decision-making and management;
 - To **develop** a set of forward-looking guiding ideas, supporting NSFC to redefine NSFC's strategic role within the NIS of China.

2. Design and implementation of the evaluation

- Methodologies:
 - **domestic preparation + international evaluation:** NCSTE prepared evidence for evaluation, an International Evaluation Committee made assessment of the NSFC's performance based on evidence prepared by NCSTE and its interviews and meeting with stakeholders such scientists, NSFC management, governmental departments.



2. Design and implementation of the evaluation

□ Methodologies:

- **Issue and Key Question-Oriented:** 10 issues with 30 key questions.

□ Strategic Positioning	Issue 1 NSFC's strategic positioning	Q1-Q3
	Issue 2 Funding strategy	Q4-Q6
□ Funding Performance	Issue 3 Contributions to originality and novelty in basic research	Q7-Q8
	Issue 4 Promoting the balanced development of scientific disciplines	Q9-Q11
	Issue 5 Fostering innovative talents	Q12-Q14
	Issue 6 Supporting the national demands and challenges	Q15-Q17
□ Management performance	Issue 7 Modality of funding management	Q18-Q20
	Issue 8 Funding instruments	Q21-Q23
	Issue 9 Peer Review System	Q24-Q26
□ Impact	Issue 10 Impact of NSFC's funding	Q27-Q30

2. Design and implementation of the evaluation

- ❑ Methodologies:
 - **Evidence-Based:** synthesis evidence from various sources including:
 - 20000+ questionnaires received
 - 550 case studies
 - 32 focus group meetings
 - 23 interviews
 - bibliometric analysis.



2. Design and implementation of the evaluation

- ❑ Evaluation results: Synthesis Evidence Report + International Evaluation Report
(<http://www.nsfc.gov.cn/publish/portal1/tab157/>)
- ❑ The reports was submitted to the state council to inform the budget allocation for NSFC.
- ❑ The evaluation had received wide attention from Chinese science community.



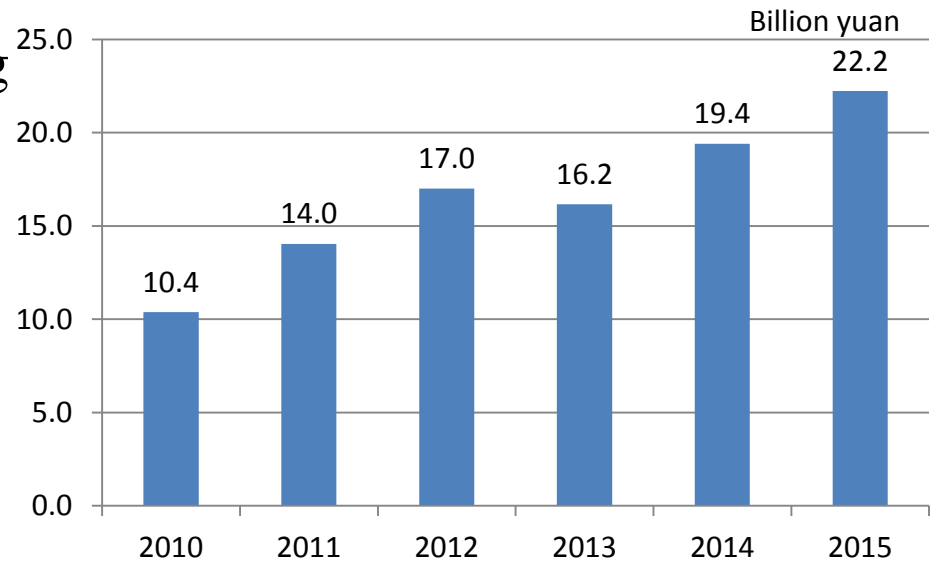
3. Utilization of evaluation results

- ❑ The IER and the SER were highly recognized by the NSFC and MOF.
- ❑ The NSFC held a week-long meeting to disseminate the evaluation results among project management and to discuss how they could be used to improve decision making and management.
- ❑ An evaluation culture has been steadily built in NSFC after this evaluation.



3. Utilization of evaluation results

- ❑ Strengthen NSFC's positioning in NIS of China.
 - **Recommendation:** in order to achieve the required shift towards original innovation, a greater proportion of state spending on basic research should be channeled through NSFC.
 - **adopted:** fiscal budget for NSFC has doubled during 2010-2015. It accounted 1/3 of basic research expenditure of China in 2015.



3. Utilization of evaluation results

- ❑ Performance evaluation.
 - **Recommendation:** NSFC should fund an operation that develops a broad set of science indicators, which regularly analyses the performance of NSFC and NSFC-funded projects.
 - **adopted:** since 2013 NSFC has implemented performance evaluation of General Program and scaled up to Young Scientist Fund in 2015 and to Fund for Less Developed Regions in 2016.

3. Utilization of evaluation results

- Funding instruments.

- **Recommendation:** the General Programme remains the key focus of NSFC funding and should become more flexible in the permitted size and duration of projects.
- **adopted:** budget of General Programme accounts for about 50% of total NSFC funding. The duration of GP project increased from 3 years to 4 years and grant size from 600,000 yuan to 800,000.

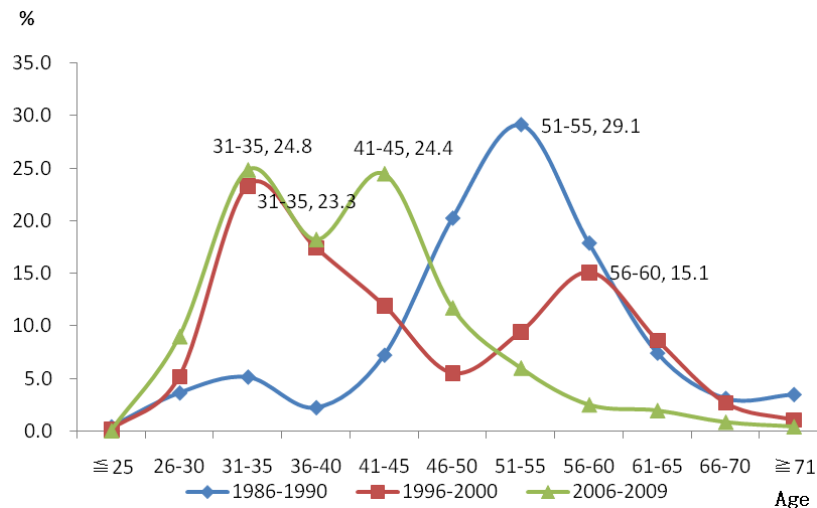


3. Utilization of evaluation results

□ Funding instruments.

- **Recommendation:** set up some new funding instrument to support young researches based on “scientific age” and for female researchers.

Figure Age Distribution of PIs, 1986-2009



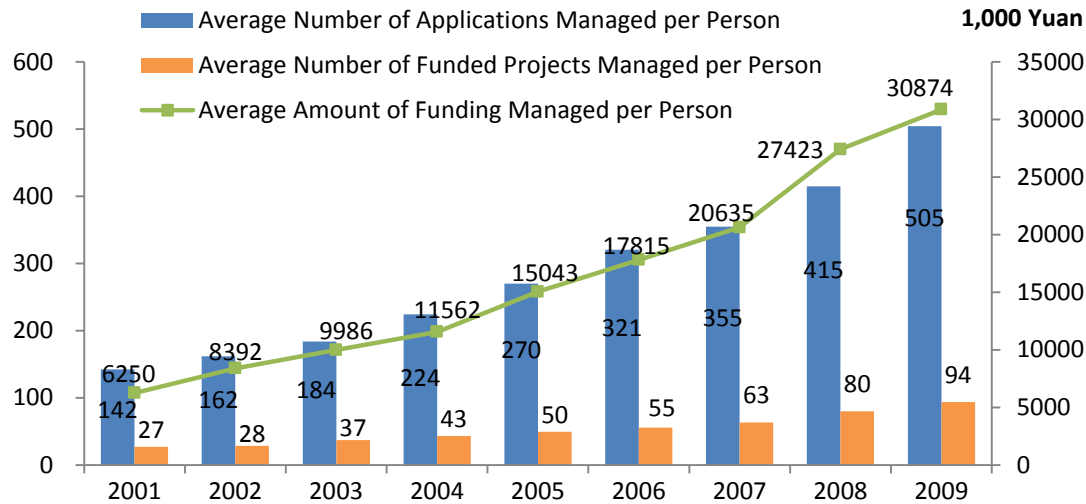
- **adopted:** established a new instrument - Excellent Young Scientist Fund-focusing on those with age of 35-40, extended age limit for female applicants for YSF to 40.



3. Utilization of evaluation results

- Management and ministration.
 - Recommendation:** NSFC take steps to reduce the proposal pressure via demand management, for example by enforcing a ‘time out’ of at least one year for applicants who have been unsuccessful in two consecutive years.

Figure Workload of Permanent Staff of NSFC



- Adopted** in 2011. But this measure seems not stop the growth of the number of application

Many thanks for you attention!

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