Research on the vitality of scientific and technological talents in China—from an institutional reforming perspective

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Background—According to statistics, as of the end of 2018, Chinese total scientific and technological (S&T) human resources reached 101.545 million, and the scale continues to rank first in the world. But there are also problems such as imbalance in the structure of innovative S&T talents, the lack of world-class scientists, and the disconnection of engineering and technical talents from production and innovation practices.

Method—Based on Fourth National Survey of Science and Technology Workers Survey Report (2017) and Academic Environmental Assessment Reports 2018, etc., this study evaluates the vitality of China's scientific and technological talents from the aspects of management system, classified evaluation mechanism, incentive mechanism and flow mechanism through literature review, case study, field investigation and expert consultation, so as to provide guidance for stimulating the vitality of scientific and technological talents.

Findings

- The two-way flow mechanism of scientific and technological talents has shown results
  - The flow of scientific and technological talents has accelerated significantly
- Knowledge value oriented income distribution mechanism has been preliminarily established
- The system of performance-related pay for scientific research institutes has been gradually established
- Accelerating the construction of scientific classification evaluation system
- Optimizing the correct scientific and technological evaluation guidance
- Speeding up the adjustment of the proportion of professional and technical posts
- Establishing a system of classified management of scientific and technological personnel

Problems

- There still are obstacles of young scientific and technological talents in the path of growing, and insufficient scientific research time is still relatively prominent.
- The implementation of the classification evaluation system is not in place, and the paper-evaluation orientation still exists commonly.
- The compensation system for scientific and technological personnel is not complete, and the implementation effect of the incentive mechanism needs further deepen.
- The competition for high-level scientific and technological talents has intensified, leading to a serious brain drain in the central and western regions.

Advice

1. Deepen the reform of the management system for scientific and technological personnel and further promote the implementation of policies
2. Establish a science and technology talent evaluation mechanism oriented by moral character, ability and contribution
3. Establish and improve the incentive mechanism for scientific and technological talents
4. Promote the reasonable and effective flow of scientific and technological talents
5. Pay more attention to the time devoted to scientific research by researchers