The Influence of Scientific and Technological Innovation in Jiangxi Province's Universities on Regional Economic Growth

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Abstract. In an era led by high technology, the development of regional economy is inseparable from innovation, and scientific and technological innovation of universities makes a significant contribution to the development of science and technology in my country. Local colleges and universities can provide intellectual and technical guarantees for the development of the regional economy, and at the same time, strong regional financial capabilities can also meet the needs of colleges and universities' innovative projects, and provide a strong backing guarantee for the quality of schooling. These two complement each other. This article will take the local colleges and universities in Jiangxi Province as the starting point to explore how the technological innovation of colleges and universities can better fit with the regional economic development goals, so that the results of their own growth and development can be implemented in the regional economic development.

1. Introduction

In order to achieve a faster and better transformation of economic development, we must attach importance to scientific and technological innovation. As an indispensable part of the national scientific and technological innovation field, colleges and universities not only shoulder the mission of educating people but are also the cradle of national scientific research and innovation. The expansion of local colleges and universities is closely related to the development of the regional economy. If the regional economy wants to develop and grow, there must be sufficient talents and scientific and technological achievements in the back; if colleges and universities want to expand, they cannot do without the source of local students and subject research. From the perspective of the current development of my country's regional economy, there are still obvious imbalances, and the differences in resources and geography in various regions have also caused the lagging development and scientific research innovation of universities in the region\textsuperscript{[2]}. However, at present, it is difficult to avoid a certain degree of disconnection between some colleges and universities and regional economic development, resulting in unsatisfactory reflections of the joint effect of the two. This article will link the related theories between the two, further analyze the opportunities and challenges encountered in the scientific and technological innovation of universities in the process of regional economic development, and give corresponding suggestions.
2. Regional Economic Theory Supported by Technological Innovation in Local Universities

2.1. Endogeneity Theory

The endogenous economic growth theory represented by Romer holds the view that "economic growth depends on technological progress". The level of human resources and the economic growth rate are directly proportional. In addition to this, the accumulation of knowledge and economic growth also circulate each other, so the outcome of economic growth and development is determined by technological progress[1]. Applying this theory to the study of regional economic development, it is concluded that knowledge is the decisive endogenous variable. When the country’s economic growth reaches an inflection point, it will gradually transform from relying on labor to relying on technology and technological innovation. As a source of talents and science and technology, local colleges and universities have one of its important missions to fight for the talent reserve battle for regional economic development and promote its sustainable development.

2.2. The Service Attributes of Education

From the ancient private school to the current university, education has always revolved around social progress, and higher social standards have also improved the education level of residents. At present, its service attributes are becoming more and more clear. The positioning of higher education is to provide high-quality labor and scientific and technological achievements for the regional economy[3]. If it deviates from the service characteristics, then it cannot meet the needs of regional economic development, and the two cannot promote each other. The economic capacity of the geographical location indirectly determines the teaching and research capabilities of local universities. Therefore, the talent training policies of local universities must be in line with the general direction of regional economic development. Relevant majors with high market demand should be added to inculcate talents for the market economy[4]. On the other hand, it also increases the employment rate of colleges and universities. In short, local universities and the regional economy have a complementary relationship. Only when universities, governments, and enterprises promote mutual innovation can they maximize their respective advantages and achieve a win-win situation.

3. Analysis of the Regional Economy of the Scientific and Technological Innovation Service of Universities in Jiangxi Province

3.1. Input and Output of Scientific and Technological Innovation in Universities in Jiangxi Province

<table>
<thead>
<tr>
<th>category</th>
<th>2016</th>
<th>growth rate</th>
<th>2017</th>
<th>growth rate</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postgraduate</td>
<td>30344</td>
<td>13.80%</td>
<td>34530</td>
<td>13.73%</td>
<td>39272</td>
</tr>
<tr>
<td>Colleges and Universities</td>
<td>1038951</td>
<td>0.90%</td>
<td>1048289</td>
<td>0.58%</td>
<td>1054400</td>
</tr>
<tr>
<td>General secondary school</td>
<td>219960</td>
<td>-7.28%</td>
<td>203941</td>
<td>2.87%</td>
<td>209801</td>
</tr>
<tr>
<td>Technical School</td>
<td>126665</td>
<td>6.54%</td>
<td>134949</td>
<td>3.33%</td>
<td>139437</td>
</tr>
</tbody>
</table>

From the above table, we can see that the education undertaking in Jiangxi Province is growing steadily, especially the regular colleges and universities with more than one million students. Technical schools that can possess a skill are also increasingly accepted, but the proportion of graduate students is still small. In cultivating high-level talents, Jiangxi Province also needs to
increase capital investment. In terms of university research and experimental development (R&D) funding, Jiangxi Province has increased from 322.53 million yuan in 2005 to 938.19 million yuan in 10 years, and the funding input in the last 18 years has reached 159222 million yuan. I have to admit that Jiangxi Province is paying more and more attention to scientific and technological innovation in colleges and universities, and Jiangxi Province has achieved fruitful results in this field. In 2019, Jiangxi Province won 148 awards, including 40 natural science awards from universities.

3.2. Regional Economic Development in Jiangxi Province

Table 2. Regional GDP of Jiangxi Province (Unit: 100 million yuan).

<table>
<thead>
<tr>
<th>Time</th>
<th>primary industry</th>
<th>Secondary industry</th>
<th>Tertiary Industry</th>
<th>GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>1794.12</td>
<td>8829.54</td>
<td>7764.93</td>
<td>18388.59</td>
</tr>
<tr>
<td>2017</td>
<td>1835.26</td>
<td>9627.98</td>
<td>8543.07</td>
<td>20006.31</td>
</tr>
<tr>
<td>2018</td>
<td>1877.33</td>
<td>10250.21</td>
<td>9857.24</td>
<td>21984.78</td>
</tr>
</tbody>
</table>

From the above table, it is known that the GDP of Jiangxi is increasing year by year, and it exceeded 2 trillion yuan in 2017. At the same time, the GDP of various industries is also rising steadily. In 2019, the GDP of Jiangxi Province was 2475.75 billion yuan, an increase of 8.0% over the previous year at comparable prices, which was 1.9 percentage points higher than the national average. The added value of the primary industry was 205.76 billion yuan, an increase of 3.0%; second the added value of the industry was 109.398 billion yuan, an increase of 8.0%; the added value of the tertiary industry was 117.601 billion yuan, an increase of 9.0%. Generally speaking, the economic development of Jiangxi Province still has a lot of room for growth and potential.

In terms of high-tech, Jiangxi is gradually playing an increasingly important role. In 2019, Jiangxi will promote nearly 129 VR projects globally, with a total investment of nearly 50 billion yuan. It will be vigorously promoted based on local and regional characteristics, and strive to play an exemplary and leading role[1]. In August 2020, at the Blockchain Innovation and Development Conference held in Ganzhou, it was proposed that Jiangxi will build a group of outstanding blockchain companies, and it is clear that the digital economy should be studied in depth, so that the blockchain will add luster to the regional economy of Jiangxi . In the future, Jiangxi has a long way to go. It is necessary to seize new opportunities, continuously tap new space for scientific and technological innovation, strengthen communication with the surrounding and even the world, and create a more beautiful and vibrant Jiangxi.

4. The Scientific and Technological Innovation of Jiangxi Colleges and Universities Regarding the Problems of Regional Economic Construction

4.1. Insufficient Government Support

Although my country issued relevant documents such as the Education Law in the early days to specify the exclusive social service functions of colleges and universities, the specifications in the documents were too general and lacked a clear practical goal direction. Since most of the current university work indicators are biased towards academics, they have not paid enough attention to the
contribution rate of social transformation of scientific research, which has also set a stumbling block for universities in their planning and social integration stage[5]. According to research and statistics, local government education funds tend to be more important for primary and secondary education, while the proportion of scientific research that is invested in high school and above shows a decreasing trend year by year. Secondly, most of the national scientific research financial funds are allocated to the "985 Project" and "211 Project" colleges and universities each year. There is only one "211 Project" college in Jiangxi, which leads to the gap between its local universities and other provinces in terms of scientific research project investment and establishment. Growing. The government's financial resources are insufficient, and the investment in scientific research and innovation in universities has naturally declined.

4.2. Poor Cooperation Between Enterprises And Universities

There are obvious differences in the pursuit goals of enterprises and universities. Universities want to improve their employment rate, scientific research level and overall reputation by cultivating high-tech development talents, while enterprises hope to obtain technical talents and pursue the maximization of corporate interests. Compared with other developed coastal areas, local enterprises in Jiangxi have disadvantages such as poor efficiency and weak technical capabilities, and they cannot establish practical training with most universities. Companies lack a platform for cooperation with colleges and universities, and they have not given full play to the exclusive characteristics of the region to play a good "personal card". In this way, some graduates will be more inclined to choose developed cities with a higher salary and a bright future after graduation[6]. Coupled with the lack of effective communication between the two, colleges and universities did not actively recommend themselves to companies, and companies did not clarify the construction characteristics of some colleges and universities, which led to a decline in the satisfaction of recruits by companies, and universities may simply use companies to complete their own employment. Rate indicators have not reached the true sense of talent transmission and training.

4.3. Incoordination Between Universities and Regional Economic Structure

Most of the talent training strategies of colleges and universities still follow the old methods. There is still a big gap between the innovative and multi-development compound talents required by enterprises. Moreover, most colleges and universities have not given full play to their regional characteristics and have no influence on the future regional economic and industrial structure. Too much research, and the lack of responsiveness and coordination to the needs of talents in specific areas will lead to the inconsistency of the professional practical ability of the graduates who will come out in the future and the demands of regional economic development[5]. Even if some colleges and universities have the idea of serving the local economy, they need to make major adjustments in related professional teaching, and professional equipment cannot follow up. In this way, the students cultivated by colleges and universities are almost all based on regional enterprises. Decoupling of demand. Only by coordinating the structure of local colleges and universities with the regional economic structure can colleges and universities serve the local economic development and innovation more efficiently, and the funds invested in this way can be more meaningful.

5. Recommendations for Promoting Regional Economic Growth

5.1. Building A Talent Reserve Center

From the previous endogeneity theory, we can know that both human capital and new ideas are
factors of production. However, in the economic construction of Jiangxi, the introduction and cultivation of talents are weak, and the contribution rate of human capital needs to be improved. First of all, it is necessary to invest enough scientific research funds. High-tech innovation is a powerful driving force for regional economic development. The problem of insufficient high-level talents can be introduced with high welfare. Secondly, we must select a group of outstanding and innovative teachers or students from various universities, build a talent reserve center in our own region, combine Jiangxi's geographical location and humanistic feelings to create our own development position, and cultivate multi-functional and compound talents.

5.2. Enhance the Service Consciousness of Colleges and Universities

Jiangxi is located in the inland area. Some colleges and universities have a relatively weak sense of competition and lack exchange opportunities with famous international and domestic colleges. Some colleges and universities blindly pursue the establishment of a research-oriented first-class university, often neglecting the functional positioning of the local area. The content of the content is often biased towards theory and is separated from the vision of serving local regional economic development. In addition, in the process of regional economic research, it is found that the conversion rate of scientific research results of universities is very low[7]. Even though the number of papers published by universities is increasing, the efficiency of the later transformation from theory to practice is low, which will not promote the development of regional economy. Big.

Colleges and universities should introduce policies that are consistent with the social and regional economic structure. Colleges and universities should form a cooperation mechanism. They should be prepared for reasonable communication and technology sharing in the allocation of regional resources. They should not be closed for themselves. The future development plan of the school should be clarified. It must be in line with the economy of the service area and cannot blindly pursue the expansion of the school scale and the number of scientific research papers published.

5.3. Strengthen Cooperation Between Universities and Enterprises

The previous article mentioned the lack of communication between Chinese universities and enterprises, and there is little cooperation in innovative scientific research between them. Companies pay more attention to the product development technology and staff training costs that universities can bring, and universities do not consider market demands in terms of talent training. This will lead to a gap in corporate technical talents and inability to convert scientific research results. Human resources. Since there are few joint training opportunities for universities and enterprises in the early stage, even if graduated students enter the market, enterprises will have to spend a lot of training costs. Therefore, it is necessary to establish a special institution[8], led by the government department, to build a bridge between local universities and enterprises, and to have common preferences in choosing the content of cooperation, promote each other's industry-university-research cooperation, and realize the transformation of each other's scientific research results will be smoother. In general, colleges and universities should pay attention to the integration of industrial economic development models in cultivating students, and enterprises should also provide training bases for colleges and universities. Only by mutual help and assistance can better serve the regional economy.

6. Conclusion

From the early reform of the education system, local colleges and universities have gradually
developed into an active service-oriented aspect. Talent training is the key to the steady development of the regional economy. First of all, we must increase the investment in scientific and technological innovation costs, start the slogan of talented schools, and adjust the talent training model of local universities to adapt to the regional industrial structure[7]. Conduct more in-depth academic exchanges and optimized cross-disciplinary combinations with neighboring universities, and strive to go hand in hand and promote each other in regional economic construction. Secondly, it is necessary to build a good cooperation platform with regional enterprises and build a special database. On the one hand, it can ensure the conversion rate of scientific and technological achievements of universities and on the other hand the quality of the input employees of the enterprise, organically integrate universities and regional economy, and call for more high-level talents and related personnel from enterprises participate in this process to achieve mutual benefit and win-win results among universities, enterprises and the government.

References


