Analysis of the Role of Compulsory Standards in the Economic Development of China

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Abstract. Compulsory standards, as a kind of specifications on technical issues and behaviors requiring compulsory execution, play a threshold and baseline role in the economic development of China. They are important forms of technical regulations in China, important means for regulating economic and social order, as well as main components of technical trade measures, so they play an important role in maintaining the normal operation of economy and society in China. However, there are still many problems, including broad preparation scope, absence of hierarchy, imperfect formulation procedures, absence of feedback mechanism, unreasonable management system, and imperfect promotion mechanism; therefore, in the future reform of compulsory standards, we shall focus on reforming the management system of compulsory standards, and strictly formulating the procedures and strengthening the implementation and supervision.

Introduction

Standards play a supportive and strategic role in serving national development and coping with international challenges. Domestically, standards are the technical support for economic and social development, and the promotion of the synchronous development of industrialization, informatization, urbanization and agricultural modernization requires the support of standardization. Internationally, standards have become a strategic means and key to success for China to participate in international competition, and the new export competition advantages with technology, brand, quality and service as the core largely depend on the advantages of standards. Compulsory standards, as an important part of the standard system in China, are compulsory ones formulated by the government for providing standards or specifications for activities or their outcomes, so as to ensure health and safety, and protect the environment.

As for the positive role of compulsory standards in industrial development, Blind (2004) pointed out that the introduction of standards was a signal for users, which indicated that a plenty of organizations had participated in the research & development and promotion of technology [1]. The standardization of quality, safety and health will be conducive to establishing trust of users on products[2]. Most research literatures recognized the opinion that government shall play a leading role in the formulation of compulsory standards: Liang Zheng and Hou Junjun (2012) divided standards into four major forms according to the levels of their public interests and private interests: Public Standards, Agreed Standards, Proprietary Standards and Standards Contest[3]. Many studies believed that government should implement mandatory rules in the field of minimum quality standards. Through comparing the different influences of “positive list system” adopted in Japan and GB18401 on export of textiles & garments adopted in China, Cheng Jianbing (2008) believed that under the premise of information asymmetry and product differentiation, there is the necessity and inevitability for regulating minimum quality standards by government; and the setting of “threshold value” for minimum quality standards would play a crucial role in social welfare [4]. Leland (1979) believed that product quality signals substantially have positive externality, or economic efficiency of scale [5].The study carried out by Ronnen (1991) showed that minimum quality standards could both help improve the quality of products and enhance the sales level, and they could also increase the overall industrial welfare [6]. Although government makes great efforts in encouraging manufacturers to provide high quality products through setting the minimum quality
standards, many recent studies showed that, there were still low quality products (Albano and Lizzeri, 2001) [7]. The study carried out by Valletti (2000) also indicated that it was questionable whether the minimum quality standards can improve industrial welfare, because such welfare relied on industrial structure [8]. Maxwell (1998) believed, for a long term, minimum quality standards would go against the improvement of industrial competitiveness, because they might weaken the innovative impetus [9].

Current Situation of Compulsory Standards in China

Overall Quantity and Distribution Fields

According to the statistics made by the writer, the number of compulsory standards in China had reached 28,632 as of May 31, 2013, including 4,531 national standards, 21,192 industrial standards, and 2,909 local standards. 1,588 compulsory national standards were formulating and revising. Among compulsory national standards, there are “GB” standards independently issued by Standardization Administration of China or jointly issued with other departments, and there are also the “national standards” issued by Ministry of Agriculture and Ministry of Health, etc. [10].

Considering the fields of compulsory standards, the national standards in the field of medicine and health account for 47.87%, those in the field of environmental protection account for 33.57%, those in the field of energy and nuclear technology account for 22.83%, and those in the field of vehicles account for 20%. As for the properties, there are 984 compulsory national standards in the field of “medicine, hygiene, and labor protection”; accounting for 47.87%; 376 ones in the field of “electrical engineering”, accounting for 10.13%; 358 ones in the field of “chemical engineering”, accounting for 9.64%; 242 ones in the field of “light industry, cultural and living articles”, accounting for 6.52%; 189 ones in the field of “mechanical engineering”, accounting for 5.09%; and compulsory standards in each of other fields account for less than 5% [10].

Coding, Issuing, Announcing and Compulsory Types of Compulsory Standards

Considering the coding, issuing, announcing and compulsory types of compulsory standards, there are 4,172 compulsory standards with the unified code of GB, 359 “national standards” issued by departments without a unified code; the GBZ standards and those with the code of Ministry of Agriculture are still being used; the usage situation and state of GBJ and GWKB standards require being confirmed and verified by the relevant departments. The compulsory national standards may be issued by Administration of Quality Supervision, Inspection and Quarantine and Standardization Administration of China, separately issued by industrial departments, and jointly issued by two departments or three departments. The announcements for compulsory standards include public issuance on network, journals, and bibliographical publications; they are issued without a unified authoritative issuance mechanism at irregular intervals, so it is hard to master the relevant information. Among 4,172 compulsory GB standards, 3,989 ones are clearly marked with the compulsory types, 2,015 ones belong to full text compulsion (50.5%), and 1,974 ones belong to article compulsion (49.5%).

Structural Distribution of Compulsory Standards

Among 4,172 existing compulsory national standards, the longest duration is 50 years (Locomotive and Car Clearance Boundary and Structure Clearance Boundary for 762mm Gauge Railways, Classification and Basic Dimensions (GB 188-1963) issued in 1963). 227 ones have the duration of more than 20 years (5.4%), and 1,016 ones have the duration of more than 10 years and less than 19 years (24.3%). As calculated, the average duration is 7.06 years.

According to CCS statistics, compulsory standards mainly concentrate on five fields, namely the medicine and health, engineering construction, food, electrical engineering and chemical engineering; the number of such standards reaches 2,467, accounting for 59%.

There are 20 fields with over 30 standards each, such as food hygiene, pesticide, environmental hygiene, fire-fighting apparatus and equipment.
The Important Role of Compulsory Standards on Economic Development in China

Compulsory standards play a baseline role in the economic development process of China, and they are the important tools for ensuring the development of national economy.

Compulsory Standards Are Important Forms of Technical Regulations in China

Compulsory standards, as an important form of technical regulations, have played an important and irreplaceable role in the economic and social development of China in different historical periods through different ways. In general, they can be divided into three stages.

The Standardization Law of the People's Republic of China issued in 1988 stipulated “National standards and trade standards shall be classified into compulsory standards and voluntary standards. Those for safeguarding human health and ensuring the safety of the person and property, and those for compulsory execution as prescribed by the laws and administrative rules and regulations shall be compulsory standards; the others shall be voluntary ones.” The regulatory range of compulsory standards was defined in this period, thus the right for enterprises to voluntarily select the relevant standards was released. During this period, compulsory standards mainly played a regulatory role in aspects of human health, personal safety and property safety, etc., and also played a due role in ensuring the reform and transition of the economic management system, and guaranteeing the economic and social development in China.

Over the years, with the joint efforts and continuous improvement conducted by standardization administration authorities and other relevant departments, China had formulated a large number of compulsory standards according to the demands of economic and social development, reform and government public management. As the main form of technical regulations, they played an important and irreplaceable role in the adaptability of market and technical development and in flexibility of combination with laws, for they have the technical specification advantages that general technical regulations do not have. They have maintained the integrity of legal system in China, especially the technical regulations system; they have ensured the timeliness of China’s technical regulations to market and society; and they have also realized the effectiveness of China’s technical regulations in the implementation process. The status of compulsory standards in the legal system, i.e. technical regulations system in China have been recognized in both the domestic legal environment and the framework of WTO international trade regulations, because they have the “proper goal” that is basically consistent to technical laws and regulations.

Compulsory Standards Become A Measure to Regulate Economic and Social Order

Compulsory standards have become the technical tools for China to maintain the economic and social order, and have fully played the corresponding regulatory and referential role with their relatively perfect system.

Compulsory standards play an irreplaceable role in regulating the order of market economy. Firstly, compulsory standards can provide the basis for administrative and judicial actions; in China, compulsory standards form an important basis for administrative and judicial actions, so any unit and individual, in case of violating the compulsory standards, would bear the corresponding legal responsibilities, including administrative sanction, qualification lowering or depriving, industrial ban, administrative penalty, civil compensation, and criminal responsibility.

Secondly, compulsory standards can regulate the product quality and service quality. As stipulated by the relevant rules and regulations in China, compulsory standards can be taken as the basis of identifying product defects and determining whether to conduct product recall.

Thirdly, compulsory standards can be taken as the regulations on market access and administrative permission; as regulated by the relevant laws and regulations, they can be taken as conditions for administrative permission, and can replace the administrative approval.

Compulsory standards are the means for maintaining public security and implementing sustainable development. Since the reform and opening up, China's economic development and social construction have made great achievements, but also faced many difficulties and challenges. Especially since the new century, the challenges in aspects of environmental protection, resource
management, public security, population aging, and corporate social responsibility have become much more severe. Although there are such challenges in developed countries, China, as a developing country, has to handle the more severe tasks. Compulsory standards can play a crucial role in facing the challenges.

**Compulsory standards undertake important functions in building an all-round well-being society.** The 18th National Congress of the CPC proposed a general plan for fully implementing the economic construction, political construction, cultural construction, social construction and ecological civilization construction; for taking the civilized development road of production development, as well as living prosperity and ecological soundness. It also planned to realize the goal of building an all-round well-being society before 2020, which is not only an ambitious goal, but also an urgent task. In the blueprint, we shall change the pattern of economic development, comprehensively implement the basic strategy for the rule of law, remarkably increase the cultural soft power, realize the equalization of basic public services, and strengthen the construction of a resource saving and environment friendly society. The realization of a goal in one of the major aspects, or the overall advancement of several major goals, requires enough technical support and regulation of compulsory standards. Predictably, compulsory standards will undertake important functions in building an all-round well-being society; in addition, the status and role of compulsory standards will also be inevitably improved.

Numerous studies have demonstrated that China would have been unable to form a normative order of the market economy, to ensure the national health and safety, and to face the challenges in sustainable development in aspects of environment and resources without a considerable amount of compulsory standards.

**Compulsory Standards Are Principal Factors of Technical Trade Measures**

As required in Notice on Issues of Fully Implementing WTO Transparency Obligations and Enjoying WTO Transparency Rights issued by Administration of Quality Supervision, Inspection and Quarantine (AQSIQ), “Compulsory national standards must be reported to WTO/TBT Secretariat by WTO Office of AQSIQ in the name of technical regulations”. It is clear that compulsory standards play a role as “main force” in developing foreign trade, setting the technical trade barriers, protecting the interests of domestic enterprises, and coping with foreign trade protectionism. They will continue to play a more important and irreplaceable role.

With further development of economic globalization, economic and trade exchanges between countries become increasingly frequent. Compulsory standards in China play a very important role in technical trade measures, and have more prominent effect and status in trade; they are not only the main tools for setting technical trade barriers, but also the major means for maintaining the trade order.

**Current Problems in Compulsory Standards**

With the continuous development of social economy and constant improvement of market economic system in China, the problems in the formulation and implementation process of compulsory standards have gradually appeared and become more prominent. They are mainly displayed in the following respects.

**Compulsory Standards do not Strictly Take “Safety” as the Direct Formulation Goal**

The goal of preparing compulsory standards is to guarantee the health and safety, and protect the environment; meanwhile, this goal tallies with the five proper goals stipulated by WTO/TBT that shall be referred when the member countries formulate their compulsory standards. Compulsory standards, as the “basic and fundamental” basis, should strictly take “safety” as the direct formulation goal; however, many compulsory standards formulated today do not conform to such a goal. Referring to the five compulsory principles of WTO, many existing compulsory national standards have contents beyond the compulsory range. According to the preliminary statistical
analysis, there are over one thousand similar standards, which are mainly the product standards and management standards.

Lack of “Hierarchy” in Compulsory Standards

Considering the same type or similar standardization objects, there are common problems in compulsory standards. In the formulation process of compulsory standards, such common problems shall be continuously concluded, so as to formulate the “field compulsory” or “cross-field compulsory” standards with strong commonality, to form the system of making “product compulsory standards” meet provisions of “field compulsory standards” and making “field compulsory standards” meet provisions of “cross-field compulsory standards”, and give play to the overall advantages of compulsory standards. However, due to the lack of the concept of “hierarchy”, there are many similar or serial standards, which, on the one hand, will produce a large number of compulsory standards with scattered and even repeated contents; and on the other hand, will bring the “redundant” and even inconsistent information of compulsory standards.

Imperfect Formulation Procedure for Compulsory Standards

The current Standardization Law has only provided that a technical committee for standardization shall be established to draft and technically review the standards, but has not defined specific requirements for the procedure of initiation, drafting, opinion soliciting, review, approval or issue. Measures for the Administration of National Standards issued in 1990 has provided the procedures of formulating compulsory standards, but it has been published for 22 years and some documents and instructions are no longer applicable to the reality now. In addition, some industrial administrative departments have different requirements for the formulation procedure of compulsory standards. Some industrial authorities, such as the Ministry of Commerce, have put forward further industrial requirements based on the Measures for the Administration of National Standards, while most industrial administrative authorities still have not clearly defined the procedure to formulate compulsory standards. In general, the formulation of compulsory standards shall be more open and transparent, so as to fully reflect the authority and seriousness of the standards.

Unreasonable Management System for Compulsory Standards

The existing Standardization Law sets national, industrial and local compulsory standards. Except for AQSIQ and SAC, the main issuers of national compulsory standards, there are also 28 relevant administrative departments in the State Council issuing the industrial compulsory standards and standardization administrative departments of 31 provinces, autonomous regions and municipalities issuing the local compulsory standards. At present, over ten thousand national, industrial and local compulsory standards have been approved and issued. However, because the standards are respectively formulated by different departments, huge in quantity and cluttered in content, there are many obvious problems, such as formulation out of range, crossing, overlap and confliction, which has affected the authority of the compulsory standards, hampered the unification of the market in China and increased the administrative cost.

Future Reformation of Compulsory Standards in China

Against the existing problems in compulsory standards, the future reformation of compulsory standards in China shall concentrate on the following aspects.

Reform the Management System of Compulsory Standards

1. Unify the management of compulsory standards. Integrate current national, industrial and local compulsory standards into unified compulsory national standards, which shall be issued by or with the authorization of the State Council. Include the six categories of compulsory national standards under decentralized management on engineering construction, environmental conservation, food
safety, occupational health, veterinary medicine and safety evaluation of agricultural genetically modified organisms into unified management.

2. Establish a high-level advisory and coordinating organization. Found the Standardization Promotion Committee of the State Council which shall consist of the competent administrative departments of the State Council (hereinafter referred to as the departments) and take charge of the unified management, comprehensive coordination, review and approval of the compulsory national standards. The Standardization Promotion Committee of the State Council shall be provided with an office (hereinafter referred to as the “Standard Office”), which shall be responsible for the initiation, coordination, submission for approval and public announcement of the compulsory national standards. Relevant departments of the State Council and the people’s governments of the provinces, autonomous regions and municipalities (hereinafter referred to as the local governments) shall be responsible for the proposing, drafting, risk assessment, opinion soliciting, technical review and implementation supervision of the compulsory national standards.

3. Clearly define the position of the compulsory standards. The compulsory national standards shall be strictly restrained in the scope of “ensuring health and safety and protecting the environment” and specify relevant activities or their results, and the technical content shall be operable and verifiable. Divide the compulsory national standards into three levels of “cross-industry”, “industrial” and “product/service” standards and try to formulate cross-industry and industrial standards which are of strong universality and wide coverage. Integrate and optimize the current compulsory standards according to the formulation scope, technical content and hierarchy of the compulsory standards.

**Restrict the Formulation Procedure of the Compulsory Standards**

1. Clearly define the requirements for and responsibilities of the procedure. The formulation procedure of compulsory national standards includes seven stages of proposing, initiation, drafting, opinion soliciting, review, approval and issuance. For the formulation of a compulsory national standard, the departments of the State Council and the local governments shall propose an application for initiation, and the Standard Office shall be responsible for evaluating, coordinating and publicizing the initiation as well as preparing and issuing the formulation or amendment plan. The departments of the State Council and the local governments shall set up a drafting team or entrust the Technical Committee to draft the compulsory national standards, solicit public opinions and conduct technical review. The Standard Office shall ask for and coordinate the opinions from the members of the Standardization Promotion Committee of the State Council, and publicly solicit opinions from the society again if necessary. The Standardization Promotion Committee of the State Council shall be responsible for examining and approving the compulsory national standards. Before a standard is approved, it shall be announced to the public according to relevant regulations of WTO/TBT. Compulsory national standards shall be issued by or with the authorization of the State Council. A unified information system for the management of compulsory national standards shall be established to realize full-process informatization management of the standards.

2. Set up rapid and simple procedure. Compulsory national standards to be formulated instantly to deal with emergencies shall apply rapid procedure. Under rapid procedure, the standard can be initiated, approved and issued at any time, the time limit for relevant stages can be shortened and the report to WTO/TBT committee can be made after the standard is issued. For compulsory standards not without cross responsibilities among the departments and on which both parties have reached basically unanimous agreement, or compulsory standards that only apply to a specific field and will not affect the trade, simple procedure shall be applied. The departments of the State Council shall present the fields applicable to simple procedure to the Standard Office. After being deliberated and approved by the Standardization Promotion Committee of the State Council, relevant standards shall be formulated according to simple procedure. The standards under simple procedure shall be directly initiated based on simplified links. The rapid procedure and the simple procedure may be applicable at the same time.
3. Establish and perfect the technical review system. The Standardization Promotion Committee and the departments of the State Council shall respectively establish the Review Committee of Compulsory National Standards and the Special Review Committee of Compulsory National Standards. The Review Committee of Compulsory National Standards shall be composed of representatives and experts from the departments of the State Council and be responsible for comprehensively coordinating and controlling the compulsorily national standards and providing support for the approval and issuance of the compulsorily national standards. The Special Review Committee of Compulsory National Standards shall be composed of representatives from the government, industry associations, enterprises, consumer organizations, scientific research institutions, colleges and universities and quality assessment and authentication institutions and shall be responsible for the technical review of the compulsorily national standards in respective field.

**Strengthen the Implementation Supervision of the Compulsory Standards**

1. Ensure strict implementation of the standards. The departments of the State Council and the local governments at all levels shall be responsible for organizing the implementation of compulsory national standards, implementing market access and supervision and inspection during and after the process and carrying out administrative enforcement of law according to the compulsory national standards. In case the products or services produced or provided by an enterprise or social organization are related to people’s health and the safety of the property and environment, it shall strictly perform the compulsory national standards. Set up the news release system for major compulsory national standards and strengthen the publicity and implementation. Assess the compulsory national standards after the implementation. Establish a statistics and report system for the implementation of the compulsory national standards.

2. Improve the public service system. Based on the principles of government promotion, society involvement and market development, the government shall improve the public service system and service platforms for the compulsory national standards and create new service mechanisms to provide technical consultation and services for the whole society, especially the micro, small and medium-sized enterprises. Establish a unified information network for standards in China to publicize the full texts of the compulsory national standards for free. Build and perfect the experimental verification system of compulsory national standards through government procurement of services and relying on the third party technical institutions.

**Conclusions**

Compulsory standards, as an important manifestation of the technical regulations in China and a kind of compulsorily executed management regulations related to technical issues and behaviors, play a very important role and are indispensable in the government management, economic development, social operation and public security in China. Especially nowadays, as the technical content in social life constantly increases, the international commercial and technological communication gets more and more frequent and the challenges arising from the resources, environment and other problems in sustainable development intensifies, compulsory standards become increasingly important in the legal system of China and will have increasingly extensive functions. In order to promote the development of the economy and society in China, it is necessary to further deepen the reformation of the compulsory standards in China and give full play to the baseline function of compulsory standards in economic development.

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