



ANALYSIS ON EFFECT OF PUBLIC EXPENDITURE IN INCENTIVE TO ENTERPRISES' INNOVATION INDEPENDENTLY IN INNER MONGOLIA

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ABSTRACT

In recent years, the Ministry of Finance in China has successively developed some financial policies and measures to stimulate technological innovation. With the scale of public expenditure increasing, government and the academic unremarkably specialise in the difficulty that results of incentive to innovation. This paper firstly conducts Associate in Nursing empirical check by victimisation empirical information of Inner Mongolia Autonomous Region so as to search out the link between public expenditure and innovation severally. Secondly the author estimates the best scale of R&D expenditure. Finally, the author proposes corresponding policy-suggestions according to the calculate results.

1. INTRODUCTION

“Incentive” is originally from an English word: Motivation. For enterprises, the so-called incentive mechanism is basically a form of mechanism to satisfy multiple wants of staff, its purpose is to make non-public targets of staff in step with employers' targets and maximize managers' targets (Wang Yunfang, Yue Ying, 2008). Schumpeter had given specifically the definition of innovation in Theory of Economic Development (German Edition, 1912) for the first time (Liu Qiongzhi, 2009). He thought innovation is to lead a replacement combination of things of production never before into production system for potential profit. After Joseph Alois Schumpeter, innovation theory has aroused people's widespread interest to study it. Since reform and opening-up, China's economic construction has made nice achievements, but 2 queries want to attempt to resolve.

At present, the contribution of scientific and technological progress to China's economic process is merely 39%, but seventieth in different innovation-oriented countries. The enterprises which possess freelance intellectual property technology square measure solely zero.3%, the index enterprises depend on foreign technology is five hundredth, however, below 30% in different innovation-oriented countries and solely around five-hitter in USA and Japan (Wang Yunfang & Yue Ying, 2008).

2. REVIEW OF LITERATURE

Nelson and Winter (1982) found that innovation has public-goods property and innovation activities have considerably positive externalities, which suggests that that government intervention is critical. Innovation capital has also public-goods property, once knowledge is created, most for free, which completely bring nice incentive to “free ride”, so government intervention is additionally necessary. Delong and Summers (1991) provided relevant evidence. They pointed out that the speed of social come back from innovation investment exceeds the speed of personal return in a very good free enterprise. Nadiri's result was that the rate of social return is five hundredth, but 20%-30% for the rate of personal come back (Nadiri, 1993).

These five policies have totally different scope and objects once they square measure applied. Rosen (1995) thought tax mainly corrects negative externalities, creating markets is principally used once managers cannot decide however external behavior responds to public policies, establishing property is mainly used once price of discount is low and external sources square measure terribly simply known, regulation is generally low potency. But solely public expenditure is used to correct positive externalities. At the same time, public expenditure can effectively complement low provide of external behavior ensuing from positive externalities. But Rosen (1995) additionally reminded us: public



expenditure to correct positive externalities should fastidiously avoid waste. Shah (1995) well-trying Roson's read and thoroughbred public monetary measures exist incentive effects on R&D investment of non-public enterprises. Lichtenberg (1987) had also well-trying public analysis expenditure has Associate in Nursing vital influence on R&D input of personal enterprises. Lach (2002) analyzed producing empirical information of Israel in the Nineties and located government public expenditure greatly stimulates the little enterprises' innovation behavior, but not terribly vital to giant enterprises. He pointed out that one unit government expenditure can stimulate eleven units innovation input of tiny enterprises, but only 0.23 unit for giant enterprises as a result of public expenditure typically flows into giant enterprises. In China, innovation severally and government public expenditure used to stimulating innovation independently square measure low-efficiency. There is a giant gap in field of independent property between China and major industrial countries. In 2007, China's three types of patents(inventions, utility models and designs) granted accounted for about third in the world, but Japan was forty two.12%, America was 19.36%, South Korea was eight.72% and Germany was eight.10%. And in this year, China's R&D input was also low relatively. In 2006, China's R&D expenditure accounted for 1.42% in GDP, but Japan was three.39%, South Korea was three.23%, America was 2.62% and Germany was a pair of.53%. Therefore, input of R&D funds in newly-industrialized countries and western developed countries is much beyond China. In 2008, the top 5 regions of 3 varieties of patents(inventions, utility models and designs) granted in China (including Hong Kong, Macao and Taiwan) were Kwangtung, Zhejiang, Jiangsu, Shandong and Shanghai, the corresponding proportions were 17.6%, 15.1%, 12.6%, 7.6% and 6.9%. But Inner Mongolia was zero.38%, its ranking was No.28. In the same year, in large and medium-sized industrial enterprises by space (excluding Hong Kong, Macao and Taiwan), the top 5 regions of the proportion of R&D funds in GDP were Kwangtung (0.137%), Jiangsu (0.136%), Shandong (0.115%), Zhejiang (0.064%) and Shanghai (0.060%). But Inner Mongolia was 0.009%, its ranking was No.21. This shows that innovation severally and public expenditure used to stimulating innovation independently also are low-efficiency in Nei Monggol.

Based on higher than description, we study essentially the relationship between innovation severally and public expenditure in Nei Monggol and additional resolve the best level of public expenditure stimulating innovation severally expeditiously. Therefore, this paper will use empirical information in Inner Mongolia to resolve the best level of public expenditure and supply some corresponding suggestions.

3. TESTING THE EMPIRICAL DATA OF INNER

Mongolia the info during this paper all return from International applied math Yearbook, China Statistical Yearbook, Inner Mongolia Statistical Yearbook, China Statistical Yearbook on science and technology and Science and Technology Agency of Inner Mongolia. By testing these data, this paper will wish to notice a result regarding the link between innovation severally and government expenditure incentive in Nei Monggol.

3.1 The relation between innovation severally and incentive of public expenditure behavior

To study the causality between innovation severally and incentive of public expenditure from micro-level, first, we observe statically from micro-level relationship between public expenditure of analysis & development (R&D) supported by government and its output. Because R&D organizations such as faculties and universities, research establishments etc. are characteristic of patents, with taking effectiveness of patents into account, we regard 3 types of patents (inventions, utility models and designs) granted not applications as the indicator of R&D output and intramural expenditures on science and technology activities (it is outlined as actual expenditures for science and technology activities in coverage year, it reflects the actual performance of science and technology inputs) because the indicator of public expenditure. Samples are elect from 2000 to 2008. GI means government public expenditure, that is, government incentives. II means patents granted, that is, innovation independently.

In other words, Nei Monggol government's public expenditure indeed greatly has stirred up innovation severally behavior {and the|and therefore the|and additionally the} momentum of innovation severally also has effectively attracted Inner Mongolia government's robust support through the approach of providing public expenditure. It means that public expenditure incentive and innovation severally will promote one another. This is so-called "Matthew Effect".

3.2 The impulse response between public expenditure incentive and innovation severally

To further examine the impact impact of public expenditure and innovation severally, we want to create a distributed lag dynamic economic science model to look at the response of innovation severally behavior to public expenditure incentive and study the strength of presidency incentive. Samples are additionally elect from 2000 to 2008.



4. CONCLUSIONS AND CORRESPONDING SUGGESTIONS

4.1 Conclusions

This paper has tried to find the link between public expenditure and innovation severally and has created a empirical check victimisation information from Nei Monggol. However, the empirical analysis has existed some shortcomings yet, i.e. how to quantify indicators, errors when process information, inadequate samples and so on however author attracts some useful conclusions from analysis higher than text:

- (1) From Figure 1, Granger relation tests and variance decomposition, we grasp that public expenditure effectively has stirred up innovation severally behavior {and the|and therefore the|and additionally the} momentum of innovation severally behavior also has promoted public expenditure incentive, that is, public expenditure and innovation independently will promote every different. Innovation independently behavior is principally caused by itself, the contribution of public expenditure incentive to innovation independently is less than two hundredth, but this contribution has been obtaining stronger and stronger.
- (2) The optimal scale of expenditure on R&D stimulating innovation severally is regarding one.939%, but the scale in Nei Monggol is resembling twenty.4% of the best scale. A good issue is: the dimensions of expenditure on R&D stimulating innovation severally in Nei Monggol is bit by bit approaching to the best scale.
- (3) Inner Mongolia Autonomous Region must bit by bit increase expenditure on R&D to effectively stimulate its innovation severally behavior and improve its regional fight.

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