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The Practice of Science and Technology Associations Undertaking Functions Transferred from the Government in China: Some Key Issues

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The Research Project

Models of Co-operation between Local Governments and Social Organizations in Germany and China– Migration: Challenges and Solutions (LoGoSO Germany China) is a comparative research project of the Freie Universität Berlin, the Westfälische Wilhelms-Universität Münster and the Chinese Academy of Governance, funded by Stiftung Mercator.

This comparative research project looks at the co-operation between state and social organizations (SOs) in China and Germany. It focusses on social service delivery in the area of integration of migrating populations with special attention to the fields of education, employment, vulnerable groups and social assistance (incl. legal aid) as a crosscutting issue to all of the fields. Within this subject area, the project wants to identify different models of state-SO co-operation and analyze which models are successful and why and where this co-operation is problematic. It aims to capture the different models of co-operation in Germany and China, to analyze and compare the underlying structures and to show potentialities for development.

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Ever since 1988 when Mr. Deng Xiaoping, the chief architect of the reform and opening-up policy, proposed that “science and technology are the primary productive forces”, China emphasized the contribution of science and technology to the development of economy and society. Therefore, science and technology associations (S&T associations, 科技社团, kejishe tuan) organized by scientists and technicians have been encouraged by the government to serve the nation’s development strategy. On the one hand, the integration of science and public affairs calls for the collaboration between the government and S&T associations in order to implement the administrative reform that limits the government and optimizes government functions. On the other hand, in the international innovation-oriented competition, the construction of an innovative country also depends on S&T associations to take over the tasks of gathering science and technology talents and improving science literacy of the entire population.

1 Background

Since 2012, S&T associations have been strongly required to play their roles in innovation and scientific evaluation as the government speeds up the molding of certain kinds of collaboration between the government and the society. The *Plan for the Institutional Restructuring of the State Council and Transformation of Functions Thereof*, which was adopted at the first meeting of the 12th National People’s Congress in March 2013, stresses that social forces should be stronger involved in managing social affairs. In the same year, the *General Office of the State Council Guidelines on Government Purchase of Service from Social Forces* (GOSC[2013]96) were released, and in December 2014, the *Interim Measures for the Administration of Government Purchase of Services* (MOF[2014]96) were released. These two documents soon established the service-procurement model of collaboration between the government and social organizations nationwide, and in 2014, the China Association for Science and Technology (CAST, 中国科学技术协会, zhongguokexuejishuxiehui), a PONGO (party-organized NGO), began to push forward pilot collaborations between certain ministries and national S&T associations. On May 5, 2015, the 12th meeting of the Leading Group of the Central Committee on Comprehensive Deepening of Reform recognized the experiences CAST has collected from the pilot collaborations and encouraged the pilot S&T associations affiliated to CAST to undertake functions transferred from the government orderly and to form some replicable and spreadable experience models. Later in the same year, the General Office of the Central Committee of the Communist Party of China (CPC) and the General Office of the State Council released the *Implementing Scheme of Expanding Pilot Work for Associations Affiliated to the Chinese Association for Science and Technology to Undertake Functions Transferred from the Government Orderly*, clarifying the pilot to be an important measure of carrying out the administrative licensing reform and correctly dealing with the relations between government and society. The rapid and intensive publication of government documents in the past six years reflects that on the one hand, the governing party and the government are willing and even eager to collaborate with capable social associations in public service provision and social welfare. On the other hand, the central government and the public have a consensus on why government functions need to be transferred from the government to the society. However, what functions should be transferred and

how the functions should be transferred is not clearly defined yet. Therefore, this paper aims to find out the “why” and “how” of the practice of S&T associations undertaking functions transferred from the government.

2 Literature Review

Though S&T associations undertaking functions transferred from the government has become a hot topic in the past five years, it was raised as a question in 2002 for the first time when Liu Yaguang and Chen Jianguo, two practitioners in the Shanxi Association of Science and Technology, classified the affiliated associations who were willing to take over functions transferred from the government. Searching the China National Knowledge Internet (CNKI) and screening out news, documents and leaders’ speeches, there was a total of 153 academic papers by the end of 2017 on the subject. The distribution of them is shown in figure 1.

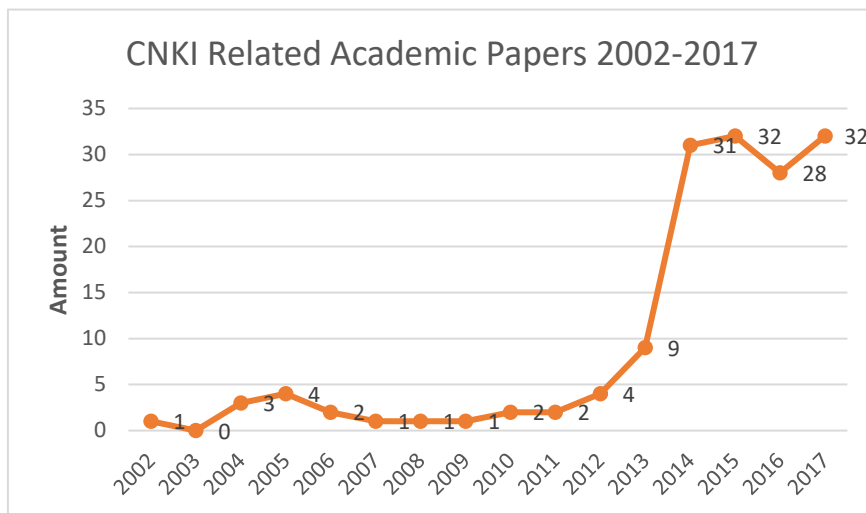


Figure 1: Distribution of academic articles on S&T associations. Source: CNKI, author’s own compilation.

Generally speaking, these academic Chinese papers focus on three aspects.

Firstly, some scholars attempt to set a theoretical framework for the general analysis of the functions of associations in the process of government function transformation. Grand theories such as popular sovereignty, allocation of power or rule of law are used to argue for the legitimacy of social organizations undertaking functions from the government (Xu Wanqiang and Zhang Hongfang, 2010). Additionally, some scholars apply *public goods theory*, *governance theory* or theories on the relation between state and society as theoretical basis for social organizations, including S&T associations undertaking functions from the government (Xu Wanqiang and Zhang Hongfang, 2010; Wang Cuijuan, 2014; Wang Yang, 2016; Tang Xingjun, 2016).

Secondly, survey reports and case studies of the practices of S&T associations undertaking functions from the government explore what functions the government has transferred to S&T associations and what challenges and difficulties S&T associations have encountered. Gong Qin concluded from questionnaires in Hangzhou that S&T associations have functions like evaluation of scientific and technological achievements, evaluation and education of scientific and technical personnel, government decision-making consultancy,

technical standard setting and modification, publishing science and technology proceedings and evaluation reports, undertaking scientific and technological activities etc. (Gong Qin, Yue Lin, and Yan Chen'an, 2012). Reports from the Jiangxi Province Association of Science and Technology, Fujian Province Association of Science and Technology, Jiangsu Province Association of Science and Technology etc. and researchers also point out the problems which S&T associations encountered in the process of undertaking functions from the government (Zhang Quanshi, 2012; Huang Taozhen and Yang Dongsheng, 2015).

Thirdly, mechanisms and paths of S&T associations undertaking functions from the government have been classified from both theoretical deduction and practice. Some scholars classified the ways of academic groups undertaking functions from the government into the categories legally stipulated, principal-agent, and cooperation (Wang Dahai, Xie Haiying, 2007), while other scholars classified the paths into legal generality based, contract based, gradual pilot based and shock therapy based (Xu Wanqiang and Zhang Hongfang, 2012). CAST identifies three models from affiliated associations' pilot projects (CAST, 2015): the first model is service procurement, i.e. the government departments transfer functions to S&T associations following procurement procedures such as the State Key Laboratory Assessment. The second model is authorized service, i.e. the government departments transfer professional and technological services closely related to administrative functions to S&T associations by authorization, such as the recommendation of the National Science and Technology Awards. The third model is social service, i.e. functions S&T associations take over from the government, such as the development of association standards.

English language papers mainly focus on the following two aspects:

Firstly, the relationship between the government and nonprofit organizations (NPOs) including associations has been put into the framework of state-society relations and more and more research concentrates on partnership collaboration. In recent years, the supplementary model and complementary model which Dennis R. Young proposed seem to be much more popular than the adversarial model he proposed (Dennis R. Young, 1999). Some case studies point out that partnerships between the government and NPOs have not been a structural part of governance in China's sustainable development due to institutional constraints and cultural barriers (Sander Chan, 2009); and some scholars think that NPOs undertaking functions from the government has not empowered NPOs and actually is a burden for local governments (Hong Gao, Adam Tyson, 2017).

Secondly, there are very few academic papers on Chinese S&T associations and their relationship with the government. In the 1970s and 1980s, some scholars briefly introduced China's scientific institutions and education and scientific community (Genevieve Dean and Manfredo Maciotti, 1973; John P. Smith, 1981; Jonathan Porter, 1982), but seldom mentioned S&T associations. One reason is that there were nearly no formally registered S&T associations before 1980s; however, from the 1990s on, literature is still absent. Cong Cao and Richard P. Suttmeier pointed out that self-governance organizations of scientific elites not only need support from the government but also depend on scientists taking their responsibility (Cong Cao and Richard P. Suttmeier, 2001). Wang Zuoyue

analyzed the Science Society of China before the founding of the People's Republic of China (P.R.C.) and the relationship between science and government right after the reform and opening-up policy from the perspective of the history of science and technology (Zuo-yue Wang, 2001, 2007), but both S&T associations and Associations for Science and Technology at each administrative level never entered into his field of vision.

The objective of this study is to identify the general functions that are transferred from the government to S&T associations in recent years and to analyze factors influencing this transfer. **There is one main hypothesis: The power relation between S&T associations and the government decides about the grants and functions which associations receive from the government.** Put it in another way, if the S&T associations have close relations with the government, the associations are likely to get grants and functions transferred from the government.

3 Methodology

S&T associations in this paper refers to associations affiliated to CAST and provincial level Associations for Science and Technology because in China there is no formal standard to identify which association belongs to S&T associations due to the dual management system. Associations registered at the civil affairs agencies must also be supervised by another government department or public institute. Though the civil affairs agencies classify associations into different categories, it is still difficult to tell which one should be classified as S&T associations, and the statistics of the so called S&T associations in the civil affairs agencies are actually not accurate. However, it is clear that associations affiliated to CAST and provincial level Associations for Science and Technology are S&T associations.

This research mainly employed questionnaires and in-depth interviews to analyze the practices of S&T associations undertaking functions transferred from the government. *The Statistical Bulletin on Business Development of the China Association of Science and Technology 2016* showed that by the end of 2016, there were totally 207 S&T associations affiliated to CAST and 4134 S&T associations affiliated to provincial level Associations for Science and Technology. We chose all S&T associations affiliated to CAST and all S&T associations affiliated to the Associations for Science and Technology of Beijing, Zhejiang, Sichuan and Chongqing to do questionnaires. S&T associations affiliated to CAST have been involved in the pilot practice and the four provincial level associations of science and technology have relatively high numbers of affiliated S&T associations that have also been active in undertaking functions from the government. The questionnaires were carried out from December 2012 to November 2015¹. Not all provincial level and lower level associations have been covered by the survey, however, as China adopts a unitary system, the survey can reflect the common situation which the S&T associations are facing in the process of undertaking functions transferred from the government in China. Meanwhile, in order to understand the government officials' points of view on the relation between government and S&T associations, from December 2012 to April 2013,

¹ For Beijing and Zhejiang, questionnaires were handed out and collected from December 2012 to April 2013, for Chongqing, from April to May 2015, for Sichuan, from October to November, 2015, for CAST, in November 2015.

questionnaires were also handed out to trainees from the central government, the provincial governments and local governments joining different training programs in the Chinese Academy of Governance. In total, 101 questionnaires were handed out and 99 were returned, creating a recovery rate of 99%.

Table 1: Questionnaires survey of S&T associations: Scope and Recovery

Place	Full sample	Recovery	Recovery rate (%)
Beijing	165	35	21.21
Zhejiang	163	86	52.76
Chongqing	116	37	31.90
Sichuan	173	50	28.90
CAST	204	90	45.1
Total	821	298	36.30

In-depth interviews complement the questionnaire survey. From December 2012 to July 2016, we interviewed relevant persons in the S&T associations, generally speaking, the secretary or the president of the associations as well as officials in civil affairs agencies in charge of social organizations and persons in charge in CAST and provincial level Association for Science and Technology. The in-depth interviews offered vivid cases and materials complementary to the questionnaire survey.

4 Findings

To verify the main hypothesis, we identified five factors as independent variables: the administrative level where the S&T associations are registered, the time of registration, the way of establishment, government authorized staffing and part-time leading positions government officials hold. Two factors are identified as dependent variables, i.e. as functions transferred from the government to the S&T associations: grants from the government to the associations and fees paid by the government for purchasing services/affairs entrusted to S&T associations. In addition, we have five sub-hypotheses under the main hypothesis:

Sub-hypothesis 1: the higher the administrative level where S&T associations are registered, the more grants and transferred affairs from the government the S&T associations receive.

Sub-hypothesis 2: the longer the S&T associations' history is, the more grants and transferred affairs from the government the S&T associations receive.

Sub-hypothesis 3: S&T associations established by the government get more grants and transferred affairs from the government than those established by scientists and engineers.

Sub-hypothesis 4: S&T associations with government authorized staffing get more grants and transferred affairs from the government than those without.

Sub-hypothesis 5: S&T associations which have government officials holding part-time leading positions get more grants and transferred affairs from the government than those which have not.

Pearson's correlation and significance (double tail) test are used to find out whether the five independent variables correlate with the grants and the affairs transferred from the government. However, in order to find out whether there might be differences between grants and affairs, we test the five independent variables with grants and affairs separately.

Table 2 shows the results of the correlation between the five independent variables and the grants which S&T associations receive from the government. We can see that except for sub-hypothesis 3, the other four sub-hypotheses are verified.

Table 2 Correlation: Power relations between government and S&T associations with grants

Independent variables	Grants or not		Explanation
Administrative level of registration	Pearson	32.57***	Correlative: associations registered at a higher administrative level have more possibilities to receive grants.
	statistical significance	-0.26	
Time of Establishment (before 1980, 1990s, 2000-2010, 2010 to now)	Pearson	34.11***	Correlative: the earlier the associations were established, the better are their possibilities to receive grants.
	statistical significance	-0.003	
Way of establishment (self-organized or government-organized)	Pearson	1.51	Does not pass Pearson Chi-square test, cannot be judged.
Staff authorized by government	Pearson	15.37**	Correlative: associations that have staff authorized by the government have more possibilities to receive grants.
	statistical significance	0.2	
In-service government officials as part-time leaders	Pearson	11.4*	Correlative: associations that have in-service government officials as part-time leaders have more possibilities to receive grants.
	statistical significance	0.09	

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

Two of the five independent variables, the administrative level of registration and the time of establishment, have the highest significance with $p < 0.001$. Correlation between staff authorized by the government and grants takes the second place with $p < 0.01$, while correlation between in-service government officials as part-time leaders and grants shows the lowest correlation with $p < 0.05$. Sub-hypothesis 3 is not verified, which means that the way in which associations were established cannot decide whether associations receive grants from the government. Even if the S&T association was established

by the government at the very beginning, it is not necessary for the government to support the association with grants.

Table 3 shows the results of the correlation between the five independent variables and contracts/affairs S&T associations receive from the government. We can also see that except for sub-hypothesis 3, the other four sub-hypotheses are verified, which means that the administrative level of registration, the history (time of establishment), government authorized staffing, and in-service government officials as part-time leaders are correlated with functions transferred from the government. Associations registered at a higher administrative level, associations that have been established for a longer time, associations with government authorized staff, and associations with in-service government officials as part-time leaders are more likely to be entrusted by the government with contracts and affairs. However, there are differences to the situation with grants. The correlation between the administrative level of registration and associations being entrusted by the government with affairs is the most significant with $p < 0.001$, which means for S&T associations, the higher their administrative level of registration, the easier can they be entrusted by the government with contracts and affairs. This has also been reflected in our interviews with the associations registered at the Ministry of Civil Affairs and those registered at the provincial level civil affairs agencies. The other three independent variables, time of establishment, staff authorized by the government and in-service government officials as part-time leaders only have a significance of $p < 0.01$.

Table 3 Correlation: Power relations between the government and S&T associations entrusted with contracts/affairs

Independent variables	entrusted contracts/affairs or not		Explanation
Administrative level of registration	Pearson	27.36**	Correlative: associations registered at a higher administrative level are more likely to be entrusted with contracts/affairs from the government.
	Statistical significance	-0.21	
Time of Establishment (before 1980, 1990s, 2000–2010, 2010 till now)	Pearson	18.39*	Correlative: the earlier the associations were established, the better are their possibilities to be entrusted with contracts/affairs.
	Statistical significance	0.05	
Way of establishment (self-organized or government-organized)	Pearson	4.2	Does not pass Pearson Chi-square test, cannot be judged.
Staff authorized by government	Pearson	10.1*	Correlative: associations that have staff authorized by government have a greater probability to be entrusted with contracts/affairs.
	Statistical significance	0.15	
	Pearson	11.74*	Correlative: associations that have in-service government

In-service government officials as part-time leaders	Statistical significance	-0.02	officials as part-time leaders have more possibility to be entrusted with contracts/ affairs.
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*** p<0.001,** p<0.01,* p<0.05.

In a further step we analyze why the administrative level of the registration determines so much. Generally speaking, S&T associations registered at the Ministry of Civil Affairs or the so-called "State prefix" associations are often public institutes (事业单位, shiye danwei), or attached to public institutes. The staff of the "State prefix" associations is therefore always made up of the staff of public institutes who have a specific duty of working for the associations. A similar situation also exists in some provincial level S&T associations. Table 4 shows, the correlation between the administrative level of registration and government authorized staffing is quite significant.

Table 4 Correlation: Administrative level of registration and authorized staffing

		Administrative level of registration	Authorized staffing (Y or N)
Administrative level of registration	Pearson	1	.308**
	Statistical significance		.000
	N	296	276
Authorized staffing (Y or N)	Pearson	.308**	1
	Statistical significance	.000	
	N	276	276

** p<0.01

Generally speaking, if an organization has government authorized staffing, the organization will receive government grants. However, having government authorized staffing does not mean at the same time that the government will transfer functions to the organization or purchase services from the organization. To put it another way: the probability for S&T associations with government authorized staffing to be entrusted by the government with grants and contracts/affairs is higher compared to those associations without government authorized staffing. Interviews done in Beijing, Zhejiang, Sichuan and Chongqing revealed that the government not only entrusted contracts/affairs to associations with government authorized staffing or those associations which share "two brands, one

set of people” with public institutes (shiyedanwei) such as the provincial level Medical Associations. The government but also entrusted contracts/affairs to professional associations without government authorized staffing. However, most of the interviewed leaders of S&T associations indicated that if the association has authorized staff, more grants would be offered by the government and it would be easier to strive for being entrusted by the government with contracts and affairs since this kind of association can be regarded by the government as “one of us”.

What functions have been transferred to the associations? The question “What functions did your association take over from the government?”, was not answered by 58 associations among the 298 interviewees. Out of the 240 respondents, 54% have undertaken public science education, 47% have undertaken training and extensive education, 26.8% have undertaken scientific and technological rewarding, evaluation of science and technical personnel, science and technology evaluation, 25.8% have undertaken investigation and consultancy for science and technology policies, 18.1% have undertaken technological standard formulation and professional norm formulation, 16.4% have undertaken industry surveys and statistics, and 12.4% have undertaken scientific and technical planning. Therefore, the respondent associations have mainly undertaken public benefit functions with strong externality. Our interviews also showed that except for scientific and technological awarding, training and extensive education, investigation and consultancy of policies, industry surveys and statistics, science and technology evaluation done by the S&T associations are open not only to associations’ members, but also to the public with no threshold.

Concerning the question what the associations’ functions should be, there are differences of opinion between S&T associations and government officials. As table 5 shows, the difference is relatively large in regard to some functions such as the technological standard/industry norm formulation and technical appraisal. This difference of opinions heavily influences the scope and the concrete affairs transferred to the associations by the government as well as the whole process of the transformation.

Table 5: Differences of opinions between S&T associations and government officials on associations’ functions

Function	Government officials Effective percentage%	S&T associations Effective percentage%
Scientific and technological rewards, scientific and technological evaluation	59.6	82.1
Evaluation of professional and technical titles	61.4	72.1
Practice qualification certification	61.4	65.1
Technological standard/industry norm formulation	48.9	77.2
Technical appraisal/technical accident appraisal	45.5	60.1

Disciplinary norms and punishments	52.3	40.9
Investigation and policy suggestions	75	79.9
S&T supervision	25	29.5
S&T development planning	29.5	53.4
Setting and implementation of S&T innovation standards	31.8	45
Implementation of S&T policies	35.2	27.5
Supervision of S&T policies	27.3	35.9
Industry survey and statistics	69.3	61.7
Training and extensive education	77.3	82.9
Public scientific education	63.6	77.2

5 Possible explanations and future prospects

Both the government and S&T associations are actors in science and technology affairs, but there are also other actors such as companies, universities, research agencies and individual scientists and technicians. S&T associations are membership-based social organizations associated voluntarily by people from different companies, universities and research agencies. They can offer more integrated communication, cooperation and interest expression across organizational boundaries. Since science and technology are related to professionalism and different actors' behaviors, influence different groups' interests, and cause different degrees of effectiveness, we can classify science and technology affairs by professionalism and externality into different categories as shown in table 6.

Table 6: Types of science and technology affairs

		Externality		
		weak	medium	strong
Professionalism	high	private research	mutual-benefit research	public-benefit research
	low	private internal management and service	mutual-benefit management and service	public-benefit management and service

Type 1 are science and technology affairs only influencing individuals or individual companies, such as individual scientists' or companies' private research and the related internal management. No matter how professional, activities of this type generally have a weak externality and will not influence other parts of the society. Costs and benefits are only internal. Thus, type 1 affairs are the private interest oriented science and technology affairs.

Type 2 are science and technology affairs with medium externality, such as mutual-benefit research or mutual-benefit management and services, i.e. affairs within a certain subject or certain scientific and technological group. Activities of this type influence academic

communities but have little or no influence on other people outside the communities. The targeted group of this type is membership oriented, which means that activities of this type bring mutual benefit to members. Activities with high professionalism are mutual-benefit researches, while activities with low professionalism are mutual-benefit management and services within the membership based communities aimed at supporting mutual-benefit researches.

Type 3 are science and technology affairs with strong externality which means activities of this type influence a country or even all humankind. Thus, type 3 can be regarded as public science and technology affairs. Activities with high professionalism are public-benefit researches, such as vaccine development or space exploration. Activities with low professionalism are public-benefit management and services supporting public-benefit researches and the related popularization of science activities.

Generally speaking, the government, enterprises, and NPOs as different organizations with different missions and goals have quite different preferences in scientific and technological affairs. The government is regarded as a public-interest oriented organization with authorization from the people, enterprises are good at making profits in market competition, and NPOs are either good at mutual benefit, based on membership organizations, or good at public benefit, based on a certain public mission with no intention of making profit. Membership-based S&T associations as mutual benefit NPOs have a relatively strong externality of public benefit since the spreading of science and technology improves scientific knowledge of all humankind at last. Therefore, people involved in different science and technology affairs with certain characteristics would tend to choose government, enterprises or S&T associations according to these three institutions' performance as shown in table 7.

Table 7: Scientific and technological affairs: characteristics and organizational preference

S&T affairs	Specific performance areas	Types of organization
Private	Private individual interest Private companies product R&D	Private organizations
Mutual benefit	Academic communication, evaluation, awards and self-discipline within S&T communities	S&T associations/societies
Public benefit	Public benefit research	Government dominates
	Public-benefit management and service	Collaboration between government and S&T associations

This ideal-type analysis is quite important for contemporary China for a number of reasons. Firstly, China is gradually changing from a so-called authoritarian state into a state-market-society diversified state and the path dependency effect still influences the government's daily operations. Secondly, in China, meritocracy has history-rooted legitimacy, which means that it is a tradition that the government, run by elites selected from the whole

society, should be strong and capable to lead the whole society in order to maintain and develop it. The associations' benefit for the whole society is more emphasized than the associations' mutual benefits though they are membership based. Therefore, the big differences of opinion between government officials and associations is just common in China. Thirdly, the 40 years of opening-up and reform have brought many new ideas and practices to the Chinese government and people, which have also incited the Chinese to reflect on how to deal with a complicated society in a globalized world. Following these ideas, the government functions should be practically reviewed and adjusted according to the general rules being practiced worldwide.

As to the S&T functions, since the Chinese government is still in the process of reform from a totalitarian style to an accountable limited government, the functions carried out by the government now do not necessarily have to be government functions. Functions such as science and technology rewards, science and technology evaluation, evaluation of professional and technical titles, technological standard/industry norm formulation etc., which are still carried out by the government, are actually functions of S&T associations. So the current process of transferring functions to S&T associations from the government is actually a process of returning functions to the S&T associations from the government. This process is just one small part of the 40 years' reform of detaching functions which do not belong to the government, or a process of government retreating and society and market growing. The process is still going on. The year 2015 was the starting point of the process of detaching functions from the government in S&T affairs, marked with the document *Implementing Scheme of Expanding Pilot Work for Associations Affiliated to the Chinese Association of Science and Technology to Undertake Functions Transferred from the Government Orderly*. Therefore, the power relation between the government and S&T associations reflects the process of the governments' retreating in S&T affairs which resets the relation between the government and S&T associations. The correlation between the five independent variables and grants and functions transferred from the government as tested above also reveals the ongoing adjustment. The *General Scheme for Decoupling Trade Associations and Chambers of Commerce from Administrative Organs*, released by the General Office of the Central Committee of the CPC and the General Office of the State Council, went one step further to unhook the power connections between trade associations and the government by splitting staffing, financial affairs, functions and office space, ect. to build new collaborative relations based on the separation of state and society. In the future, S&T associations also expect to unhook power relations with the government using the trade associations' experiences for reference, with authorized staffing and in-service government officials as part-time leaders of associations being canceled as the next step. This is the reason why, even though authorized staffing and in-service government officials as part-time leaders are of significance to receive grants and functions transferred from the government, the significance value is at 0.05 and no more than 0.01. It is therefore reasonable to assume that authorized staffing and in-service government officials as part-time leaders of associations are not correlative to grants and functions transferred from the government.

After future reforms, whether S&T associations undertake functions transferred from the government or not will depend on the features of the related S&T affairs instead of the power relations between S&T associations and the government. If the functions belong

to S&T associations as analyzed, they will just be returned to them from the government. If the functions belong to the government which needs the associations' professional support, the involvement of the associations on the one hand depends on whether the associations are willing to accept. On the other hand it depends on whether the associations are capable to undertake the task. When the functions between the government and the S&T associations have been rearranged and the functions transferred to the S&T associations are functions which belong to the government but have been contracted out to S&T associations according to the principle of professionalism and efficiency, one trap should be avoided, which is that undertaking functions transferred from the government is every S&T association's task.

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