

The Policy Transfer Situation among Chinese National Independent Innovation Demonstration Zones

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Abstract

Chinese national independent innovation demonstration zones are a major organizational mode of Chinese scientific and technological innovation, and a paragon of first movers of technological policies. Since foundation of these demonstration zones, transfer and mutual learning of policies among them have accompanied their growth. Currently, in demonstration zones, policy transfer has become a common phenomenon or even a major source of policy formation. However, due to lack of a systematic knowledge, policy transfer is still largely blind and random, thus seriously restricting the policy innovation ability of demonstration zones and making research into the policy transfer of demonstration zones imperative. This paper adopts the technological policies issued by some national independent innovation demonstration zones from 2006 to 2015 as samples. Through a comprehensive review, these policies are classified into five types, namely technological talents, technological industries, technological enterprises, technological finance and others. Based on the transfer-in and transfer-out of different policies, the development trend of policy transfer in demonstration zones is studied. Meanwhile, combining the importance degree of policy transfer-out, the competitiveness of different types of policies in demonstration zones is analyzed, and characteristics of policy transfer among Chinese demonstration zones are examined. It is hoped that this research can fill the gap of empirical research into transfer of technological policies in China.

Keywords: Independent innovation, Demonstration zone, Policy transfer, Policy competitiveness

1. Introduction

In March 2009, in order to promote Chinese technological innovational capacity, realize transformation and upgrade of Chinese enterprises(Deng, 2009; Guan & Chen, 2010), stimulate the new-and high-tech industry to be first movers of national technological policies(Etzkowitz & Leydesdorff, 2000; Klepper, 2001; Quitzow, 2015), and explore independent innovation development experiences, the central government approved the establishment of the first national independent innovation demonstration zone in China(Gao & Song et al, 2015), that is, Beijing Zhong guancun National Independent Innovation Demonstration Zone. Following that, a series of other National Independent Innovational Demonstration Zones (NIIDZ) emerged in Shanghai, Wuhan and other cities in China. After years of development, remarkable achievements have been made in these NIIDZs. For example, in 2014, Beijing attracted about 531,609 R&D personnel and the R&D input reached as high as 154.05 billion yuan, registering a year-on-year growth of 6.3% and 32.2%, respectively (Li et al, 2016). In 2013, Wuhan succeeded in applying for 13,021 patents, accounting for 50.7% of the municipal total (Huang & Audretsch, 2013). In 2014, Shanghai earned 3.44 trillion yuan of revenues, created a total industrial output value of 1.27 trillion yuan, and realized a total export-import volume of 102.892 trillion USD (Wong, 2016; Glinka, 2016). Among them, the total industrial output value exceeded the municipal total of Shanghai by more than one third (Deng & Chen, 2014). Thus, it is self-evident that NIIDZs have made great strides in terms of technological progress, independent innovation and economic development, and exhibited their vigorous development momentum as brand-new organizations to promote technological progress (Wang & Sun et al, 2015; Wang & Pan et al, 2015; Li & Zhan, 2016).

NIIDZs have played a leading role in implementing relevant technological policies (Ding & Li, 2015). By adjusting the innovation management mechanism based on local conditions, they have explored a development mode suitable for themselves (Li & Liu et al, 2014). These efforts made have helped NIIDZs get rid of shackles of homogenization development, increased the utilization efficiency of resources, lifted policy innovation to a new level(Liu et al, 2014), effectively address shortages of Chinese independent innovation capability(Zhou, 2014), and explored experiences for independent innovation development suitable for Chinese national conditions(Xingang Z et al, 2014). Policies are major development tools for NIIDZs. Thus, to be first movers means to be first movers of policies. By learning, imitating and referring to each other's policies (Ho & Gupta et al, 2016), NIIDZs can promote policy innovation to different degrees, cut policy cost, and upgrade policy formulation, thus guaranteeing the success rate of first implementing new policies(Huber, 1991; Fracassi,

2015). Hence, to deepen the research into policy transfer among NIIDZs is particularly necessary. It was Dolowitz and Marsh (1996) that defined the term, “policy transfer”, the first time. Since then, scholars have studied policy transfer from different perspectives. Walker (1969) guesses about whether there is a policy initiating group in different US states and how policies are transferred among different US states. He also thought that there might be a relatively stable policy transfer path for different US states. Meanwhile, he held the idea that geographical location of different states has a critical influence on formation of the policy transfer path. Based on findings of Walker, Gray (1973) further pointed that the regional or professional communication network among different US states might directly influence the formation of the policy transfer path. Mr. and Mrs. Berry (1990) looked into the transfer status of lottery policies among different US states using the event history analysis method, and analyzed factors influencing the policy transfer among US states empirically. By studying the policy transfer network among US states, Bruce et al. (2015) build a policy network inference model, explored the policy transfer path among US states, and used the event history analysis method to conduct an empirical research of various factors influencing the formation of the policy transfer path, including nation, geographical location, religion, economy and political party. Through an empirical research of three cases, Radaelli (2000) thought that policy transfer widely exists within the EU, and that the transfer is largely an outcome of competition stress among different organizations. In view of the policy transfer status among different countries, Stone (2004) analyzed factors, such as organizations and experts, influencing country-to-country policy transfer, and explored the dynamic trend of country-to-country policy transfer. Oblinger H et al. (2013) investigated into transfer and spread of welfare policies among different US states, finding out that factors influencing welfare policies of different states included not only welfares themselves, but also policy competition among different states. Wang et al. (2014) explored the policy exchange between China and Britain, based on which they studied the factors influencing policy transfer between the two countries. Wei (2009) thought that, in the globalization era, policy transfer is showing some new characteristics, so it is necessary to grasp era characteristics and role of policy transfer during the country-to-country policy transfer process, fully learn advantages and disadvantages of policy transfer and promote implementation of policies. Feng and Cheng (2009) were of the opinion that, along with deepening of globalization and changes of Chinese national conditions, Chinese policy transfer is calling for a moderate adjustment, and attempted to build a policy transfer framework system based on analysis of factors influencing policy transfer in China. To sum up, the above researchers analyzed factors influencing policy transfer among different types of organizations as well as the development trend of policy transfer. However, most of them proceeded from the perspective of policies to study policy transfer among organizations. The few policy transfer cases could not fully demonstrate the role played by organizations during the policy transfer process. Besides, no efforts were made to summarize the policy transfer status in an organization, and the research into policy research was not comprehensive. Last but not least, research into policy transfer in China is still in the theoretical research period. There is still a gap in empirical research.

Concerning the above research gap, the author proceeds from the perspective of empirical research to study flow, mutual learning and innovation of different policies among organizations of one kind, attempting to build a transfer development path for different types of policies. Next, from the perspective of different types of policies, the development trend of policy transfer is examined. As first movers of Chinese technological policies, national independent innovation demonstration zones are worthwhile to study. Thus, this paper tries to summarize policies in national independent innovation demonstration zones, clarify their development course and status, and conduct a detailed analysis and exploration of the policy formulation level in different demonstration zones. On the one hand, this research can fill the current research gap. On the other hand, a thorough research into policy transfer and a thorough understanding of the specific status and development level of policy transfer among different demonstration zones can help effectively guide their policy exchange, improve their policy innovation capability and stimulate them to spearhead efforts to implement new policies. All these can provide sustainable development momentum for improvement of independent innovation capability of demonstration zones.

2. Research data and methods

2.1 Data sources

By December 2016, there have been 17 NIIDZs. Most of these NIIDZs are young, being established for less than one year, so policy data are seriously lacking. In order to guarantee data completeness, this paper chooses six NIIDZs from Beijing, Wuhan, Shanghai, Shenzhen, Sunan and Chang zhutan as research objects. Besides, considering continuity of policies, policies issued by demonstration areas from 2006 to September 2015 are adopted as sample data. Policies are issued by authorities of three levels, namely national, provincial (directly-controlled municipality) and zone-level. Here, it is necessary to clarify differences of institutions, mechanisms and management modes in different NIIDZs. The zone-level policies vary greatly from each other. In Beijing, Wuhan and Shanghai National Independent Innovation Demonstration Zone, there is more than one branch.

Therefore, the policies selected are policies issued by the central one. For example, Shenzhen National Independent Innovation Demonstration Zone is responsible for approving policies throughout Shenzhen, so policies issued by it are regarded as policies of the municipal level. Another example is that Sunan and Chang zhutan National Independent Innovation Demonstration Zones both cover different urban clusters, so policies issued by them are regarded as policies of the national level. Since this paper mainly studies the transfer of technological policies among national independent innovation demonstration zones, policies related to party building, land transfer, appointment and removal are eliminated. Finally, 823 policy samples are obtained.

Table 1 Number of technological policies issued by NIIDZs from 2006 to 2015

	Beijing	Wuhan	Shanghai	Shenzhen	Sunan	Chang zhutan
Number of technological policies	181	77	98	133	209	125

From the above Table, it can be seen that the number of policies issued by 6 NIIDZs is obviously of three levels. Beijing and Sunan are far ahead of the rest. The former two are defined as demonstration zones with a high policy issuance frequency. Shenzhen and Chang zhutan are in the middle level, so they are defined as demonstration zones with an intermediate policy issuance frequency. Shanghai and Wuhan are obviously behind the rest, so they are defined as demonstration zones with a low policy insurance frequency. In order to further analyze the development status of technological policies in NIIDZs, this paper groups policies into five types according to the content and nature of these policies. The five types of policies include talent, industrial, enterprise, financial, intellectual property rights, industry-college-institute cooperation, and commercialization of research findings. Since there are few valid data for the last three types, they are combined into others.

2.2 Research methods

Policy transfer among NIIDZs is directional. In order to achieve quantization of policy transfer, it is assumed that one policy transfers from Demonstration Zone, a, to Demonstration Zone, b. In this case, there is one policy transfer between a and b. To a, one policy is transferred out; while to b, one policy is transferred in. Besides, in order to better analyze relevant materials and make this research more operational, the hierarchical method is employed to number different items. Then, different policies are numbered according to different demonstration zones, policy types and policy serial numbers. For example, “2501” refers to the first policy, *Support for Industry-College-Institute Cooperation Action Plan by Wuhan National Independent Innovation Demonstration Zone*, among others policies. In accordance with the policy content and when a policy is issued, transfer of different types of policies among different NIIDZs is summarized and the data sample about policy transfer among different NIIDZs are obtained. Concerning the large number of policy transfer samples, this paper selects the transfer of the talent policy about “introducing top talents” as an example to introduce and summarize the policy transfer status in NIIDZs.



Fig. 1 The transfer link of the talent policy about “introducing top talents” among NIIDZs

Note: The arrow direction stands for the policy transfer direction, while the numbers stand for the transfer time sequence of the talent policy among NIIDZs.

Under the background of fully open information exchange, the issuance of a policy might refer to

existing policy experiences more or less (Borrás & Jacobsson, 2004). Therefore, as long as a NIIDZ issues a policy similar to an existing one, the policy is considered to be obtained through transfer. As one observes in Fig. 1, Beijing is the cradle of the policy of “introducing top talents”. Thereafter, Chang zhutan, Wuhan, Sunan and Shenzhen subsequently issue a similar policy. Besides, it can be noticed that there is more than one policy transfer among Chang zhutan and Sunan. This is because the talent policy is adjusted based on the practical implementation effects and different development periods of NIIDZs. The newly-introduced policy is also appealing to other NIIDZs, which is then transferred to the latter. This research indicates that re-innovation and re-transfer of policies is ubiquitous during the policy transfer process.

3 Result and discussion

3.1 Policy issuance in NIIDZs

NIIDZs are established in the hope of trying the newly-issued policies without regard to existing development modes, giving full play to the initiative of different places and improving their independent innovation capability (Gibson & Birkinshaw, 2004). The practical development results suggest that NIIDZs have achieved remarkable progress in terms of policy issuance. There are a considerable number of policies of different types issued.

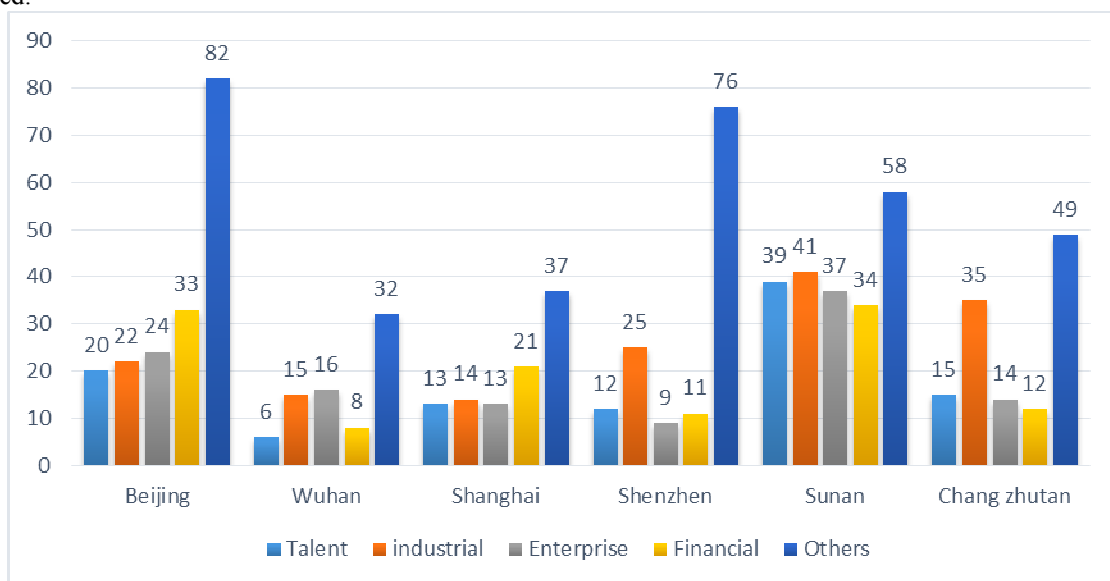


Fig 2: The number of policies of different types issued by NIIDZs.

From Fig. 2, it can be seen that Sunan National Independent Innovation Demonstration Zone, the first NIIDZ with urban agglomerations, is leading in terms of the number of policies issued excluding the number of others policies. Undoubtedly, this has a close bearing on the number of its new-and high-tech zones. Besides, policies of four different types are evenly distributed without any huge differences. Beijing is a demonstration zone of NIIDZs. It is in a leading place either in terms of the economic level or the activity of implementing new policies. As to the number of policies issued, Beijing is just behind Sunan. Thus, it obviously issues more policies compared with its counterparts. Meanwhile, from the perspective of policy types, Beijing issues more financial policies. The reason behind this is that the financial is a weakness of Beijing’s development. In 2014, Beijing introduced a series of policies about finance. It hoped that these policies could guide the finance industry for better development. Wuhan is known as the second NIIDZ set up in China. The number of policies issued by it is the lowest. This is probably related to the institution of Wuhan. Among a few policies of Wuhan, industrial and enterprise policies are the focus. Compared with NIIDZs in coastal developed areas, Wuhan attaches greater importance to fostering enterprises, building a complete industrial chain, and forming industrial clusters. Therefore, a large batch of industrial and enterprise policies is issued to rapidly fuel the development of Wuhan. As to Shenzhen, it mainly concentrates on others policies, namely industry-college-institute cooperation and commercialization of research findings. There are also a large number of industrial policies issued by Shenzhen. Chang zhutan is relatively backward. Policies issued by it are mainly industrial policies. This is also in line with its development level. As to Shanghai, restricted by institutional limits, the number of policies issued by it has been greatly influenced after 2011. However, compared with other NIIDZs, Shanghai is not seriously lagging behind. The number of each type of policies issued is even. This indirectly reflects that Shanghai is enjoying all-around development without any obvious short slabs.

3.2 Policy transfer status among NIIDZs

Since establishment of the above NIIDZs, the central government has implemented many new policies, including “6+1” policy and “new four policies”, therein. Besides, NIIDZs have taken the initiative to transfer policies from and to each other. Statistics show that, from 2006 to 2015, Beijing introduced nearly 82 technological policies, of which 39 were transferred from other NIIDZs, accounting for 47.6% of the total. The policies transferred from other NIIDZs also took up a high percentage in Wuhan, Shanghai, Shenzhen, Sunan and Chang zhutan, which was 56.7%, 33.3%, 53.9%, 62.3% and 32.7%, respectively. It is apt to say that policy transfer has become a major source of policy formulation in Chinese current NIIDZs. In order to get a better understanding of the policy transfer status among NIIDZs, this part divides policies into transfer-in ones and transfer-out ones in accordance with the definition of policy transfer. It should be pointed out that one policy might be transferred within a NIIDZ or that a policy might be transferred multiple times. Thus, the number of policy transfers in some NIIDZs is higher than the number of policies.

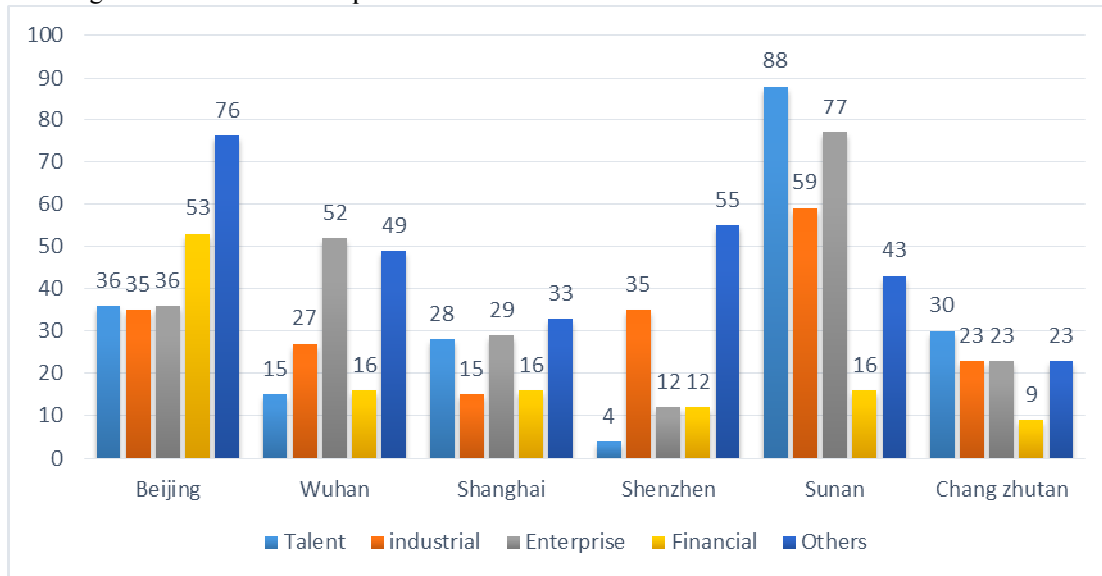


Fig 3: The number of policy transfer out of different types in NIIDZs (Contains the self-transfer).

As one notices in Fig. 3, Beijing and Sunan NIIDZs have obvious advantages. Comparatively speaking, there are few policies transferred into other NIIDZs. To put it specifically, Beijing transfers out the most financial policies and others policies, while Sunan transfers out the most talent, industrial and enterprise policies. This suggests that these policies of the two NIIDZs are fully recognized by other NIIDZ or that the two NIIDZs are above the rest of NIIDZs in terms of the policy formulation level. Besides, it should be pointed out that, though Beijing is the highest in terms of the other three types of policies, it does not seriously lag behind. However, Sunan has few financial policies transferred out. This means Sunan needs to further strengthen formulation of financial policies. As to Wuhan, its enterprise policies and others policies are favored by other NIIDZs, while the rest is seldom transferred out. This is similar to the situation of Shenzhen. Industrial and others policies of Shenzhen are repeatedly learned from by other NIIDZs, but the remaining policy types, particularly the talent policies, are transferred out for the fewest times. This indicates that the two NIIDZs each have outstanding policies during their development process. Their less-transferred-out policies might be restricted by their development conditions, development concepts, and policy formulation level. To Shanghai and Chang zhutan, their policies are the least transferred out. This means the two NIIDZs should comprehensively improve their policy formulation level.

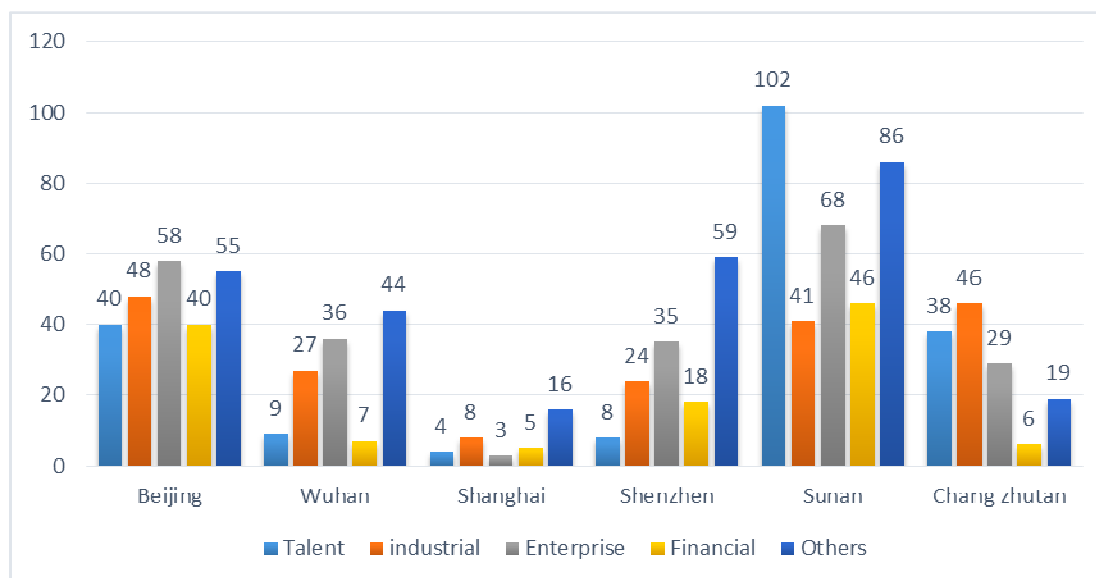


Fig 4: The number of policy transfer in of different types in NIIDZs (Contains the self-transfer).

The more policies transferred into a NIIDZ, the more inclusive the NIIDZ is, and the stronger learning ability it has. To Sunan, the transfer-in frequency of almost every policy type is the highest. This implies that the learning ability and the inclusiveness degree of Sunan are the strongest and the highest among all NIIDZs. Particularly, the talent policies are transferred in for the most times. This suggests that Sunan emphasizes on the role of talents in its development, thus having a great demand of talents. Chang zhutan has also taken in a series of effective measures based on its practical development situations, but its policy introduction intensity is restricted by the gap between it and other NIIDZs. As a paragon of Chinese NIIDZs, Shanghai has introduced the fewest policies from its counterparts. Impacted by its own institutions and systems, it lacks the ability to issue policies, and is far behind other NIIDZs in terms of inclusiveness to external policies.

By comparing Fig. 3 and Fig. 4, one can notice that Beijing and Sunan are in a leading position both in terms of policy transfer-in and policy transfer-out. Wuhan and Shenzhen focus on different policies based on their development characteristics. Shanghai and Chang zhutan, restricted by their own systems or comprehensive strength, lag behind in terms of policy transfer. Statistically, the frequency of policy transfer among Chinese NIIDZs is relatively high. However, field survey shows that the actual effect of policy transfer is far from being satisfactory. Based on a field survey in Beijing, Shanghai, Wuhan and Shenzhen, and interview with relevant personnel, the author finds out that policy transfer among Chinese NIIDZs has the following problems. First, the policy transfer lacks systematicness. At present, policy transfer among NIIDZs is still confined to the creativity layer. NIIDZs have not yet systematically summarize policy issuance experiences of their own and others. Thus, it is hard for them to judge whether policies transferred in match their own policy system. Second, the policy transfer is random. Some NIIDZs blindly copy policies from their counterparts without regard to their own development differences. Lack of flexibility and lack of a thorough understanding of their practical conditions ruin their policy transfer effects. Third, the policy transfer is blind. Along with development of information and technology, different NIIDZs are becoming increasingly connected. Many NIIDZs are eager to copy others' successful experiences. As a result, they ignore their practical demands, and formulate some similar policies.

3.3 Competitiveness of policies of NIIDZs

The number of policies issued can reflect the policy formulation level of a NIIDZ. However, restricted by traditional mechanisms, systems and management modes, some NIIDZs cannot give full play to their policy formulation capability. Some NIIDZs are big in size. Many policies are transferred within. Thus, in order to further analyze the quality of policies issued by NIIDZs, this paper examines the transfer of different types of policies in different NIIDZs. Policy transfer within a NIIDZ is not taken into consideration. Based on the percentage of different types of policies transferred out, the policy influence of a NIIDZ is evaluated. Generally speaking, under smooth information channels, if a NIIDZ issues an effective policy, the policy will undoubtedly attract attention from its counterparts, the latter of which take in the policy. The more the NIIDZs introduce the policy, the more competitive the policy of the NIIDZ is.

Policy transfer among NIIDZs lays the foundation for mutual cooperation and exchange. Different NIIDZs are in different periods of development and adopt different development policies. Therefore, in view of their development needs, they will concentrate on issuing policies of a specific type. To better evaluate the competitiveness of different NIIDZs in different types of policies, this paper mainly analyzes the percentage of

different types of policies transferred out in different NIIDZs so as to evaluate their influence in different types of policies and their policy formulation level as well.

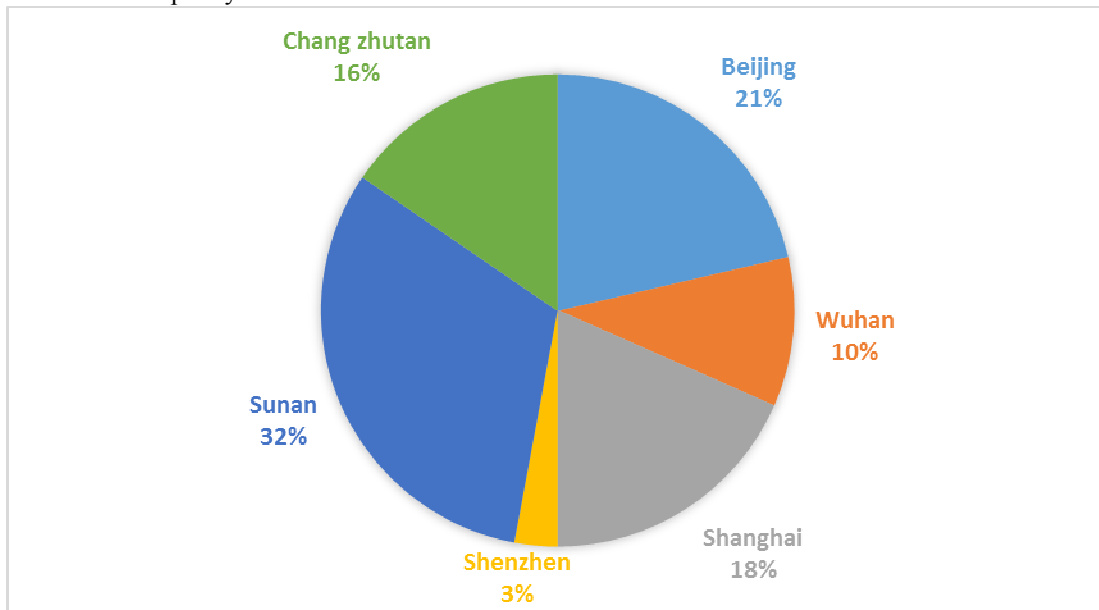


Fig 5: The proportion of each NIIDZ in processing of talent policy transfer out

From Fig. 5, it can be seen that the talent policies transferred out from Sunan and Beijing are more than half of the total talent policies transferred out from all NIIDZs. This means the talent policies of the two NIIDZs are fully recognized by their counterparts and are widely learned. Statistically, influence of Shanghai in terms of talent policies is just after that of Beijing, and at the same level with Chang zhutan. On the contrary, talent policies in Shenzhen and Wuhan fail to be recognized by the rest. Particularly, the talent policies of Shenzhen call for further improvement.

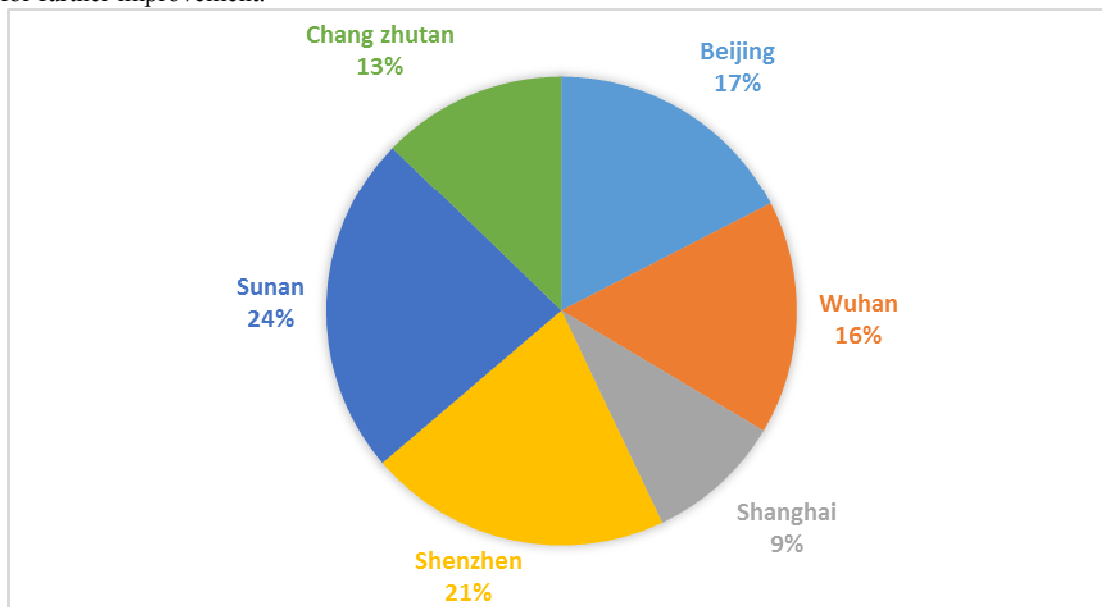


Fig 6: The proportion of each NIIDZ in processing of industrial policy transfer out

The development level of talent policies varies greatly in different NIIDZs, while the development level of industrial policies is relatively balanced without a huge gap. As to the reason behind, on the one hand, different NIIDZs lay great emphasis on formulating industrial policies to fuel industrial development. On the other hand, the gap of industrial development among different NIIDZs has impeded different NIIDZs from imitating and learning from each other.

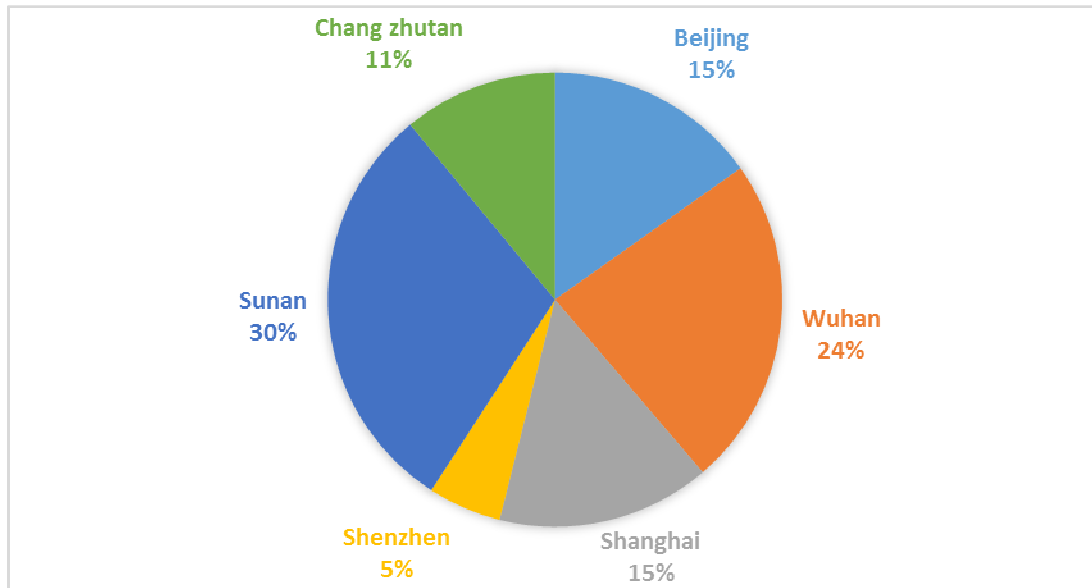


Fig 7: The proportion of each NIIDZ in processing of enterprise policy transfer out

The development level of enterprise policies is similar to that of talent policies. In NIIDZs, there are three layers of development. Sunan and Wuhan stand out in terms of their enterprise policies. In particular, Wuhan, though with limited policies issues, still succeeds in getting recognition for its enterprise policy formulation level. Basically, it can be concluded that Wuhan is leading in terms of enterprise policy formulation level. Beijing and Shanghai are at the intermediate level in terms of competitiveness of their enterprise policies. With a complete industrial chain and a galaxy of excellent enterprises, the two pay more attention to the role of the market. This justifies why they do not excel in terms of enterprise policy formulation level.

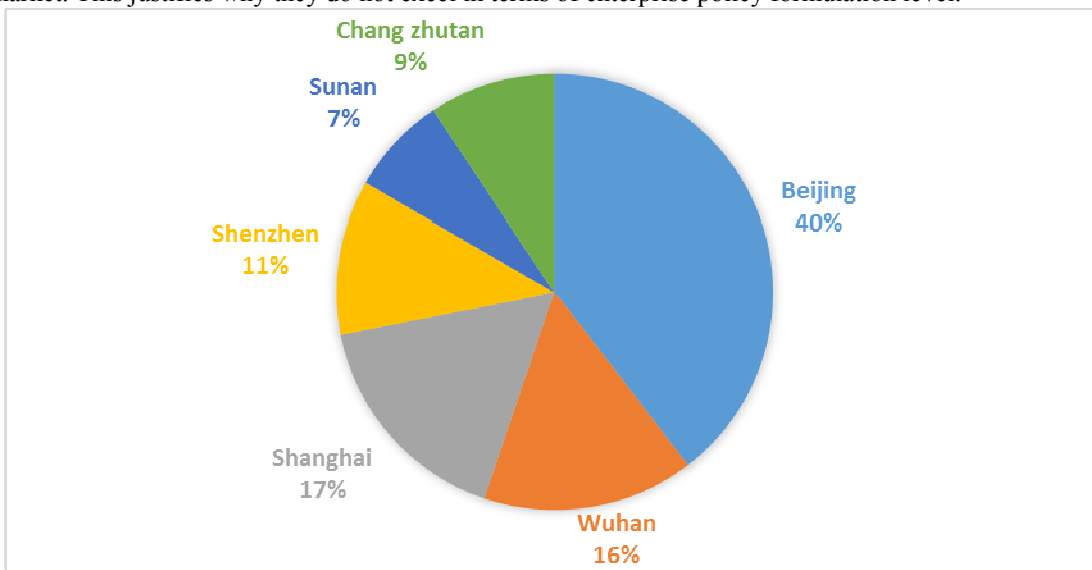


Fig 8: The proportion of each NIIDZ in processing of financial policy transfer out

Transfer of financial policies is seriously one-sided. As Chinese financial center, Shanghai is not the core transfer area of financial policies. On the contrary, Beijing, known as Chinese political center, is the most competitive in terms of financial policies. There are three causes of the phenomenon. First, the developed financial industry of Shanghai is market-oriented, and policies just play a supporting role. Therefore, Shanghai's financial policies are not widely transferred to other demonstration zones. Second, as Chinese political center, Beijing is faced with the urgency of developing its financial industry, which has long been a short-slab of its development. Hence, it introduces a large number of financial policies. Third, the financial development level in other NIIDZs is not high, so Beijing's preliminary financial development policies can meet their development needs, and are thus more easily taken in.

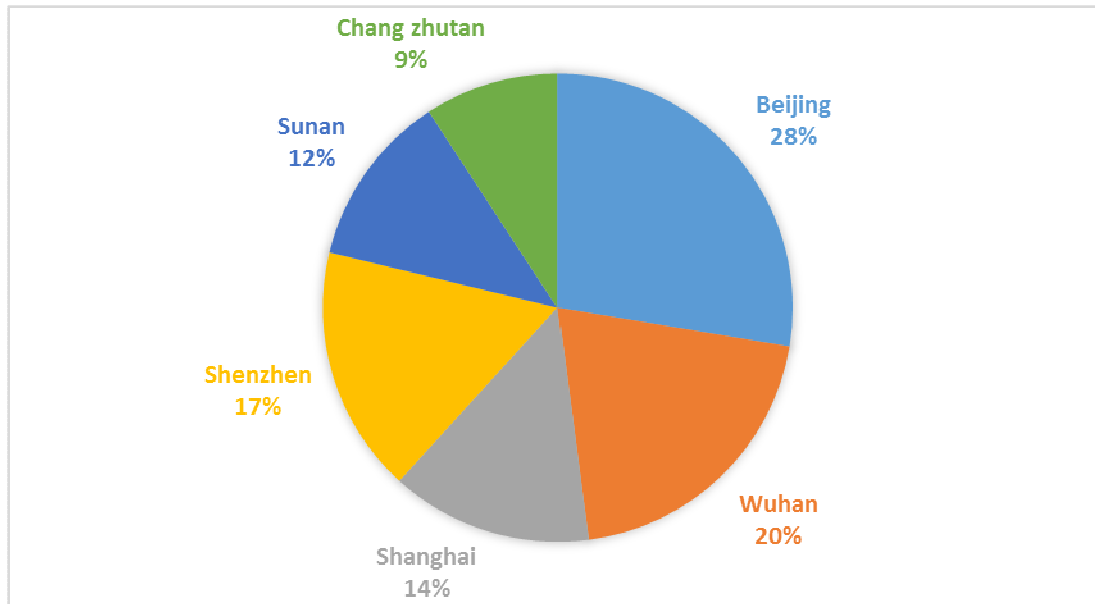


Fig 9: The proportion of each NIIDZ in processing of others policy transfer out

In terms of transfer of others policies, namely intellectual property rights and commercialization of research findings, the policies transferred out from Beijing account for one third of the total transferred out from all NIIDZs. This also suggests that the implementation effect of others policies is prominent in Beijing. However, the emerging NIIDZs, such as Sunan and Chang zhutan, obviously lag behind in terms of others policies.

To sum up, Beijing is a leader in formulating financial policies and others policies, and the quality of policies issued by it is relatively high. Wuhan stands out in terms of enterprise policies, but its talent policies are crying for further strengthening. Shanghai, though not being a leader of any type of policies, is the most evenly developed in terms of all types of policies. The implementation effect of industrial policies in Shenzhen is significant, but the implementation effect of its talent and enterprise policies is not satisfactory. Sunan has an edge in terms of its economic level and size. This justifies why its talent, enterprise and industrial policies are widely referred to by other NIIDZs. However, its financial policies and others policies still call for further improvement. Chang zhutan is a late-starter and at a relatively low development level. The competitiveness of its policies is as expected, and all of policies should be further strengthened.

4. Conclusions

Proceeding from the policy transfer status of Chinese national independent innovation demonstration zones, this paper summarizes various policies issued by several major NIIDZs from 2006 to 2015. Then, policies are divided into five types based on their content and nature. After that, transfer-in and transfer-out data of different types of policies in different NIIDZs are analyzed to get a large picture of the policy transfer status in each demonstration zone. Next, in view of performance of every NIIDZ in transferring out different types of policies, the policy competitiveness of different NIIDZs is examined. Last but not least, combining field survey results, the status of policy transfer in Chinese independent innovation demonstration zones is comprehensively analyzed and studied.

This research mainly comes to the following conclusions. First, policy exchange and cooperation has become a common phenomenon and even a development trend among Chinese NIIDZs. Policy transfer is also considered as the major source of policies issued in different NIIDZs. Second, during the transfer process of different types of policies, NIIDZs have different focuses. Restricted by their development positioning and resources, NIIDZs can hardly formulate the most effective policies. They can only combine their policy resources with their own development status to play a leading role during the policy transfer process. As one of the fastest-developing NIIDZs, Sunan boasts a series of outstanding sub-zones in Suzhou, Wuxi, Nanjing, etc. During the policy transfer process, its scale advantage is obvious. Fourth, Shanghai, probably limited by its policy formulation function, seldom introduces policies from its counterparts. This does not match the position of Shanghai as one of fastest-developing and earliest NIIDZs. As to the reason behind, it is generally believed that the marketization development positioning of Shanghai has constrained the government's participation in development of the NIIDZ. As a result, Shanghai is lagging behind in issuing policies. This has seriously restricted improvement of the policy formulation level of Shanghai. Fifth, NIIDZs which are late-starters or are relatively backward in terms of economic development introduce more policies from their counterparts. The gap between them and NIIDZs with a higher economic development level is small in terms of policy transfer-in and

transfer-out. This is because the backward NIIDZs are trying hard to keep up with those ahead of them. Their development level hinders their policy formulation level. As a result, policies formulated by them are hardly recognized by their counterparts. However, these late-starters can fully learn from advanced experiences from pioneers. In this way, they transfer in more policies from other NIIDZs.

Proceeding from policies in NIIDZs, the author first builds a policy transfer chain and a policy transfer network among Chinese national independent innovation demonstration zones. This cannot provide vigorous support for policy development of NIIDZs, but also fill in the gap of empirical research into Chinese policy transfer. Of course, with a limited access to relevant policies and impacted by objective and subjective factors, such as the number of NIIDZs, this research has a huge room for improvement. As a brand-new topic of policy transfer among NIIDZs, this research will be further enriched by considering factors influencing the policy transfer of Chinese independent innovation demonstration zones, policy transfer network, policy competitiveness and policy transfer coordination.

References

- Berry, F. S., & Berry, W. D. (1990). State lottery adoptions as policy innovations: An event history analysis. *American political science review*, 84(02), 395-415.
- Borrás S, Jacobsson K. (2004) .The open method of co-ordination and new governance patterns in the EU. *Journal of European public policy*, 11(2): 185-208.
- Deng N, Chen H. (2014). Study on problems and countermeasures of Chinese local university technology transfer center construction. *Journal of Management and Strategy*, 5(3): p94.
- Deng P. (2009). Why do Chinese firms tend to acquire strategic assets in international expansion? *Journal of World Business*, 44(1): 74-84.
- Ding, X., & Li, J. (2015). Incentives for Innovation in China: building an innovative economy (Vol. 124). Routledge. (Chapter 2)
- Dolowitz D, Marsh D. (1996). Who learns what from whom: a review of the policy transfer literature, *Political studies*, 44(2): 343-357.
- Etzkowitz H, Leydesdorff L. (2000). The dynamics of innovation: from National Systems and "Mode 2" to a Triple Helix of university-industry-government relations. *Research policy*, 29(2): 109-123.
- Feng F, Cheng X. (2009). Reflection and construction of China's policy transfer from the perspective of globalization. *Journal of Public Administration*, 3: 26-31.
- Fracassi C. (2016). Corporate finance policies and social network. *Management Science*.
- Gao X, Song W, Peng X. (2015) National Innovation Demonstration Zones Leading China's Regional Development. *Modern Economy*, 6(10): 1056.
- Gibson C B, Birkinshaw J. (2004) The antecedents, consequences, and mediating role of organizational ambidexterity. *Academy of management Journal*, 47(2): 209-226.
- Glinka K. (2016) Adaptations within the Financial Market in China after Global Financial Crisis. *Oeconomia Copernicana*, 7(4): 565.
- Gray, V. (1973). Innovation in the states: A diffusion study. *American political science review*, 67(04), 1174-1185.
- Guan J, Chen K. (2010). Measuring the innovation production process: A cross-region empirical study of China's high-tech innovations. *Technovation*, 30(5): 348-358.
- Huang Y, Audretsch D B, Hewitt M. (2013). Chinese technology transfer policy: The case of the national independent innovation demonstration zone of East Lake. *The Journal of Technology Transfer*, 38(6): 828-835.
- Huber G P. (1991). Organizational learning: The contributing processes and the literatures. *Organization science*, 2(1): 88-115.
- Klepper S. (2001). Employee startups in high - tech industries. *Industrial and corporate change*, 10(3): 639-674.
- Li S, Ye X, Lee J, et al. (2016). Spatiotemporal analysis of housing prices in China: a big data perspective. *Applied Spatial Analysis and Policy*, 16: 1-13.
- Li Y, Liu Y, Long H, et al. (2014). Community-based rural residential land consolidation and allocation can help to revitalize hollowed villages in traditional agricultural areas of China: Evidence from Dancheng County, Henan Province. *Land Use Policy*, 39: 188-198.
- Li Y, Zhan C, de Jong M, et al. (2016). Business innovation and government regulation for the promotion of electric vehicle use: lessons from Shenzhen, China. *Journal of Cleaner Production*, 134: 371-383.
- Liu Y, Fang F, Li Y. (2014). Key issues of land use in China and implications for policy making. *Land Use Policy*, 40: 6-12.
- Obinger H, Schmitt C, Starke P. (2013). Policy diffusion and policy transfer in comparative welfare state research. *Social Policy & Administration*, 47(1): 111-129.
- Quitow R. (2015). Dynamics of a policy-driven market: The co-evolution of technological innovation systems

- for solar photovoltaics in China and Germany. *Environmental Innovation and Societal Transitions*, 17: 126-148.
- Radaelli C M. (2000). Policy transfer in the European Union: institutional isomorphism as a source of legitimacy. *Governance*, 13(1): 25-43.
- Shuyan Wei. (2009). The cultural conflict and Its Countermeasures in policy transfer. *Journal of Beijing Administrative College*, 2009(5): 24-27.
- Stone D, Denham A.(2004). *Think Tank Traditions: Policy Analysis Across Nations*. Manchester University Press, (Chapter 5).
- Walker J L. (1969). The diffusion of innovations among the American states. *American political science review*, 63(03): 880-899.
- Wang C L, Rafiq M. (2014). Ambidextrous organizational culture, contextual ambidexterity and new product innovation: a comparative study of UK and Chinese high - tech firms. *British Journal of Management*, 25(1): 58-76.
- Wang Y, Pan X, Ning L, et al. (2015). Technology exchange patterns in China: an analysis of regional data. *The Journal of Technology Transfer*, 40(2): 252-272.
- Wang Y, Sun M, Wang R, et al. (2015). Promoting regional sustainability by eco-province construction in China: A critical assessment. *Ecological Indicators*, 51: 127-138.
- Wonglimpiyarat J. (2016). Challenges for China's banks: Investment policies to support technology-based start-ups. *Technology in Society*, 46: 49-57.
- Xingang Z, Jiaoli K, Bei L. (2013). Focus on the development of shale gas in China-Based on SWOT analysis . *Renewable and Sustainable Energy Reviews*, 21: 603-613.
- Zhou K Z, Li J J, Sheng S, et al. (2014). The evolving role of managerial ties and firm capabilities in an emerging economy: evidence from China. *Journal of the Academy of Marketing Science*, 42(6): 581-595.