Intergovernmental Relations and Innovation Diffusion of Policy Pilots across Chinese Local Governments

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Abstract

Classic theoretical researches on the innovation diffusion and policy experiment are usually based on decentralized political regimes. However, in centralized countries such as China, questions such as "What are the driving forces and structural dynamics behind policy pilots in Chinese local governments?" and "How do the governmental structural factors lead to the different patterns of innovation diffusion of policy pilots across local governments?" are interesting research topics. The theoretical framework proposed in this study highlights the roles of the contingent vertical and horizontal intergovernmental relations in innovation diffusion of policy pilots. I extract two key properties: vertical mandatory intervention from the central government and horizontal political competition among peer governments. This research uses four models to develop a new typology of the innovation diffusion of policy pilots in China: 1) Enlightenment model, 2) Championship model, 3) Designation model, and 4) Recognition model. A comparative case study on policy pilots of participatory budgeting, administrative licensing, and social pension reforms is conducted in this research. The four policy cases show that China has developed diversified mechanisms to encourage local governments to perform policy pilots and inter-regional innovation diffusion.

Introduction

The experimental approach to public policymaking has been long praised across public policy and political science literature (Cárdenas & Ramírez de la Cruz, 2016; Campbell, 1969; Cook & Campbell, 1979; Druckman, Green, Kuklinski, & Lupia, 2006; Hvidman & Andersen, 2016; Jilke, Van de Walle, & Kim, 2016; Morton & Williams, 2010). Among variant experimental designs of policy making, policy pilots (or called policy laboratories) are regarded as a "quasi-experiment" that are used for problem solving and theory building. Traditional experimental design in academia focuses primarily on the methodological strictness of experimentation. Specifically, methodological superiority is assessed by whether they have adopted randomization that controls systematic errors distorting the observed effect size. Quasi-experimental pilots in the real-world public policy, however, can hardly be designed and implemented as classic experiments with the methodological rigorousness of randomization (Babbie 2007; Gravetter & Forzano 2012; Johnson & Reynolds 2007). - Though these policy pilot designs are not perfectly "scientific" or randomized experiments, their effectiveness and contribution to the development of state governance in many countries should not be underestimated.

In practice, governments around the world use the policy pilot strategy as one of the most important policymaking tools. For instance, the negative income tax programs (Ashenfelter & Plant 1990; Pechman & Timpane 1975) and the health insurance experi-

mental scheme (Aron-Dine, Einav, & Finkelstein 2013) in the US are classical examples. The US government also strongly recommends using quasi-experimental local innovation as policy laboratories for evidence-based performance management and success replication across US states (Volden 2006). Korea has also implemented numerous policy pilot projects over many years (Lee, Jung, & Lee 2009). Similar pilot and demonstrative programs in renewable energy systems have been implemented in Japan and extensively used to help overcome innovation uncertainties (Hendry, *et al.* 2010). Singapore is also famous for developing public policy through social engineering and experimentation in transportation, healthcare, pension, and regulation policies (Low 2012). Many environmental policy experiments have been designed and implemented in India (Duflo, *et al.* 2012). In addition, a national pilot project on local government recentralization on public services was implemented in Vietnam (Malesky, *et al.* 2014).

Over 40 years, China has successfully reformed and opened up its economic field and public decision-making patterns. It has also utilized the policy pilot approach in a number of economic and social policies implemented since the late 1970s (Heilmann 2008a). All levels of the Chinese government have conducted multi-faceted policy innovations and policy pilots in response to challenges in public governance resulting from globalization, industrialization, and urbanization. These policy pilots have involved budget systems, urban public services, social welfare policies, and resource and environmental policies. Innovation diffusion of policy pilots involving these policy instruments provide a reference for central decision-makers when applying new policies to the entire nation. Therefore, as a form of "spreading from point to surface" and "feeling the stones across the river," the mechanisms of innovation diffusion of policy pilots in Chinese public governance are a topic worthy of study.

China possesses a wealth of empirical evidence on policy pilots and innovation diffusion. However, among the extensive literature on the innovation diffusion of policy pilots in political science and public administration (Graham, Shipan & Volden 2013; Shipan & Volden 2012), only a few studies have recently focused on innovation diffusion in centralized government regimes, such as China (Ma 2014; Zhang 2015; Zhu and Zhang 2016; Liu and Li 2016; Wu and Pan 2016). Research on the relationships among governmental structural factors and different patterns of the innovation diffusion of policy pilots is scarce. Thus, questions such as "What are the driving forces and structural dynamics behind policy pilots in Chinese local governments?" and "How do the governmental structural factors lead to the different patterns of innovation diffusion of policy pilots across local governments?" are interesting research topics.

This article uses the perspective of intergovernmental relations to explain various patterns in the innovation diffusion of policy pilots in China. The characteristics of intergovernmental relations in China differ from those in the United States, given that the latter is a federal country. In terms of vertical relations, China is a *de facto* unitary country; hence, its central government can intervene in the actions of local governments, including local policy innovations. In terms of horizontal relations, higher authori-

ties use performance evaluation, instead of constituent election, to select and promote subordinate local officials. Consequently, local officials from neighboring jurisdictions, who are under the same higher authorities, tend to compete with one another not only in terms of economic performance, but also in terms of innovative activities. As a performance measure, policy innovation can attract the attention of superior authorities.

I. Innovation Diffusion of Policy Pilots: A Literature Review

Policy innovation and its related theories have been developing in political science and public administration for over half a century (Crain, 1966; Walker 1969; Gray 1973; Heclo 1974). Innovation in public domains pertains to legislative bodies, executive authorities, and a city's administrative departments that introduce new policy ideas, values, and instruments into a system. (Walker 1969; Berry & Berry 1999). Policy innovation is a broad concept that includes lesson-drawing, policy band wagoning, policy emulation, policy harmonization, policy penetration, systematically pinching ideas, direct coercive transfer, policy diffusion, policy convergence, and transnational policy learning (Stone 1999). On the other hand, innovation diffusion is generally defined as the policy decisions of one government as influenced by the choices made by other governments (Baybeck, et al. 2011: p. 232; Shipan and Volden 2012; Zhu 2014). Specifically, scholars have used the event history analysis method of Berry and Berry (1990) to thoroughly study the issue of innovation diffusion in many individual policies, including development, social, fiscal, and regulatory policies.

Studies over the past three decades clarify the effect of intergovernmental relations on the diffusion of policy innovation in Western countries. For example, local governments that share similar social problems and political pressures tend to adopt similar welfare and regulatory policies (Berry & Berry 1990; Nicholson-Crotty 2009). In the USA, among the potential benefits of American federalism is the ability of states to serve as policy laboratories (pilots), learning from the successes of similar states and abandoning unsuccessful attempts (Volden 2006). In addition, geographical proximity facilitates mutual learning among neighboring governments (Walker 1969; Foster 1978; Boehmke and Witmer 2004). Specifically, neighboring U.S. states tend to adopt identical welfare policies either because of interstate competition in attracting investments and consumptions or to avoid becoming a welfare magnet (Baybeck, Berry, & Siegel 2011; Peterson & Rom 1990; Rogers 1983). In terms of vertical intergovernmental relations, central (or federal) governments sometimes accelerate the adoption of innovation through top-down legislation, guidance, or incentive policies (Berry & Berry 2007; Walker, Avellaneda, & Berry 2011; Welch & Thompson 1980) or through bottom-up federalism from cities to states through snowball and pressure valve effects (Shipan & Volden 2006).

As another group of literature in public policy, the dynamics of policy experiments in western countries have been extensively investigated (Campbell 1969; Graham, Shipan, & Volden 2013). For instance, both internal determinants (e.g., political, economic, and social characteristics) and external pressures (e.g., economic competition) may affect

how governments adopt and implement policy experiments (Berry & Berry 1990). Previous studies have also evaluated the effects of, and drawn lessons from, policy experiments in various policy domains, such as education (Dee 2004), environment (Stavins 1998), finance (Aiyar, Calomiris, and Wieladek 2014), welfare (Boockmann, *et al.* 2015), traffic (Blonigen and Cristea 2015; Prud'Homme & Bocarejo 2005), and migration (Scholten & Nispen 2015). Policy experimentation is necessary for effective governance of complex and evolutionary social systems (Sanderson 2002).

The concept of experiment has long been in public policy literature (Aron-Dine, *et al.* 2013; Campbell 1969; Pechman & Timpane 1975). The traditional concept of experiment emphasizes controllability and systematic analysis randomization (Babbie 2007; Gravetter & Forzano 2012; Johnson & Reynolds 2007). However, in practice, it is rare to implement policy experiments based on this rigorous randomization design. Moreover, the term, 'policy pilot" rather than 'policy experimentation.' is more commonly used in practice and academia in Asian countries such as China, Korea, and India (Rudra 2008; Liu & Rao 2006; Zhu & Zhao 2018). The term 'policy pilot' has subtle differences from 'policy experiment' for understanding. Generally speaking, policy pilot is a small-scale project to measure or observe the specific impacts or mechanisms of policy instruments implemented under the well-designed plan (Lee, *et al.* 2009, p. 285) triggering innovations for addressing risks and uncertainties (Nair 2020). Walker (2000) distinguishes policy pilot from experiment, assuming that the former is used for prototyping policy. In contrast, Zhu (2017) argues that policy pilot is a distinctive policy experiment with Chinese characteristics, that also can be comprehended as Chinese method of policy experiment under its unique political and governmental structure. In their discussions, scholars emphasize the use of policy pilot as a tool for gaining relevant evidence and knowledge for policymaking and problem solving (Zhao, *et al.* 2016; Ma 2017) or for communicating with the public (Zhu & Wang 2024). To Sum up, while the traditional understanding on policy experiment emphasizes its 'experimental' nature (consisting of randomization and controllability), Asian countries prefer to use policy pilot to emphasize the explorative and pragmatic nature of the approach (Ko & Shin 2017).

Scholars have recently expanded the research fields of innovation diffusion of policy pilots as follows. First, the effects of cooperation and competition networks among local governments on policy innovation and learning (Füglister 2011; Baybeck, *et al.* 2011; Thiriot & Kany 2008); second, the role of the media, academics, opinion leaders, and other social participants in policy innovation and learning (Barnett 2003; Koguta & Macpherson 2011; Linos 2006); third, the influence of geographical, cultural, and economic conditions and the other external factors on innovation diffusion of policy pilots (Jun & Weare 2010; Schmitt 2011; Barnett 2003); and fourth, the gradual shift of the focus of empirical case studies from innovation diffusion within a state (i.e., states in the United States and Canada) to the international lesson-drawing and policy transfer among (European) nations (Rose 1991; Hoberg 1991; Bennett 1997; Oakley 1998; Radaelli 2000; 2008; 2009; Bomberg 2007; Bulmer 2007; Boswell 2008; Ruddy & Hilty 2008; Miller-Adams 2009; Montpetit 2009; Nedergaard 2009; Zito & Schout 2009; etc.).

Theoretical and empirical research on inter-regional innovation diffusion of policy pilots has progressed, but two major limitations still exist. First, classic theoretical research on innovation diffusion is still conducted based on decentralized political structures, which are similar to those in federal states in the United States and Canada, and among other sovereign countries, such as countries within the European Union (EU). In such political structures, the effect of the coercive power of supranational organizations or central governments on innovation diffusion of policy experimentation is relatively weak. However, China is a distinct country with a vast territory that is also a centralized unitary one, with the Chinese central government playing a crucial role in the process of innovation diffusion and local policy pilots. Moreover, the performance evaluation and promotion system designed by the Chinese central government forms a distinct horizontal relationship among peer local governments. Central authorities encourage local innovations but carefully select local experimental initiatives that can resolve major national policy issues. Moreover, peer local governments under the same higher authorities tend to compete with one another for attention and chances for promotion (Yang 2004; Heilmann 2008b; Heilmann, Shih, & Hofem 2013; Zhu & Zhao 2018). Therefore, to compensate for this important theoretical shortcoming, the present paper studies the complex relationships among the central government and local governments, policy pilots, and innovation diffusion within the unitary state of China.

Second, reasons for the formation of different innovative diffusional types based on comparative policy studies still need to be explored. Academics have used the national interaction, regional diffusion, leader-laggard, and vertical influence models to classify the different types of policy innovation diffusion and to examine their differences (Gray 1973; Berry & Berry 2007; Grin & Loeber 2007). Moreover, research has begun to explore how policy features, such as cost, complexity, congruence, and salience shape policy diffusion (Boushey 2010; 2016; Makse & Volden 2011; Nicholson-Crotty 2009). However, policy characteristics related to governmental structure have been overlooked. This ignorance may stem from the assumption that governmental structure factors are static within one political regime. In China, for example, scholars have debated whether vertical decentralization (Montinola, Qian, & Weingast 1995; Xu 2011) or centralization (Cai & Treisman 2006) has stimulated economic prosperity and whether the driving force of horizontal competition among peer local officials is based on economic performance (Li & Zhou 2005) or patron-client relations (Shih, Adolph, & Liu 2012). On the other hand, these discussions are always based on the structural settings where the vertical and horizontal intergovernmental relations do not change with different situations. My argument is based on a contingent process where vertical and horizontal intergovernmental relations can change depending on policy cases. As such, I argue that the vertical and the horizontal intergovernmental relations stimulate various patterns of innovation diffusion of policy pilots in contemporary China depending on the specific policy cases.

II. Innovation Diffusion of Policy Pilots in a Centralized Governmental System

Traditional policy innovation diffusion theory usually considers the relationship between

the pilot side and learner side because the involved governments are located in a decentralized federalist structure. In the centralized unitary countries, however, the central government (or superior government at higher levels) plays crucial roles in guiding the behavior of local governments. In China, these guidelines reflect the promotion of local leadership by the central government using the performance evaluation and personnel system. In addition, these interventions reflect financial transfer payment systems, guidance documents and administrative laws. These factors increase the complexity of the mechanisms of China's policy innovation and inter-regional learning when compared to a federal state. Therefore, the present research introduces the central (or superior) government into the original dual structure, where only policy pilot/experiment sides and policy learner sides exist, as the third-party in the process of policy innovation and inter-regional diffusion. Thus, we have constructed a new framework with a triangular structure of innovation diffusion of policy pilots for a centralized governmental system (see Fig. 1)

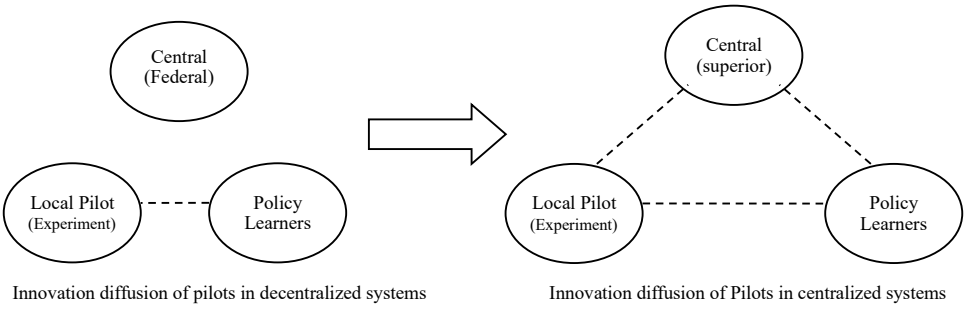

Figure 1: A Triangular Framework of Innovation Diffusion of Policy Pilots

Source: Zhu (2024) as adopted from various sources

In a unitary structure, the greater or lesser effect of the central government causes the innovation diffusion of policy pilots across local governments to show two intergovernmental relational properties in different policy cases. The first is the vertical mandatory intervention from the central government. Vertical mandatory intervention pertains to a policy diffusional process that is either strongly supported or discouraged by the central government (or superior government) through administrative mandates. In several policy cases, the central government requires other regions to learn innovation from a policy pilot initiated by a pioneer region with administrative mandates; whereas in other policy fields, the central government adopts a non-intervention attitude towards local policy innovation and diffusion activities. The presence or absence of mandatory intervention from the central government strongly influences the diffusion of an innovation. In unitary China, local governments may adopt a policy because of economic incentives as well as to express loyalty to the central authority (Shirk, 1993; Heilmann, 2008b). Consequently, when the central government exhibits a clear mandate towards an innovation, deciding to adopt central mandates can demonstrate loyalty of local officials to the central authorities, who actually control the future political mobility of the

officials, even without economic incentives. Therefore, vertical mandatory intervention from the central government to either promote or terminate a local innovation strongly influences the trajectory of the inter-regional policy diffusion decided by local officials, who are concerned about their future political career (Zhang & Zhu 2020a).

The second is the horizontal political competition among peer governments. Whether in federal states or in centralized countries, horizontal competition among peer local governments always exists. For example, in the U.S., neighboring states compete with each other for mobile resources such as investments and talent populations (Baybeck, Berry, & Siegel 2011). In centralized China, many scholars have believed that local government officials compete either for precious political promotion opportunities decided by the central government (Yang 2004; Li and Zhou 2005; Xu 2011; Heilmann, Shih, & Hofem 2013). Therefore, local government political competition in China may occur between peers who are geographical neighbors or are far from each other (Zhang & Zhu 2020b). Meanwhile, two-peer governments, whether neighboring or not, may be competitors in a number of policy cases but may possess no competitive relationship in other policy cases. Theoretically speaking, innovation is a public good because other local governments can acquire original innovations, thereby avoiding risk (Strumpf 2002). However, if a local government has a political competitive relationship with an innovative peer government, the local government may try to imitate the policy goal to achieve an identical performance while also being reluctant to emulate the policy instrument of the local government that first used it to avoid being regarded as a mere follower of the innovation, despite a seemingly overarching government policy that prefers to discover new policy instruments for innovation.

According to the above two key properties of contingent intergovernmental relations, I propose four models to establish a set of theoretical hypotheses on the innovation diffusion of policy pilots in China: **1) Enlightenment model, 2) Championship model, 3) Designation model, and 4) Recognition model (Table 1)**.

Table 1: Four Models of Policy Innovation and Inter-regional Diffusion in China

		Horizontal political competition among peer governments	
		Weak competition	Strong competition
Vertical mandatory intervention from the central government	Weak intervention by central Gov't	**Enlightenment model**	**Championship model**
	Strong intervention by central Gov't	**Designation model**	**Recognition model**

Source: Zhu, 2024

1) Enlightenment model (Fig. 2)

The enlightenment model is a process wherein a local government voluntarily learns an innovative policy pilot by other regions. The said pilot innovation initially receives nei-

ther support nor intervention from the central government but receives positive or successful results. Other local government leaders learn about the innovation of pilot policy instruments from various sources and believe that it is applicable to their own jurisdictions, consequently applying inter-regional policy diffusion. The condition of enlightenment model of innovation diffusion is that there is no direct competition between the locality initiating the policy pilot and the learners of other local governments. The enlightenment model is similar to the classic model of inter-state learning towards a successful innovation in federal countries (Volden 2006).

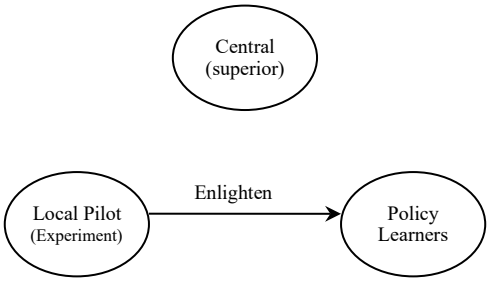

Figure 2: Enlightenment Model

Expert and media reports on the pilot innovation of the local governments usually play a key role in innovation diffusion in the enlightenment model. On one hand, experts can help the government leader design a new system and may also share experiences from foreign countries to the local government. In addition, experts can help in theorizing the original innovative pilots while promoting the region's institutional innovation to other local governments through academic activities, such as academic conferences, training events for the officials, or articles in the mass media. Consequently, experts' activities enlighten other local government leaders in understanding the value of the innovation, thus initiating a new round of policy learning.

2) Championship model

The championship model refers to the situation where there is a competitive relationship between peer local governments under the same superior government. As a result of competition, the region that pioneers the adoption of a new policy and successfully implements it achieves a comparative advantage over the other peer local governments. The competitive pressure causes the leaders of the peer governments to initiate a policy with a similar policy objective of the region that first adopted the new policy. However, for the policy learner side, the local government will be unwilling to copy the policy instruments of the first region to avoid being regarded as followers in the competition of regional pilots. Instead, they will actively develop new policy instruments to be the pioneer of a new policy.

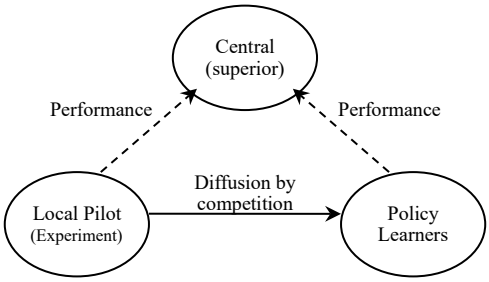

Figure 3: Championship Model

A prerequisite of the championship model of policy innovation diffusion is that the central government (or the superior government) must have no interference over the policy instruments of innovation diffusion in all local governments. Therefore, the championship model of innovation diffusion often occurs between competitive peer governments. In several policy cases, neighboring governments with the same superior government have strong incentives to compete for promotion and capital investments; whereas in other policy cases, non-neighboring peer governments may also compete with each other either for promotion or for fiscal transfer payments from the central government. Competing peer governments prefer to select similar policy objectives but differ in the choice of specific pilot instruments. In this way, the innovative policy practice is actually extended. Therefore, the championship model can be characterized by the separation of "policy objectives" and "policy instruments" among competing peer local governments.

3) Designation model

The designation model occurs when the superior government sets a policy objective and designates a small number of local governments to execute the experimental pilot projects of the innovative policies. After the institutional innovation has been designated and implemented and has received a positive evaluation in the demonstrative areas, the superior government extends this institutional innovation to other local governments with administrative commands. In the process of reform and opening up in China, the policies on several rounds of special economic zones and open coastal cities are typical examples of the designation model of a policy pilot and innovation diffusion initiated by the central government.

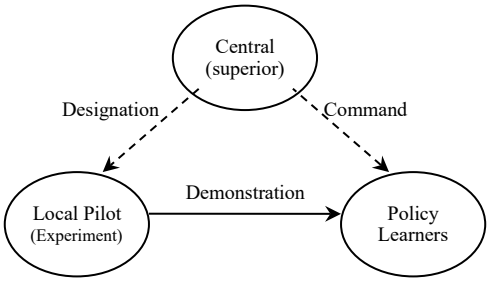

Figure 4: Designation Model

4) Recognition model

The recognition model involves several local governments first spontaneously adopting pilot institutions with innovation and drawing the attention of the central government, after which the central government selects and recognizes one of the innovative institutions and diffuses it with administrative mandates to other local governments. The interaction between the pilot regions and the central government is important in this policy innovation and diffusion model. The local governments independently design different policy instruments following the similar policy objectives under conditions where preferential policies and external support do not exist, and the local government leaders need to take policy pilots in promoting their innovative achievements to the central government. After the policy innovation successfully implemented, the innovative local governments hope to receive recognition from the central government that exceeds the attention given to their peers. On the other hand, the central government must recognize the policy innovation and promote it to other local governments to mobilize more administrative resources and provide certain policy incentives for the learning governments.

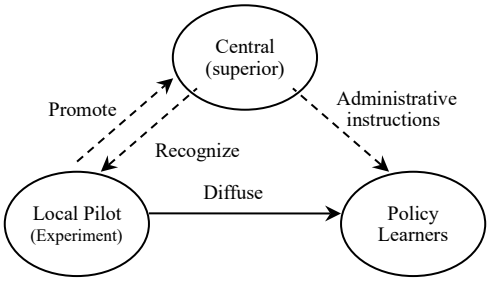

Figure 5: Recognition Model

A crucial factor in the recognition model is the selection of the central government regarding the area that will serve as the example for the national policy from the pool of all potential alternatives designed by different pilot local governments. The selection

itself is a political performance in which the central government recognizes the local governments as the innovative sample. Therefore, the recognition of the local pilots executed by the central government tends to be one of the competitions for the political opportunities among the potential local government

III. Research Design and Methodology

I employ a comparative study to illustrate the four cases of innovation diffusion of policy pilot models. The policy cases in the comparative study are selected based on the logic of theoretical replication in the methodology of a comparative case study (Yin 2009, p. 54). The key of the case sampling is to check whether the samples are relatively complete and accurately answer the questions of the researchers. Thus, in the selection of comparative cases, the researchers are more concerned with the diversity of each case and attempt to explore each case within the causal mechanism. According to the theoretical framework using the two independent variables, the processes of innovation diffusion of policy pilots are hypothetically predicted to have four different models. Hence, the four contrasting cases of the four models are selected to examine the theoretical hypotheses.

The methods used to collect data for this study include interviews, observations, conferences, and documentary evidence. During the past six years, my colleagues and I have conducted several projects on different policy innovation cases. These research projects have been individually published as papers and each focuses on a single case study. This article reconstructs these policy cases into a comparative framework. These cases are the participatory budget pilot in Wenling City, Zhejiang Province; the administrative licensing system reform initiated in Nankai District, Municipality of Tianjin; the Pension reform for public sector employees; and the New rural social pension insurance pilot scheme. We may allocate these four policy cases into the four quadrants of the theoretical model.

Table 2: Research Design of Comparative Case Study

		Horizontal competition among peer governments	
		Weak competition	Strong competition
Vertical intervention from the central government	Weak intervention	**Enlightenment model** Participatory budget reform in Wenling City	**Championship model** Administrative licensing system reforms in Tianjin
	Strong intervention	**Designation model** Pension reform for public sector employees	**Recognition model** New rural social pension insurance pilot scheme

V. Comparative study of innovation diffusion of policy pilots in China

Case I: Participatory budgeting pilot in Wenling City (Enlightenment model)

Participatory budgeting is a civic engagement process that enables citizens to partici-

pate in budgetary decision-making processes. In China, participatory budgeting has strengthened local people's congresses and citizens' participation in the final allocation of the budget or public resources (He, 2011). Since 1999, with the help of several domestic and foreign experts (Zhu & P. Zhang, 2016), Zeguo Town, Wenling City, Zhejiang Province pioneered a pilot reform of public budgets. The democratic deliberation was introduced in the process of budget examination and supervision in grassroots people's congresses. Subsequently, Xinhe Town and Wenling City initiated another pilot project of participatory budgeting. Although the leadership in Wenling City and the major pilot townships changed several times, the participatory budgeting has been sustainable and gradually institutionalized.

During the process of local government reform based on the Wenling participatory budgeting reform, the experts played crucial roles in promoting and spreading innovation. The participatory budgeting reform in Wenling City, especially the design of reform schemes in Zeguo and Xinhe townships, was executed under the meticulous guidance and instructions of experts. The domestic and international experts participated in the participatory budgeting reform in Wenling City when it began in 2005. The experts included Professor James Fishkin (Stanford University), Professor He Baogang (Deakin University in Australia), Li Fan (Director of the China and the World Institute or CWI), Professor and Dean Ma Jun, Associate Professor Niu Meili (School of Government, Sun Yat-Sen University), Jia Xijin (Associate Professor at the School of Public Policy and Management, Tsinghua University), and Professor Ma Caichen (School of Economics, Nankai University). They provided theoretical knowledge and intellectual support to the budget reform in Wenling City. Furthermore, scholars from the Central Compilation and Translation Bureau, Zhejiang University, Fudan University, and other overseas institutes visited Wenling City for observation and investigation (Tian 2009). In addition, they played an important role in promoting the domestic and international reputation of Wenling's participatory budgeting reform.

Participatory budgeting in Wenling City achieved a more remarkable evaluation than expected, thereby receiving attention from the media and winning numerous honors. In 2008, the Wenling participatory budgeting received recognition as the Innovative Cases of 30-year Reform and Opening up in China. In 2009, it was cited in the Top 10 local public decision-making experiments and was nominated for the 5th China Local Government Innovation Award. It was meritoriously included in the Top 10 News Reports Related to Democracy and the Rule of Law in China in 2010. Moreover, in 2011, it won the Excellent Award for Public Management Innovation Case in Zhejiang. All these honors show that the participatory budgeting in Wenling City strongly influenced the nationwide budgeting reform in China. Although Wenling City has received numerous national academic and media awards for its innovations in participatory budgeting, its local policy has not been formally approved by the central government.

Without any intervention or instruction from the central government, after years of institutional innovation and vertical and horizontal policy learning, participatory budget-

ing has been implemented in quite a few cities in China without any intervention from the central government. The participatory budgeting in Zeguo and Xinhe townships has been horizontally learned by eleven towns and five streets in Wenling City. In 2011, Wenling City created the Democratic Deliberation Office, which is responsible for establishing standards in catering to the township committees of the Communist Party of China (CPC) and for incorporating democratic deliberation in evaluating the work performance of the CPC committees. At a city level outside Wenling, the Wuxi City, Jiangsu Province, Jiaozuo City, Henan Province, and Harbin City, Heilongjiang Province have practiced participatory budgeting. At the lower levels, dozens of township projects have exhibited participatory budgeting, and thousands of villages have initiated participatory budget practices throughout China.

Case II: Administrative licensing system reforms in Tianjin (Championship model)
In the past, the procedures for administrative licensing for corporate registration were cumbersome and inefficient. For example, if an enterprise wanted to complete its registration procedures, it had to transact with numerous government departments located in different downtown areas. To attract more business investments, Chinese local governments initiated many pilot solutions to improve the efficiency and effectiveness of the administrative licensing services (Zhu & Jiao, 2012).

Nankai District, Tianjin Municipality was one of the most important representative cases of the local experiments of the administrative license reforms. Among all districts (counties) under the jurisdiction of Tianjin Municipality, the Nankai District was the first local government to independently develop an administrative licensing innovation solution. Prior to 2002, Nankai District introduced several basic initiatives, such as a concentrated handling procedure to enhance administrative licensing efficiency. The Nankai District Administrative Licensing Service Center successfully developed a set of electronic licensing software in 2002 using the Internet, and it officially operated in January 2003. Moreover, it advanced the Time-limited Permission System in February 2004. In the past, approximately 45 days were required to complete one corporate registration in Tianjin. On the other hand, the Time-limited Permission System specifies that the matter accepted by the administrative licensing departments should automatically be deemed as approved or tacitly concurred if the positive or adverse decision is made beyond the prescribed period of three days.

The administrative licensing reform of Nankai District enhanced the efficiency of corporate registration. After Nankai District implemented the administrative licensing service reform and established the Time-limited Permission System in 2003, the total number of registered private industrial and commercial enterprises exceeded that of the Heping and Hexi districts, which were the former leaders in this aspect, for the first time. From 2003 until the Tianjin Binhai New Area was reconstructed and integrated into a large administrative district in 2009, Nankai District ranked first among all the districts and counties in Tianjin (Tianjin Statistics Bureau, 2003–2009). In 2006, the Time-limited Permission System in the administrative licensing service reform of Nan-

kai District won the Third Chinese Local Government Innovation Award.

Under strong competitive pressure from the administrative licensing service reform of Nankai District, all other districts and counties in Tianjin initiated their respective administrative licensing service reforms to improve the efficiency of the administrative licensing service. However, considering that competition exists between Nankai District and the other districts and counties in Tianjin, the other districts and counties introduced programs different from that of Nankai District. For example, in June 2004, the Administrative Licensing Service Center of Hexi District established the One-station Concentrated Office for administrative licensing affairs. In March 2005, Hexi District implemented the system of District Mayor Reception Service Day for Enterprises. The Administrative Licensing Service Center of Heping District implemented the Full-service Agency System. This system involves public-service outsourcing in which the government outsources (with compensation) administrative licensing service affairs to intermediary companies. Moreover, Hedong District adopted the Four Systems (i.e., Window Service System, Service Commitment System, First Acceptance Responsibility System, and Accountability System); Hongqiao District adopted the Four Networks (i.e., Intranet, Extranet, Joint Approval Special Network, and Departmental Approval Business Special Network) and the Four Systems (i.e., Administrative Approval Operating System, Joint Approval System, Municipal and District Two-tier Interaction System, and Administrative Approval Efficiency Supervision System); Dongli District established the Three Platforms (i.e., Administrative Licensing Service Platform, Business Supporting Service Platform, and Family Network Service Platform); and Wuqing District established the Four Platforms (i.e., Administrative Licensing Service Platform, Administrative Efficiency Supervision Platform, Elements Distribution Platform, and Social Service Platform), among others.

The competition for performance evaluation by the superior governments contributes to the formation of the championship model among the local governments under the jurisdiction of the same superior government. Unwilling to yield to their opponents in terms of performance, the local governments are likely to learn the policy goals of an innovation that a pioneering adopter initiated. However, they will strive to adopt new policy instruments different from those of others to achieve the same policy goals as well as to avoid being regarded as mere followers of a certain innovation. Therefore, the championship policy diffusion demonstrates a convergence of policy goals but a divergence of policy instruments. Although performance evaluation seems to produce a level of competition that discourages the policy diffusion of innovation among the local governments, the mechanism encourages all the local governments to adopt suitable innovations by systematically considering local characteristics and innovations from other areas. (Zhu 2014)

Case III: Pension reform for public sector employees (Designation model)

Along with the national market economy reform, China changed its urban social welfare system which used to depend on employee work units (*danwei*). The new system

features a diversified allocation of welfare responsibilities among the state, market, and individuals (Leung & Wong 1999, Frazier 2004). With the deepening of the pension system reform, the central government decided to liberalize the pension system for public sector employees and make it comparable with the basic pension system for enterprise employees. Through a designation model of a policy pilot, the Chinese central government first performed its integration plan in several pilot areas. The State Council promulgated the "Notice of Issuing the Pilot Program of Pension Reform for Staff of Public Institutions" in 2008,[2] assigning Shanxi Province, Shanghai City, Zhejiang Province, Guangdong Province, and Chongqing City as pilots. This pilot program was implemented only for employees of public institutions. Specifically, the new pension system for public institutions of these pilots adopted the same contribution method as the basic pension system, which stipulated that an employer must pay 20% of the total wages and the individual 8% of the wage to a personal account. By sharing contribution responsibilities between individuals and employers and adjusting the pension benefits, this policy aimed to essentially integrate the two pension systems related to enterprise and public sector employees. However, this reform faced much resistance during its implementation because the reduction of pension caused by the reform led to dissatisfaction of employees of public institutions, and the design of developing the reform solely for public institutions resulted in a new divide between government offices and public institutions (Zhu 2015).

The outcomes of the pilot program revealed that the integration of pension systems should be implemented thoroughly in all public sector and include detailed computation of compensation to ensure that benefits of relevant targeted groups. Using the reflection of this pension experimentation as basis, the central government reformed the policy instruments and extended this policy from several pilots to the entire country by introducing a national policy. After the failure of the pilot reform in 2008, the Ministry of Human Resources and Social Security (MHRSS) collaborated with relevant government departments and several research institutions to design reform plans seeking for policy solutions through field investigations. The State Council then issued the "Decision on the Reform of the Old-age Insurance System for Employees of Governments and Public Institutions" in January 2015. This policy preserved the policy instruments in the pilot program and made adjustments mainly in the following aspects. On the one hand, this reform covered both public institutions and government agencies. On the other hand, this reform generated no actual loss of pension income for the employees through layers of several supporting measures, including a detailed plan of the occupational pension system and a decision of adjusting the wages for public sector employees made in January 2015. This system was implemented all over the country without obvious resistance because it solved the problems uncovered in the previous pilot program.

Case IV: New rural social pension insurance pilot scheme (Recognition Model)

After the decline of the old rural pension system, all local governments started to explore various policy instruments for the national plan of the new rural social pension system. By the end of 2007, nearly 2,000 counties (cities or districts) built their respec-

tive rural social pension insurance systems, and more than 200 counties established the pension systems subsidized by public revenue (Shi 2006). These new rural pension systems did not exert much pressure on government finance because they did not have the historical burden and were implemented after a meticulous calculation in the funding budget.

Among the many local innovations, the policy of Baoji City of Shaanxi Province was finally successfully selected as the blueprint for the national rural pension insurance plan. Baoji city started research on building a rural social pension policy in 2006, and got approved as one of the provincial pilot cities in 2007. In June 2007, Baoji City released a rural pension program in which the new system set up personal pension accounts jointly contributed by individuals, the rural community ("*Jiti*") and public finance. The design of multi-source contributions and the benefit superior to the old pension system provided a better social protection and enhanced the villagers' willingness to join the pension system. This system was launched in several pilot counties of Baoji city and got good effects. In November 2007, Baoji City was acknowledged as the national pilot city of new rural social pension insurance by the Ministry of Labor and Social Security, which was reconstructed into the MHRSS in 2008.

Since then, the central government has established a mechanism to study the facts of local innovations. In 2008, the MHRSS set up a National Rural Pension System Working Liaison Mechanism with fifty key cities and counties which were recommended by their superior provincial authorities. The MHRSS communicated with these key areas and evaluated their practices in developing rural social pension policies. As such, this liaison mechanism provided a channel for local policy innovations rising up to national level (Zheng 2013). In November 2008, Yin Weimin, who was the Minister of MHRSS at that time, conducted a field investigation in Baoji City on the pilot work and concluded that this policy could be promoted to other cities. In the report to Vice Premier Zhang Dejiang, Yin proposed that the national rural social pension scheme should learn from Baoji City, meaning that the central finance should cover the basic pension and the local finance could subsidize the contribution of farmers.

In 2009, the State Council issued the "Guidelines on Conducting Pilot Program of New Rural Pension Scheme (State Council [2009] No. 32)" to build a government-subsidized and universally beneficial rural social pension system for farmers. The pilot for the new rural social pension system (NRPS) indicated that the financial responsibilities would be mutually shared by individuals, communities, and the government. This setup followed the institutional arrangement of the rural pension policy of Baoji City. By the end of 2012, the NRPS was established in all counties of China.[3] Thus far, the central government has established a complete national policy and has changed diverse local plans into a unified one.

Conclusion

This study examined the mechanisms of innovation diffusion of policy pilots in a cen-

tralized country where the central government plays a crucial role. The theoretical framework proposed in this study contributes three major contributions to the innovation diffusion and policy experiment theories. First, the article highlights the role of the central (superior) government in innovation diffusion of policy pilots. Second, the research proposes two key properties of the diffusion of innovative pilots in a unitary structure, e.g., the vertical intervention from the central government and the horizontal competition among peer local governments, and develops a new typology for the innovation diffusion of policy pilots in a centralized regime. Third, the research conducted an empirical study on the Chinese experiences with a comprehensive comparison among four different models of innovation diffusion of policy pilots in China.

However, the analytical models proposed in this article are rather ideal. In many policy cases, innovation diffusion of policy pilots demonstrates a mixture of these four models — the hybrid model. For policy cases with increased complexity, innovation diffusion and policy pilot tend to be implemented in phases or in parallel. In complicated processes of innovation diffusion, different combinations of vertical and horizontal governmental relations may coexist in one policy change case. As such, the evolution of innovation diffusion of policy pilots forms a hybrid based on the various models. In addition, policy features are also important in shaping the trajectory of innovation diffusion. These features will be studied thoroughly in future research.

Moreover, the study on Chinese innovation diffusion of policy pilots helps us to understand that developing countries' political structures may not be similar with the ones in Western democracies. Generally speaking, the majority of literature in innovation diffusion and policy experiment is based on the empirical evidence in a federal political structure or similar political structures. Western scholars traditionally believe that the political structure of federalism and decentralization has facilitated policy innovation and inter-regional diffusion, which is called "Laboratories of democracy" (Volden 2006). However, the theoretical models have argued that in decentralized federalism, the local governments' innovation may become a public good that tends to foster free-riders and that federalism is therefore not conducive to innovative behavior of a local government (Strumpf 2002; Cai & Treisman 2009). Moreover, for developing unitary countries like China, several scholars have highlighted that successful policy experimentation and policy learning by proceeding from point to surface in Chinese local governments are the unique aspects of the China model for China's economic rise (Heilmann 2008a). These are also key in the Chinese political system's ability to adapt to the changing complex environment (Wang 2009). Therefore, our research empirically demonstrates the mechanisms of innovation diffusion of policy pilots in a centralized non-democratic regime, which are markedly different from the ones in Western democracies.

Notes

1 Xufeng Zhu, Professor & Dean of the School of Public Policy and Management, Tsinghua University.

2 Public sector in China consists of government agencies and public institutions. In 2008, the

Ministry of Labor and Social Security (which was in charge of personnel issues including enterprises and public institutions) and the Ministry of Personnel (which was in charge of personnel issues including government agencies) merged into the Ministry of Human Resources and Social Security (MHRSS). This organizational change helped in the integration of the two systems.

3 In 2014, the State Council established a unified pension framework by combining the new rural social and the urban resident pension systems (which covers the citizens who are not public sector employees or enterprise employees). The NRPS was no longer a separated system.

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