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# A Discussion on Introducing the Concept of “Government Procurement Innovation” and Suggestions for Legislation

## I. Introduction

In Finland, the Finnish Funding Agency for Technology and Innovation, or TEKES<sup>1</sup>, has proposed the Innovations in Public Procurement, or IPP<sup>2</sup>, which can be seen as the origin of innovative government procurement solutions all over the world. As such, this paper is an attempt to explore the possibility of introducing improvements to government innovation, within procurement in the Republic of China (ROC). The IPP scheme of Finland may be used as an observational tool for the analysis of innovative ideas within the international community, for comparison with government procurement, the legislation of the scientific research subsidy, and scientific research procurement currently effective in ROC. The findings could serve as a reference for related government agencies.

The concept of Public Procurement of Innovation, or PPI, in the EU could serve as the benchmark for the ROC on studying the feasibility of introducing this system. In this paper an analysis of the legal system of the ROC will be conducted in the first place to clarify the objective of introducing the concept of PPI into existing legal procedures. This is particularly the case, since that subsidy and procurement do indeed form the two-pronged policy that is currently in effect. First of all, is PPI essential to the systems that could be or could only be enforced under “government procurement”? Secondly, could PPI be introduced into relevant procedures, as explained in preceding sections? Are there any provisions of law that could be amended for such a purpose? And in what direction should we focus our attention?

The concept of PPI is a solution under rapid social change, certain products or services are scarce or absent for coping with the needs of rapid social change, to the extent that an innovative solution is necessary. In addition, government procurement is the tool for encouraging the proposal of innovative solutions to mold a friendly market through the participation of the users. (But we have to be cautious. This need is different from green procurement, which requires government procurement to create a market of pre-commercialized purchase <sup>3</sup>.)

The procurement and innovation subsidy by TEKES of Finland takes the public sector as the recipients of subsidy so that the recipients of subsidy could introduce the mode of dialogue between the users and the suppliers in the course of procurement. At the planning stage of the IPP in Finland, government agencies could receive a subsidy ranging from 25% to 75% of expenditure (including the provision of technology dialogue with different targets, long-term development analysis, the design of the specification for the subject matter that is purchased comparison of different solutions) for the service programs provided by the suppliers. During the implementation stage of procurement, purchasing government agencies could also receive a subsidy of 75% for expenditure on innovation projects procured by the government under subsidy at planning stage, on the performance of tasks during research and development at the implementation stage. Or, they could be subsidized up to 50% for spending on tasks beyond research and development. The content of subsidy includes equipment, service (including management fees), travelling expenses, and other necessary expenses. The recipients of a subsidy from TEKES at these two stages, is dictated by the extent to which these government agencies are able to introduce the spirit of procurement innovation at planning and implementation stages.

As such, the legal foundation for the introduction of PPI into scientific research subsidy within the ROC will be an immediate concern. In concrete terms, this is the legality of the agency for advocacy of industrial technology research and development in subsidizing government agencies using national science and technology development funds of the Executive Yuan (also known as Science Development Fund); the legality of the authority of Industrial Technology Department in subsidizing other departments of the public sector, and the issues of the applicability of the Scientific Research Procurement Monitoring Regulation to the appointment of external institutions for conducting market surveys on such needs by the public sector (collectively known as “the issues of subsidizing for innovation”).

In seeking a solution on subsidy, we still have to fit dialogue between the recipients of a subsidy during the course of a ‘procurement’ project, within the legal framework currently in force. The fundamental spirit and primary concern for government procurement in the ROC, for example, will be the prevention of misconduct and corruption during the procurement procedure<sup>4</sup>. It is necessary to state such a requirement within the law, in order to avoid allegations of manipulation during the bidding process. Only by so doing could the spirit of PPI be introduced into the process. In other words, it would be a matter of sorting out the recipients of scientific research subsidy, government procurement, and scientific research procurement without causing a contradiction between “the participation of the suppliers and users of the end-requirement or service, in the determination of the specification, terms and conditions of the procurement” from the PPI of Finland and the applicable laws

currently in force. It would be necessary to design the details of the procedures (collectively known as the “issues of innovation dialogue”), which takes up the second part of this research.

In summary, this paper aims to explore the dialogue of aspects of government procurement, scientific research subsidy, and scientific research procurement. It is also an attempt to analyze the gravity of PPI and the dialogue. Finally, the findings of the discussion on the introduction of the concept of PPI to science and technology projects of the ROC (which may also be extended to the subsidy of the research and development in science and technology by the public sector of the ROC) will be presented, with consultation and recommendations for legislation.

II. Analysis of the dialogue in the process of government procurement, scientific research subsidy, and scientific research procurement in the ROC

(I) There is more than one tool within the ROC for the encouragement of research and development in science and technology

Governments of different countries possess different policy tools to support or encourage the private sector in the research and development of science and technology in order to shore-up insufficient resources. From the perspective of government budgeting, the design of procedures may be identical or different. For example, the US federal government instituted the Federal Acquisition Regulation, FAR, and defined “acquisition” as “the acquiring by contract with appropriated funds of supplies or services (including construction) by and for the use of the Federal Government through purchase or lease, whether the supplies or services are already in existence or must be created, developed, demonstrated, or evaluated” 5. In light of the variation between its specific features and other services, Research and Development Contracting has been specifically regulated in section 35 of FAR, which states: “The primary purpose of contracted R&D programs is to advance scientific and technical knowledge and apply that knowledge to the extent necessary to achieve agency and national goals. Unlike contracts for supplies and services, most R&D contracts are directed toward objectives for which the work or methods cannot be precisely described in advance. It is difficult to judge the probabilities of success or required effort for technical approaches, some of which offer little or no early assurance of full success. The contracting process shall be used to encourage the best sources from the scientific and industrial community to become involved in the program and must provide an environment in which the work can be pursued with reasonable flexibility and minimum administrative burden. 6” In the EU, they defined research and development beyond government procurement regulation: According to Council Directive 92/50/EEC, or known as EU Directive, the scope of application as stated in paragraph (a) of article 1, “public service contracts shall mean contracts for pecuniary interest concluded in writing between a service suppliers and a contracting authority” with list of the exclusion conditions, where clause (ix) states: “research and development service contracts other than those where the benefits accrue exclusively to the contracting authority for its use in the conduct of its own affairs, on condition that the service supplied is wholly remunerated by the contracting authority. 7” As such, we can see the difference in legal requirements between the EU and USA. Whether such procurement is a special form of government procurement, or whether research and development falls beyond the regulation of government procurement procedure, it nonetheless falls under a government budget for the encouragement of technology research and development, and said research and development “cannot be forecast and not to be directly used by the procurement agency8”.

Under the legal system of the ROC, it is a policy tool for the encouragement of research and development in science and technology, and could be classified as government procurement, scientific research subsidy, and scientific research procurement.

For scientific research subsidy, Article 9 of the Industrial Innovation Statue of the ROC 9 provides the legal origin. For example, the technology projects administered by the Ministry of Economic Affairs have been established under this law. Accordingly, the Regulation Governing the Subsidy of Research Institutions in Industrial Innovation and Research and Development Advocated by Ministry of Economic Affairs (hereinafter, “institutional scientific project regulation”), the “Ministry of Economic Affairs Regulation Governing the Subsidy and Supervision for Assistance of Industrial Innovation (hereinafter, “Industrial Scientific Project Regulation”), and the “Regulation Governing the Subsidy of Academic Institutions in Industrial Innovation and Research and Development Advocated by Ministry of Economic Affairs (hereinafter, “Academic Scientific Project Regulation” for subsidizing research and development in industrial technologies10. The result of research and development shall be released to the administering body as required by Article 6 of the Fundamental Science and Technology Act 11. In the ROC, the result of science and technology projects shall be transferred to Ministry of Economic Affairs 12, which is similar to the requirement in the EU. This could be exemplified by the EU example as mentioned13 that the appointing agency is not entitled to any interest of the result. Government procurement is a vital policy tool of the government in subsidizing research and development. According to Article 2 of the Government Procurement Act 14, procurement as referred to in this law covers the outsourcing of service. Article 7 (paragraph 3) of the same law also requires that, service shall cover professional service, research and development. As such, the government will naturally adopt the means of government procurement in promoting its policy for encouragement of research and development in science and technology. Procurement is different from subsidy. The former entails an “inspection for acceptance” procedure, and the end users of the latter may not be the government. This point is different from the EU Directive in procurement 15.

The third kind of tool in the ROC for the encouragement of research and development is scientific research procurement. According to Article 6 (paragraph 4 16) of the Fundamental Science and Technology Act, public schools, public research agencies (institutions), non-profit organizations or groups receiving a government subsidy or appointed by the government as stated in paragraph 1, or public research agencies (institutions) proceed to procurement by preparing a budget for research and development in science and technology under law. We could analyze this issue from three aspects: 1. Public schools, public research agencies (institutions), non-profit organizations or groups may receive government subsidy as stated in paragraph 1, Article 6 of the Fundamental Science and Technology Act for procurement; 2. Public schools, public research agencies (institutions), non-profit organizations or groups may proceed to procurement at the appointment of the government as stated in paragraph 1, Article 6 of the Fundamental Science and Technology Act for procurement; and 3. Public research agencies (institutions) proceed to procurement by preparing a budget for research and development in science and technology under the law 17.

In detail, this specific mode of scientific research procurement has its origin in Article 4 of the Government Procurement Act. The cause of the legislation for this article, dated May 27 1998, specified that: "When non-profit organizations or groups receive government subsidy for procurement, and if the amount of subsidy exceeds half of the total amount of procurement and the amount of subsidy is subject to announcement, such procurement shall be governed by this article and subject to the monitoring of the subsidizing agencies to prevent misconduct and corruption". As such, the recipients of subsidies shall be governed by the Government Procurement Act after passing through the due procedure of subsidy if the amount of procurement meets the standard for announcement. The purpose is to prevent misconduct and corruption. Or it would not be necessary for the government to intervene, given the subsidy has been supported by its legal source in the determination of the recipients and the procedure for entering into subsidy agreement. Indeed, this is the specific feature of the Government Procurement Act of the ROC. The same principle applies to scientific research procurement in the ROC (excluded from the application of Article 4 of the Government Procurement Act), and not the exclusion of the application of the Government Procurement Act to the subsidy procedure 18.

(II) Analysis of the dialogue in the process of government procurement, scientific research subsidy, and scientific research procurement  
III. The dialogue of government procurement

In government procurement, the regulations governing an invitation to tender and decision of award require that the party for the design of the content of procurement shall be the same party in the bidding process, to avoid alleged manipulation of the bidding process. For example, Article 39 of the Government Procurement Act (paragraph 2 and 3) requires that, "The deputy agent or partners of contractor undertaking the project management shall not be the deputy agent or partners in the planning, design, construction, or of the suppliers". Article 38 of the Enforcement Rules of the Government Procurement Act requires that, "In tender invitation, the entity shall require explicitly in the tender invitation documents that if any of the following applies to a specific bidder, such bidder shall not participate in the bidding process, as the recipient of the award, or subcontractors of the award, or assisting the bidder: 1. The contractor that provides the planning and design service shall proceed to procurement on the basis of the planning and design result". As such, the purpose of the Government Procurement Act aims at the impartiality and neutrality of the planning of project "to prevent funneling of interest, helping each other in manipulation of the bidding process, and the bidder also assumes the role of judge during the bidding process 19".

Indeed, there is still the possibility for hearing opinions from outside the procurement entity in the procurement cases under the Government Procurement Act. The government procurement system of the ROC could be seen as a system featuring a mechanism for dialogue. The "Particulars for Implementation of Public Viewing of Documents of Public Work Tender Invitation" 20 (hereinafter, Public Viewing Particulars) could serve as an example for the introduction of user needs dialogue.

The Public Viewing Particulars require that the documents for public viewing shall include the schematics of the project, the sample version of contract, sample of affidavit, sample of important notice to bidding, bill of quantities and specifications, and other documents related to the specific characters of the projects (Number 3 of the Public Viewing Particulars). The purpose of viewing is an invitation for the opinions from the contractors or the public, which will be compiled and forwarded to the organizer of the project for processing before making an announcement for invitation to tender (Number 8 of the Public Viewing Particulars). As such, public opinions could be presented at this stage as a response to the content of the aforementioned documents in addition to the contractors. There is no delineated scope of public opinion, and could cover the objective content of the procurement.

However, the type of projects subject to public viewing are of a specific nature or the amount of the engineering projects shall be subject to an audit (Number 2 of the Public Viewing Particulars), which excludes the procurement of research and development. In addition, the purpose of the Public Viewing Particulars is the transparency and openness of the tender invitation process for public work. Through the public viewing of tender invitation documents, the opinions from the contractors or the public can be heard. This can help to upgrade the quality of the planning and design of public works projects and reduce possible disputes deriving from tender invitations or performance of contract (Number 2 of the Public Viewing Particulars). As such, the purpose of this arrangement is not aimed at the necessity of the procurement of engineering projects. The possibility of applying the concept of PPI to this system of public viewing could be considered. If we think of the content for public viewing as including the schematics of the projects, the subject matter of the purchase is very substantive. In the future, it is expected that the objective of public viewing shall include subject matters that do not yet have a concrete plan, but still the opinions of the user and producer would be properly heard.

### **1. The dialogue of scientific research subsidy**

In the domain of scientific research subsidy of the ROC, the topics for subsidy are selected through the top-down mode. According to Article 7 of the institutional scientific project regulation, "The MOEA shall invite the experts from the industry, government agencies (institutions), academic and research institutions to meetings for strategic planning of industrial innovation and research and development, and consider the opinions from these social sectors to design for the direction of industrial innovation and research and development in the future". Article 11 of the same regulation also requires that, "The MOEA may unleash the urgent industrial technology development plan on industrial technology that needs to be launched urgently as approved by MOEA or Executive Yuan". As such, the law has already included the opinions and thoughts from the industry, government, and the academeia in designing of the recipient of subsidy. As compared with the measures adopted in Finland, this regulation is different, and the practice of Finland aims at obtaining suggestions during the course of "procurement". Or, we could say that the introduction of the PPI concept in the subsidy mechanism could help to broaden the scope of the legal adjustment.

Under the scientific project subsidy mechanism currently in effect, if we do not cut into the problem from the aforementioned mode of topic selection for subsidy, the cooperative education activities in the course of the execution of the subsidy plan are emphasized in the subsidy of scientific project for the institutions, academia, and industry 21. Further to the requirements of the regulation in principle, a variety of options could be used for integrating the needs of the industry in order to achieve the goal of the dialogue for "encouraging" research and development and the needs of the industry in practice. Individual agreements can help to achieve this goal. Currently, there are requirements

specified in the notice to applicants for scientific projects within the field of academia, which feature detailed requirements for our analysis. We could take the prototype important notice to applicants (general academic scientific project) and the requirements therein commonly used in the development of industrial technology projects by the academic circle. To encouraging close cooperation between schools and the industry and research institutions, the source of funding for the projects shall be incorporated with the fees for supporting bodies with the requirements for the relevant proportion of funding on the basis of the domain of the subject matter of the project topic and the geographic location of the schools [22](#).

If we take a closer look at the important notice of the application for a local academic development of an industrial technology project (local academic technology project), we could see that the system design features the needs of local industry. A local academic technology project is positioned for the upgrading of the research and development of specific technologies of local industries and the advocacy of regional industrial development with regional characteristics. As such, the items eligible for subsidy are innovative, prospective or critical technologies required by the industry, or modes of operation, corporate management skills or innovative service advantageous for industrial development [23](#). As such, the applicants must attach the letter of intent issued by at least three enterprises in the application procedure, and can prove that the objective of the project for subsidy is to a certain extent meeting the needs of local industry.

## 2. The dialogue of scientific research procurement

For scientific research procurement, the “Regulations Governing Procurements for Scientific and Technological Research and Development” (hereinafter, “Monitoring Regulation”) instituted at the authorization of the Fundamental Science and Technology Act serves as the legal source for the entities or procurement authority to undertake scientific research procurement. The Monitoring Regulation aims at monitoring and management and also provides the legal environment for dialogue for scientific research procurement. This could be the starting point for scientific research procurement innovation. According to Article 7 of the Monitoring Regulation, “Where necessary, public schools, public research agencies (institutions), non-profit organizations or groups may proceed to consultation with the suppliers, respecting the works for procurement, the specifications of properties or service needs before entering into agreement on scientific research procurement”.

As such, the requirements under the Monitoring Regulations allow flexibility for the procurement authority in pursuing scientific research procurement, as they can engage in consultation with the ‘suppliers’. The topics for consultation covered the works for procurements, the specification of properties or service needs. There is one thing that needs to be differentiated, the mechanism of “consultation”, which is different from the consultation under the Government Procurement Act. Consultation as specified in the Government Procurement Act is a kind of supplementary measure applicable only when no decision of award can be made to the best bid [24](#), or it is difficult to determine the best bid [25](#). In addition, only the provisions contained in the original documents labeled as amendable could fall into the scope of consultation [26](#). As such, the subject matter of procurement specified in the tender invitation document shall be the fundamental requirement of the procurement case. In other words, the procurement authority has already known the purchase needs, which is different from the tentative IPP scheme of Finland. The latter aims at the encouragement for the participation of the suppliers of the service and the users in the process of determining the specification for procurement, and the terms and conditions of procurement, which is an immediate concern of the government for solutions and the development of the state to tackle challenges in the future. In other words, the IPP scheme of Finland aims at providing a solution for the procurement authority and the content of procurement is uncertain or is difficult to define due to the rapid change in the environment.

(III) Concluding remarks— the subject matter of dialogue under the concept of PPI and the possibility of preventing misconduct and corruption The study of this section leads to a preliminary conclusion that the legal framework of ROC for scientific research subsidy, government procurement, and scientific research procurement provides the mechanism for possible dialogues between the subsidy providers/procurement authority and the recipients of subsidy/bidders. Even the public viewing system of government procurement could incorporate the channels for public opinions. These could serve as the starting points for the introduction of PPI concept.

Yet, there are two points to be clarified and resolved if we compare the aforementioned legal system and the PPI concept of the EU or the implementation of the IPP scheme in Finland if we are to introduce related practices First of all, if we elect to understand the aforementioned mechanism of government procurement and scientific research procurement from the perspective of dialogue/participation mechanism, the participants in the dialogues are still the subsidy providers or procurement authority and the service/goods suppliers. It is not a dialogue directly involving the users of public service (at this point, we could see the eventual purpose of the result of research and development as a form of public service). However, the spirit of the system currently in effect aims at matching the users for an indirect dialogue through this mode to a certain extent. For example, the integration of the academic scientific research project with the intent of the general and local participating firms as a necessary condition in the application, which approximates the mode of dialogue with the users of public service in the future. This arrangement is made in consideration that the firms and the market are the closest entities in the process, and is incorporated as a part of the user needs (of course, if we equate the two parties, there is the risk that the firms orchestrate market needs or making profits as the primary goal).

Secondly, the gravity of the law in the ROC rests with the prevention of misconduct and corruption. This is particularly the case in the Government Procurement Act. Therefore, the foremost issue of introducing the concept of government procurement innovation to the ROC, that is the design of a system that features a mechanism for the prevention of misconduct and corruption to avoid “manipulation of the bidding process”, is yet to be resolved, and will be discussed later in this paper.

## **IV. Analysis of the introduction of PPI into the laws governing scientific research subsidy, government procurement, and scientific research procurement**

### (I) Suggestions and thoughts for the incorporation of PPI into the legal framework of government procurement

Article 39 of the Government Procurement Act and Article 38 of its implementation procedure have set forth strict criteria for the prevention of “participants who also act as judges”. Yet, the so-called “contractors providing planning and design service” do not apply to all contractors that



have provided planning suggestions but particularly point to the contractors that have been appointed by the entity to engage in the planning, design, or working on the preparation of tender invitation documents 27. In practice, the parties concerned tended to “keep a distance from” the prospective bidders in order to avoid inadvertent violation of the law. As such, there is an exception in law that excludes situations of no conflict of interest or no unfair competition 28. If we are to introduce the concept of PPI into government procurement of science and technology research and development, additional provisions must be added to the aforementioned law to provide explicit legal grounds for practice, before the entities can possibly or willingly introduce dialogue between the supplier and the user.

As for the public viewing system in existence, it provides the possibility of a similar setting under the same spirit. As explained, the subject matter for receiving public opinions is still the content of the plan, which is different from the dialogue between the “supplier” and the “users” being encouraged in the procurement planning stage under IPP in Finland.

In summary, suggestions for introducing PPI to government procurement practice of the ROC within the legal framework are detailed below. First, the Government Procurement Act primarily aims at the prevention of misconduct and corruption. The introduction of the PPI concept entails higher cost of legislation, which requires amendment to the procurement act to provide the legal grounds. At the same time, the reconciliation with the rule of avoidance of the conflict of interest current practiced in procurement and the settlement of relate issues shall also be taken in account.

Second, it could be possible to include the procurement of professional service or research and development in the Public Viewing Particulars in order to introduce the concept of PPI. In so doing, we must consider the entrance barrier on the procurement of engineering projects previously covered by the Public Viewing Particulars. This may be designed for avoiding the incurrence of additional administrative cost and bolstering administrative efficiency (for example, the procurement of engineering projects not exceeding specific amount, the addition of the requirement of public viewing, may delay the procurement procedure and hamper competition). For the outsourcing of professional services or research and development, appropriate consideration should be taken.

(II) Suggestions and thoughts for the incorporation of PPI into the legal framework of scientific research subsidy

The legal sources for governing scientific research subsidy are Article 7 and Article 11 of the institutional scientific project regulation, as in the case of the Ministry of Economic Affairs, and the important notice to applicants for general and local academic technology projects in their design.

First, Article 7 of the institutional scientific project regulation requires that, Ministry of Economic Affairs shall invite experts from the industry, government agencies (institutions), academia and research institutions to the strategic planning of industrial innovation and research and development and consider the opinions from these experts in order to plan for the direction of industrial innovation and research and development in the future. The planning of the direction for innovation research and development could be included as an item for the development of industrial technology and should be the direction expected by all. For example, the Ministry of Economic Affairs has held the “National Industrial Development Conference” in December 2012, and opened to public opinions on four reformations in three industries on the advocacy of adding value to industrial innovation, structuring of positive investment environment, and other common topics. This is similar to PPI, which may include the absorption of and communication with the opinions of the “users”. But there is one point of variation. This is a matter of the use of planning strategy, and is the planning of the overall industrial technology development direction from top-down. In PPI, this will be the direct dialogue between the suppliers of service/properties and the end users in order to encourage the innovative solutions for the procurement. They may be at different levels.

Second, the principle for the subsidy of general and local academic scientific projects requires the funding in proportion of the participating units or the letter of intent signed by the owners of at least three enterprises, which could be stated as the requirement of cooperative education programs. Article 12 of the institutional scientific project regulation, Article 8 of the academic scientific project regulation, and Article 4 of the industrial scientific project regulation have the provisions for encouraging cooperation education and could serve as the legal source for such a purpose. The pilot project of procurement in Finland adopted the dialogue between the prospective suppliers of service providers and the end users at the planning stage of procurement. This may be defying the principle of the procurement act. In the ROC, the subsidy procedure and the procurement procure are governed by different sets of laws. As such, the restriction of the Government Procurement Act does not exist in the legal rules governing the subsidy procedure. As such, there is little concern over the violation of the law. However, we have to pay attention to Article 6 of the Fundamental Science and Technology Act 29 on the issue of the avoidance of interest in the entitlement and use of the result of scientific research under government subsidy, at the appointment of or funded by the government. In other words, the legal rules governing subsidy have not restricted the possibility of dialogue between the “supplier” and “end users” of the science technology research and development project at the preliminary planning stage. The substantive terms of requirement are stated in Article 12-1 of the “Ministry of Economic Affairs Regulation Governing the Entitlement and Use of The Result of Science and Technology Research and Development”, the procurement authority shall establish the management mechanism or regulations, or report to the Ministry for record on the avoidance of the conflict of interest or related disclosure of the result of research and development. Attention is required for possible violation against related requirements of the avoidance of the conflict of interest and disclosure of the procurement authority. But if we take a closer look at the Fundamental Science and Technology Act in the aspect of the avoidance of the conflict of interest, and compare with the dialogue between the procurer and the users at the planning stage, there may be room for legality. It is because the Fundamental Science and Technology Act requires only the entitlement and use of the result of research and development, which is the output of the project, and not the avoidance of the conflict of interest at the planning stage and implementation stage. This is the difference in the substance. Even though there is no dialogue after the outcome of the project, the performer may still have a conflict of interest under certain circumstances, which should also be considered. For example, the procurement authority declares its position on the opinions presented at the planning stage is indeed the suggestion of the result of research and development of the only party that has the technical capacity in the technology market that can undertake the research and development.

In summary, suggestions for introducing PPI to government scientific research subsidy projects in the ROC within the legal framework are detailed below.

First, we could incorporate relevant dialogue mechanisms at the project planning stage, in a timely fashion and in accordance with the requirements for encouraging cooperative education within the legal framework of scientific research subsidy administered by the Ministry of Economic Affairs currently in effect.

Second, legal rules governing scientific research subsidy administered by the Ministry of Economic Affairs currently in effect do not restrict any dialogue between the recipient of subsidy (the so-called “supplier”) and the “end user” at the planning stage or in the future, but whether or not such an act will violate the requirements of relevant procurement authority in the avoidance of conflict of interest, deserves our attention.

(III) Suggestions and thoughts for the incorporation of PPI into the legal framework scientific research procurement

In the domain of scientific project procurement, Article 7 of the Monitoring Regulation sets forth that suppliers may be involved in consultation on issues related to the works for procurement, specification of properties, or service needs. This provides the legal source for the trial use of the IPP scheme of Finland in the ROC, but we have to consider two things. First, the provision sets forth the consultation with the supplier only, and it is, by and large, the dialogue mechanism only after the determination of the subject matter of procurement, which is different from the IPP of Finland. Also, the dialogue with the end user does not fall within the scope of such legal source, and, there is still room to define who could be positioned as the “end user”. Yet, it is two sides of the same coin. There is a legal framework in place without detailed requirement. As such, the procurement authority may design the procedure in fuller detail in this space as needed. Finally, the scope of scientific research procurement in the ROC is not as broad as the subsidy cases (refer to the definition of scientific research procurement above). As such, the majority of scientific research procurement is already at the cooperative education stage under individual subsidy or appointment of the government (except the work under the scientific research and development budget prepared by the public research institutions). If we introduce the concept of PPI into the scientific research procurement stage, the content and the scope have already fallen into the framework of the previous subsidy plan, and there is little room for the incorporation of dialogue and opinions.

In summary, the suggestions for introducing PPI to scientific research procurement of the ROC within the legal framework are detailed below: First, the Monitoring Regulation of scientific research procurement provides the mechanism for consultation but does not define the subject matter of consultation in procurement. As such, the scope for hearing opinions is limited. Further, the dialogue with the users has not been covered. The overall implementation procedure requires refinement for proper enforcement.

Second, the scope of scientific research procurement is limited to the procurement under an individual subsidy program or at the appointment of the government, and falls within the scope of the content for the previous subsidy program or the program at the appointment of the government in principle. As such, the effect of introducing PPI is limited.

V. Conclusion – A Discussion on Introducing the PPI into Science and Technology Projects and Suggestions for Legislation within the ROC

The above are overall observations on the analysis of the introduction of PPI to scientific research subsidy, government procurement, and scientific research procurement in the ROC. In the “Issue of dialogue for innovation”, we should consider to start with scientific research subsidy. The primary reason is that there is room within the legal framework under the Monitoring Regulations governing scientific research procurement, but in practice, more substantive terms could be developed. However, the scope of the legal framework for the applicability of scientific research procurement is confined to the procurement made under subsidy or at the appointment of the government on specific programs. The effect of trial running PPI is very little under the framework of subsidy or appointment by the government.

Finally, the feasibility of introducing PPI to the scientific research projects of the ROC, which is the “subsidy innovation issue”, is analyzed below:

First, the legality of using scientific development fund to subsidize other government agencies: Article 5 of the “National Science and Technology Development Fund Management and Utilization Regulation of Executive Yuan” sets forth the use of the fund, including “expenditure on the advocacy of overall technology development of the nation”, “expenditure on the improvement of the research and development environment for science and technology”. As such, the introduction of the trial run of IPP schemes in Finland would comply with the aforementioned provisions.

Second, the legality of subsidizing the public sector by advocating science and technology research and development, like the Department of Industrial Technology at the Ministry of Economic Affairs in the future: reference could be taken from Article 9 of the Ministry of Economic and Energy Affairs Articles of Association (Draft) under which the Department of Industrial Technology shall administer, “1. Strategic planning and implementation in technology under the jurisdiction of the ministry”, and the “planning of technology funding resources, and the establishment of implementation system and evaluation system”. As such, the model of the IPP scheme of Finland is not compatible with the authority and function of the Department of Industrial Technology. In other words, the Department of Industrial Technology shall not perform the function of subsidizing/advocating the duties of procurement innovation of other government agencies, but can introduce the concept of PPI for trial running within its scope of legal framework (e.g., scientific research procurement).

Third, the issue of outsourcing for survey of market needs by the public sector on the applicability of the Monitoring Regulation. If the work for outsourcing is an item of work under previous subsidy or work at the appointment of the government, and the fund of the project for procurement is regulated by the Monitoring Regulations. However, for survey of market needs purely planned for subsidy by the entity or required by the procurement cases, they fall within the category of general procurement of service and the Government Procurement Act shall be applicable.

In sum, the PPI concept under the FP7 of the EU has been subject to trial run through the IPP scheme of Finland. In Finland, the evaluation mechanism has not yet been fully established. Yet, such attempt to provide a solution for specific subject matter of procurement for the country that faces the rapid changing objective environment through the absorption of dialogue and opinions for innovative solutions is new in the world, and could be considered for adoption within the ROC that has similar challenges in the objective environment. As such, we could

start with scientific research procurement. The evaluation of the result is promising; this could be incorporated into the design of the mechanism for scientific research subsidy. For the scope governed by the Government Procurement Act, it entails high cost for amendment, and should be left a subsequent choice for review and planning.

1. TEKES Homepage, <http://www.tekes.fi/en/community/Home/351/Home/473> (last visited June 15, 2013).

2. The IPP scheme is the response of Finland to FP7 of the EU in proposing the Public Procurement of Innovative Solutions, PPI. In this paper, PPI and IPP share the same concept while the latter is the substantive name of the pilot project in Finland. See Huang Huei-Hsiang, "International Practice and Legal Analysis of the Advocacy of Government Procurement Innovation – a case study on IPP of TEKES, Finland", *Science and Technology Law Review*, Vol. 25 No. 10. PP. 27-45 (2013), by.

3. Pre-commercial procurement, PCP, is the procurement of the government for creating a market and appeals mainly to the service supplier with emphasis the difference from the dialogue between the users and the suppliers.

4. Article 1 of the Government Procurement Act, "This law is instituted for the establishment of a government procurement system to the extent of setting up a fair and transparent procurement procedure, upgrade the efficiency and function of procurement, and guarantee the quality of procurement". Although this law is instituted for achieving the objective of upgrading procurement efficiency and function, and guarantee of procurement quality, the procedure of the Government Procurement Act aims at keeping distance with the prospective contractors in the procurement process to avoid possible allegation of manipulation of the bidding process, monopoly of the tender, and profit seeking.

5. Federal Acquisition Regulation 2.101, "Acquisition' means the acquiring by contract with appropriated funds of supplies or services (including construction) by and for the use of the Federal Government through purchase or lease, whether the supplies or services are already in existence or must be created, developed, demonstrated, and evaluated." FAR Home Page,

[https://www.acquisition.gov/far/current/html/Subpart%202\\_1.html#wp1145507](https://www.acquisition.gov/far/current/html/Subpart%202_1.html#wp1145507) (last visited June 15, 2013).

6. Federal Acquisition Regulation 35.002, "The primary purpose of contracted R&D programs is to advance scientific and technical knowledge and apply that knowledge to the extent necessary to achieve agency and national goals. **Unlike contracts for supplies and services**, most R&D contracts are directed toward objectives for which the work or methods cannot be precisely described in advance. It is difficult to judge the probabilities of success or required effort for technical approaches, some of which offer little or no early assurance of full success. The contracting process shall be used to encourage the best sources from the scientific and industrial community to become involved in the program and must provide an environment in which the work can be pursued with reasonable flexibility and minimum administrative burden." FAR Home Page, <https://www.acquisition.gov/far/current/html/FARTOCP35.html#wp223483> (last visited June 15, 2013).

7. "For the purposes of this Directive: (a) public service contracts shall mean contracts for pecuniary interest concluded in writing between a service provider and a contracting authority, to the exclusion of:...(ix) research and development service contracts other than those where the benefits accrue exclusively to the contracting authority for its use in the conduct of its own affairs, on condition that the service provided is wholly remunerated by the contracting authority;" Council Directive 92/50/EEC, art. 1, 1992 O.J. (L 209) 1,3.

8. In "Critique of Scientific Research Procurement after the Amendment to Article VI of the Fundamental Science and Technology Act ", in *Science and Technology Law*, Vol. 24, No. 10, PP, 29-32 (2012), by Chen Shih-Chieh.

9. Article 9 of the Industrial Innovation Statue, "Competent authorities at the central government may advocate the following in the form of subsidy or supervision: I. Encouragement of industrial innovation or research and development. II. Supply or industrial technology and supervision of industrial upgrading. III. Encouragement for the establishment of innovation or research and development center in the enterprises. IV. Assistance in the establishment of innovation or research and development institutions. V. Encouragement of cooperation among the industry, academic circle, and research institutions. VI. Encouragement of the input to schools by enterprises for the training and development of talents. VII. Augmentation of human resources in the industry. VIII. Assistance in the innovation of regional industries. IX. Any others that help to encourage industrial innovation or research and development. The recipients of the aforementioned subsidy or supervision, the qualification requirements, criteria for screening, application procedure, authority for approval, and other related rules and regulation shall be established by respective competent authority of the central government".

10. For example, Article 4 of the academic scientific project regulation, "The MOEA shall subsidize academic institutions to perform the following research and development for the advocacy of industrial development and reinforcement of innovation capacity for the country..."

11. Article 6 of the Fundamental Science and Technology Act , "The parties for awarding science and technology research and development subsidized, appointed, funded by the government, or under a budget prepared by public research agencies (institutions) on science and technology research and development shall be determined by evaluation or review process with justifiable reasons for the evaluation and review. The resulting intellectual property rights and result in whole or in part shall be entitled to the pursuer of research and development or authorization for use irrespective of the restriction of state-owned properties".

12. Article 6 of the Ministry of Economic Affairs Regulation Governing the Entitlement and Utilization of Science and Technology Research and Development Result, "The result of science and technology project of the pursuer shall be entitled to the pursuer unless otherwise specified in This Regulation".

13. In the EU, the provision of "The procurement authority shall be responsible for all the expenses incurred from the service supply and the benefit so generated shall be owned by the procurement authority for its needs in operation" served as an exception of contracted service of research and development. In other words, the interpretation is inversely made to the extent that contracted service of research and development in the EU is not entitled to the procurement authority.

14. Article 2 of the Government Procurement Act, "Procurement as referred in this law shall be job order for work, the purchase, making to order, leasing of properties and the contract for service or employment". Article 7 of the same law, "Work as referred to in this law shall be act of building, addition, renovation, remodeling, demolition of structures and equipment accessory to the structures above and below ground level, and the act to change the natural environment, including building, civil engineering Hydraulic engineering, water work, environment,

transportation, machinery, electric, chemical engineering and any other engineering project recognized by the competent authority. Properties as referred to in this law are items(except fresh agricultural or aquacultural products), materials, equipment, machinery and other movables, real properties, rights, and other properties recognized by the competent authority. Service as referred to in this law shall be professional service, technical service, information service, research and development, corporate management, repair and maintenance, training, labor, and other forms of service recognized by the competent authority. Where the procurement may involve two or more of the aforementioned content, which made it difficult to identify the very nature, the content accounted for a larger proportion of the budget for total work shall stand”.

15.Op. Cit, Note 13.

16.Article 6 – Paragraph 4 of the Fundamental Science and Technology Act , “the Government Procurement Act shall not be applicable to public schools, public research agencies (institutions), non-profit organizations or groups receiving government subsidy or assignment, or procurement of public research agencies (institutions) under a budget of science and technology research and development prepared in compliance with applicable law unless otherwise specified in a treaty or agreement binding the ROC and a third country. Yet, they are subject to the monitoring of the subsidizing, assigning, or the competent authority. The regulation for monitoring and management shall be established by the competent authority in the central government”.

17.Op. Cit. Note 8, PP36-37.

18.Table of “Research and Development Projects” governed by the “Government Procurement Act” under Public Construction Commission, Executive Yuan Letter Chi-Tzi No. 89009844. The Government Procurement Act shall not be applicable to the selection of the recipients of subsidy.

19.The cause of legislation for Article 39 of the Government Procurement Act dated May 27 2998, “II. Paragraph II and III explicitly state that contractors may act on behalf of the entity in project management, and shall be in specific relation with the contractors responsible for the planning, design, construction of the project to avoid funneling of interest, cover up each other, and acting as a participant and the judge at the same time”.

20.Particulars for Public Viewing of Tender Invitation Documents of Public Works, at <http://lawweb.pcc.gov.tw/LawContentDetails.aspx?id=FL029347&KeywordHL=&StyleType=1> (last browsing date: 2013/6/15)

21.Article 12 of the Regulation Governing the Subsidy of Research Institutions in Industrial Innovation and Research and Development Advocated by the Ministry of Economic Affairs, “The MOEA or its functionaries shall encourage research institutions to introduce technologies, joint ventures in the development and participation in the pursuit of technology projects through interdisciplinary or cross-function cooperation for the effective integration of domestic and foreign research and development resources and capacity, the assistance of the upgrading of traditional industries, or advocacy of the development of knowledge service for the best interest of the industry”. Article 8 of the Regulation Governing the Subsidy of Academic Institutions in Industrial Innovation and Research and Development Advocated by the Ministry of Economic Affairs , “The MOEA shall request the applicants of academic technology projects to invite the joint participation of research institutions or companies and execute the academic technology project in interdisciplinary or cross-function mode of operation for the effective integration of research and development resources and capacities at home and abroad and create the optimized result in industry”. Article 4 of the Ministry of Economic Affairs Regulation Governing the Subsidy and Supervision for Assistance of Industrial Innovation, “The MOEA or its functionaries may provide subsidy for the following industrial innovative activities:... IV. Encouragement for joint venture among the industry, academia, and research institutions”.

22.Refer to important notice of application for general type of projects, IV. Types of subsidies for general academic scientific research projects.

23.Refer to important notice of application for local type of projects, III. The positioning, nature, and subsidy for local academic scientific research projects.

24.Article 55 of the Government Procurement Act, “Entities taking minimum offer for procurement and have been approved by the senior authority and announced in the notice of tender and the tender invitation documents and cannot determine the award pursuant to the requirements or preceding two articles may proceed to consultation”.

25.Article 56 of the Government Procurement Act, “ ...if the evaluation result cannot determine the best bid on the basis of the decision of the head of entity or more than half of the members of the evaluation committee, proceed to consultation and comprehensive evaluation for determining the best bid”.

26.Article 57 of the Government Procurement Act, “Entity elects to proceed to consultation in accordance to the requirements specified in the previous two articles shall comply with the following principles: ... III. The content of the original tender invitation documents to be revised shall be highlighted before proceeding to consultation”.

27.Paragraph 1, Article 39 of the Government Procurement Act, “Entities may assign the duties of project management in planning, design, supply, or performance of contract to a contractor in procurement under this law when making procurement”.

28.Paragraph 2, Article 38 of the Government Procurement Act Implementation Procedure, “Subsequent procurement procedure shall not be applicable to situations specified in I and II of the previous section if there is no alleged conflict of interest or unfair competition and at the approval of the entity”.

29.Paragraph 3, Article 6 of Fundamental Science and Technology Act ,

“The Executive Yuan shall coordinate and regulate the entitlement and utilization of the intellectual property right and result as mentioned in preceding two sections under the principle of equity and effectiveness, with reference to the proportion and contribution of capital and service, the nature, potential of utilization, social benefit, national security and the effect on the market of the result of science and technology research and development, and on the basis of its purpose, necessary condition, duration, scope, proportion in whole or in part, registration,



management, distribution of incomes, avoidance of conflict of interest and the disclosure of related information, the intervention of the subsidizing agent in authorization of a third party, or procedure for nationalization. Respective competent authority at different level shall establish relevant legal rules for such purpose”.

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