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Governmental Regulations on Commercial Aspects of China's Space Activities

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ABSTRACT

Launching service trade and trade in missiles and missile technology are two typical commercial aspects of space activities. Trade liberalization and security concerns are the key issues dealt with by governmental regulatory works. This article will analyze the legal framework and basic rules of China's governmental regulation as well as their implementation, shedding lights on the interaction between China's domestic regulation practices, foreign legislation and international standards. This article considers that governmental regulations on commercial aspects of space activities among space faring states have a common policy-driven character. China contends the unjust governmental regulations impeding liberal trade – particularly U.S. export control regime – and claims that it complies with international standards on non-proliferation. In the absence of multilateral regime governing trade relating to space activities, divergences arising from governmental regulations can only be narrowed through bilateral or unilateral means. As an emerging space faring state which actively engages in trade relating to space activities, China needs to demonstrate that it is a reliable and trustworthy member of the international community. For that purpose, more efforts should be made in order to guarantee the enforcement of the regulation rules, creating in turn a transparent and predictable legal context beneficial to China's own business.

CONTENTS

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I. INTRODUCTION

In the past two decades, China has made rapid progress in space exploration. Although the age of privatization and commercialization of space activities has not yet really come,[3] China has already engaged in some business practices relating to space technologies. The development of launch vehicles marked the first use of a high technology upper stage and led to China's entry into the commercial space launch services market.[4] From 1990 to 1998, China gained a 7-9% share in international commercial launch market.[5] Recently, the Chinese government has adopted a policy of encouraging industrial and

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3 Huang Huikang, *Space Law and the Expanding Role of Private Enterprises, with Particular Attention to Launching Activities* 5 SING. J. INT'L & COMP. L. 55, 56 (2001).

4 Gordon Pike, *Chinese Launch Services: A User's Guide* 7(2) SPACE POLICY 103-115 (1991).

5 *See* Sun Qing, *China Returning to International Commercial Launch Service Market* AEROSPACE CHINA 7 (2005).

commercial application of space technologies,[6] which indicates a strong potential of commercial development in China's space exploration. In the long term, trade and services relating to space activities will be progressively emerge as an important sector of China's foreign economic relations for both financial and political reasons.

Space activities are among the strategic sectors of every space faring country. Trade relating to space activities, particularly the trade in launch service, missiles and missiles technology, is closely linked to strategic policies – national defense, non-proliferation etc. – more than any other trade fields. The efforts in liberalizing trade relating to space activities are counterbalanced by security concerns.[7] China's status as an emerging launch service provider and a potential missiles and missile technology exporter makes it particularly affected by the interface between liberal trade and security concerns.

This article will analyze China's governmental regulations on the two prominent commercial aspects of space activities: on one hand, launch service as a form of international trade in service which is also a typical commercialized space activity as of now and on the other, the international trade on launch vehicles, including particularly missiles which can be easily converted into an important launch tool. However, the export and import of missiles as well as other specific types of weapon are tightly regulated, which amounts to a trend that runs in the opposite direction to trade liberalization.[8] As much as China's domestic regulatory measures could have implications beyond its border, foreign legislations and international norms can also produce strong impact on China's domestic regulation. In other words, governmental regulation on commercial aspects of space activities is characterized by the interaction among different sources of regulatory rules. Before getting an

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6 In 2007, the State Development and Reform Commission (SDRC) and the former State Commission of Science, Technology and Industry for National Defense (COSTIND, replaced now by the Ministry of Industry and Information Technology in 2008) adopted a joint Notice of Guiding Opinions on the Development of Satellite Application, emphasizing that satellite communication, satellite positioning system, remote sensing as priority sectors of satellite application industry that will enjoy national strategic support. *See* NDRC and COSTIND, *Notice of Opinions on Promoting the Industry of Satellite Application*, FAGAIGAOJI 3057 (2007) (Nov. 16, 2007).

7 Dunniela Kaufman, *Does Security Trump Trade?* 13 SUM L. & BUS. REV. AM. 619, 619 (2007).

8 Asif Efrat, *A Theory of International Regulated Goods* 32 FORDHAM INT'L L.J. 1466, 1466 (2008).

insight on the abovementioned issue, features of China's domestic legislation on commercial aspects of space activities shall be briefly described.

II. FEATURES OF CHINESE LEGISLATION ON COMMERCIAL ASPECTS OF SPACE ACTIVITIES

Chinese officials and scholars have already felt the necessity of establishing a comprehensive legal framework governing the commercial application of space science and technology, with a view of establishing a fair and competitive market, appropriately settling liability issues, regulating the relationship between governmental agencies and private entities etc.[9] Given the ongoing commercialization of space activities, domestic legislation is considered to be even more essential, since "international space law was incapable of dealing with the commercial development of outer space".[10] Before the advent of a new international legal regime that provides legal clarity, commercial stability and technological adaptability, national laws play an essential role in filling the lacunae and will probably influence the form and content of international norms in the future. Chinese space law is currently only in its infancy. However, it meets the minimum needs for governing national space activities and fulfilling international obligations.[11] The draft and adoption of a basic domestic law governing space activities in China is not yet on the legislation agenda of the National People's Congress. As status quo stands, governmental regulations on space activities are and will be based on the existing laws and regulations. This is particularly true insofar as the economic dimension of space activities in China is concerned. In fact, law and regulations dealing with foreign trade and international economic relations provide the legal basis for governmental regulation on space activities of commercial nature.

China has a longer history in developing the space industry than using laws and regulation as tools for governing space activities. From the point of

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9 *See e.g.* Liu Xiao-hong, *Reflections on the commercialization of normalization of space activities in China* AEROSPACE CHINA 12-15 (2001).

10 Ricky J. Lee, *Reconciling international space law with the commercial realities of the twentieth-first century*, 4 SING. J. INT'L & COMP. L. 194, 195-196 (2000).

11 Ling Yan, *Comments on the Chinese Space Regulation* 7 CHINESE J. INT'L L. 681, 689 (2008).

view of civil space activities, in the strict sense, there are no laws and administrative regulations currently in China, but only a number of regulating measures adopted by several different governmental agencies.[12] The situation can be explained by the fact that legal instruments have played a very weak and limited role for the purpose of governance in China. The special nature of space activity, along with political, legislative and technical reasons, makes it even less possible to adopt a formal law in the foreseeable future. Among political reasons, the most salient one lies in the distribution of powers among different state organs, civil and military, in terms of control over space activities. On one hand, civil and military space activities have never been clearly delineated because of the dual-usage character of some space activities and products and the practical parallel undertakings in some areas, such as satellite launchings. On the other hand, many state organs of ministerial level could be involved at different stages and sections of a space project.[13] This makes it very complicated, even impossible for the double-usage space activities, to clearly define each state organ's power and competence. This will be an unavoidable issue in the draft of a codified law on space activities.

Although scholars have advocated changing the current decentralized and multi-agency model of management of space activities through the adoption of a formal national space law, which would replace the current low-level regulative texts,[14] no significant progress has been made up to

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12 Haifeng Zhao, *The Status Quo and the Future of Chinese Space Legislation* GERMAN J. AIR & SPACE L. 100-101 (2009).

13 The so-called multi-sectors refers to the State Council and other space-related institutions such as the former State Commission of Science, Technology and Industry for National Defense (COSTIND), actually the National Bureau of Science, Technology and Industry for National Defense (BUSTIND) under the administration of the Ministry of Industry and Information Technology, the Ministry of Foreign Affairs, the Ministry of Commerce, the Chinese Academic of Sciences, the State Development and Reform Commission and other ministerial departments. As to matters relating to space military activities, they are charged mainly to the Chinese People's Liberation Army General Armament Department. The non-proliferation and export control issues relating to aerospace products are regulated by the State Council, the former COSTIND, actually the Ministry of Industry and Information Technology, the Ministry of Commerce and the General Armament Department.

14 *See e.g.* Haifeng Zhao, *Some reflections on China's space legislation (Guanyu zhongguo kongjian lifa de ruogan sikao)* 5 HEILONJIANG SOCIAL SCIENCES 150 (2007).

this date in this respect. Besides those governmental departments in control of civil and military space activities, two important state organs in the domain of foreign trade – the Ministry of Commerce and the General Administration of Customs – also exercise powers of control, supervision and guidance relating to commercial space activities. Maintaining status quo is a tactic for avoiding politically sensitive debate on power reallocation. Yet, the question remains open on the distinction of regulative powers among different state organs. However, the current situation will be an impediment to a timely and effective collaboration among different organs for dealing with some specific regulation matters. From the legal point of view, the answer to the question of whether or not China should have a basic law on space activities may be found in the constitutional law. The legislation promulgated in 2000 defines in Article 8 the subject matter which should be imperatively dealt with by laws adopted through formal legislative procedure. Space activities, despite their strategic nature, do not figure among those subject matters enumerated in items 1 to 9 by Article 8. However, space activities could be included in item 10 of the same article as "other matters on which the National People's Congress and its Standing Committee must enact laws", following a purposive and autonomous interpretation made by the National People's Congress (hereinafter NPC) and its Standing Committee themselves.[15] In other words, whether or not China shall adopt a formal space law depends on the NPC and its Standing Committee as they consider appropriate.

A more practical reason explaining China's restraint from adopting a formal and basic law on space activities lies in the fact that space exploration has been largely monopolized by state. Individuals and private entities have

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[15] Article 8 of the Law on legislation enumerates the following matters which shall be governed only by law: 1) matters concerning state sovereignty; 2) the formation, organization, functions and powers of people's congresses, people's governments, people's courts and people's procuratorates at various levels; 3) the national regional autonomy system, special administrative region system and grass-roots mass autonomy system; 4) crimes and punishments; 5) compulsory measures and penalties such as deprivation of citizens' political rights and restrictions on personal freedom; 6) acquisition of non-state-owned property; 7) the basic civil system; 8) basic economic system and basic systems on finance, taxation, customs, banking and foreign trade; 9) procedural and arbitral systems; and 10) other matters on which the National People's Congress and its Standing Committee must enact laws.

rarely invested in space operations except for a few state enterprises.[16] Moreover, there is a *de facto* administrative hierarchical relationship between state organs and state enterprises, which is not formally dealt with by law. As a result, using governmental regulations and measures to control space activities is more straightforward and cost-efficient, particularly where those state enterprises involved in space operations are often directly subordinate to different state organs. It is worth to point out that those who advocate drafting a basic law on space activities are more often than not space lawyers and officials who do not exercise the direct control of space operations.

The absence of formal and basic space law in China could also be interpreted from a technical point of view. China's space activities are making a very rapid progress in the past five years: *Shenzhou* manned spaceflight, Chang-e lunar probe mission, the prospective space station etc. Had China had already a formal law, the aforementioned space operations would not have been anticipated. The law would have become outdated and consequently, needed to be modified from time to time in order to fit actual needs. As a result, legal certainty, stability and predictability would not have been guaranteed with regard to the constant development of China's space capacity. Furthermore, some important achievements like manned space operations have been realized in the absence of any relevant administrative regulations. Space science and technology progress much faster than the law-making process. Taking into account China's accelerating space technology advancement, a formal and basic space law ideally aspired by space lawyers will probably be a visual decoration to China's space activity without any substantial utility, due to its general and inoperable characters. At the current

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16 China's space technology research, development and application are mainly concentrated into the hands of China Aerospace Science and Technology Corporation (CASC). CASC is a large state-owned enterprise group originating from the Fifth Academy of the Ministry of National Defense established on October 8, 1956 and experiencing the historic evolution of the Seventh Ministry of Machinery Industry, the Ministry of Space Industry, the Ministry of Aerospace Industry and China Aerospace Corporation. CASC was formally founded on July 1, 1999 with the approval of the State Council, as an institutional investor. It has eight large R&D and production entities, including such as China Great Wall Industry Corporation (GWIC), China Satellite Communications Corporation and other institutions and companies directly subordinated to it. Represented by its listed holding companies, CASC has a number of high- and new-tech enterprises dealing with research, development and production of the civilian products relating to satellite applications. More detailed information available at http://www.spacechina.com/english/home.shtml.

stage and in the foreseeable future, a model of subject-by-subject and space-targeted administrative regulation seems to be more appropriate to China's reality. Furthermore, China's past and present practices in regulating commercial aspects of space activities confirm the above point of view.

Although domestic law is essential to the regulation of commercial aspects of space activities, one can not negate the relevance of legal rules of the international trading system. As a matter of fact, both China and other space faring countries have resorted to trade restrictive measures to address concerns such as national security. Governmental regulations on commercial aspects of space activities are not only subject of domestic law but also that of international economic law. Trade restrictive measures are addressed by multilateral trade rules and, notably, the law of World Trade Organization (WTO). Since China's membership in 2001, the law of WTO may also have some implications on the measures taken for the restriction of trade relating to space activities, whether they are taken by China or are those China has suffered from. As far as international launch services are concerned, China is a competing actor with regard to Europe, Russia and U.S.A. Due to the fact that launch service is *per se* a trade in service and closely connected with export restrictions on satellites and other defense articles, governmental regulations on commercial launch service could fall into the scope of application of GATT, 1994 and GATS. As a result, the compliance with WTO rules may need to be taken into consideration. However, until now little attention has been paid to the issue in China.

III. LEGAL FRAMEWORK OF COMMERCIAL LAUNCH SERVICES

China entered into the international market of launch services towards the end of 1980s. The first agreement between China and the U.S. i.e., *Memorandum of Agreement between the Government of United States of America and the Government of the People's Republic of China regarding international trade in commercial launch services* (hereinafter referred to China-U.S. "M.o.A") was signed in 1989. It is until 2002 that China had an administrative regulation on civil satellite launching, i.e., *Interim Measures on the Administration of Licensing the Project of Launching Civil Space*

Objects (hereinafter referred to as "License Measures 2002"), adopted by former COSTIND. Inter-governmental agreements continue to be an important legal basis for realizing cooperation in the field of launch service and relevant space technology transactions. From 2001 to 2006, China has signed 16 international space cooperation agreements and memorandums with 13 countries, space agencies and international organizations[17], including for example the cooperation agreement between the government of the People's Republic of China and the European Space Agency concerning space cooperation for peaceful purpose signed in 2005. In addition to inter-governmental agreements, a series of commercial contracts on international launch services have been made by the Chinese launch service provider and foreigner users.[18] One can reasonably deduce that detailed legal issues relating to commercial launches are regulated by those bilateral inter-governmental agreements and commercial launch service contracts rather than by Chinese domestic law and regulations.

The U.S. China bilateral launch trade experiences demonstrate that political, economic and legal considerations have been taken by the U.S. in deciding whether or not China should be given the access to the U.S. launch service market.[19] With regard to economic considerations, much attention has been given to the impact of China's entry into international launch market on the U.S. domestic launch industry, particularly in terms of price competition between the foreign launch services provider and the U.S. domestic launch industry. For the U.S., as a dominant satellites producer, export control is a very effective legal instrument to prevent foreign launch services providers from entering into American domestic launch market for both economic and security considerations.[20] In accordance with the export control mechanism, U.S. companies contracting launch service to Chinese entities shall apply for licenses for the export of satellite and related defence articles listed in the U.S. Munitions List, which is necessary for the launch operation.

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17 *See* Information Office of China's State Council, *China's Space Activities in 2006* (2006).

18 For example, China Great Wall Industry Corporation has recently entered into bilateral launching agreements with Venezuela and Bolivia. More detailed information available at http://www.cnsa.gov.cn/n615708/n620172/n677078/n751578/167206.html,http://www.spacechina.com/xwzx_zyxw_Details.shtml?recno=65720.

19 H. PETER VAN FENAMA, THE INTERNATIONAL TRADE IN LAUNCH SERVICES 183-198 (1999).

20 The export of most satellites is covered by the Arms Export Control Act (AECA) and the accompanying International Traffic in Arms Regulations (ITAR). The manufacture or export of items included on the ITAR Munitions List must be registered with the Office for Defense Trade Control (ODTC). Most satellites are included within the coverage of the Munitions List because

The recalling of U.S.-China experiences is not irrelevant in analysing the legal framework of commercial launch services in spite of the downturn of U.S.-China launching trade relation in the past ten years. As a matter of fact, as China continues to enter into satellite launch service with France, Brazil and some other developing countries,[21] the legal framework of launch services between China and THE U.S. is a useful reference.

A. The Significance of Intergovernmental Agreements

China started to engage in the commercial launch services towards the end of 1980s and attracted American users with its low prices. At that time, commercialization of launch services was well underway and even encouraged in the U.S. Although the U.S. government will not re-enter the commercial launch industry, it is still required to protect domestic launch service providers. It was considered that some governmental involvement at the regulatory level is needed to prevent hyper-competition and unfair trade practices by foreign launchers.[22] Because liberalization of launch services trade also produced certain incidents of concern pertaining to the proliferation of what was considered by the U.S. as sensitive technology, economic space treaties were needed as a delicate attempt to balance the liberalization of trade in the space launch industry with the concerns of national security in space and the proliferation of weapons technology.[23]

As a condition for getting U.S. export licenses necessary to the launching services, U.S. and China have negotiated and concluded bilateral agreements

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they qualify as "inherently military". The export of items on the Munitions List is prohibited to certain countries, and export licenses are required for export to all other countries. Applications for export licenses under AECA are reviewed by the Department of Defense, as well as other interested agencies, and occasionally by the Coordinating Committee on Multilateral Export Controls (COCOM). Since commercial communications satellites are specifically excluded from AECA coverage, their export must be analyzed under the Export Administration Act of 1979 (EAA).

21 China Academy of Space Technology, *On the twentieth anniversary of China's entry into world launch service market (Zhongguo hangtian zoujin guoji shangye fashe fuwu shichang ershinian)*, http://www.cast.cn/CastCn/Show.asp?ArticleID=35101. *See also* José Monserrat Filho, *Brazilian-Chinese Space Cooperation: an Analysis* 13(2) SPACE POL'Y 153-170 (1997).

22 Timothy A. Brooks, *Regulating International Trade in Launch Services* 6 HIGH TECH. L.J. 59, 81 (1991).

23 Michel Bourbonniere, *National-Security Law in Outer Space: the Interface of Exploration and Security* 70 J. AIR L. & COM. 3, 30-31 (2005).

setting down the basic terms of China-U.S. launch services, which have expected to reassure the U.S. concern for fair trade. Moreover, the American satellite industry is as important as the launch industry, and to compete internationally, satellite makers believe that they must have access to all available launchers. Export controls is thus a double-bladed sword, it could protect the domestic launch industry and prevent the undesirable transfer of sensitive technology, while at the same time hurt the satellite industry. In other words, export control shall be exercised while balancing the different interests concerned. Intergovernmental arrangements are thus needed to achieve the purpose of reasonable export control.

The China-U.S. intergovernmental agreements laid down the legal foundation for launch service trade. On December 17, 1988, representatives of the China and U.S. governments signed two agreements, one on satellite technology safeguards, and the other on liability for satellite launches. On January 26, 1989, the two governments signed a Memorandum of Agreement Regarding International Trade in Commercial Launch Services. It was the last of the three agreements required by President Reagan's decision, announced on September 9, 1988, to issue export licenses for the use of Chinese space launch services for three U.S.-made communications satellites.[24] Two of the satellites were to be built by Hughes Aircraft for an Australian entity, AUSSAT, and the third, a Hughes-built satellite (formerly known as Westar 6 and salvaged from orbit by the space shuttle in November 1984), was to be overhauled for ASIASAT, a Hong Kong-based consortium composed of a United Kingdom, a Hong Kong and a People's Republic of China company.[25]

There are several reasons for the government's intervention in China-U.S. commercial launching trade. One of them is national security concerns covering the viability of the U.S. expendable launch industry to assure access to outer space for national defense purposes and the protection of sensitive U.S. technologies with potential military applications.[26] However, economic

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[24] For the texts of the three agreements, *see* 28 ILM 596 (1989). The agreements entered into force on March 16, 1989. The licenses were issued and the Government of the People's Republic of China was notified on the same day.

[25] Marian Nash Leich, *Commercial Launch Services: United States-People's Republic of China* 83 AM. J. INT'L L. 561, 561 (1989).

[26] *Supra* note 19, at 186.

considerations play as much of a role as security concerns, particularly technology safeguards. The first two China-U.S. agreements were respectively dedicated to the protection of U.S. interests in launch service industry and technology safeguards. Moreover, at the moment when China was admitted access to U.S. launch market, there was an important lacuna concerning China's legal liability as the launching state in case of different damages caused by the accident or failure of launching. A third intergovernmental agreement was thus concluded for filling the gaps.

However, immediately after the Tiananmen Square event, all licenses and approvals to export defense articles – covering all but telecommunication satellites, as well as satellite components – and defense services from U.S. to China were suspended.[27] The U.S. Congress has intended to prohibit the issuance of export license for launches in China because of political and economic reasons.[28] Despite the unfavourable political context, former President George H. W. Bush was able to avoid the scope of this prohibition in approving the launch AsiaSat on the Long March rocket through the use of a substantial national interest exception.[29]

On September 5, 1990, the Commercial Space Launch Policy was announced. It was influenced by a post-Cold War desire to ease national security considerations, and was intended to clarify and replace the *ad hoc* approval practice that had governed past license approvals. In a move to increase U.S. competitiveness in world launch provider markets, the Space Launch Policy sets a high priority for international trade negotiations regarding the space industry in view of concluding bilateral agreements that define principles of free and fair trade and make sure that those principles are both enforceable and enforced. Non-market launch providers including China and the ex-Soviet Union presented a special case for the implementation of free and fair trade in space goods and services. As a result, the Space Launch Policy recognized that special conditions might be required during a transition period for these economies so they might adjust their space launch services to a

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27 Department of State (Office of Munitions Control), *Suspension of Munitions Exports to P.R.C.* 54(108) FED. REGISTER (1989).

28 *See* Pub. L. No. 101-162, § 610, 103 Stat. 988.

29 *Supra* note 19, at 213.

market oriented price and cost structure. In furtherance of this goal, the U.S. would negotiate agreements which set forth a common approach to provide for the entry of non-market economy countries into the commercial launch services market.[30] This article's analysis will focus on the impact of the agreements on Chinese government and the latter's reaction, as well as the relevance of WTO rules on the bilateral arrangements in launch services trade.

B. Two Substantial Conditions on China's Access to International Commercial Launch Services Market: Price and Market Share Commitments

The 1989 China-U.S. Memorandum of Agreement concerning international trade in commercial launch services provides for two substantial obligations in respect to China's regulation on the supply of international launch services by its domestic companies. They are requirements on fair pricing and correlatively the prohibition of governmental inducements on one hand, and a limitation on market share on the other.

Insofar as pricing is concerned, Article I b (ii) of the Memorandum of Agreement provides that, "[t]he PRC shall require that its providers of commercial launch services offer and conclude any contracts to provide commercial launch services to international customers at prices, terms, and conditions which are on a par with those prices, terms, and conditions prevailing in the international market for comparable commercial launch services". As a result, the Chinese government should establish a license regime in order to control the price bid by domestic launch services providers. However, China did not have any formal licensing requirement on the launching of civil space object until the entry into force of *Interim Measures of the Administration of Licensing the Project of Launching Civil Space Objects* in 2002 (hereinafter Licensing Measure 2002), issued by the former State Commission of Science, Technology and Industry for

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30 David J. Kuckelman, *Regulation on Exports for Commercial Space Launch Outside the United States* 38 FED. B. NEWS & J. 135 (1991).

National Defense (COSTIND, replaced in 2008 by the newly established Ministry of Industry and Information Technology). The absence of a relevant administrative regulation could be explained by the fact that China did not need a formal administrative rule in order to implement its obligation under the China-U.S. 1989 Memorandum with regard to fair price. As a matter of fact, although the abovementioned Memorandum uses the plural form of "providers", only GWIC has been permitted by Chinese government to conclude international launch contracts.[31] Nevertheless, with the potential emerging of private international launch service providers, the Licensing Measure 2002 could become a substantial governmental control mechanism for ensuring the fair price as required by the China-U.S. Memorandum of Agreement. Article 5 (2) of the Licensing Measure 2002 provides for, as one of the conditions for obtaining license, that the launching project shall not endanger national security, cause damages to national interest and *be in conflict with State's foreign policies and international conventions that have already been concluded by China and entered into effect* (emphasis added by author). The latter could be interpreted in such a way that through licensing measures, the Chinese government could effectively examine and control the international launch projects undertaken by its domestic launch service providers with regard to China's obligations under international agreements, such as the China-U.S. Memorandum of Agreement.

The objective of issuing Licensing Measure 2002 is to demonstrate that Chinese government has the capacity to regulate international launch services in conformity with its obligations under international law. However, it remains controversial on the issue of whether China has the intention to honour its international engagements by enforcing relevant domestic law and regulations. From what has been observed, from the time that China attempted to enter into the commercial market in the late 1980s, the U.S. and Europe claimed that GWIC's launches received on-going subsidization; whereas China denied subsidizing its launch industry and attributed its bargain prices

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31 Zhou Wei, *International Space Law and Chinese Domestic Law and Policy on Commercial Launch Services (Lun guoji kongjianfa yu zhongguo guoji shangye weixing fashe fuwu de zhengce fagui)* AEROSPACE CHINA 13 (2004).

to the low costs of materials and labour.[32] Actually, the question whether or not GWIC has received subsidies from the Chinese government is difficult to assess in an objective manner, particularly due to the fact that different countries have different economic contexts, and the policies for supporting domestic industry are wide-ranging.[33] In addition, it is probably fruitless to attack GWIC on the ground that it received government subsidy. Proving the "actual cost" of GWIC launches would be extraordinarily difficult, artificial and as a result unlikely to be convincing. The better inquiry is to ask whether China has engaged in unfair pricing, designed to steal market share from western suppliers.[34] However, in the absence of any agreed verification mechanism, the debate on whether China has assumed its obligation in ensuring a fair launch services trade through price control is of economic rather than legal character. In the short term, it seems that the rejection of export licenses could be an effective solution in preventing foreign competition from harming domestic launch industry, but in the long run, the competitiveness of launch services providers will certainly become a key element that determines market share.

Besides price control, China has also undertaken to restrict its market share of international launch services trade. In accordance with the 1989 China-U.S. Memorandum of Agreement, "[i]n addition to meeting the needs of domestic Chinese satellite launches, its providers of commercial launch services are only able to offer a limited number of communications satellite launches each year for international customers. Chinese launch services, therefore, are only a supplement to the world market, providing international customers with a new option", "(i) PRC providers of commercial launch services shall not launch more than 9 communications satellites for international customers (including the two AUSSAT and one ASIASAT satellites) during the period of this Agreement, and (ii) The PRC shall require that any commitments to provide commercial launch services to international

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32 *See* Ling Yan, *Some Legal Problems of China's Commercial Launch of Satellite (Zhongguo shangye fashe weixing zhong de ruogan falv wenti)* 3 J. FOREIGN AFFAIRS COLLEGE (WAIJIAO XUEYUAN XUEBAO) (1992).

33 Bill C. Lai, *National Subsidies in the International Commercial Launch Market* 9(1) SPACE POL'Y 17-34 (1993).

34 Jon C. Garcia, *Heaven or Hell: the Future of the United States Launch Services Industry* 7 HARV. J. L. & TECH. 333, 357 (1994).

customers by PRC launch service providers are proportionately distributed over the period of the Agreement". The limitation on China's market share, as well as the distribution of its market share, are far more stringent than the price control, considering that market share commitment is more enforceable and the result of which is more predictable than in the case of price control. Controversies could arise in assessing whether or not the Chinese contractors' price policy conforms to the intergovernmental agreement; by contrast, China's performance in market share restriction could be evaluated in a more objective way. As a result, the market share commitment made by Chinese government can help the U.S. government to more effectively and efficiently protect its domestic launch industry, when compared with price control. By its very nature, market share commitment doesn't differ substantially from the quantitative restrictions, such as export quotas in the case of trade in goods. It directly restricts the expansion of China's capacity in providing international launch services. Despite that, market share commitment is not a mutual benefit arrangement and only favours the U.S. and its launch services provides, China had to accept it as a "price" in exchange for the issuance of export licenses by U.S. government, which was a prerequisite of entry into the international launch service market.

The market share arrangement made in China-U.S. Memorandum of Agreement reveals the disequilibrium between service provider and buyer in the international launch trade market. Launch services buyers – mostly satellite owners – occupy a relatively monopolistic position with larger margin of negotiation on terms of transaction than launch services providers. In fact, China suffers because of the launch market which is controlled by the dual-oligarch of America and Europe.[35] After very hard negotiations, a new agreement was concluded between Chinese and U.S. governments in 1995. This new agreement raised China's market share from the launching of 9 communication satellites to 11 satellites (not limited to communications satellites) within a 7 years' period.[36] The 1995 agreement has expired at the end of 2001. In order to renew the agreement and augment the market share,

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35 Mi Jia-ning et al., *China's Aerospace Technology for Entering International Business Launch Market (Jinru guoji fashe shichang de woguo hangtian jishu)* 22(6) STUDIES IN DIALECTICS OF NATURE (ZIRAN BIANZHENGFA YANJIU) 67-71 (2006).

36 The 1995 Memorandum of Agreement, http://www.nti.org/db/China/engdocs/splaagre_1995.htm.

several rounds of negotiations have been held. Although commercial launch services cooperation should be enhanced for purpose of avoiding an arms race between the U.S. and China, as some authors have advocated,[37] the negotiations have not made any substantial progress so far.[38] Currently, there is no longer any bilateral agreement in force dealing with launch service trade. That is also one of the drawbacks that make the launch business stagnant between China and the U.S.

C. The Relevance of WTO Law

Since space launch services, as well as commercial telecommunications (including those provided by satellite), remote sensing, space-based navigational aids are "services", they fall under the scope of application of General Agreement on Trade in Services (GATS). Following the above analysis, the cornerstone principle of most-favoured-nation treatment will govern the commercial launch services. The two conditional legal obligations provided by the GATS, i.e., market access and national treatment are applicable insofar as no option-out has ever been made in WTO members' schedules of commitments. Furthermore, on February 5, 1998, the WTO's Fourth Protocol to the GATS for Basic Telecommunications Services took effect, requiring signatories to open their telecommunications markets to foreign competition. That is seen as a legal document relevant to space activities, particularly the launch of telecommunication satellites.[39]

On the other hand, government subsidies for the development of launch vehicles and satellites are subjected to the GATT that addresses

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37 Theresa Hitchens et al., *Forging a Sino-US 'Grand Bargain' in Space Policy* 24(3) SPACE POL'Y 128-131 (2008).

38 On March 19-20, 2001, the United States and China conducted consultations under the "Memorandum of Agreement between the Governments of the United States and the People's Republic of China Regarding International Trade in Commercial Launch Services." This was the first bilateral consultation since the two sides met in Washington, D.C. in 1997. Since then, no formal consultation has ever been made between the two sides, and China and U.S. launch services trade seems to be at standstill. *See* report made by China National Space Administration (CNSA), *Bilateral Consultations on Commercial Launch Service Agreement*, http://www.cnsa.gov.cn/n615708/n620172/n677078/n751579/64888.html.

39 Major Elizabeth Seebode Waldrop, *Integration of Military and Civilian Space Assets: Legal and National Security Implications* 55 A.F. L. REV. 157, 186 (2004).

trade in goods;[40] and the export controls fall into the security exceptions provided by Article XXI of GATT 1994 and Article XIVbis of GATS. However, recalling the negotiation history of the GATS, one may find that the American lack of enthusiasm for the WTO forum was apparently rooted in its preference for bilateral negotiations. From the U.S. perspective, it makes sense to pursue bilateral deals and then try to "multilateralize" any agreements reached. Moreover, the comparative ease of achieving bilateral accords and their comparative efficacy in these circumstances are also likely enticements. The U.S. reticence in including launch services into GATS is due to the fact that the U.S. space industry is intent on protecting "buy American" provisions and other procurement restrictions favourable to the U.S. suppliers from foreign attack.[41]

Integrating launch services into GATS is certainly beneficial to China as an emerging launch services providers in terms of getting market access and non-discrimination treatments. This is true especially with regard to the past U.S. bilateral agreements which imposed important restrictions on the Chinese side. For example, although U.S. government has promised that it "does not provide government inducements of any kind in connection with the provision of commercial launch services to international customers which would create discrimination against launch service providers of other nations and has no intention of providing such inducements in the future",[42] there is in fact a major distinction between Russian Federation's and Chinese launch providers. The Chinese launch industry remains relatively isolated and offers a limited capability in launch vehicles. In contrast, the Russian Federation's participation in the launch services market is highlighted by international joint ventures, in particular Ukraine's joint venture with Boeing Aerospace, and a wider variety of space launch services.[43] It means that discrimination cannot be effectively fought against without a viable multilateral launch services trade system. GATS can be a useful instrument in keeping the world launch services

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40 Anders Hansson et al., *Commercial Space and International Trade Rules: An Assessment of the WTO's Influence on the Sector* 15 SPACE POL'Y 199, 201 (1999).

41 *Supra* note 34, at 361.

42 *See* art. II (C) of the 1995 China-U.S. Memorandum of Agreement.

43 James L. Reed, *The Commercial Space Launch Market and Bilateral Trade Agreements in Space Launch Services* 13 AM. U. INT'L L. REV. 157, 361 (1997).

market in order. In fact, the major concerns of fair competition addressed by bilateral agreement, such as the disciplines on government support, the on par price and non-discrimination requirements are substantially in line with GATS principles. However, China-U.S. bilateral agreements have totally excluded those issues from being compatible with GATS principles.

Moreover, China-U.S. bilateral agreements' impact goes far beyond bilateral launch trade relations: through the definition of "international customers" as "(a) any institution or business entity, other than those institutions or entities located within the territory of the PRC and owned or controlled by PRC nationals; or (b) any government other than that of the PRC; or (c) any international organization or quasi-governmental consortium; which is the ultimate owner or operator of a satellite or which will deliver the satellite to such ultimate owner or operator",[44] China was required to respect its price control and market share engagements towards all "foreign", instead of only American customers. In other words, China's obligations under China-U.S. bilateral agreement had worldwide implications. As a result, GATS is substantially marginalised in the international launch services trade between China and U.S. The very risk of such an arrangement lays in the fact that trade distortions could not be effectively avoided, and disguised protectionism could have prevailed in the name of protecting fair competition.

China's accession to WTO has not led to the renewal of China-U.S. bilateral agreements on commercial launch services. There are several reasons that can explain the situation. First of all, China-U.S. launch services trade has been suspended since the last launch of an American satellite by GWIC in 1999. It seems that Sino-American trade in launch services has become relatively less important to Chinese contractors at current stage. Furthermore, China is not yet a launch provider having full capacity to compete with U.S.A., Europe and Russia in the launch market.[45] Only in the long term will a fair legal regime on commercial launch services become more and more necessary to China. Secondly, launch services trade as a

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44 *See* art. 3 of the Annexe to the 1989 China-U.S. Memorandum of Agreement.

45 *See* Zhou Wei, *General Analysis on the 2009 World Market of Commercial Communication Satellites and Launch Services (2009 nian shangye tongxin weixing he fashe shicha zongshu)* AEROSPACE CHINA 21 (2010).

whole is not part of the priorities of China's foreign economic relations. The China-U.S. bilateral agreements did not amount to a major impediment to China's commercial space activities. The stagnation of China-U.S launch services trade relations has not prevented China from seeking potential customers from elsewhere other than U.S. Since 1999, China has turned to other space faring countries such as France and Brazil to engage in launching activities and other business transactions relating to space exploration.[46] Thirdly, "in-orbit" transfer of satellite to foreign customers, particularly customers of developing countries, has become a new orientation of China's commercial space activities.[47] Launch services would be combined with the export of the "made-in-China" satellites. For example, in accordance with the agreement between China Great Wall Industry Corporation and Bolivian Astronautic Agency, the former will deliver to the latter an in-orbit telecommunication satellite and ground apparatus. The project involves design, manufacture, launching and functioning of the envisaged telecommunication satellite.[48] Commercial launching service is covered by a wider legal framework governing the two inseparable segments of space operation, i.e., satellite launching and in-orbit transfer of satellite. Elaborating an independent legal document on launch service is practically less useful than ever. Lastly, WTO law contains flexible rules permitting its members to adopt restrictive measures as exceptions to the fundamental principles of market access and non-discrimination. Article XIVbis of GATS provides for the security exceptions according to which any Member could take "any action which it considers necessary for the protection of its essential security interests: (i) relating to the supply of services as carried out directly or indirectly for the purpose of provisioning a military establishment; (…)". The language of this provision is virtually identical

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46 For example, in November 2004, GWIC signed a satellite export contract with a Nigerian company for developing and launching a communication satellite. In April 2005, GWIC successfully provided launch service for APT Satellite Holdings Limited, Hong Kong to put the French-made satellite APStar6 into preset orbit. *See* Suo A-di, *Commercial Launch: China Makes Big Steps into World Stage (Shangye fashe: zhongguo dabu zouxiang shijie)* CHINA SPACE NEWS (ZHONGGUO HANGTIAN BAO) 2 (December 16, 2008).

47 *See* Zhang Hui-ting, *Analysis on the Strategies for China's Launch Industry's Expansion in the World Market (Zhongguo hangtian fasheye kaituo guoji shichang duice fenxi)* AEROSPACE CHINA 7 (2005).

48 *Supra* note 18.

to Article XXI of the GATT 1994. Unlike Article XX of the GATT 1994, Article XXI does not have a provision to prevent misuse or abuse of the exception contained therein. Furthermore, in view of the provision's wording, the question arises whether the exceptions provided for are "justiciable". In other words, the expression "any action which *it considers necessary* for the protection of its essential security interests" gives a Member very broad discretion to take national security measures.[49] Some authors have challenged the compatibility of U.S. export controls with GATT rules,[50] but export license could be safely maintained by the consumers' State in order to protect its domestic launch industry, except that panels and Appellate Body could conduct an examination at a minimum as to whether the measure constitute an apparent abuse. In fact, WTO dispute settlement practice has rarely addressed that issue.

With regard to WTO law, a fair, effective and legally binding multilateral trade regime on launch services has not yet been fully established. The negative impact of such a legal vacuum is, however, "offset" by the relatively less advanced commercial launches practiced by Chinese contractors. However, in the long run, with the increase of China's commercial launch capacity and consequently the shift of market shares, the current legal framework of commercial launch services will be changed.

IV. MISSILES EXPORT CONTROL MEASURES AND THEIR IMPLEMENTATION

Export controls have addressed space activities since the inception of the space age. Born contemporaneous to the atomic bomb, space and security are inextricably intertwined. The supervision requirement was created to assure that all national activities will be conducted in the spirit of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (hereinafter Outer Space Treaty). Export controls are a natural extension of this philosophy

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49 PETER VAN DEN BOSSCHE, THE LAW AND POLICY OF THE WORLD TRADE ORGANIZATION: TEXT, CASES AND MATERIALS 666 (2nd ed., 2008).

50 Michael Gaugh, *GATT Article XXI and U.S. Export Controls: the Invalidity of Nonessential Non-Proliferation Control* 8 N.Y. INT'L L. REV. 51 (1995).

as responsible space faring governments provide assurances that their national space capabilities will not be extended to irresponsible ones.[51]

Due to the similarity in functional principle between ballistic missiles and space launch vehicles, missiles export control is an integral part of national space law and foreign trade law. Beyond national laws, the prevention and curbing of the proliferation of ballistic missile systems capable of delivering weapons of mass destruction are now the well-established international practices, as required by Missile Technology Control Regime (hereinafter MTCR) and International Code of Conduct against Ballistic Missile Proliferation (hereinafter HCOC). Although not being a member of either MTCR or HCOC until now, China affirms that its non-proliferation mechanism has been brought in line with the international practice, by taking China's national conditions into consideration.[52] On the other hand, China has long been influenced by export control exercised by certain foreign countries, particularly the U.S. and there are constant efforts by Chinese authority in fighting against unjustified export control for its own interest.[53]

Obviously, export control of missiles and missile technologies is not a simple trade issue but a highly political one. President Obama's recent move in loosening missile technology export to China has raised concerns that China's missile capacity's increase will bring harm to American's interests in national security.[54] Taking into consideration the current global political context, it is in China's own interest that a transparent, reliable and operational legal framework should be fully established, in order to regulate China's trade activities in accordance with the wide-accepted international practices. In fact, China has demonstrated its policy orientation in conforming to international non-proliferation practices: it has officially submitted its

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51 Major Ronald L. Spencer, Jr., *State Supervision of Space Activity* 63 A.F. L. REV. 75, 89-90 (2009).

52 Hu Qian, *Chinese Practice in Public International Law: 2002* 2 CHINESE J. INT'L L. 667, 675 (2003).

53 When U.S. President Obama visited Beijing in November 2009, Chinese Prime Minister Wen Jiabao addressed that the adjustment of American export control regime will beneficial to both sides and hoped Obama to take concrete measure in this regard. *See* Ou Ye, *Wen Jiabao: Hoping U.S. to Modify Their Export Policy to China (Wen Jiabao: xiwang meiguo gaibian duihua chukou zhengce)* XINHUA'S NEWS REPORT (November 19, 2009), http://www.chinadaily.com.cn/hqcj/2009-11/19/content_9001604.htm.

54 Bill Gertz, *Exclusive: Obama Loosens Missiles Technology Control to China* THE WASHINGTON TIMES (October 15, 2009), http://www.washingtontimes.com/news/2009/oct/15/inside-the-ring-2059116.

application for membership of the MTCR and engaged in dialogues with the Wassenaar Arrangement.[55] Despite China's promising and cooperative approach, there are still doubts about China's missiles export control measures compliance with international standards. The question relates not only to the details of the regulatory measures but also to their implementation in the practice.

A. China's Export Control Regime

China's Foreign Trade Law, revised in 2004, lays down the legal basis of the export control regime concerning arms and defense articles by Article 17, according to which the state may, for the purpose of defending state security, take any necessary measures for managing the import and export of any nuclear materials, weapon, ammunition, or any other military supply. Moreover, when in war or for keeping international peace and security, the state may take any necessary measures in terms of the import or export of goods or technology. More details about export control regime could be found in relevant state policies, the State Council's decisions and orders as well as a multitude of internal management rules and regulations issued by state authorities. As far as missiles export is concerned, military space legislation plays a more important role, given that Chinese space legislation can be divided into civilian and military space legislation.[56]

Firstly, the Regulations of People's Republic of China on the Administration of Arms Export (hereinafter Arms Export Regulations 2002), jointly promulgated by the State Council and the Central Military Commission on October 22, 1997 and entered into force on January 1, 1998 and amended on October 15, 2002, are the legal text of general nature on arms control. The Arms Export Regulations define arms export as export for trade of equipment, special production facilities and other materials, technology and related services which are used for military purposes.[57] In the year of 2002, the former COSTIND (replaced by the Ministry of Industry and Information Technology

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55 State Council Information Office of the P.R.C., *China's Endeavors for Arms Control, Disarmament and Non-proliferation* (September 1, 2005), http://www.fmprc.gov.cn/eng/zxxx/t209613.htm.

56 *Supra* note 12, at 102.

57 Arms Export Regulations, art. 2.

from July 2008) and the People's Liberation Army General Armament Department (hereinafter General Armament Department) jointly published the Arms Export Administration List which includes rockets, missiles, military satellite and their subsidiary equipments.[58] Two important mechanisms are established by the Arms Export Regulations for realising its objectives: the governmental approval on arms trade company's export right and arms export license. As a result, without special approval given by arms export department of the State – in fact, the power is jointly exercised by the former COSTIND and the General Armament Department – no company could engage in arms export.[59] Export license aims at supervising and controlling arms export on a case-to-case basis:[60] even the arms trade companies having been conferred trade right through governmental approval shall still apply for export license on every export project. However, the Arms Export Regulations 2002 do not make clear the conditions under which export licenses shall be issued.

Secondly, on August 22, 2002, the State Council promulgated the Regulations of the People's Republic of China on Export Control of Missiles and Missile-Related Items (hereinafter Missiles Export Control Regulations 2002) and Technologies and the corresponding Export Control List of the Missile and Missile-Related Items and Technologies (hereinafter Missiles Control List). The scope of application of the Missiles Export Control Regulations 2002 is restricted to the export for trade of missiles and missile-related equipment, materials and technologies listed in Missiles Control List, and the gift to, exhibition in, scientific and technological cooperation with, assistance to, provision of service for as such and other forms of technological transfer thereof to foreign countries and regions.[61]

The Missiles Control List is divided into two parts. Part I includes missiles and other delivery systems (including ballistic missiles, cruise missiles, rockets and unmanned air vehicles) as well as their specially designed items and technologies. Item 1 of Part I defines the scope of missiles that are subjected to export control, which includes complete ballistic missiles, space

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58 *See* Missiles and Missile-related Items and Technologies Export Control List, Part VIII.

59 Arms Export Regulations, art. 8.

60 Arms Export Regulations, art. 13.

61 Missiles Export Control Regulations 2002, art. 2.

launch vehicles, sounding rockets, cruise missile and unmanned air vehicles that can be used to deliver at least a 500 kg payload to a range of at least 300 km as well as the specially designed production facilities therefore. Part II of the Missiles Export Control List includes items and technologies related to Item 1 of Part II. The Missiles Export Control Regulations 2002 distinguishes missiles and missiles-related items and technologies of military purpose from other missiles, missiles-related items and technologies with regard to the application of export license. Missiles and missiles-related items and technologies of military purpose shall still be subjected to Arms Export Regulations 2002, consequently, the export licenses of which could only be issued by former COSTIND (now the Ministry of Industry and Information Technology) and General Armament Department; by contrast, the export of missiles, missiles-related items and technologies other than of military purpose is governed by the Missiles Export Control Regulations 2002,[62] the Article 10 of which provides that competent department of the State Council on foreign economic and trade affairs, i.e., the Ministry of Commerce, receives the applications for export license and decides whether or not to issue such licenses.[63] In other words, the missiles export licenses are governed by different state organs depending on the military or non-military nature of the missiles to be exported. Furthermore, there is an important difference between the Arms Export Regulations 2002 and the Missiles Export Control Regulations 2002 with regard to the "control" of exporters: Arms Export Regulations 2002 provides for governmental approval on trade right in arms export, while the Missiles Export Control Regulations 2002 requires a registration procedure,[64] according to which exporters shall register themselves with the Ministry of Commerce and without such registration, no unit or individual shall export missile-related items and technologies.[65]

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62 Missiles Export Control Regulations 2002, art. 5.

63 For detailed provisions on the issuance of export licenses, see, Administrative Measures for the General License for the Export of Duel-purpose Items and Technologies, adopted jointly by the MOFCOM and the General Administration of Custom of the People's Republic of China on December 31, 2005 and entered into force on January 1, 2006.

64 Detailed provisions on the registration procedure are contained in the Measures of the People's Republic of China for the Administration of the Export Registration of Sensitive Items and Technologies, Order No.35, issued by the former MOFTEC (replaced by MOFCOM in 2003) on November 11, 2002.

65 Missiles Export Control Regulations 2002, art. 7.

It is worth pointing out that under Chinese law, governmental approval is much stricter than registration, given that competent government organs exercise a discretionary power in deciding whether or not to give approval when examining the substantial conditions to be met by exporters concerned, while registration is simply a procedural requirement. One may deduce that missiles and related items and technology of non-military purposes would be easier to be exported than those of military purposes. Nevertheless, it shall be emphasized that both Arms Export Regulations 2002 and Missiles Export Control Regulations 2002 require competent governmental organs for issuing export license to refer export license application to State Council and Central Military Commission who will make special authorizations thereon, where the export entails important impacts on national security and social and public interests.[66] Therefore, the strictness of governmental control over missiles and missiles-related items and technologies is variable in different situations. Another difference between Arms Export Regulations 2002 and Missiles Export Control Regulations 2002 lies in the fact that individuals are not permitted to engage in arms export,[67] whereas such prohibition does not appear in the Missiles Export Control Regulations 2002 as far as the export of missiles, missiles-related items and technologies of non-military purposes is concerned.

In 2006, China made an important reform which unifies the existing export licenses regimes through the promulgation of Regulatory Measures on the Import and Export Licenses of Dual-usage Items and Technologies (hereinafter Dual-usage Items and Technologies Licenses Measures 2006) and its annexure, the Import and Export Licenses of Dual-usage Items and Technologies List. As a matter of fact, import and export license requirement are separately provided for by a multiple of administrative regulations, including the Regulations on Nuclear Export Control promulgated by the State Council in 1997 and amended in 2006; Regulations on Export Control of Dual-Use Nuclear Goods and Related Technologies promulgated by the State Council in 1998 and amended in 2007; Regulations on Export Control of Dual-use Biological Agents and Related Equipment and Technologies promulgated by the State Council in 2002; Regulations on Monitored and Controlled Chemicals promulgated by the State

66 Arms Export Regulations 2002, art. 16; Missiles Export Control Regulations 2002, art. 11.

67 Arms Export Regulations 2002, art. 20.

Council in 1995; Regulations for Administration of Precursors and Chemicals used in Production of Narcotic Drugs and Psychotropic Substances promulgated by the State Council in 2005; Measures on Export Control of Certain Chemicals and Related Equipment and Technologies jointly issued by Ministry of Foreign Trade and Economic Cooperation (the now Ministry of Commerce), the former State Economic and Trade Commission (dissolved in 2003 by decision of State Council) and the General Administration of Custom in 2002; and the Missiles Export Control Regulations 2002. The Dual-usage Items and Technologies Licenses Measures 2006 integrates all the abovementioned import and export licenses regimes into one single official document, while clarifying that the MOFCOM is the competent governmental organ in dealing with license issues, which include the making of relevant administrative rules and measures, the supervision and control over the enforcement of those administrative rules and measures, as well as the punishment of violations.[68] As one of the conditions for the issuance of licenses, the Dual-usage Items and Technologies Licenses Measures 2006 requires that prior to the submission of application for license, an applicant shall have already obtained authorization on its import or export project from the competent government organ to which the applicant is subordinate.[69] As a consequence, the MOFCOM will restrict itself in effectuating a formal examination when deciding whether or not to issue the license, because the substantial control over import or export is exercised by competent governmental organs through authorization procedure. In one way or another, the Dual-usage Items and Technologies Licenses Measures 2006 do not aim to bring a substantial change to the current export control regimes, including that of the missiles and related items and technologies. However, from a procedural point of view, they do help to make the import and export transactions more transparent than ever.

B. Is China's Export Control Conform to International Non-Proliferation Practices?

Chinese government considers non-proliferation export control as one of the issues relating to its efforts in arms control, disarmament and non-proliferation. It argues that China's legislation on export control widely

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68 Dual-usage Items and Technologies Licenses Measures 2006, art. 3.

69 Dual-usage Items and Technologies Licenses Measures 2006, art. 11.

embraces such international practices as licensing system, end-user and end-use certification, list control and "catch-all" provisions; all regulations spell out in detail the penalty measures for illegal exports. Moreover, the scope of control of the aforementioned regulations is basically identical with international practices. Particularly, China's missile list also by and large conforms with the annex to the MTCR.[70] However, there are different opinions on the conformity of China's export control regime to international non-proliferation practices. For example, some authors have identified a few potentially significant omissions and differences with the MTCR Annex text.[71] This article will not give comments on it, considering that the issue involves practically more technical than legal problems. Nevertheless, there is no doubt that the effectiveness of the regulations and control list in preventing proliferation of ballistic missiles and missile technology will ultimately depend on enforcement for every export and potential export country.[72] Probably, more divergences would arise on the question of whether or not China has faithfully enforced its missile export control measures in assessing its compliance with international standards.

The compliance assessment will be hard to be made. In absence of an operable international regime under which Member States' performance is assessed in an objective manner, the effective enforcement of domestic regulations on missiles and missile technology export relies mainly on goodwill and cost and benefit considerations of each sovereign state. China could not be an exception to that "common practice". However, China's particular status as a rising powerful state makes its approach and behaviour in the field of export control especially sensitive to the international community's security concern. For example, in order to demonstrate its determination in rigorously reinforcing the domestic export control regime, China has indicated that the Chinese government has dealt with scores of

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70 *Supra* note 55.

71 *See* Phillip Saunders, *Preliminary Analysis of Chinese Missile Technology Export Control List* (September 6, 2002), http://cns.miis.edu/programs/eanp/pdfs/prc_msl.pdf.

72 *See* Jonathan E. Davis, *Export Controls in the People's Republic of China* Athens, GA: Center for International Trade and Security, The University of Georgia (2005). Cited from: Jing-dong Yuan, Testimony before the USCC (July 12, 2007), http://www.uscc.gov/pressreleases/2007/testimony/Yuan.pdf.

cases of various types concerning illegal export of sensitive items and technologies since the end of 2002, that competent authorities have put the companies involved in these cases on a "watch list" so as to prevent the recurrence of similar activities.[73]

Despite that announcement, U.S. policymakers have often voiced worry over China's transfers of missile components and related technology to nations of concern, most notably to Iran, and Pakistan. Although China has expressed its intention in joining the MTCR, a number of MTCR member states, most notably the U.S., has blocked China's entry into the suppliers regime. Washington's hesitation to admit China to the MTCR stems from anxiety about Beijing's unwillingness or inability to fully enforce their domestic laws. Between 2002 and 2007, the U.S. State Department issued sanctions on numerous Chinese companies on over a dozen occasions. Although few details are publicly released as to the nature of the transfer that was the impetus of the punishment, a number of the sanctions were reportedly brought about by alleged transfers of missile-related items to Iran.[74] The above fact shows that China's enforcement of its regulations on export control is a crucial aspect in evaluating the conformity issue.

Some optimist opinions argue that even if China has not yet formally taken part in international non-proliferation regimes, it practically adheres to the principle of non-proliferation through domestic measures.[75] It is true that China shows respect to non-proliferation as a principle. However, no state can claim that its legal regime on export control and non-proliferation is perfect. If China wants to further the implementation of its commitments, a closer analysis on the details of its governmental regulations would be preferable for rendering China's law enforcement measures even more compatible with international practices, which can in turn enhance China's status as a trustworthy and responsible big power. In this regard, some elements of the current legal arrangements are worthy of attention. For

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73 *Supra* note 54.

74 NTI, "China Profile: Missile Overview", http://www.nti.org/e_research/profiles/China/Missile/index.html.

75 *See e.g.* Wang Wei, *Effects of International Institutions on Non-member States (Guoji zhidu dui feichengyuanguo de zuoyong)* 8 INT'L REV. (GUOJI GUANCHA) 70-72 (2009).

example, the export license requirement seems to play a pivotal role in export control; however, the mechanism through which export license is issued has some serious problems that cannot be neglected. Firstly, Article 5 of the Dual-usage Items and Technologies Licenses Measures 2006 establishes in fact a localised export license issuance system by conferring the decision-making power over the issuance of export licenses on the Bureau of license subordinated to the MOFCOM and the license agencies of provincial level. Correspondingly, the MOFCOM performs the function of supervising, guiding and eventually punishing violations relating to export license measures. In other words, the MOFCOM rarely exercises a direct control over missiles and missile technology export. Secondly, application for export licenses is based on the exporter's initiative, i.e., only when exporters are aware or shall be aware of the risk of its merchandises for export shall they apply for licenses. Following the above arrangements, the customs department becomes practically the "last line of defense" in preventing regulated items from being exported. Among the state organs in charge of export control, the General Administration of Customs is responsible for supervision and control of the export of the items and technologies under regulation, and it also participates in investigating and handling cases of illegal exports. Customs has the authority to question whether the items from exporters are sensitive items and technologies, and to request the exporters to follow regulations and apply to competent government departments either for export license or for relevant certificates to show that the exports are not controlled items.[76]

To a large extent, the effectiveness of export licensing in controlling the missiles and missile technology export depends not only on the law enforcement capacity of Chinese Customs, but also on exporters' legal consciousness, which is difficult to manage in a predictable manner – especially when the Missiles and Missile-related Items and Technologies Export Control List itself needs to be frequently interpreted due to fast technological development. Chinese government confessed that it had made efforts in raising exporters' consciousness on non-proliferation through special education and training programmes, considering self-discipline as important as

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[76] Dual-usage Items and Technologies Licenses Measures 2006, art. 9.

governmental intervention in order to effectively implement its export control regulations.[77] Furthermore, Article 11 of the Dual-usage Items and Technologies Licenses Measures 2006 provides that exporters shall have obtained approval of competent governmental agencies to which they are subordinated, before submitting its application for export license. It means that governmental approval is a prerequisite to the issuance of export license. As far as missiles and missile technology is concerned, governmental approval shall be given by the Ministry of Industry and Information Technology. In putting up governmental approval as a prerequisite to the issuance of export license, the Dual-usage Items and Technologies Licenses Measures 2006 subject export to governmental approval instead of license requirement. In other words, once export has been approved by the competent government agency, the MOFCOM and its subordinate organs have little power to refuse the issuance of a license. In other words, governmental approval plays more or less a "valve" role on export, while export license formally endorses the approval decision. It is hard to say that export license mechanism could have any substantial contribution to effectuate China's engagements in non-proliferation. As a matter of fact, the effectiveness of export control on missiles and missile technologies depends on governmental approval instead of export license.

Given the importance of governmental approval with regard to export license, effective export control is closely linked to the question of whether or not governmental approval is governed by any transparent and operational legal rules, which conform to international practices. The answer is however in the negative. In fact, the existing administrative regulations and measures relating to export control say almost nothing on the precise conditions under which competent government agencies shall or shall not give approval in concrete cases. As a result, competent agencies enjoy a large margin of appreciation in approving export applications. Due to its discretionary character, the governmental approval mechanism lacks transparency and predictability in the eyes of export applicant. The opacity of the conditions on governmental approval can be partially explained by the export's political implications. A government agency shall pay due attention to the political impact of the export to be approved. Correlatively, governmental approval involves more political than legal issues. That is particularly true of the missiles

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77 The Ministry of Foreign Affairs of the P.R.C., *China's Foreign Affairs 2009* 294 (2009).

and missile technology export which is always a sensitive element in China's foreign relations.[78] There is a long and unveiled tradition of China's law-makers in adopting general legal norms which permit political considerations to be appropriately and sufficiently taken into account by executive bodies in the law implementation stage. Regulatory measures on missiles and missile technologies export control reflect the same approach. It is hard to verify, from the mere written rules, whether or not the competent government agency has fully enforced the regulatory measures in accordance with international standards of non-proliferation. It seems that China's compliance issues would continue to be rhetoric in the long run. However, some exterior elements beyond written rules have some more important influence on China's performance in honouring its engagements of non-proliferation.

C. Exterior Constraints Influencing China's Performance in Non-Proliferation

By exterior constraints, the authors of this article mean the political and legal elements beyond China's domestic law that could make China further implement its own regulations. In this regard, China could be driven by "informal sanctions" such as moral peer pressure and other forms of political lobbies to strengthen the enforcement of its domestic law and regulations in order to assure stricter compliance with international practices[79]. Compared with moral and political elements, economic considerations play a rather practical function in driving China to comply with international standards. The China-U.S. launch service trade experience shows that security concerns for non-proliferation were one of the major impediments to the market access by Chinese launch service providers.[80] Although some contending opinions

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78 A recent example of the political repercussion of missile export is linked to the Pakistan's experiment in ballistic missile. Some commentators argued China had contributed to Pakistan's missiles development. China's official internet media Xinhua has reported the event. The news report titled in Chinese *The U.S. Claims that Pakistan's Experimented Ballistic Missiles are Re-Constructed on Chinese Dong-feng Series Missiles*, http://news.xinhuanet.com/mil/2010-05/13/content_13483009.htm.

79 *See e.g.* Robert C. Bird, *Procedural Challenges to Environmental Regulation of Space Debris* 40 AM. BUS. L.J. 635, 648 (2003).

80 *See* Shirley A. Kan, *China: Possible Missile Technology Transfers from U.S. Satellite Export Policy –Action and Chronology* CONGRESSIONAL RESEARCH SERVICE REPORT FOR CONGRESS (September 5, 2001), http://www.fas.org/spp/starwars/crs/98-485.pdf.

insist that the implementation of MTCR by U.S. violates the Outer Space Treaty by defying free access to outer space and introducing discriminatory treatment between space faring and non space faring countries;[81] China has nonetheless never insisted on the contending position. It is also important to point out that the U.S. has a long term objective in harmonizing China's export system with existing multilateral export control regimes and has been finding ways to enhance the Chinese government's ability to implement its existing export control regulations.[82] In some cases, the U.S. efforts could have produced some direct or indirect impact on China, in view of conducing to stricter compliance with international non-proliferation standards. For example, the U.S. has successfully persuaded Korea to cancel its launch contract with China in 2001, advising that China is not a member of the MTCR.[83] With more and more cases, arise issues about security concerns becoming a constraint on China's foreign economic relations' development – i.e., when China's import and export is hindered for security reasons,[84] Chinese government will be more motivated to implement its own non-proliferation regulatory measures in order to reassure the international community. Furthermore, China's expanding influence on regional level through the founding and functioning of Asia Pacific Space Cooperation Organization (APSCO) in 2005 will raise concerns in the international community over China's role within the organization, the peaceful purpose of its activities being reaffirmed ever since.[85] Similarly, China's performance in non-proliferation will also have important implications on the realization of its ambition as a leading member of the APSCO.

Although China shows willingness to bring itself closer to international practices of non-proliferation for pragmatic reasons, the political aspect of export control could make the gap-narrowing process always burdensome.

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81 Barry J. Hurewitz, *Non-proliferation and Free Access to Outer Space: the Dual-use Dilemma of Outer Space Treaty and the Missile Technology Control Regime* 9 HIGH TECH. L.J. 211, 232 (1994).

82 Jing-dong Yuan, *Strengthening China's Export Control System* CNS PAPER (October 4, 2002), http://cns.miis.edu/reports/pdfs/jdmemo.pdf.

83 Sang-Myon Rhee, *Current Status and Recent Developments in Korea's National Space Laws* 35(2) J. SPACE L. 525 (2009).

84 *See e.g.* Xin Zhiming, *India Bans Chinese Telecom Equipment* CHINA DAILY 13 (2010).

85 Haifeng Zhao, *Current Legal Status and Recent Developments of APSCO and Its Relevance to Pacific Rim Space Law and Activities* 35(2) J. SPACE L. 559-598 (2009).

For example, the potential for diversion of dual-use space technologies has resulted in a strict and cautious American interpretation of the MTCR in early 1990s. Because of the dual-use problem and the perceived difficulties in ascertaining the intentions of potential recipient states, the U.S. would not export equipment and technology for space launch vehicles to countries with ballistic missile programs. This approach ignored the end-use of the transferred technology purported by the MTCR.[86] At the beginning of the twenty-first century, U.S. continued to regard China as one of the sensitive countries and exercise volatile controls including substantial curtailment of high-tech transfers to China, particularly satellites.[87] U.S. conservative approach in export control and its results on the U.S. trade practices have led to China's contests;[88] however, once China could get a similar product and technology from a third country, the U.S. pressure could no longer be efficient. In fact, China is aware of the fact that "the Achilles heel to security arrangements of MTCR is that implementation and enforcement is left to member states' discretion".[89] Not being a member state to the MTCR, China would certainly retain some flexibility in enforcing its domestic regulatory measures in cases where exterior constraints no longer work. As a result, it is hard to say that U.S. supervision is always decisive in forcing China to comply with international standards, although they do have a strong influence on the formation of international practices on export control. A further step should be made beyond the pragmatic curtailment pressure in order to build a solid consensus on how to balance on one hand the liberal trade in the field of outer space activities and the non-proliferation issues on the other. However, whenever national security concern is involved, political consensus is always difficult to be reached. For example, both China and India refrain from subscribing the HCOC – which is not a space law instruction but a political declaration and intended to supplement the MTCR – and the U.S. has

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86 *See* Hurewitz, *supra* note 81, at 228.

87 Christopher F. Corr, *The Wall Still Stands! Complying with Export Controls on Technology Transfers in the Post-Cold War, Post 9/11 Era* 25 HOUS. J. INT'L L. 441, 506-07 (2003).

88 *See e.g.* Quan Xiaoshu, Li Xuanliang, *Chinese Expert Against American Draft New Measures Concerning Export Control Relating to China (Zhongguo zhuanjia fandui meiguo niyizhong de duihua chukou guanzhi xinguiding)* XINHUA'S NEWS REPORT (August 30, 2006), http://military.people.com.cn/GB/42964/57866/4769985.html.

89 Major Ronald L. Spencer, Jr., *State Supervision of Space Activity* 63 A.F. L. REV. *75*, 91 (2009).

postponed taking implementation measures such as supplying pre-launch notifications, consequently, the universal application of HCOC is seriously challenged.[90] The fact that transparency and mutual trust are lacking among space faring countries undermines the effectiveness of international standards on non-proliferation,[91] and consequently, the balance between liberal trade and national security concern relating to space activities.

V. CONCLUSION

Commercial launch services and trade in missiles and missile technology are two prominent commercial aspects of space activities. They reflect the interaction between the two different considerations of liberalization and security. The strategic implications of commercial aspects of space activities make it inappropriate to analyse them simply in light of normal legal matrix on trade practices. Launch service trade and import and export of missiles and missile technology are significantly subjected to a certain political context. Policies, rather than legal rules, have a strong – if not decisive – impact on the development of the two commercial aspects of space activities. As much as legal arrangements in the field of space activity are more often than not a result of the political decision-making, the governmental regulation on commercial aspects of space activities can be characterised as a substantially policy-driven process. The interaction between China's domestic governmental regulation on one side and foreign and international regulatory measures on the other demonstrates that the policy-driven character prevails on both domestic and international fronts.

Although politics plays a prominent role in regulating commercial aspects of space activities, legal rules are not just a mask of political manoeuvre. Law does have independent and instrumental functions: the balance between

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90 Scott C. Larrimore, *International Space Launch Notification and Data Exchange* 23(3) SPACE POL'Y 176 (2007).

91 For example, in July of 2005, the United States and India announced their cooperative agreement on nuclear proliferation. Policy analysts see this development as a realpolitik move by the United States in balancing an increasingly competitive China, and U.S.-India agreement stands in stark contradiction to the international interests in non-proliferation, let alone disarmament. *See* Kesav Murthy Wable, *The U.S.-India Strategic Nuclear Partnership: A Debilitating Blow to the Non-Proliferation Regime* 33 BROOK. J. INT'L L. 719, 719, 724 (2008).

trade liberalization and security concerns relating to space activities is widely accepted as a guiding legal principle; the transparent and predictable enforcement of relevant domestic legal rules is referred to in assessing a state's compliance with international practices of non-proliferation; last but not the least, even if political impact can not be excluded, fair and equitable procedural rules lays down the minimum barrier that restricts the discretion and prevents the governmental regulation from being misused. As far as China is concerned, the implementation of those rules will be far more crucial than just promulgating law and regulations.

On the international level, current development of the legal framework on commercial launch services and trade in missiles and missile technology has left behind practices. States are far more autonomous in adopting their own governmental regulatory measures than in other trade fields. The fact can only lead to a downturn spiral of interest conflicts and mutual distrust with the further development of commercial aspects of space activities. States, particularly space faring states, shall make efforts in forging a multilateral legal system capable of striking an effective balance between liberalized commercial space activities and international security. China's rising status in space exploration, with its active involvement in commercial aspects of space activities, makes it possible to take voluntary initiative on the issue.