

Research on the Policy of Innovation and Entrepreneurship Talents Flow from the Supply-Side

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Abstract

The development situation and main difficulties of the development of innovation and entrepreneurship talents in domestic universities were acquired by summarizing and analyzing the policy characteristics and practical experience of the innovation, entrepreneurship and technology talents mobility in the United States, Britain and Japan. This paper proposed some suggestions about policies, including two modes and the design of frame, which could provide a path and countermeasures for the government to promote the innovation and entrepreneurial flow of scientific and technological talents, at the same time, provide development paths and suggestions for subsequent policy announcements.

Keywords

Innovation and Entrepreneurship in Universities, Supply-Side Reformation, Flow of Scientific and Technological Talents, Policy Research

1. Introduction

Since 2015, China's economy has entered a new stage, with deviations in the linkage between major economic indicators, continuous downward trend of economic growth and continuous low operation of CPI, increase of residents' income while decrease of enterprise profit rate, rise of consumption and decline of investment, and so on. In contrast to the classical economic theory, the present situation in China is neither stagflation in the traditional sense nor deflation in the standard form. At the same time, the monetary policy at the macro-control level has been continuously strengthened and the effect is not good,

the investment is driven up and down, the old economic weakness is revealed and the new economy based on “Internet +” is vigorous, the economic crisis in northeast China is aggravated, and some western provinces and regions which lack the advantages originally emerge suddenly. In short, the structural divisions in China’s economy are becoming more pronounced. In order to adapt to this change, while facing up to the traditional demand management, there is still room for optimization and improvement, there is an urgent need to improve the supply-side environment and optimize the supply-side mechanism. By reforming the system supply, we will vigorously stimulate the vitality of microeconomic subject and strengthen the new power of long-term stable development of China’s economy.

At the current environment of supply-side reformation, the Chinese government is seeking for the new idea of sustainable economic and social development in order to solve the practical contradiction that supplies are unable to meet the demand by starting from the supply side and the source, which lead to an innovation-driven development strategy. The General Office of the State Council issued the “Implementation Opinions on Deepening the Reform of Innovation and Entrepreneurship Education in Colleges and Universities” in May 2015, which clearly pointed out that it is necessary to encourage and support the participation of teachers in the college to take part in social innovation and entrepreneurship. These policies indicate that China has entered a new era of innovation and entrepreneurship.

2. Policy and Experience of Innovative and Entrepreneurial Science and Technology Talents Flow in Foreign Universities

The most representative countries including the United States, the United Kingdom and Japan are selected by collecting and analyzing the data in this paper. This study summarizes the respective policy characteristics, practical experiences and inspirations for supporting the flow of innovative, entrepreneurial and technological talents in colleges and universities in these three countries.

2.1. Comparison of Policies and Experiences among the United States, the United Kingdom and Japan

By summarizing the experiences of the three countries, it can be found that the United States is in a leading position in the development of innovative and entrepreneurial for technical talents, especially in terms of incentive mechanisms. The UK focuses on attracting the world’s innovative, entrepreneurial and scientific talents to the country, which aiming to build a comprehensive and Innovation-oriented country. Japan has made some similar policies with the United States and it focuses more on incentive policies.

First, the three countries have provided a relatively relaxed policy environment for the flow of scientific and technological talent, which is the most basic

condition for the flow of scientific and technological talent. The USA and Japan have adopted management systems for the flow of scientific and technological talent, such as setting up of special organizations to facilitate the innovation and entrepreneurship activities (such as the USA International Entrepreneurship Association, the Regnier Institute of Entrepreneurship and Innovation and so on, Sanada conference at Keio university of Japan, “Kuramae Venture Capital Consulting Room” of Tokyo university of technology, etc.) [1] [2], or conducting flexible time management [3] [4], or introducing the classified management of innovative and entrepreneurial science for technology talents [5] [6]. All these measurement promote the flow of innovative and entrepreneurial science for technology talents and the transformation of scientific and technological achievements.

Second, both the USA and Japan have put forward the strategies of “going out” and “coming in”. On the one hand, these strategies guided teachers and researchers in the college to transform scientific research achievements into entrepreneurial projects with social and economic value through incubators [6] [7]. On the other hand, they invited the outstanding entrepreneurial talents from outside to contact by introducing their advanced entrepreneurship ideas and acts as the leader of doing innovation and entrepreneurship activities [3]. As to the UK, it pays more attention to the strategy of “coming in” strategy to attract scientific and technological talents from universities in the world, therefore, the UK formed a complete and systematic strategic system in the national level, which integrates multiple measures such as policy rules, public procurement and public services, in order to attract scientific and technological innovative talents in the environment of globalization [8] [9].

Third, it provides financial support for innovative and entrepreneurial science for technology talents in colleges and universities as a powerful incentive method. For example, American scientific talents can apply for financial support from National Science Foundation, Ford foundation and Carnegie foundation [10]. Another example is the Special Joint Trial Research Tax Deduction System established by the Japanese government in 2003, which reduces the tax amount equivalent to 12% of the total cost of research and development for the joint research conducted by universities, public research institutions, etc. [7].

2.2. The Enlightenment of the Three Countries’ Policies and Practical Experience to China

First of all, it is necessary to provide a strong supportive policy environment for the innovation and entrepreneurship of scientific and technological talents flow at the national level, as well as a scientific and reasonable system. A scientific and reasonable system is the basic premise for ensuring the active and effective development of university innovation and entrepreneurship. As mentioned above, the United States, Britain, Japan and other countries have successively formulated relatively complete talent policies, thereby attracting and encouraging high-tech talents to better transform knowledge into productivity and pro-

mote national technology and industrial development. Combining the current situation of innovation and entrepreneurship in Chinese universities, as well as thinking about the existing system of some universities, we believe that the design structure of innovation organization and the classification incentive system of personnel management are vital aspects for the scientific and reasonable institutional guarantees.

Secondly, we must recognize that the talents flow of universities innovation and entrepreneurship is a two-way process that can refer to the implementation process of “going out” and “bringing in” policies between the United States and Japan.

Thirdly, the necessary incentives, especially financial support, play an extremely important role in the development of the talents flow. At the initial stage, if Chinese college teachers were going to leave the university for innovation and entrepreneurship, it would be difficult for them to carry out the innovation and entrepreneurship without financial support from relevant departments such as the government.

3. The Development Situation and the Major Obstacles of University Innovative and Entrepreneurial Science and Technology Talents Flow in China

3.1. Talent System

At present, only first-tier cities such as Beijing, Shanghai, Guangzhou, and Shenzhen have clear policy supports for the flow of innovative and entrepreneurial technology talents. Relying on the quantity and quality advantages of universities, Beijing has extensively carried out scientific and technological cooperation with zhongguancun, taking zhongguancun as the platform and giving play to the scientific and technological innovation advantages of capital university group; At the same time, they should pay close attention to the connection with national innovation and entrepreneurship policies. Shanghai has an international perspective and attracts international talents; In China, Shanghai household registration is proposed to attract talents, so as to break the retention dilemma of talents with difficulty in settling down. And first proposed the legal level to guarantee the implementation of innovation and entrepreneurship. Guangdong focuses more on the employment driven by innovation and entrepreneurship, hoping that the scientific and technological innovation and entrepreneurship of university teachers and researchers can create more employment opportunities in high and new industries and at the same time set out to support the innovation and entrepreneurship guarantee and the performance assessment mechanism.

Although other cities have the willingness to drive local economic development by introducing university talents, they are subject to local concept solidification and policy restrictions. Besides, the corresponding talent system is still seriously lagging; even cities that have already formulated corresponding policies

and implementation measures involve many stakeholders, whether various policies and measures can be fully implemented, and whether innovative and entrepreneurial activities can be strongly supported are still unknown.

3.2. The Impact on the University Organizations

Chinese universities are non-profit educational units, which are directly managed or supervised by the education authorities. The organizational forms of universities, especially public universities, are relatively inflexible and this kind of organizational status will not be changed in short term. Therefore, when university talents are going to start up business, there will be many considerations about the internal and external systems. In addition, some existing organizations do not fully encourage university teachers within the system to go out for the business opportunities, which will affect the promotion and implementation of innovation and entrepreneurship.

3.3. Performance Measuring and Incentive Systems

In the areas where the performance measuring and incentive system has been established, the incentives are gradually increasing and the supporting funds are also abundant. However, the corresponding performance evaluation mechanism still needs improvement. There is still a lack of scientific evaluation indicators on how to identify the work and achievement that should be supported and awarded.

4. Policy Suggestions on Innovation and Entrepreneurial Talents Flow in Colleges and Universities

To promote the flow of innovative, entrepreneurial and scientific talents in Chinese colleges and universities, we have to draw lessons from the successful experience of foreign countries. Meanwhile, it is necessary to design a scientific and reasonable pattern, process and system combing the development stage of domestic universities and the actual situation of the government.

4.1. Optimize the Configuration of Two Modes and Two Processes Two Models “Going out” and “Inviting in”

The United States and Japan have achieved good results in implementing the “going out” and “inviting in” strategies in the practice of talent flow in colleges and universities. Based on field investigation, it is found that Fudan University adopted the policy of “inviting in” on innovation, entrepreneurship, science and technology talent flow which has brought new vitality to the innovation and entrepreneurship in the University.

There are two main modes of the talent flow in colleges and universities: “going out” and “inviting in”. The “going out” mode establishes service institutions for innovation, entrepreneurship, science and technology talents such as entrepreneurial incubators and entrepreneurial colleges. On the one hand, it enables talents flow to higher research institutions, research and development

centers or platforms at home and abroad; on the other hand, talents flows to practice areas e.g. parks and enterprises, fully releasing the potential of innovative talent resources in colleges and universities. Hence, the transformation level of innovation capability will be realized through high-level research achievements, leading to the truly fulfillment of social benefits. “Inviting in” mode includes “internal inviting in” and “external inviting in”. The main purpose of “internal inviting in” is to introduce and make full use of the innovative young and middle-aged academic elites, and to promote the young cadres with innovative vitality and ability, so as to further enhance the innovation ability and innovation conversion rate of colleges and universities. “external inviting in” should not only strengthen the capability to introduce doctors (postdoctoral fellows), academicians (Chinese Academy of Sciences and the Chinese Academy of Engineering) and Cheung Kong Scholars from well-known universities at home and abroad, but also provide part-time positions for talents with rich research and development experience to impart experience to teachers and students. They also can utilize their resources to establish innovative entrepreneurial practice platforms for teachers and students, which can help to cultivate innovative consciousness and ability so as to realize the seamless docking between theory and practice.

4.2. Innovative Organizational Structure Design

The establishment of a special entrepreneurial management organization is the basement guarantee for creating a long-term mechanism to manage the scientific and technical talents flow effectively. On the one hand, it is necessary to provide a knowledge transformation platform for those who already have the willingness and conditions for innovation and entrepreneurship; on the other hand, it is also demanding to set up a specialized personnel training and management department to support innovation and entrepreneurship from the source. For the former, it can be carried out by establishing Entrepreneurial Colleges; meanwhile for the latter, it can be realized through the organizational form of the Innovation and Entrepreneurship Integrated Office.

4.2.1. Entrepreneurship Colleges

Entrepreneurship colleges can integrate all kinds of resources inside and outside colleges and universities, cooperate with multivariate innovation entities such as laboratories, enterprises, government hi-tech zones, famous alumni, social organizations, etc., so that to make full use of business models to construct innovative and entrepreneurial ecology and provide guarantee in policy support, capital financing, incubating service, resource support and so on. Innovative entrepreneurial talents in colleges and universities be absorbed and cultivated in this way. Entrepreneurship College aims to set up a comprehensive entrepreneurship ecological environment, so as to realize the knowledge transformation of university talents, and then gradually transit to the market and external management. Colleges and universities can flexibly establish Entrepreneurial Colleges in com-

ination with the progress stage of their own innovation and entrepreneurship support work. For example, a unified transformation support platform that includes various stages of project progress can be established at an early stage. In later period, organizational forms suitable for specific phases and project categories can be set up according to actual situation.

4.2.2. Innovation and Entrepreneurship Integrated Office

The Innovation and Entrepreneurship Integrated Office should lead the management of innovative talents in the entire university, strive to build a training and service platform for innovative and entrepreneurial technology talents, formulate strategies for innovation and entrepreneurship in science and technology, develop and formulate practical training courses of innovation and entrepreneur, and provide assistance and support to other entrepreneurial innovation organizations. Different to the focus of the establishment of the Entrepreneurship Institute, the Innovation and Entrepreneurship Integrated Office does not directly participate in the process of generating and developing knowledge transformation projects. Instead, it exerts the talent advantage of colleges and universities from the supply level and discovers potential innovation and entrepreneurial talents providing a rich soil for their growth. On the one hand, it can deliver corresponding talents for entrepreneurial colleges or other entrepreneurial organizations to support the incubation and acceleration of existing projects; on the other hand, in the training of innovative talents, especially in live operational training, the gathering of innovative talents and the collision of ideas can stimulate more innovation sparks, thus sprouting more project ideas.

In general, the establishment of the Entrepreneurship Institute or the Integrated Office of Innovation and Entrepreneurship aims to provide a platform for the development and training of innovative, entrepreneurial and technological talents. They both can be established individually or coexist in the same organization without being constrained to fixed forms. Colleges and universities can be flexibly designed according to their own circumstances to fit the actual situation and serve innovative talents better.

In short, starting from the supply side, based on the characteristics of the development of innovative and entrepreneurial technology talents flow, we can sum up the international science and technology talent mobility policies and experience, and analyze the new trends, new models and new mechanisms involving science and technology talents who participate in innovation and entrepreneurship. These summaries and analysis can not only provide the path and countermeasures for the government to promote the innovation and entrepreneurship of science and technology talents, further supply directions and suggestions for the subsequent policy release, but also provide decision-making reference in the course of promoting “mass entrepreneurship and innovation”.

5. Conclusion

All in all, from the supply end, based on the characteristics of the entrepreneurial talent flow development of science and technology innovation, to sum up the

experiences of policy and international scientific and technological personnel flow and analysis of scientific and technological personnel to participate in the new trend of innovative undertaking, the new mode and new mechanism, can business for the government to promote the innovation in science and technology talent flow field can provide reference path and countermeasures, for subsequent policy direction and advice. Therefore, this paper proposes two modes of the flow of university entrepreneurship and innovation talents, “going out” and “coming in”, and the design of innovative organizational structure. However, there is no specific empirical research and analysis, which needs to be further studied and supplemented.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- [1] Education at a Glance 2015. OECD, UNESCO Institute for Statistics.
- [2] Sun, X.K. (2014) American Science and Technology Talent Strategy and Its Enlightenment to China. *Journal of Nanjing University of Posts and Telecommunications (Social Sciences Edition)*, **16**, 112-118.
- [3] Li, Z.Y. (2009) Development and Characteristics of Entrepreneurship Education in Japanese Universities. *Comparative Education Research*, **31**, 40-44.
- [4] Cao, Y.H. (2012) The US Policy of Attracting Foreign Scientific and Technological Talents and Its Enlightenment to China. *Modern Marketing*, **3**, 98-100.
- [5] Hall, K. (2011) University Research Centers: Heuristic Categories, Issues, and Administrative Strategies. *Journal of Research Administration*, **42**, 25-41.
- [6] Zhao, Z.J. (2015) The Path of American Research Universities in the National Innovation and Entrepreneurship System—Based on the Interpretation and Analysis of the Report of “the Innovation and Entrepreneurship University” Written by the US Department of Commerce. *Global Education Outlook*, **8**, 41-54.
- [7] Li, H.J. (2012) University Entrepreneurship in the Third Wave of Risk Investment in Japan. *Journal of Yangzhou University (Higher Education Research Edition)*, **16**, 42-43.
- [8] Fang, J.Q. and Lu, S.J. (2014) Analysis of the Characteristics and Differences of Entrepreneurship Education in American and Japanese Universities. *Higher Education Exploration*, **5**, 101-105.
- [9] Yu, X. and Miao, Y.X. (2009) Innovative Talents Training and Development Planning in the UK’s “Innovative National Strategy”. *First Resources*, **4**, 143-156.
- [10] Liu, Y. and Lan, Z.Y. (2014) The Strategic Trend of British Science and Technology Talent Policy. *Journal of Tianjin Administrative College*, **16**, 89-95.