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August 2012

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MPRA Paper No. 51710, posted 26 Nov 2013 07:33 UTC

How certain indigenous innovation and other patent policies hamper innovation in China⁺

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Abstract: China has a wide-range of patent-specific and other patent-related policies in place, many of which are at least partially meant to stimulate patents and “indigenous innovation.” However, the analysis in this paper discusses how some of these policies in effect can actually discourage quality patents, and highest-quality patents in particular, and related innovation.

Keywords: patent quality, China, innovation incentives, patent incentives, indigenous intellectual property, indigenous innovation, patent policies

⁺ This paper is Chapter 3 of Prud'homme, D. (2012) *Dulling the Cutting Edge: How Patent-Related Policies and Practices Hamper Innovation in China*, European Union Chamber of Commerce in China Publications

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III.3 Chapter 3: Other policies meant to promote patents

III.3.1 Analysis

III.3.1.1 Sub-section 3.1: Patent-specific measures

Introduction: This sub-section investigates how a myriad of significant Chinese measures (hereafter “policies” and “measures” are used interchangeably) specifically mentioning IP (patents inclusive), most of which are also at least partially meant to stimulate patents, can sometimes discourage quality patents and innovation. As illustrated in the Introduction section, the Chinese government has promulgated a wide variety of patent-specific policies that likely effectively build patent quality in China; yet, there are also concerning components of a variety of other measures that likely do not result in similar outcomes. These measures are the subject of this section.

III.3.1.1.1 Financial and other incentives for patent development and/or with patent-related requirements

III.3.1.1.1.1 Subsidies specifically for patent filing

For some time now, regional governments have been tasked with providing subsidies for entities filing IPR, the most common of which are subsidies for patent applications that cover official processing fees and even attorney fees. These subsidies have been extended to all types of patents: design, utility model, and invention patents. Many subsidies focus on domestic filings. Some subsidies focus on certain types of patent filings abroad, for example via the PCT.¹

The main problem with current patent filing subsidies is that they are largely awarded in a manner that not only wastes resources, but otherwise does not necessarily most effectively support the building of highest-quality patents and related innovation. Gao et al. (2011) notes that this deficiency is manifested in repeated patent applications, splitting inventions into smaller inventions just to boost the number of applications, filings for products that are already published or disclosed for a significant amount of time and are not patentable, filing an application to get an application number but not paying fees, and so on.² This is an unnecessary waste of resources. In the same vein, it does not result in channelling resources effectively and efficiently to build the highest-quality patents and related innovation that China desires.

While the government is commendably already taking steps to reform the patent subsidy system, it appears that notably more needs to be done. Policy statements like the NPDS³ and 2012 *National*

¹ See the *Administrative Measures on Special Funds for Subsidising Foreign Patent Applications* issued by MoF on April 14th 2012. Among others, see the *Provisional Measures on the Administration of Special Patent Funds for Subsidising Filing Patents Abroad*, issued by MoF on September 15th 2009. Related provincial/municipal-level regulations, for example those focusing on invention patents include, among others, the 2012 *Jinan Standards on Financial Support for Patents*, effective March 6th 2012.

² Gao et al. (2011), pp 86-89

³ For example, see Part IV, Section 4, para. 1 of the NPDS which calls policymakers to “Optimise patent subsidy policy and further define the orientation to enhance patent quality...”

*IP Strategy*⁴ have made the need for reforming the patent subsidy system apparent. Many Chinese government bodies reportedly now only pay subsidies when the patent is granted as opposed to at the application stage.⁵ Some provinces/municipalities, for example, Shanghai, are reforming their systems to only grant subsidies for invention patents.⁶ Nonetheless, it appears that a number of specific initiatives could be undertaken to more fully improve the subsidy system that do not appear to be currently discussed, at least publically. As such, these initiatives deserve to be considered by the authorities (see Recommendation 8 for further details).

III.3.1.1.1.2 IP ownership and restricted licensing provisions in currently effective indigenous innovation policies: an overview

Background

The concept of “indigenous innovation,” also sometimes translated as “independent innovation,” (whereas the Chinese equivalent of both terms is *zìzhǔ chuàngxīn*/自主创新), form the basis of what has become known as China’s “indigenous innovation policy” (IIP). Many observers now generally consider China’s IIP to also be the name for its innovation strategy at large. The *S&T MLP*, which has often been pointed to as establishing the main framework for the concept, defines “indigenous innovation” as “*enhancing original innovation, integrated innovation, and re-innovation based on assimilation and absorption of imported technology, in order to improve our national innovation capability.*”⁷ The plan further states that “*...one should be clearly aware that importation of technology without emphasising assimilation, absorption, and re-innovation is bound to weaken the nation’s indigenous R&D capability, which in-turn widens the gap with world advanced levels.*”⁸

It is worth noting that although the *S&T MLP* does not explicitly emphasise “breakthrough” innovation by name, it is nonetheless clear from some subsequent policy statements that breakthrough innovation, and indigenous breakthrough innovation specifically, is one goal of China’s innovation strategy. For example, this goal is in part reflected in China’s recent focus on cutting-edge strategic industries, for example in China’s 12th Five-Year Plan and the *SC Notice on IPR in Strategic Emerging Industries*, and in other initiatives in other measures cited throughout this study.

Several central and local-level implementing regulations from MoST, the National Development and Reform Commission (NDRC), Ministry of Finance (MoF) and their sub-central-level equivalents soon followed issuance of the *S&T MLP*, creating enacting IIP product catalogues, financing programs, and other IIP initiatives. The *Trial Measures for the Administration of the Accreditation of National Indigenous Innovation Products* (“2006 IIP Trial Measures”), issued on December 31st 2006 by MoST, NDRC, and MoF contain highly controversial requirements herein: specifically, requirements in Article 4.2 that products must be produced by a company with full ownership of the IPR on relevant products via its own activities or (by legal means) otherwise obtained ownership or usage rights for IP that is legally owned in China by a Chinese company, organisation, or citizen (and Article 4.3 that trademarks have to be owned by a Chinese company and originally registered in China, Article 4.4 and 4.6 that contain certain requirements on certifications and quality of qualifying products, and

⁴ See Part 1, measure 5: “*Improve the monitoring and settlement of abnormal patent applications, regulate local patent subsidy, promulgate in due time further opinions on regulating patent subsidy.* (SIPO)”

⁵ The patent quality challenge facing China and its businesses. (2011, January 20). *IAM Magazine*. <http://www.iam-magazine.com/issues/article.ashx?g=64724577-cf28-4cb1-bad6-c012264ee060>

⁶ 2012, April 24- Consultations with Lin Xu, Vice Chair of IPR Working Group

⁷ Part II, Section 1, para. 2 *S&T MLP*. Retrieved (in Chinese) from http://www.gov.cn/jrzq/2006-02/09/content_183787.htm (one English translation available here: <http://www.etiea.cn/data/attachment/123%286%29.pdf>)

⁸ Part II, Section 1, para. 3, *S&T MLP*

Article 4.7 that contains import substitution requirements).⁹ These provisions again appeared in the *Measures on the Interpretation of National Indigenous Innovation Products*, issued by MoST on February 26th 2007.¹⁰ Several measures in 2006 and 2007, including provincial/municipal implementing measures, created controversy by linking indigenous innovation to government procurement preferences.¹¹ And once implementing measures for central-level government procurement product catalogues were issued in late 2009 and January 2010,¹² foreign businesses actively banded together to complain against such IIPs.

Recent reforms

Commendably, the Chinese government has recently made firm policy statements that prior IIP policies will be delinked from government procurement preferences. As of July 1st 2011, the Chinese authorities agreed to nullify and void three regulations linking controversial IP requirements to preferential government procurement,¹³ and a formal notice was issued on July 4th 2011 nullifying the 2006 IIP Trial Measures.¹⁴ And on November 17th 2011, the State Council issued a notice stating: “Any mention of linkage between innovation policy and government procurement incentive measures within regulatory documents from all levels of local people’s governments and related departments must without exception stop implementation from December 1st 2011.”¹⁵ While there are still some concerns over the actual implementation of these aforementioned measures, they are at least clear and indisputably positive in their own right.

It is important to note that before the aforementioned delinking took place, a number of other policy statements changed the IIP framework, most notably the April 2010 *Draft Notice Regarding*

⁹ Concerns as raised in, among other sources, US-China Business Council [USCBC]. (2011, March). *Issues brief: China’s domestic innovation and government procurement policies*, pp 3-5. Retrieved from https://www.uschina.org/public/documents/2011/innovation_procurement_brief.pdf; Review of according articles in the *Trial Measures for the Administration of the Accreditation of National Indigenous Innovation Products* retrieved from <http://big5.mofcom.gov.cn/gate/big5/im.mofcom.gov.cn/aarticle/subject/zsjm/localcc/201012/20101207305384.html>.

Note 1: depending on the secondary source reviewed, some or all of these issues may be listed as concerns, for example, USCBC (March 2011), Appendix 6, provides a detailed list of indigenous innovation requirements that explicitly require import substitution as part of indigenous innovation development.

¹⁰ Para. 5 of the *Measures on the Interpretation of National Independent Innovation Products* retrieved from http://www.most.gov.cn/ztl/cxqygzhy/cxqyhydt/200702/t20070226_41506.htm

¹¹ See Article 23 of the S&T MLP; Article 13, 14 and 24 of the 2007 *Evaluation Measures on Indigenous Innovation Products for Government Procurement*; among other measures listed on p. 8-9 and Appendix 6 of USCBC (March 2011). Note: Many of the sub-central level indigenous innovation accreditation/management measures listed in Appendix 6 of USCBC (March 2011) require IPR ownership requirements as distinct from licensing, or require exclusive licensing of IPR fully owned by a China-based entity.

¹² In November 2009, MoST, NDRC, and MOF released two circulars, one on application procedures and a notice describing provincial duties for the proposed central-level indigenous innovation catalogue. On December 29th 2009, a catalogue of industrial equipment products was released containing stipulations for accrediting national indigenous innovation products. On January 11th 2010, the *Regulations of Government Procurement Law* nationally set-forth preferential government procurement for indigenous innovation products. A variety of other controversial IIP rules were passed at the same time that did not only focus on government procurement preferences, for example, see *Accreditation Rules for National Indigenous Innovation Products*, November 2009, among other regulations as detailed in USCBC (March 2011), p. 19.

¹³ Lubman, S. (2011, July 22). Changes to China’s ‘indigenous innovation’ policy: Don’t get too excited. *Wall Street Journal*. China Realtime Report. Retrieved from <http://blogs.wsj.com/chinarealtime/2011/07/22/changes-to-chinas-indigenous-innovation-policy-dont-get-too-excited/>

¹⁴ Notice on Voiding “Trial Measures for the Administration of the Accreditation of National Indigenous Products (2006)” issued on July 4th 2011 by MOST, NDRC and MOF. Retrieved from <http://www.jskw.gov.cn/FileUpload/%E5%85%B3%E4%BA%8E%E5%81%9C%E6%AD%A2%E6%89%A7%E8%A1%8C%E3%80%8A%E5%9B%BD%E5%AE%B6%E8%87%AA%E4%B8%BB%E5%88%9B%E6%96%B0%E4%BA%A7%E5%93%81%E8%AE%A4%E5%AE%9A%E7%AE%A1%E7%90%86%E5%8A%9E%E6%B3%95%EF%BC%88%E8%AF%95%E8%A1%8C%EF%BC%89%E3%80%8B%E7%9A%84%E9%80%9A%E7%9F%A5.pdf>

¹⁵ A State Council Notice Directing All Government Entities To Remove Any Mention of Linkages Between Indigenous Innovation Policy and Government Procurement Within Regulatory Documents, which the Chongqing Legislative Affairs Office published on their own website: http://www.cqfzb.gov.cn/Pro_General/ContentShow.aspx?ProlD=49&myid=8655

the Launch of the National Indigenous Innovation Product Accreditation Work for 2010 (hereafter the “April 2010 Draft Notice”). Article 2.2 of the April 2010 Draft Notice relaxed the provision on IPR ownership to allow indigenous innovation accreditation on IP licensed for use in China without specifying where the entity that owns the original IP (and is doing the licensing) must be located; Article 2.3 stipulated that trademarks no longer have to be originally registered in China (but must at least have the right to use the trademark in China); and Article 2.4 set new technology quality requirements (e.g. to be proven effective in conserving energy, or “substantially” improve on an original product’s quality, performance, structure, material, or craftsmanship to be eligible for such accreditation).¹⁶

These policies were ostensibly changed due to pressure from foreign governments and industry associations.¹⁷ These organisations, including the European Chamber, argued on behalf of companies saying they would prefer to license technology, particularly their most important and innovative/higher-end technologies, instead of transferring it via full-on ownership transfer agreements (or even exclusive licensing), and in many cases this technology would need to be licensed from abroad (as it is owned by parent companies registered abroad). Thus it was argued the previous IIP policies would push companies to intentionally pursue less-IP-intensive operations in China.

Existing concerns

Despite some positive changes, significant concerns surround the April 2010 Draft Notice in particular. Most importantly, outside a number of concerns over specific provisions in the notice,¹⁸ it does not appear a final version of the April 2010 Draft Notice was ever even finalised, despite a call for comments deadline on the measure, and thus the measure remains unbinding.¹⁹ And no other measures appear to have subsequently taken the notice’s place in making allowances for IP licensing from abroad as a core part of China’s IIP system. As such, it appears China’s IIP framework is not legally bound to only instituting the type of IP requirements that were present in the April 2010 Draft Notice. In fact, the type of controversial IP requirements the April 2010 Draft Notice was supposed to amend appear to be presently embodied in the term “indigenous intellectual property rights,” which is defined in Box 5 below.

¹⁶ Other criteria also apply. See the April 2010 Draft Notice, issued on April 9th 2010 for public comments (till May 10th 2010), by MoST, NDRC and MoF, retrieved from http://www.most.gov.cn/tztg/201004/t20100409_76710.htm

¹⁷ Ernst (2011) (p. 4 suggests that lobbying by foreign business associations “possibly” created these changes)

¹⁸ Linton et al. (2010) notes that some have worriedly interpreted this measure to mean that indigenous innovation products must be locally researched and developed (including requiring licensing of IP usage rights in China), and the R&D should be led by a Chinese entity. This could exclude wholly foreign-owned enterprises (WFOEs), JVs where the foreign party has a majority holding, and perhaps Chinese entities with R&D centres abroad. Also there is concern over the requirement to comply with unspecified “national industrial and technology policies” (Article 2.1); as well as concern about the requirement that the IPR involved cannot be subject to dispute (Article 2.2.), whereas without further clarity this may include unsubstantiated allegations raised by a third party (Source: Linton, K. et al. (2010). *China: Intellectual property infringement, indigenous innovation policies, and frameworks for measuring the effects on the U.S. economy*. US International Trade Commission [USITC]. Investigation No. 332-514. p. 5-11. Retrieved from <http://www.usitc.gov/publications/332/pub4199.pdf>)

¹⁹ USTR (2011) confirms that the draft measure has not been finalised to date, although notes that the Chinese authorities “have not requested or accepted applications for accreditation.” (Source: USTR. (2011). *2011 National trade estimate report on foreign trade barriers: China*. United States Trade Representative. p. 88. Retrieved from http://www.ustr.gov/webfm_send/2694)

Box 5: Note on usage of the term “indigenous intellectual property rights”

The term “*indigenous intellectual property rights*,” which one might also translate as “independent intellectual property rights” (whereas the Chinese equivalent for both is: *zìzhǔ zhīshì chǎnquán*/自主知识产权) is frequently found in a number of measures reviewed in this study. Consultations suggest that the term originated in the mid-1990s in policy advice to build domestic IPR in the Chinese automobile industry.²⁰ At the turn of the new millennium, the term was used in important policy guidance, which is still in effect, from state leader Jiang Zemin at an April 2nd 2000 conference on the Exhibition on China's Fifteen-Year Achievements in Patent Work.²¹

There is solid evidence (see below) that the term typically means IP ownership, including acquired ownership, by a Chinese entity, which in some cases expressly is said to exclude entities with a majority foreign ownership. While not the norm, the term is defined somewhat differently in the HNTS tax scheme (see below section for details); and in some cases, includes an option for restricted licensing of IP fully owned by a Chinese entity.²² These concepts of “indigenous intellectual property rights” are collectively hereafter referred to in this study as “IND IP” conditions.

Some key sources defining “indigenous intellectual property rights”

Official government measures and policy advice

- The below listed measures are just a few examples of clear government policy advice that indigenous intellectual property rights mean IPR owned by a Chinese entity:
- *Guidance for Enlarging Exports with Indigenous Intellectual Property Rights* issued on May 11th 2004 by the Anhui MOFCOM sets forth guidance, which appears to still be in effect, on indigenous intellectual property rights:

Part 2: “*The definition of indigenous intellectual property rights is invented in China; there is no corresponding concept in the international arena. Administrations such as Ministry of Science and Technology and the IPR Bureau have not provided clear definitions of indigenous intellectual property rights. In this document, indigenous intellectual property rights refer to IPR legally owned, invented or designed by Chinese citizens; or Chinese legal persons or other organisations without legal personality (referring to those entities whose original capital formation is not majority foreign held). It also includes those IPR bought from other Chinese citizens, legal persons, or other organisations without legal personality.*”²³
- *Notice on What is a Product With Independent Intellectual Property Rights?*, issued on July 3rd 2007 by the Tianjin Intellectual Property Office, which appears to still be in effect, defines indigenous intellectual property rights as:

“*...In China, the term ‘Indigenous Intellectual Property Rights’ refers to independent technical knowledge assets lawfully owned by Chinese citizens, legal persons, or organisations without legal personality, or leading research or creative design conducted by those entities, or the patents or copyrights purchased from other Chinese citizens, legal persons or other organisations without legal personality.*

²⁰ 2012, August 2 - Consultations with a member of the European Chamber in Shanghai

²¹ “We must energetically promote the long-term development of our economy by supporting the nation's patent undertaking, enhancing the role of the patent system and furthering growth of high-tech products with self-owned independent intellectual property rights and market prospects.” (Source: Jiang, Z. *China's Intellectual Property Rights Protection in 2000*. Retrieved from <http://www.lawinfochina.com/display.aspx?lib=dbref&id=94>)

²² The definitions used in the April 2010 Draft Notice (which again, does not look like it was even ever in-force) are herein not considered to constitute IND IP requirements.

²³ Retrieved on August 1, 2012 from <http://www.mofcom.gov.cn/aarticle/difang/anhui/200508/20050800293317.html>.

Note: Translation from the European Chamber thus is unofficial.

1. The term 'Chinese legal persons or organisation without legal personality' means those entities whose original capital composition is not dominated by foreign capital.
2. The term 'leading research or creative design' includes the research or designs conducted through self-innovation or through those cooperation projects that are led by the party who declares the ownership of the research or design result.
3. The term 'intellectual property rights' includes invention patents, design of new technological products, proprietary technology possessing scientific and technological achievements, computer chips (include database, multimedia and internet products), layout-design of IC chips, new animal and plant species, and protection of traditional Chinese medicine."²⁴

- Several Indigenous Innovation Accreditation/Management Measures define indigenous intellectual property rights. For example, the *Hebei Province Indigenous Innovation Product Accreditation Management Rules (Provisional) (2007)*, jointly issued by the provincial MoST, NDRC, and MoF on September 28th 2007 (hereafter the "*Hebei IIP Rules*"), which appears to still be in effect (see below for further explanation on this point) defines indigenous innovation products as those meeting the following conditions:

Article 6: "*Indigenous innovation products applying for accreditation should meet the following basic conditions...*"

Article 6.2: "*Products have obtained indigenous IP rights and have indigenous brands. Products that have obtained indigenous intellectual property rights are defined as those where the applying unit owns IP products through its own innovative activities, or gain ownership of IP rights that were acquired by the applying unit through assignment by Chinese enterprises, institutions, or citizens who own such IP rights. Products with indigenous brands are those where the applying unit owns the right to the registered trademark of the product.*"²⁵

- Several Indigenous Innovation Product Accreditation/Management Measures include in their definition of "indigenous IPR" an option for restricted licensing of IP fully owned by a Chinese entity in addition to the option of ownership of the IPR.²⁶
- The definition of indigenous IPR including ownership of IPR registered in China or the option of "*an exclusive worldwide license for five years or more*" appear to be particular to several measures underpinning the HNTE tax scheme. These measures are discussed further in section below on that scheme.

For context, a number of government measures using the term "indigenous intellectual property rights" conspicuously do not define the term. As noted in the *Guidance for Enlarging Exports with Indigenous Intellectual Property Rights*, the term as used in China is unique to China²⁷ and in fact the central level, for reasons one could speculate about, does not appear to have promulgated an official definition of the term mandated to apply across all ministries and levels of government.²⁸

²⁴ Retrieved on August 2, 2012 from http://www.tjipo.gov.cn/fwz/zspj/zscq/200903/t20090324_14802.html. Note: Translation from the European Chamber thus is unofficial.

²⁵ Retrieved on August 11, 2012 from <http://www.zjkgw.gov.cn/Project/ShowArticle.asp?ArticleID=537>. Translation is from the European Chamber thus is unofficial. Note: The Hebei Province Department of Finance *Measure on Stopping the Implementation of the Independent Innovation Products by Government Procurement Preferences*, issued by the Hebei Province Department of Finance on July 12, 2011, nullifies Hebei's government procurement preferences as linked to indigenous innovation products accreditation (measure retrieved on August 11, 2012 from http://www.hebgp.gov.cn/upnews/upfiles/zfcg_zcfg/TS_LX20111222162415jg@ng.htm)

²⁶ See Appendix 6 of USCBC (2011) for a helpful listing of these measures.

²⁷ A variety of sources, including WIPO, use the term "indigenous intellectual property rights," but this refers to rights on, for example, cultural works produced by indigenous (i.e. a particular ethnic group of) peoples.

²⁸ As such, while it appears that the aforementioned definitions are those used when interpreting the term, to be completely sure of exactly how the term is applied in practice across *all* Chinese measures mentioning the term deserves

Other sources

Key Chinese policy studies and Chinese legal commentaries define indigenous IPR. SIPO & PKU (2005), a policy study commissioned by SIPO to Beijing University, finds that *"Indigenous intellectual property rights refer to the intellectual property legally owned by Chinese citizens, legal persons, or other organisations through their leading research or creative design."*²⁹ Zhonggu Law Online (2011), among others, notes there is a clear distinction between "indigenous" IPR and "dependent" IPR, finding that indigenous IPR is that owned by domestic entity in China on an invention whose R&D and production was completed in China; and further notes that dependent IPR refers to all IPR, including that jointly held by a foreign and Chinese entity *"...belong to an entity abroad, or mainly belong to the foreign side."*³⁰

Additionally, consultations with two Chinese lawyers and an ex-government official based in China provide some useful insights into the term. The consultations confirm the term in practice is meant to refer to IPR on core technology owned by a Chinese entity that in no way is reliant on a foreign entity/influence. The consultations also suggest that the term is widely used in a variety of secondary sources and government interpretations as fitting this same definition; and that domestic Chinese companies that those consulted have talked with also interpret the concept in this same way. Additionally, one of those consulted said that while there might conceivably be a few examples of instances where the government has allowed IPR from an entity with majority foreign ownership to constitute indigenous IPR, this will only be to create the veneer of non-discrimination, while most all application of the term intentionally excludes even China-based entities with majority foreign ownership.³¹

Different types of IIPs with IND IP requirements

Sub-central level Indigenous Innovation Product Accreditation/Management Measures

While many of the provincial/municipal Indigenous Innovation Product Accreditation/Management Measures that were promulgated in 2006 and 2007 have since clearly been invalidated, other measures, or to be more precise – the provisions of several measures that are not directly related to government procurement preferences – do not appear to be invalidated through a publically available notice(s). Indeed, some measures were fully invalidated at some point in 2011. However, other measures do not appear to be officially invalidated, as while they are flanked by measures that specifically invalidate the government procurement preferences linked to indigenous innovation

clarification with all Chinese authorities that use the term. This should be considered when reviewing the measures mentioning indigenous intellectual property rights analysed in this study.

²⁹ SIPO and Peking University Intellectual Property Institute. (2005, October 31). *Study on Major IPR Cases with External Dimensions since China joined the WTO*, p.11. Retrieved on August 12, 2012 from

<http://stlaw.pku.edu.cn/UploadFiles/200941714515938.doc>

³⁰ *"...independent intellectual property rights in China mean that it [the protected invention] is researched, developed, run, and produced by Chinese citizen or Chinese corporation/organisation independently and eventually enjoys the ownership of the intellectual property....Non-independent intellectual property rights mean that it [the protected invention] is researched, developed, run and produced by natural persons, corporations or other organisations from abroad, and who enjoy the ownership of the intellectual property rights. The main legal bodies holding non-independent IPR can consist of one foreign enterprise, or a combination of a Chinese enterprise and foreign corporations, whereas the eventual proprietary rights belong to an entity abroad, or mainly belong to the foreign side."* (Source: Zhonggu Law Online (2011). The contrasting relationship between independent intellectual property rights and non-independent intellectual property rights. Retrieved on August 14, 2012 from <http://news.9ask.cn/zclaw/zczs/smzc/201105/1210223.shtml>)

³¹ Consultations with three individuals, one based in Beijing and the other two based in Shanghai, on August 2nd, August 8th, and August 11th 2012 respectively.

product accreditation, they do not invalidate the entire institution of the indigenous product accreditation/management system as set up in the original measures.³²

For those provincial/municipal Indigenous Innovation Product Accreditation/Management Measures that appear to be still valid, it is particularly concerning that some contain IPR ownership requirements (as distinct from licensing of IPR owned by a Chinese entity, let alone licensing of IPR owned abroad). By way of one example, the *Hebei IIP Rules*, mentioned above in Box 5, sets forth clear preconditions for ownership of IP rights. Although the rules are flanked by a measure that invalidates government procurement preferences linked to indigenous innovation product accreditation, the rules do not appear invalidated in their entirety by any readily available invalidation notice. The indigenous product accreditation/management system established by the rules also does not appear invalidated.

While the existence of these types of measures are not *per se* concerning given they are delinked from government procurement preferences, it is reasonable to seek assurances that they are not currently being linked to financial incentives *outside* government procurement preferences, and that they will not be linked to any financial incentives in the future. In fact, these concerns are made even more real given evidence presented in below sections within this Chapter that provinces/municipalities are already linking IND IP requirements to certain financial incentives. Generally, IND-IP-based IIPs warrant a number of concerns, the most significant of which are discussed in-depth below. Even at a very minimum, if Indigenous Innovation Product Accreditation/Management Measures have been invalidated through a non-publicly disclosed notice, it is disconcerting they are still published online with no such notification.

In addition to the abovementioned measures, it is worth noting that several provinces in China have Indigenous Innovation Product Accreditation/Management Measures including INDP requirements linked to government procurement preferences for which no invalidation notice, for the government procurement preferences specifically or otherwise, appear to be publically available. These include, for example, measures from Qinghai and Sichuan.³³

³² As a general point worth highlighting in this section, given the sustainability of certain government procurement-related policies is scrutinised, requirements in government procurement policies that may be controversial in some respects require objective analysis to determine if they in fact might sustainably contribute to innovation and an economy's development at large. (For example, although not directly tantamount to IND IP requirements, an investigation herein may look into a sometimes controversial tool used to build technology capacity that is linked with government procurement preferences: "offsets." Offsets, which can include technology licensing requirements, are sometimes proposed to build innovation, and an analysis on these as tools to build innovation should be based on questions like those posed in Bleser, Prud'homme et al. (2011) *Trade Sustainability Impact Assessment (SIA) on the Comprehensive Economic and Trade Agreement (CETA) between the EU and Canada: Final Report*. European Commission Trade Assessments, pp 289-290, and pp 304-306. http://trade.ec.europa.eu/doclib/docs/2011/september/tradoc_148201.pdf. If crafted properly, government procurement policies can be used to build industries in ways that can contribute to economic, social, and environmental progress.)

³³ *Qinghai Province Indigenous Innovation Product Accreditation Management Rules* issued on May 27th 2010 by Qinghai Province Department of Science and Technology (retrieved on August 17, 2012 from <http://www.qhppc.com/html/zhengcefagui/20100527/409.html>); and *Sichuan Province's Indigenous Innovation Product Accreditation Implementing Management Rules (Provisional)* issued in 2009 by Sichuan Province Department of Science and Technology, Sichuan Province Development and Reform Commission, Sichuan Province Economy Commission, and Sichuan Province Department of Finance (retrieved on August 17, 2012 from <http://jscx.scst.gov.cn/NewsContent.aspx?current=%E6%94%BF%E7%AD%96%E6%96%87%E4%BB%B6&NewsID=240>)

Also, while not necessarily as concerning as the central-level and provincial/municipal measures given they may involve comparatively lower value contracts,³⁴ it is at least worth noting there are Chinese city-level management/accreditation guidelines for indigenous innovation products that currently do not appear to be officially invalidated nor are flanked by measures invalidating government procurement preference components of the measures. One example is the *Qingdao City Indigenous Innovation Product Accreditation Management Rules (Provisional)*, issued by the Qingdao Science and Technology Bureau on August 1st 2008, stated to be in effect till December 31st 2012 and for which no readily available invalidation notice appears available. The measures set forth clear IND IP requirements linked with government procurement preferences.³⁵

Other measures

In addition to the provincial/municipal IIP accreditation catalogues that do not appear to be publically invalidated, this study presents a number of Chinese measures that, in some instances in addition to other concerns mentioned in those sections, clearly make support in the form of subsidies and other financial assistance contingent on IND-IP-based requirements. A non-exhaustive list of examples of these measures includes:

- Sub-central level plans from 2011 that precondition subsidies from S&T and invention-focused funds on enterprises meeting IND IP requirements (see Section “III.3.1.1.1.4 Sub-central level incentives for IP development” for more details).
- Several measures mentioned in Section “III.3.1.1.1.3 CFTDF and similar subsidies” that stipulate IND-IP-based requirements as an exclusive precondition for qualifying for subsidies from a foreign trade fund that, according to even old data, as a whole is worth over RMB 37 billion.
- Measures mentioned in Section “III.3.1.1.2 Standardisation policies” that stipulate IND IP requirements and building of certain standards as a precondition from receiving grants up to 1 million RMB.
- Measures mentioned in Section “III.3.1.1.1.6 HNTE status” underpinning the HNTE tax scheme.
- While not yet explicitly linked to IPR ownership requirements, there are a wide range of recent Chinese policies that promote the future (e.g. by 2015) development of IPR ownership, inclusive of patent ownership, by China-based entities in a way that is worth seeking assurances that these policies will not be implemented via IND-IP-based measures. The “Chapter 3” section (as well as the “Chapter 2” section) in the Annex provides an overview of some of these policies.

³⁴ Note: City-level procurement is often of comparatively lower monetary value (this said, in China, these amounts are still quite sizeable given the size of its cities), and it is not unusual for it to be excluded from the commitments of parties to the WTO’s Government Procurement Agreement (GPA) (to which China has not even yet acceded).

³⁵ Part 4: “Accredited Indigenous Innovation Products will be listed and published in Qingdao City Indigenous Innovation Product Catalogue... When the municipal government organs, institutions and group organisations use fiscal fund for government procurement they should therein prioritise products that are included in the Qingdao City Government Procurement Indigenous Innovation Product Catalogue....”

Part 6: “To qualify as an accredited indigenous innovation product, a product needs to meet the following requirements:”

Part 6, Article 2: “Products possess independent intellectual property rights, and have a clear equity situation. That is to say, through dominant technological innovative activities, applicant units own intellectual property rights in China by law; or through legal transfer or permit, Chinese enterprises, institutions or citizens obtain the ownership or the right of use for intellectual property rights in China by law.” (Measure retrieved on August 15, 2012 from <http://china.trade2cn.com/news/NX70ltD355S0sv0-1.html>).

Translation is from the European Chamber thus is unofficial.

Assessing the contribution of IND-IP-based IIPs to innovation and patent quality

It is important to assess if rewarding enterprises according to IND-IP-based criteria as listed in the aforementioned IIPs is a useful incentive to build patent quality and innovation. (While *all* such references do not necessarily mention “patents” specifically, given the context of the measures, it is clear that the provisions are intended to encompass patented products.) From one vantage point, the aforementioned IND-IP-based IIP schemes indeed seem to help to build domestic enterprises: indeed self-owned brands and self-owned patents (or other forms of IP) collectively can be a metric of the innovation capacity and competitiveness of an entity. However, this viewpoint deserves further analysis, particularly in terms of what factors determine transfer of IPR ownership vs. IP licensing in China, and if China’s preoccupation with IND-IP-based IIPs, at least the type that appear to be currently conceived, is the best way to stimulate innovation and related quality patents. These issues are briefly discussed in Box 6 and Box 7 below, and the text following those boxes.

Box 6: Why might China be preoccupied with IND-IP-based IIPs?

Why the preoccupation with IND-IP-based policies?

It is quite clear from its IND-IP-based IIPs that China wants to build-up Chinese entities’ ownership of IPR, and that policymakers believe IND IP IIPs a useful way to do so. Within this drive to build up ownership of IPR, Chinese policymakers inferably view IND IP IIPs as important for a number of more specific, sometimes inter-related reasons. Among potentially other rationales, such policies might be argued by the government to create exogenous incentives for Chinese entities to:

- Build indigenous innovation strength which in turn strengthens the perception of China as an innovator, which creates spillovers in terms of building reputation abroad which can translate into various economic gains;
- Build indigenous innovation strength which in turn stimulates nationalism at home which further stimulates domestic innovation; and
- Contribute to China’s national economic security by ensuring a strong foundation of domestically-owned patents.

The policies might also be argued by the government to supplement the incentives endogenous to building IP ownership experienced by Chinese entities, namely the ability to:

- Enjoy protection on inventions which encourages further investment in R&D and other inputs of innovation to create other inventions in China;
- Enjoy higher royalties that must be paid when the technology is licensed and/or otherwise strengthen bargaining with competitors;
- Avoid paying the aforementioned royalties to another (e.g. foreign) entity;
- Use litigation grounded on an owned patent to drain competitors’ resources and thus put them at a competitive disadvantage;
- Deter litigation by threatening to countersue with an owned patent; and
- Block competitors’ development in a certain field by monopolising patent ownership in that field.

Are these solid policy arguments for why IND-IP-based IIPs as currently conceived will best create quality patents and related innovation?

The general idea that IND-IP-based IIPs may optimally encourage patent quality and related innovation, particularly breakthrough innovation, in China is questioned in the text following this box. In short, to the extent IND IP requirements are linked to discriminatory practices, for example subsidies, as mentioned in subsequent sections in this Chapter, they may hamper the end goal of

building patent quality and related innovation.

In addition to this analysis, some of the more specific abovementioned reasons for IND-IP-based IIPs in China deserve scrutiny. For example, it should at least be noted that IP royalties are not necessarily always a very significant part of profit for certain companies, although are certainly important in some cases.³⁶ It is also apparent that Chinese entities' overuse of patents as "weapons" in litigation has caused waste of public resources and hampers innovation and building of quality patent in China (these issues are further discussed in Chapter 4 hereto).

Four reasons why China's IND-IP-based IIPs as currently conceived may not stimulate breakthrough innovation and patent quality as well as envisaged by policymakers:

This section must be premised by again saying, as mentioned above, that a desire to boost indigenous intellectual property rights and indigenous Chinese innovation is by no means a negative policy objective, and in fact in principle goes hand-in-hand with the larger objective of boosting innovation and patent quality in China; however, the devil is in the details in terms of the exact types of efforts undertaken to achieve this goal. As such, it is important to critically assess if China's IND-IP-based IIPs as currently conceived will actually best stimulate innovation, particularly breakthrough innovation, and related patent quality. Although there is an absence of detailed studies empirically assessing these dynamics, and some ambiguity in the exact legal requirements of some IND IP IIPs,³⁷ this study posits a number of potential problems with China's current IND-IP-based IIPs showing they very well might not stimulate breakthrough innovation and associated patent quality as well as perhaps envisaged by policymakers.

First, overemphasis of what could be termed 'IND IP thought' in Chinese IIP can indoctrinate the policymaking system in a way that prevents creation and implementation of other domestic Chinese innovation policies that could be more helpful for building-up quality patent filings and related innovation. The preoccupation with IND IP can overly indoctrinate the policy formulation process, in effect steering policy in only one direction (the IND IP-related direction). This would not necessarily be a problem in the IND IP criteria plus financial incentives formula was a rigorously proven (e.g. via empirical economic analysis) approach towards optimally stimulating innovation; however, it does

³⁶ Note: For example, in 2010 royalty revenue as a share of total revenue for Philips was only 1.86%, for Ericsson was only 2.26%, and for Astra Zeneca was only 1.61%. That said, there are other firms where royalty revenues make up a significantly higher share of their total revenue, and it is likely that such royalties would be very important for SMEs. (Source: WIPO [2011], p. 64)

³⁷ Of note, it is not fully clear on paper to what extent Chinese entities need to own all IPR (or be licensed IPR from Chinese entities owning such IPR) on specified products to qualify under many of the indigenous innovation product accreditation programs that were reviewed. There does not appear to be clear requirements across all measures on the *exact extent* of ownership (or licensing) of products required, for example all the measures do not clearly require ownership for 100% of all IP relevant to specified products. Although certain measures reviewed say "ownership and interest shall be clear and 'stable'" and "a product can have more than one invention patents, utility patents, software copyrights and innovated brands," it is not fully clear, on paper at least, about the handling of an instance where one product is indeed associated with more than one related patent with different ownership structures. In the absence of such requirements, a Chinese entity could theoretically qualify under the IIPs as having "indigenously innovated" products if they only own (or are licensed) one (or a few) patents from Chinese entities (perhaps of dubious value) on specified products, whereas there are other patents on that product owned or licensed by entities based abroad. And further, therein the company's real competitive advantage (even in terms of the product in question) could in fact be derived from other factors.

However, all of this said, drawing from the more specific definitions of "indigenous intellectual property rights" in other measures outside the product accreditation IIPs reviewed, and upon review of secondary sources and consultations with experts in China, it seems likely that *in practice* an entity with an *ideal* "indigenous innovation product" would meet *typical* IND IP requirements, i.e. the entity would be Chinese (without foreign majority ownership) and have 100% ownership of all IPR associated with that product.

not appear to be. Thus, if alternative views were better heeded and different, more proven, policies crafted and implemented, at least in addition to these IND-IP-based policies, this could very well more optimally stimulate domestic innovation and patent quality in China. Allowing licensed IP from entities abroad would in itself be a more positive policy approach than the IND IP approach, the same, well-recognised conclusion manifested in the *April 2010 Draft Notice*. Other alternative approaches could be considered, for example, criteria for substantial *and* productive investments in R&D (which do not appear to be criteria in many of the IND-IP-based IIPs measures reviewed³⁸).

The comparative power of certain personalities in ministries making innovation policy, e.g. MoST above MOFCOM, might exacerbate genuine collegial creation of the best innovation policies herein, whereas a more collegial approach is likely ideal given the multi-faceted nature of innovation policymaking which requires expertise in S&T issues, patents, investment, tax, among other areas. And even herein, on one hand although there is indeed evidence of an ostensible dialogue between the ministries, on the other hand the policies produced therein may still reference potentially disconcerting IIPs. For example, albeit not explicit, there is a potentially concerning link between financial incentives and “IP rights obtained from indigenous innovation activities” in the latest *2012 National IP Strategy*.³⁹

Second, given decision-making of foreign enterprises, it seems unlikely that IND-IP-based policies will effectively push (or pull) competitive foreign firms at large to increasingly transfer ownership of IP to Chinese entities, particularly quality IP, and in fact may encourage them not to transfer ownership of IP or even license IP (exclusively or otherwise) to Chinese entities. While the obvious objective of such IND-IP-based policies is to build *indigenous* innovation capacity as distinct from that built upon foreign innovation, it seems highly unlikely that the policies intend to *discourage foreign* companies from transferring much needed know-how to and developing much needed know-how in the Chinese market. To be sure, it is well-recognised by the Chinese government, as reflected in a wide variety of policy statements mentioned throughout this study, that foreign know-how, if utilised properly, is one crucial building block for innovation in China.

IND-IP-based policies will likely not stimulate further foreign ownership or licensing transfers of quality IP to Chinese entities because, despite the occasional anecdotal examples to the contrary, empirical evidence over the last 20 years presented in Chapter 1 suggests that foreign enterprises at large avoid transferring breakthrough technology via licensing let alone transferring ownership to China or otherwise developing world-class technology in China. (For context, a variety of studies note that multinational companies use different methods of technology transfer, which may include licensing and ownership transfer, depending on the level of IPR protection in a host country.⁴⁰) This

³⁸ There are exceptions. For example, requirements in the *Indigenous Innovation Product Accreditation Management Rules of Dalian, in Liaoning Province*, issued on Dec. 2008, Dazhengban Fa [2008] No.203 by Dalian Municipality, in Article 2 (2) find: “The proportion of funding input for high-technology and products R&D in the enterprise last year should account for more than 5% of annual sales revenue.” Of note, Hebei, in its annex, generally states that enterprises which are recognised as the manufacturer of independent innovation products should report their R&D funding each October.

³⁹ While they do not explicitly reference IP “ownership,” the focus on “IP rights obtained” as linked to indigenous innovation activities in S&T projects is mentioned in Part 1, measure 1 and 2 of the latest *2012 National IP Strategy*, to which 28 government bodies contributed, and should at least be monitored. Part 1, measure 1: MoST: “*Revise the Assessment Index System of National Technology Invention Awards, enhance the assessment on patent quality, increase the rewards to significant technological inventions and IP rights obtained through indigenous innovation activities.*” Part 1, measure 2: MIIT: “*...give priority and assistance to projects which obtained IP rights through indigenous innovation activities, specify the acceleration of indigenous innovation capacity building...*” (emphasis added)

⁴⁰ Maskus (2000) notes there are three ways to transfer technology across international borders: trade through goods; foreign direct investment (FDI) within enterprises (multinationals, in particular); and contractual licensing of technology among unaffiliated firms, subsidiaries and/or joint ventures. The same study finds that FDI, often a main method of patent ownership transfer, rises only when patent rights are strengthened to levels with which enterprises are comfortable, otherwise licensing agreements are preferred. (Source: Maskus, K. E. (2000). *Intellectual property rights and economic development*. Paper for “Beyond the Treaties: A Symposium on Compliance with International Intellectual Property Law” at

is due to fears over China's IPR protection environment and given these firms' market power. Consultations within the European Chamber find that this generally represents decision-making of some of the biggest and most competitive multinationals, most of who have been operating in China for decades.⁴¹ The aforementioned IND-IP-based IIPs do nothing to alleviate the fear about the quality of the IPR environment in China, and given their discriminatory nature in fact worsen foreign enterprises' perception of the friendliness of the innovation environment at large in China. And this likely holds even with the economic downturns in the rest of the world and the comparative attractiveness of the Chinese market acting as a pull factor.

To be sure, this trend will also apply to foreign SMEs as well as multinationals. INSME (2011) notes that to-date European firms most commonly transfer their technology to Chinese firms via licensing agreements as opposed to transferring ownership, adding that many of these technology transfers are not even in the areas of high-technology but in low technology, or consumer or industrial products.⁴² And even for new SMEs with highest-quality patents looking to take advantage of opportunities in the Chinese market, there is a strong reluctance, given IPR enforcement concerns among other issues, to establishing any operations in China, let alone transfer ownership of technology to Chinese entities.⁴³ The aforementioned INP IP IIPs do nothing to improve foreign SMEs' perception of the IPR enforcement environment in China, and in fact worsen their perception on the innovation environment at large in China.

As a note, this trend is further reinforced by the fact that even if "worldwide rights to exclusive use" is allowed in some measures as an option in meeting IIP IPR requirements, this option cannot be practically met, as current Chinese law effectively prohibits an owner/licensor from retaining IP usage rights in a foreign jurisdiction, and also prohibits any other person, including a subsidiary of a foreign enterprise from receiving a sublicense from the China licensee.⁴⁴ This further undermines the ability of IIP IPR requirements to spur patent quality and related innovation. (For more on this specific point see the later section in this Chapter on the HNTE scheme.)

Third, and in a related vein to the second point, China's IND-IP-based IIPs may even have some push effect of encouraging some companies to develop certain initiatives in alternative regions where they can contribute to quality patents and local innovation. Innovation investments by companies in EU Member States in particular may be increasingly pushed away from China towards India, the US and Canada, Eastern Europe, Japan, other EU Member States, among other places. Obviously this decision-making is based on a wide range of pull factors, but when also compounded with the push factors mentioned in the Introduction to this study and other places throughout (e.g. IPR enforcement concerns, lack of access to credit, shortage of talent in certain areas) may ultimately create a more notable drag on innovation and related development of quality patents in China than if such policies were replaced with more palatable ones.

Case Western Reserve University. Retrieved from University of Colorado, Department of Economics. Web site: <http://www.colorado.edu/Economics/mcguire/workingpapers/cwurev.doc>. McDaniel (1999) finds that in large markets with both high potential returns on investment (ROI), although firms prefer to utilise FDI despite its comparatively higher fixed costs, as opposed to licensing which has lower fixed costs but also a lower ROI, if uncertainty surrounds security of patent rights (even in countries with a high market potential, as in Japan in the 1980s and 1990s), IPR licensing is used as an alternative to patent transfer via FDI given too much IPR leakage in the latter. (Source: McDaniel, C. (1999). *Inventing around and impacts on modes of entry in Japan: A cross-country analysis of U.S. affiliate sales and licensing*. Office of Economics Study, USITC. Retrieved from http://www.usitc.gov/publications/332/working_papers/EC9911A.PDF). Among other sources discussing related phenomena, see Maskus (1998).

⁴¹ 13 March 2012 - Consultations with several European Chamber members in Shanghai

⁴² INSME. (2011). *Technology transfer to China: Guidance for businesses*. Retrieved from http://insme.org/insme-newsletter/2011/file-e-allegati/newsletter_documents/Technology_transfer_to_China_FINAL.pdf

⁴³ 2012, March 23- Consultations on SMEs' internationalisation in China with a DG Enterprise representative

⁴⁴ Orrick. (2010, January). *China income tax preferences for high/new-tech enterprises (HNTE)*. Orrick Tax Law Update. Retrieved from <http://www.orrick.com/fileupload/2420.pdf>

As noted in Box 4 in Chapter 1, Chinese and EU companies suggest that access to government-sponsored sources of finance is critical in allowing them to boost patent creation and utilisation. Survey data from EU companies suggests that outside access to key talent, access to public grants, fiscal incentives, and public loans and guarantees are some of the most important factors affecting EU companies' innovation plans and activities.⁴⁵ Consultations also suggest that access to the aforementioned types of financial support is a key factor affecting many private Chinese companies' (including those using IPR sometimes licensed from foreign entities) innovation plans and activities.⁴⁶ As such, in order to better attract certain innovators from the EU (particularly those that are not as well-funded as others), and also to fully stimulate many private Chinese enterprises, China's innovation policies should be crafted in a way that does not unnecessarily exclude potential innovators; however, IND-IP-based IIPs do not appear to most objectively reflect these policy considerations.

Further, to the extent that other countries have policies that do not overemphasise IND-IP-based IIP-style policies which in effect may 'crowd out' licensing from abroad, they may pull in some licensed IPR that China could have otherwise realised without its IND IP IIPs. This may arise to the extent that IND-IP-based IIPs overly discourage IPR licensing, whereas IPR licensing is one important method to build innovation, and such an approach would discourage licensing spillovers that could lead to development of quality patents. There is solid potential for more licensing from foreign firms in China as well as those not yet in China but looking to expand there, whereas Giuri and Torrisi (2011) find there is still a significant potential for firms from high-income countries to license their patents in China, as gauged by their current plans to do so or lack of utilising such options as of yet. Amongst European firms in particular, roughly 24% have patents they apparently would be willing to license (although the data does not say to whom exactly) but have not yet done so.⁴⁷

The overemphasis conundrum also applies to the extent that IND-IP-based-IIPs might overly discourage policies stimulating "open innovation," the concept that firms can share/use internal and external ideas and paths to advance their technology, which is sometimes considered to be hindered by less than optimal IPR regimes.⁴⁸ Open innovation in some circumstances may better enable building breakthrough innovation and in the longer term also lead to quality patent filings.⁴⁹

Additionally, given the globalised nature of production chains at present, which are dispersed throughout a variety of countries and will likely inevitably continue to be dispersed to take advantage of comparative advantages, China's justification for IND IP policies based on national economic and technological security may be less convincing than otherwise assumed. Specifically, licensing of technology and other forms of knowledge-sharing outside that necessitated by IND IP

⁴⁵ European Commission, (2010), p. 17

⁴⁶ 2012, April 17- Consultations with several members of the European Chamber in Shanghai

⁴⁷ Giuri, P., & Torrisi, S. (2011). *The economic uses of patents*. Munich, Final Conference of the InnoS&T project "Innovative S&T indicators for empirical models and policies: Combining patent data and surveys"; and WIPO (2011), p. 65

⁴⁸ Among others see: Lee, N., Nystén-Haarala, S., & Huhtilainen, L. (2010). *Interfacing intellectual property rights and open innovation*. Retrieved from http://www.wipo.int/edocs/mdocs/mdocs/en/wipo_ipr_ge_11/wipo_ipr_ge_11_topic6.pdf

⁴⁹ Note: Herein, it should be considered that open innovation and other public disclosure of inventions are important for building-up innovation and leading to future quality patent filings. Baldwin and Von Hippel (2010) use empirical evidence to suggest that ownership of IPR is not as essential to innovation as perhaps assumed, whereas open source innovation can very much lead to key innovations. (Source: Baldwin, C. Y., & Von Hippel, E. A. (2010). *Modeling a paradigm shift: From producer innovation to user and open collaborative innovation*. Harvard Business School Finance Study, No. 10-038. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1502864). WIPO (2011) also suggests that there can be a place for open innovation, for example, among research institutes and universities, to spur important innovations. Also, it is well-known that a significant amount of information used to build future patents is taken from publicly available information on already granted patents. As a result, an entity can benefit from open innovation and others' patent filings in creating its own innovation.

requirements are increasingly underpinning much of the global operations of many entities of many nationalities.

Fourth, IND-IP-based IIPs may be in violation of WTO rules, particularly Article 3 (on national treatment) of the *Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement*, and thus if effectively challenged will need to be replaced by a strategy that less discriminatorily attempts to promote innovation.⁵⁰ It may be prudent for alternative strategies for boosting innovation and quality patents to already start taking the places of these type of IIPs rather than allowing them to exist as a core part of China's innovation policy and thus preempting any lags in efficiency that might result between required nullification of the policies and crafting more appropriate new ones.

Side note: So what policy tools might encourage IP transfers?

As IP transfers were mentioned earlier in this section, it should be noted that promoting trade gains may be one alternative to encourage IP transfers. Galasso et al. (2001) finds that patents with higher potential gains from trade are more likely to experience a change in ownership.⁵¹ As such, there is at least some indication that if the authorities can build the economy in a way that provides further trade gains, foreign companies then could increasingly transfer IP ownership to China-based entities. This said, it is important to contextualise Galasso et al. (2001) with the findings of Hu (2008) and the other innovation trend-related background information in Chapter 1 of this study.⁵²

III.3.1.1.3 CFTDF and similar subsidies

There is concerning evidence of large Chinese subsidy funds that are built on discriminatory IND-IP-based requirements as well as contingent on export performance. Some of these subsidies fall within China's Central Foreign Trade Development Fund (CFTDF), a large fund investigated in this study which has surprisingly seemed to fly under the radar of most observers.⁵³ According to a Chinese government-supported audit report, it appears that up until 2004 the income from quota bidding (a typical funding source for China's subsidy programs) channelled into the CFTDF reached RMB 37.7 billion, among which RMB 29.5 billion had been allocated to enterprises qualifying for the fund. Only RMB 3.5 billion, or 12% of the amount allocated to enterprises qualifying for the fund, was distributed in the form of loans, whereas RMB 25.7 billion of the fund was very likely given in the form of grants. These monies were given to 247 projects, and out of those projects 103 (41.7% of the

⁵⁰ For one analysis of a potential WTO case herein see: An, S., & Peck, B. (2011). China's indigenous innovation policy in the context of its WTO obligations and commitments. *Georgetown Journal of International Law*. Retrieved on March 30, 2012 from <http://gjiil.org/wp-content/uploads/archives/42.2/ChinasIndigenousInnovation.pdf>. (pp 437-442 of that paper note that certain IP-specific provisions in China's IIPs appear to be in violation of Article 3 as well as Article 27.1 of the *TRIPS Agreement*). Note: In the opinion of this study, IND IP requirements may conceivably conflict with Article 3 of *TRIPS*, which stipulates national treatment of "protection" of IPR (however, an argument based upon Article 27.1 seems less convincing). As a very important caveat, however, it would be absolutely necessary to fully investigate how Footnote 3 in Article 3 of *TRIPS* is intended to be applied, whereas that footnote defines "protection" of IPR as: "For the purposes of Articles 3 and 4, "protection" shall include matters affecting the availability, acquisition, scope, maintenance and enforcement of intellectual property rights as well as those matters affecting the use of intellectual property rights specifically addressed in this Agreement." A further analysis of these dynamics is well beyond the scope of this study.

⁵¹ Galasso, A., Schankerman, M., & Serrano, C. J. (2011). *Trading and enforcing patent rights*. Retrieved from http://www.economics.utoronto.ca/serrano/papers/GSS_paper.pdf

⁵² Note: Recall Hu (2008) finds that patent filing trends in China do not follow the market covering hypothesis; however, Hu (2008) focuses on IP filings, whereas the findings in Galasso et al. (2001) relate to IPR ownership transfer (post-filings). As such, Hu (2008) does not necessarily challenge the aforementioned findings.

⁵³ See Prud'homme, D. (2012, forthcoming). *The biggest subsidy scheme nobody's heard of: China's Central Foreign Trade Development Fund*. European Chamber Working Paper. Note: many subsidies herein are clearly discriminatory and violate WTO obligations in the *SCM Agreement*, namely Article 3 on prohibited subsidies and Article 5 on actionable subsidies, and as related to export subsidies in some cases conflicts with Paragraphs 166 and 167 of the Report of the Working Party on the Accession of China.

projects which received loans) did not even repay their fund loans on time (thus the amount of un-repaid loans to the CFTDF totalled RMB 980 million, which was 27.66% of the total funds distributed for loans).⁵⁴

Some examples of these discriminatory subsidies are listed below:

- *Administrative Measures for Research and Development Fund of Export Products* issued by MOF and the Ministry of Foreign Trade and Economic Cooperation (former version of MOFCOM), which is one of the earliest relevant measures found during research for this study, and is still effective:⁵⁵

Article 2: *"The term export R&D funds in this measure means the government funds drawn from the Central Foreign Trade Development Fund as a subsidy that does not need to be repaid to support research and development of export products."*

Article 8: *"The export R&D funds will as a matter of priority provide subsidies for enterprises and projects meeting the following conditions:*

(1) According to Customs statistics, last year's export volume accounts for more than 50% of the total sales revenue or exports are worth more than 15 million U.S. dollars...

*(5) Have indigenous intellectual property rights..."*⁵⁶

- *Application Guidance for Fund for the Optimisation of Import & Export of Machinery & Electrical Product and High-Tech Products*, issued on September 3rd 2007 by MOFCOM and MoF, which provides free financing of labor costs, equipment costs, fuel and power costs, rental fees, testing fees, material fees, "commissioned development fees", and "appraisal and acceptance fees." The main IND-IP-based and export restrictions for qualifying for these funds are:

Part 4, Article 4: *"an R&D project must...generic technology programs should have indigenous intellectual property and related entities should have clear intellectual property rights."*

Part 2, Section 2, criteria 2: *"...last year's exports accounted for more than 50% of the total sales revenue or enterprise exports more than 15 million U.S. dollars."*

Part 2, Section 4: *"Special funding support includes:*

Article 4.1: Free financing;

Article 4.5: The amount of subsidy for construction programs for base public service platforms average no more than 10 million RMB, significant programs no more than 20 million RMB, and the amount of subsidies for single enterprise programs average no more than 3 million RMB.

*Article 4.7: Funds will be appropriated in two stages: first for 60% of funds after approval, and the other 40% funds will be given after programs are accomplished and qualifications are verified."*⁵⁷

⁵⁴ Shandong Institute of Internal Audits. (2005, November 4). *Audit shows the disadvantages of Foreign Trade Funds*. Beijing News. Retrieved on April 15, 2012 from <http://www.sdiia.gov.cn/vznews/showdetail.aspx?id=4543>

⁵⁵ No readily available notice appears to be issued nullifying or superseding the measure when last checked on August 17, 2012.

⁵⁶ Promulgated on November 27, 2002, last retrieved on April 30, 2012 from <http://www.zwgk.suzhou.gov.cn/dpt/show.asp?ID=18598> Note 1: Translation from the European Chamber thus is unofficial. Note 2: There is no definition of the term "indigenous intellectual property" in the measure itself.

- *Notice on Good Performance of the Construction Fund for Guangdong Export Bases of Agricultural, Light Industry and Textile Products for the year of 2011* issued on June 14th 2011 by the Department of Foreign Trade and Economic Cooperation of Guangdong Province and Department of Finance of Guangdong Province:

Section 1, Part 1: *“The source of the fund for agricultural, light industry and textile products is the Guangdong Foreign Trade Development Promotion Fund according to the new provincial financial arrangements of Guangdong....”*

Section 1, Part 2: *“The fund is implemented and managed by programs and the fund is used as a grant...”*

Section 1, Part 3, Para. 1: *“....The support scope of the funding includes covering the expenditure for instruments and equipment (not for production use), software, expert advice and information and certification needed for R&D, design, quality control, and product testing of export enterprises as well as the expenditure such as venue rental costs for activities.”*

Section 3, Para. 3: *“The enterprises that apply for the public technology platform program for agriculture, light industry and textile product export should have indigenous intellectual property rights...”*⁵⁷

As mentioned, the above list is *non-exhaustive*. In fact, research for this study has uncovered a variety of other policies existing under the CFTDF that include IND-IP-based requirements, as well as export and other preconditions for receiving subsidies.⁵⁹

Further, it is worth further investigating if such subsidies, or related subsidies, are linked or will be linked to targets in certain recent provincial IP plans and strategies (e.g. Provincial/Municipal 12th Five Year IP Plans reviewed in this study, different components of which are mentioned in the “Chapter 2” and “Chapter 3” sections in the Annex).⁶⁰ In fact, this link would not necessarily be a new policy initiative. For example, although less than 100% explicit, it appears to still be relatively clear from a number of recent past measures, like the below-mentioned measure, that Chinese policy targets for IND IP and export growth have a history of being linked to CFTDF subsidies:

- *Opinions on Accelerating the Transformation of the Export Growth of Electromechanical Products within the period of Eleventh Five Year*, issued on May 27th 2006 by MOFCOM, NDRC, MoST, MoF, MIIT, the People’s Bank of China (PBoC), General Administration of Customs (GAC), State Administration of Taxation (SAT), and General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ):

Section 1, Article 2: *“...by 2010 the export volume of high-tech electromechanical products to account for 55% of the total export...the proportion of export*

⁵⁷ Retrieved on April 22, 2012 from http://www.smes-tp.com/Article_Show.asp?ArticleID=32448 Notes: Translation from the European Chamber thus is unofficial. This measure was only intended to be effective in 2007. There is no definition of the term “indigenous intellectual property rights” in the measure itself.

⁵⁸ Retrieved on April 30, 2012 from <http://www.gdoftec.gov.cn/admin/UploadFile/2011621161019379.pdf> Notes: Translation from the European Chamber thus is unofficial. This measure was only intended to be effective in 2011. There is no definition of the term “indigenous intellectual property rights” in the measure itself.

⁵⁹ Note: While these aforementioned criteria may be concerning, it is important to note that some of these measures include criterion for R&D output, which as mentioned in the IND-IP-based IIPs section and related Recommendations in this Chapter in fact is, in the view of this study, a useful criterion for innovation funding.

⁶⁰ For example, among others, an indicator in *Hunan’s Provincial Intellectual Property Strategies Outline* of February 26, 2009 sets forth an objective that *“indigenous intellectual property rights and indigenous brands’ exports to reach ≥ 20% and ≥ 50% respectively of total export volume.”* (see the “Chapter 2” section in the Annex for further indicators from provincial IP proposals.)

electromechanical products which own indigenous brands and indigenous intellectual property rights to account for 20% of the total export volume of electromechanical products.”

Section 5, Article 18: *“Continue to annually withdraw a sum of money from the Central Foreign Trade Development Fund to mainly support the R&D and subsidised loans of technical transformation of export electromechanical products, and when conditions permit, localities should also be given financial support.”*⁶¹

From one vantage point, the aforementioned subsidy schemes indeed might help to build domestic enterprises, given self-owned brands, self-owned patent rights, and sales records collectively can be a metric of the competitiveness of an entity. So rewarding enterprises meeting such criteria might seem like an obviously useful incentive.

However, for the same four reasons mentioned in the previous IND-IP-based IIPs section, with some supplemental details to those reasons, it appears that the abovementioned subsidy approaches will not necessarily best encourage quality patent filings and related innovation in the ways ostensibly envisaged. Regarding the differences in details, in terms of the fourth reason from the IIPs section on WTO conflicts, the subsidies mentioned in this section not only potentially contradict the *TRIPS Agreement* but are also clearly in contradiction with Article 3 of the WTO’s *Subsidies and Countervailing Duties (SCM) Agreement*, among other provisions in China’s WTO commitments.⁶² (And note that the above cited measures were not specifically mentioned in the apparently resolved case filed against China on its China World Top Brand Programme and Chinese Famous Export Brand Programme.⁶³) Thus, replacement strategies will need to be put in place by the Chinese authorities if these and related subsidy policies and their implementing measures are effectively challenged.⁶⁴

Additionally, requiring patent-ownership-related criteria for high-exporting enterprises may be unnecessary as it may not establish innovation and competitiveness-building incentives in the most efficient and effective ways. Specifically, empirical evidence across a range of countries suggests that export capacity is already one of the most statistically significant indicators of patent filings.⁶⁵ As

⁶¹ Retrieved on May 16, 2012 from <http://www.mofcom.gov.cn/aarticle/difang/ningxia/200609/20060903039965.html>
Notes: Translation from the European Chamber thus is unofficial. Although there appears to be no readily available notice that invalidates this measure, it inferably was only intended to be effective during the time of 11th Five Year Plan (i.e. 2006-2011). There is no definition of the term “indigenous intellectual property rights” in the measure itself.

⁶² Several subsidies in the CFTDF violate WTO commitments in the *SCM Agreement*, namely Article 3 on prohibited subsidies and Article 5 on actionable subsidies, and as related to export subsidies in some cases conflicts with Paragraphs 166 and 167 of the Report of the Working Party on the Accession of China. (Source: Prud’homme (forthcoming 2012))

⁶³ Specifically, DS387, initiated by the US on December 19th 2008 and joined by Australia, Canada, Colombia, Ecuador, the European Communities, Guatemala, Mexico, New Zealand and Turkey in January 2009. The press reported the USTR signed an agreement with China to remove “numerous subsidies” mentioned in the DS387 case (source: China resolves WTO case by ending subsidies on ‘famous brands’. (2009, December 20). *Bloomberg*. Retrieved from <http://www.business-standard.com/india/news/china-resolves-wto-case-by-ending-subsidies%5Cfamous-brands%5C/380109/>). USTR (2011), pp 70-71, also note that the case was resolved in December 2009. This was further confirmed in the author’s consultations with a representative from USTR in March 2011. For details of the request for consultations evidence see: WTO. (2009, January 7). *China – Grants, loans and other incentives: Request for consultations by the United States*. WT/DS387/1. (Document No 09-0022, pp. 1-18). Retrieved from <http://docsonline.wto.org>

⁶⁴ Note: The reason such subsidies are not allowed under the WTO framework is not necessarily that they do not “work at all” in building-up enterprises, although some certainly argue this, rather that countries have agreed to mutually limit discriminatory rules with a view to allowing market forces and more ‘neutral’ support mechanisms to determine the most competitive industries.

⁶⁵ Note 1: Blind (2006) looks at patent applications at the European Patent Office (EPO) and finds an upsurge in patent activities cannot be explained by expansion in R&D expenditures, but rather the most powerful indicator of international patent applications is export volumes. (Source: Blind, K. (2006). Chapter 5: Driving forces of patent applications at the European Patent Office: a sectoral approach. In Hingley, P., & Nicolas, M., *Forecasting innovations: Methods for predicting numbers of patent filings*, pp. 73-94. Heidelberg, Germany. Springer.) Note 2: Encaoua et al. (2000) also finds that

such, firms that export already have the incentive to protect their patents (and trademarks, and other forms of IP) abroad without such CFTDF subsidies. This said, perhaps surprisingly, it is apparent that some Chinese firms, for example some SMEs, that export knowledge-intensive goods and services abroad do not actually register their IPR abroad.⁶⁶ Either way, given the previously mentioned drawbacks in the specific subsidies, such funds might better be used to build-up innovative enterprises and support patent quality in different ways not necessarily based on IND IP export criteria.⁶⁷

III.3.1.1.1.4 Sub-central level incentives for IP development

Just based upon the recent IP proposals reviewed for this study, it is clear that many provinces in China have set-forth special award programs and are intent on utilising a number of financial incentives to spur development of quality patents. Many of these initiatives seem commendable. For example, Anhui sets out an Anhui Patent award “to improve patent quality” and Hebei notes the need to calibrate financial funding for patent initiatives based upon differences in enterprises size, location and stage of development. Jiangsu looks into establishing a “Patent Bank;” sets out an initiative that registered patent intermediary service organisations engaged in patent technology development and other practices can be exempted from the business tax (BT) and education surcharge; notes that financial investment in developing IP should outpace immediate ROI; among others. Liaoning promotes a 500,000 RMB Gold Award for China Patents and a 200,000 RMB China Patent Excellence Award. Ningxia promotes similar awards to Liaoning, and mentions setting-up special funds to stimulate invention patents. A number of provinces provide funding specifically for registering patents abroad. Other IP proposals reviewed also have seemingly relatively well-aimed financial funds to build patent quality. (Note: these award programs are not concerning if they do not include IND IP-type criteria.)

There are also provinces/municipalities that while setting out some commendable initiatives in the provincial/municipal IP proposals reviewed in this study also set out potentially concerning provisions. For example, on one hand, Tianjin’s 12th Five Year IP Plan (from 2011), sets forth a variety of interesting financial plans, including a “Tianjin Patent Award,” “Worker Inventor Award,” “Women Inventor Award,” and “Juvenile Inventor Award,” and promotes the “One Award, Two Remuneration” system.⁶⁸ However, on the other hand, the Tianjin plan also sets out advice that funding from specific government funds from the key technology invention project fund, science and technology invention fund, and technology invention fund for SMEs should “tilt towards enterprises with indigenous intellectual property rights.” Table 13 below illustrates these financial incentives.

propensity to patent solutions rises as exports rise, whereas exporting firms face more competition and thus increasingly need to protect knowledge-based resources (Source: See Encaoua, D., Hall, B. H., Laisney, F., & Mairesse, J. et. (2000). *The economics and econometrics of innovation*. Dordrecht, Netherlands. Kluwer Academic Publishers.)

⁶⁶ Consultations with several Chinese companies in the nutrition and machinery industries on April 12th 2012 and April 18th 2012. Note: Without government consultations it is unclear how much this phenomenon plays into the rationale behind the aforementioned subsidy policies.

⁶⁷ To be sure, for the reasons mentioned, this is despite the fact that, as found in Girma et al. (2009), export subsidies at large (although not necessarily those in the CFTDF specifically) could indeed boost exports of Chinese firms in capital-intensive industries that may see certain levels of innovativeness. (Source: Girma, S., Gong, Y., Gorg, H., & Yu, Z. (2009). Can production subsidies explain China’s export performance? Evidence from first-level data. *The Scandinavian Journal of Economics*, Issue 4, 863-891. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-9442.2009.01586.x/full>)

⁶⁸ Note: this system appears grounded in the *Detailed Rules for the Implementation of the Rules for Implementation of the Patent Law*, the revised version of which was issued on January 9th 2010 by the State Council and took effect on February 1, 2010. Specifically, see Part 6, Article 76, 77, and 78 (as well as Article 16 of the *Patent Law*). For an English translation of the measures see: http://www.ccpit-patent.com.cn/references/Implementing_Regulations_Patent_Law_China.htm

The IND-IP-based funding approaches in such types of proposals may raise the types of concerns discussed in the previous IND-IP-based IIPs section.⁶⁹

Table 13: Example financial incentives for patent development from recent IP proposals reviewed

Province/Municipality	Financial incentives for patent development
Tianjin	<ul style="list-style-type: none"> From IP Plan issued in 2011: <p>Section 4, Part 6, Article 1: <i>“Improving patent quantity and quality...enacting the ‘Tianjin Implementation Measures on the Ownership and the Bonus and Payment System of Service Invention-Creations.’ Implement the ‘One award, Two remunerations’ system and other relevant regulations. Encourage annual growth rates of enterprise patent applications up to 20%.”</i></p> <p>Section 5, Article 3: <i>“Greatly publicise and recognise the institutions and individuals who contribute outstandingly to the field of intellectual property, strengthening the influence of awards such as the Tianjin Patent Award, Worker Inventor Award, Women Inventor Award, and Juvenile Inventor Award. Setting forth a wide distribution of awards including taking shares in the form of intellectual property rights; accelerating the forming of a new distribution system which will stimulate inventions and the implementation of patent transformation.”</i></p> <p>Section 5, Article 4: <i>“...Strengthen the significance of intellectual property in science and technology awards ...Special funds such as the key technology invention project fund, science and technology invention fund, technology invention fund for technological SMEs, and government financial funds should tilt towards enterprises with indigenous intellectual property rights.”</i></p>

Source: Author’s selection of articles from provincial/municipal 12th Five Year Intellectual Property Rights Plans and IP Strategies. A non-exhaustive list of other articles from provincial/municipal 12th Five Year IP Plans, IP Strategies, and equivalent/related policies that mention financial incentives for IPR development are listed in the “Chapter 3” section in the Annex. Translations are from the European Chamber thus are unofficial.

Additionally, while not necessarily overtly concerning, *per se*, there are a range of incentives, including but not limited to financial incentives, often offered at the municipal and local levels to spur inventions, directly and indirectly intended to encourage patent applications, the usefulness and workings of which deserve further investigation with their implementing authorities. For example, according to regulations like the *2012 Grading Policy for Non-Shanghai College Graduates of Obtaining Employment in Shanghai*, issued in May 2012 during the Joint Meeting on the Employment of Shanghai College Graduates, students and workers who file patents are more likely to earn a *hukou*, a Chinese residence permit which restricts workers from moving to cities they are not originally from.⁷⁰ Sources find that professors who own patents are more likely to win tenure.⁷¹ Applicants to research universities and institutes are given preference in admission if they file more patents.⁷² Companies with patents are more likely to win big government contracts.⁷³

⁶⁹ Note: While the Tianjin 12th Five Year IP Plan does not explicitly define the term “indigenous intellectual property rights,” this term is defined by the Tianjin IPO (see Box 5).

⁷⁰ Under the measure, there is a standard score for non-Shanghai college graduates, whereas if the score of the graduate has surpassed the standard score the graduate can apply for a Shanghai *hukou*, and if the score does not surpass the standard score the graduate can only apply for a “Shanghai Residence Permit for Talents.” The measure sets forth the following criteria within this scoring system: Section 2, Part 4: *“Has an invention patent certificate: 5 points; has a utility model patent certificate: 1 point; has a design patent certificate: 1 point; has a design patent certificate and is employed by a unit in the creative design industry: 3 points.”*

⁷¹ Innovation in China: Patents, yes; ideas, maybe. (2010, October 14). *The Economist*. Retrieved from

<http://www.economist.com/node/17257940>

⁷² Gao et al. (2011), p. 87

Governments offer individual patent filers incentives such as housing support,⁷⁴ and provincial/municipal governments may offer land and rental subsidies for certain companies in “innovative” industries.⁷⁵ According to national-level law, prisoners, even those with life sentences, can commute their sentences if they produce “inventions or major technological renovations” and there is evidence sub-central levels have created implementing measures for this allowance.⁷⁶

Without a comprehensive assessment on how all financial incentives of all provinces/municipalities in China are actually implemented and working in practice, if they have even been implemented yet, it is not possible to fully assess if they are most efficiently and effectively using government resources to stimulate patent quality more so than quantity. However, it appears a variety of incentives deserve to be better linked with patent quality metrics in order to be most sustainable, i.e. adopt higher thresholds for which only quality patents are rewarded. It is worth exploring related dynamics herein with the authorities. As a small part of this discussion, it is worth exploring if more sustainable approaches than some of those set out at present might be adopted to make employers offer incentives to their employees to invent not just for the sake of producing patents but to also better contribute to the overall competitiveness of their company, or university or research institute, and China at large.

III.3.1.1.1.5 Large funds from MoST, NSFC, and other S&T-focused bodies

Background

China provides massive government funding for S&T, which in part is used to develop patents. As estimated in McGregor (2010), in 2008 China spent RMB 912 billion on S&T, accounting for 1.54% of GDP that year, whereas 21% of this was from government funding, divided roughly 50-50 among local and central levels; 70% was Chinese “enterprise” money; around 4% was loans from financial institutions; and the remaining expenditures were attributed to several other miscellaneous organisations.⁷⁷ It appears that from 2000-2006 61-73% of all government funding for science and technology was given to manufacturers of communication equipment, electronic equipment, transport equipment (including aerospace), and machinery (general purpose, special purpose and electrical).⁷⁸

⁷³ The Economist (2010)

⁷⁴ Lohr, S. (2011, January 1). When innovation, too, is made in China. *New York Times*. Retrieved from http://www.nytimes.com/2011/01/02/business/02unboxed.html?_r=2&partner=TOPIXNEWS&ei=5099

⁷⁵ For example, see Chengdu HTDZ Investing in China – Government Policies. Retrieved from http://www.chengduhitech.co.uk/Guide/Government_Policies.asp

⁷⁶ This allowance is grounded in Article 78, para. 1 of *Criminal Law of the P.R.C* which states “A criminal element who is sentenced to control, criminal detention, fixed-term imprisonment or life imprisonment may have his sentence reduced if, during the period his punishment is being executed, he earnestly observes prison regulations, accepts reform through education, truly repents, or performs meritorious service. The sentence shall be reduced if any of the following meritorious services are performed:(3) *making inventions or major technological renovations*...For those sentenced to control, criminal detention, or fixed-term imprisonment, the term of the punishment actually to be executed may not, after reductions of sentence, be less than half of the term originally decided; for those sentenced to life imprisonment it may not be less than 10 years.” (emphasis added) As an example of implementation of this provision, the Gansu Prisons Bureau and Gansu Intellectual Property Department issued the *Measures for the Rewards and Recognition of the Invention, Creation and Technical Innovation of Prisoners within the Period of Execution (Trial)* on October 1st, 2009 (Source: news article on measure, although a copy of the actual measure could not be readily located, retrieved from http://www.sipo.gov.cn/mtjj/2009/200908/t20090803_471159.html)

⁷⁷ McGregor, J. (2010). *China’s drive for ‘indigenous innovation’: A web of industrial policies*. US Chamber of Commerce; APCO Worldwide. p 17 and Annex 2, p. 44. Retrieved from http://www.uschamber.com/sites/default/files/reports/100728chinareport_0.pdf

⁷⁸ Calculations using data from the 2004-2009 *China Statistical Yearbook*, 2007 *China Statistical Yearbook on High Technology Industry*, and 2000-2007 *China Statistical Yearbook on Science & Technology*. Note: “Government Funds” refer

A range of financial support that makes-up China's public S&T funding overall appears, while there are exceptions, to be quite closed to foreign participation. Key S&T development programs overseen by MoST include the Key Technologies Program, 863 Program, 973 Program, Torch Program, and National Key Laboratories program. There are a variety of MoST spin-off programs from these programs.⁷⁹ The National Natural Science Foundation of China (NSFC), Chinese Academy of Sciences (CAS), and China Scholarship Council (CSC) all also have funding programs for research collaboration.⁸⁰ Sources suggest most of these programs are in fact not open to foreign participation and have largely not been utilised much by foreign enterprises.⁸¹

Issues with distribution requirements for such funding

In some cases the aforementioned programs appear to be linked to patent-based criteria, which may be difficult for foreign entities (individuals, research institutes, or enterprises) to meet and which may not best stimulate quality patents and related innovation from any nationality of entity. For example, the Innovation Fund for Small Technology-based Firms ("Innofund") is a main component of the Torch Program, and is linked to IND-IP-based requirements⁸² and is also contingent on an entity qualifying under the HNTE scheme,⁸³ raising the concerns over these requirements as mentioned in the next section on HNTE status. By way of another example, the 973 program's official government website indicates the program emphasises building "original innovations and indigenous intellectual properties in China's research."⁸⁴

to those "obtained from government agencies at all levels to be used for S&T activities, including funds for scientific undertakings, funds for capital construction and scientific research, science fund, funds from education expenditures by education departments for S&T activities, and extra-budgetary funds from government agencies for S&T activities." And "Science and Technology Activities" refers to "organised activities in the fields of natural sciences, agricultural science, medical science, engineering and technological sciences, humanities and social sciences, aimed to generate, develop and disseminate knowledge and technology. These activities can be divided into R&D, its subsequent outcome and application." (Source: 2009 China Statistical Yearbook)

⁷⁹ For one resource on national funding programs see: ChinaAccess4EU National Funding Programs in Mainland China, retrieved from <http://www.access4.eu/China/274.php>. Also for some information on provincial/municipal plans see NSD Bio Group. (2009). *Research report on Chinese high-tech industries*. US China Economic and Security Review Commission. Retrieved from http://www.uscc.gov/researchpapers/2009/Research_Report_on_Chinese_High_Tech_Industries.pdf

⁸⁰ Note: much of the funding from these entities is not given to private enterprises, whether Chinese or foreign.

⁸¹ 2012, March 6- Consultations with several R&D managers of large multinational companies involved in the European Chamber suggest they have not tapped into these funds. Discussions with the Chamber's R&D Forum Chairs and Shanghai government authorities on May 17th 2012 suggest that foreign companies find ways of working effectively with Chinese universities and research institutes, and thus can sometimes access such funding through those cooperation activities. However, foreign companies typically find it very difficult to cooperate with Chinese enterprises – particularly SMEs – on S&T projects, and thus are not able to use that form of cooperation to access government S&T funding. Consultations with members of different working groups of the European Chamber on June 27th 2012 also confirm these findings.

⁸² Notes: The Innofund is one of the main components of the Torch Program, and the fund provides financial grants in the forms of interest-subsidised loans and equity investment, among other subsidies. The Innofund is aimed at supporting technology innovation activities of small technology-based firms, facilitating transfer of research achievements, nurturing certain small technology-based firms and expediting the industrialisation of "new and high technology" enterprises. (For more information on this fund in English see: <http://168.160.200.181/eng/ejym/MainContents.htm>.) Article 6 of the *Regulations on the Innovation Fund for Small Technology-based Firms (Provisional)*, issued by MoST and MoF on May 21st 1999, which is still effective, states that indigenous intellectual property will be a core component in providing prioritised funding from the Innofund. This is the only place where intellectual property was mentioned in this Innofund measure. (Retrieved from http://www.innofund.gov.cn/innofile/se_02.asp.) Also see information on the Torch Hi-tech Industry Development Center of MoST at <http://www.chinatorch.gov.cn/index.html> and Recognition of Hi-tech Enterprises at [http://www.innocom.gov.cn/web/\(http://www.innocom.gov.cn/web/static/articles/catalog_3/2009-07-28/article_2820410421c5bfc50121c7e174b90054/2820410421c5bfc50121c7e174b90054.html](http://www.innocom.gov.cn/web/(http://www.innocom.gov.cn/web/static/articles/catalog_3/2009-07-28/article_2820410421c5bfc50121c7e174b90054/2820410421c5bfc50121c7e174b90054.html)

⁸³ See *Notice Regarding Lists of Companies Recognised as Key High-and-New Technology Enterprises (HNTEs) of the National Torch Program in 2010* issued on December 8th 2010 (effective till 2013), retrieved from http://www.innocom.gov.cn/web/static/articles/catalog_2/2010-12-09/article_282041042cb0ab79012ccaa9706c000f/282041042cb0ab79012ccaa9706c000f.html

⁸⁴ The Implementation Results of the 973 Program, retrieved from <http://www.973.gov.cn/English/Index.aspx>

There are a number of other restrictions on Chinese government-funded S&T projects that in some cases lessen the effectiveness of such projects' ability to build quality patents. Article 20 of the *Law on Scientific and Technological Progress*, amendments on which were effective as of January 2008, plainly stipulates the Chinese government must own technology resulting from research partnerships that tap into government S&T funds and are relevant to "national interests," a concept distinguished from national security and public interests.⁸⁵ Sources suggest that government approval is required before one can exclusively license IPR resulting from government-funded S&T projects to foreign entities. Further, there is concern that money or other support from SOEs or universities used to fund research projects may also be considered in certain circumstances as "government funding" and thus be subject to the aforementioned restrictions.⁸⁶ While some of the aforementioned requirements may be grounded in good-intentioned policy rationales, they are arguably overly broad and thus create regulatory/business planning uncertainties, business transaction costs, and, generally, somewhat worsen the perception of the IPR protection environment in China.

In contrast, under the EC's rules for funding research and technological development and demonstration, project partners are entitled to own the knowledge produced from the projects. Beyond this, it is only required that the project partners reach an agreement among themselves on IP ownership and licensing, whereas IP ownership transfer and licensing is explicitly allowed under the EC rules.⁸⁷ This difference of treatment in research and technological development programs in the EU vs. China appears to be in conflict with several provisions in the *Agreement for Scientific and Technological Cooperation Between the European Community and the Government of the People's Republic of China*.⁸⁸ Generally, the aforementioned restrictions likely to some degree explain why many foreign enterprises and perhaps a range of domestic enterprises are not utilising the Chinese programs more, and thus why such programs are in some ways not as efficient and effective in contributing to development of quality patents and related innovation in China as they might be without such restrictions.

Several other concerns likely further explain why China's S&T technology funding programs are not most efficiently or effectively contributing to the development of quality patents. Some sources suggest that if an R&D partner (e.g. a university) is not just working on a service invention but

⁸⁵ Text of Article 20: "With respect to the invention patent, computer software copyright, exclusive right to layout design of integrated circuits and new variety right of plants that is formed through a project supported by the science and technology foundation or the science and technology program sponsored by treasury money, the project undertaker may obtain relevant intellectual property rights except those concerning national security, national interests or important public interests. [para.2] The project undertaker shall implement the intellectual property rights stipulated in the preceding paragraph according to law, simultaneously adopt protective measures, and submit an annual report on implementing and protecting relevant intellectual property rights to the department in charge of the project; if the project undertaker fails to implement intellectual property rights, the state may implement them free of charge or may license others to implement them with charge or free of charge. [para.3] With respect to the intellectual property rights obtained by the project undertaker according to Paragraph 1 of this Article, for the purpose of national security, national interests or important public interests, the state may implement them free of charge or license others to implement them with charge or free of charge..." (emphasis added). For one English translation of the amended law see:

http://www.china.org.cn/china/LegislationsForm2001-2010/2011-02/11/content_21899295.htm.

⁸⁶ Wang, B. (2012, February 13-14). *Working with Chinese Universities – IP issues in agreements*. [Presentation]. 3rd Advanced China IP Counsel Forum, Shanghai; and Lutze, O., Wang, B., Xu, C., & Carnabuci, C. (2012, February 13-14). *Collaborative research with Chinese Universities: How to create a win-win working relationship*. [panel discussion]. 3rd Advanced China IP Counsel Forum, Shanghai

⁸⁷ European Commission [EC]. *Guide to intellectual property rules for FP7 projects* (Version 3). Retrieved from ftp://ftp.cordis.europa.eu/pub/fp7/docs/ipr_en.pdf

⁸⁸ For example, see Article 3 (b) "reciprocal access to the activities of research and technological development undertaken by each Party"; and Annex: Intellectual Property Rights -- Part II, Article 3 (c) "non-discriminatory treatment of participants from the other Party as compared with the treatment given to its own participants." (Source: Agreement as published in the Official Journal of the European Communities on January 11th 2000, retrieved from <http://ec.europa.eu/world/agreements/downloadFile.do?fullText=yes&treatyTransId=784>)

performing other technological inventing, it can be difficult for one's company to enjoy exclusivity on the resulting invention(s).⁸⁹ Collectively, this and the aforementioned restrictions, help explain why China's government-funded S&T programs are in some ways not as efficient and effective in contributing to development of quality patents as they might be without such restrictions. This is compounded by a variety of other factors, for example difficulties companies face when navigating partner university/research institutions' internal restrictions on profit-sharing and IP ownership and licensing agreements with external partners; and ensuring that the appropriate entities are identified that can legitimately sign a contract on behalf of the university/research institute targeted; and lack of visible and condensed information in European languages on all China's state-funded S&T programs.⁹⁰

Lastly, and more generally, some sources find that China's S&T system has overly prioritised commercialisation in a way that hurts development of basic research and research otherwise chiefly intended for the public good, which in turn hampers the development of quality patents. Chen and Kenney (2007) and Zhong and Yang (2007) find that application-oriented research institutes in China have benefitted most from changes in China's innovation policy, whereas those engaged in basic research find it far more difficult to obtain government funding and attract top-level researchers.⁹¹

Some recent revisions to the system?

It is worth noting that some recent policy statements, in particular the *2012 National IP Strategy*, appear to at least realise China's current S&T funding system needs more reform, although it remains to be seen how these policies will be implemented in a way that better stimulates innovation and patent quality. In particular, provisions of relevance herein include Part 6, measure 58 from SIPO on pilot assessments for IP in major S&T activities; Part 6, measure 60 from MoST on formulating specific regulations on IP management in major S&T projects; Part 6, measure 61 from MoST on reviewing and improving measures on managing IP in national S&T projects; and Part 6, measure 64 from MoST, MIIT, and SIPO for improving supervision, assessment and guidance on major S&T projects. It remains to be discussed with the authorities if some reforms to S&T funding systems proposed in Part 1, measure 1 and 2 of the *2012 National IP Strategy* link obtainment of IP rights and indigenous innovation preferences together. (See the "Introduction" section in the Annex for full text of provisions.)

III.3.1.1.1.6 HNTE status

The High and New Technology Enterprise (HNTE) status scheme is perhaps the most controversial set of tax rules also directly related to patent-quality issues. Under the HNTE scheme, qualifying enterprises pay a mere 15% tax rate (a 10% saving given the otherwise 25% Enterprise Income Tax [EIT] rate), receive a 150% 'super' deduction for R&D expenses, and a potential business tax (BT) deduction.⁹² The *Administrative Measures for the Recognition of Hi-tech Enterprises*⁹³ and the Key

⁸⁹ Wang (2012); and Lutze et al. (2012)

⁹⁰ As well as a lack of awareness of the programs, although certain projects, such as ChinaAccess4EU provide helpful information on a variety of these plans.

⁹¹ Chen, K., & Kenney, M. (2007). Universities/research institutes and regional innovation systems: the cases of Beijing and Shenzhen. *World Development*, Vol. 35, 1056-74. Retrieved from

<http://www.mendeley.com/research/universitiesresearch-institutes-and-regional-innovation-systems-the-cases-of-beijing-and-shenzhen/>; Zhong, X., & Yang, X. (2007). Science and technology policy reform and its impact on China's national innovation system. *Technology in Society*, Vol. 29, 317-25.

⁹² Chan and Liu (2012). Also, it is worth noting there are tax preferences under the Technically Advanced Service Enterprises (TASE) status scheme, whereas those qualifying receive a 10% reduction on the EIT, up to 8% deduction on taxable income instead of the normal 2.5% allowance, and can carry forward unused deductions.

⁹³ Retrieved from http://www.gov.cn/zwgg/2008-04/24/content_953215.htm

High-tech Fields With State Support, both issued on April 14th 2008 by MoST, MoF, and SAT⁹⁴ along with the *Working Guidance on the Recognition of Hi-tech Enterprises*, from MoST, MoF, and SAT promulgated on July 8th 2008,⁹⁵ controversially define high-tech enterprises in need of key support as referred to in Article 28 of the *Enterprise Income Tax Law of the People's Republic of China* (hereafter the “EIT Law”). Specifically, Part V, Section I, para. 4 of the Appendix to the *Working Guidance on the Recognition of Hi-tech Enterprises* (the “HNTE Guidance”) stipulates qualifying enterprises must own “core” IP in China or have “worldwide rights to the exclusive use” of IP for five or more years.⁹⁶ The guidance explicitly states that “No enterprise that does not have any independently developed core intellectual property will be recognised as a high-tech enterprise.”⁹⁷ Further, the HNTE Guidance and application form therein stipulates that on a 100 point scale for assessing enterprises for HNTE status, IP is worth 30 points with a minimum score of 70 needed.⁹⁸ These provisions on IP ownership and restricted licensing are overly burdensome.

The HNTE regime may discourage patent development in China by denying foreign firms access to financial incentives on the basis of rational business decision-making. Foreign companies may prefer to license technology from abroad, and not only provide exclusive worldwide licenses, instead of transferring it via full-on ownership transfer agreements or exclusive worldwide licensing agreements. As such, the HNTE scheme requirements may in effect limit the ability of operations of foreign enterprises to produce quality patents that could ultimately spillover into benefiting China and further encouraging Chinese innovation and patents given they are denied access to financial incentives on the basis of rational business decision-making.

Further, in practice, these clearly restrictive IP-related conditions are even more restrictive. Specifically, as also mentioned in the IND IP section, while “worldwide rights to exclusive use” is stipulated in the measures as a substitute for ownership of IP, this exception cannot be practically met because current Chinese law effectively prohibits an owner/licensor from retaining IP usage rights in a foreign jurisdiction and also prohibits any other person, including a subsidiary of an HNTE, from receiving a sublicense from the China licensee.⁹⁹ This has led some, for example Deloitte (2008), to conclude it will be difficult for most China affiliates of multinational companies to obtain HNTE status.¹⁰⁰

⁹⁴ Retrieved from http://www.wjkc.gov.cn/E_ReadNews.asp?NewsID=485

⁹⁵ Retrieved from http://www.most.gov.cn/gxjscopykfg/wj/200810/t20081029_64626.htm

⁹⁶ Part V, Section I, para. 4: (i) *Independently developed core intellectual property*: “The term ‘exclusive license’ as used in the Working Guidance means the licensee enjoys the worldwide rights to the exclusive use of the intellectual property (patents, software copyrights, proprietary rights to integrated circuit layout designs, new varieties of plants, and other rights) stipulated in the agreement for five years or more, during which period neither the licensor nor any third party shall be entitled to use such intellectual property.” (ii) *Independently developed core intellectual property as referred to in the recognition of high-tech enterprises shall be owned rights registered within the territory of China, or shall represent an entitlement to an exclusive worldwide license for five years or more (the term for the relevant high-tech enterprise shall fall within the period of five or more years for which the exclusive license remains effective) and be within the period protected by Chinese law.*” (emphasis added)

Also, the Application for Recognition of Hi-tech Enterprises (in Annex 2 of the Appendix to the HNTE Guidance) clearly includes indigenous innovation-type definitions in its instructions for determining what constitutes high-tech enterprises: See Article 7: “The term ‘technology source’ refers to enterprises’ self-owned technology, other enterprises’ technology, central science and research institutes, local science and research institutes, colleges and universities, and enterprises’ innovation of imported technology and foreign technology.” (emphasis added)

⁹⁷ (Appendix) Part VI, Section (II), Article 1, Note 5

⁹⁸ See Chart in (Appendix) Part VI, and the “Form for expert evaluation in order to be a high-tech enterprise” in the Application for Recognition of Hi-tech Enterprises in Annex 4 of the Appendix to the HNTE Guidance

⁹⁹ See Orrick Tax Law Update (2010)

¹⁰⁰ Deloitte. (2008). *China tax law commentary*. Retrieved from http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/us_csg_chinataxlawcommentary_0808.pdf

Moreover, according to Part V, Section I, para. 1 of the Application for Recognition of Hi-tech Enterprises (in Annex 2 of the *HNTE Guidance*), utility models and design patents (and other types of IPR) can be used to meet the IPR requirements of HNTE status, which appear to overly encourage filing of these patents.¹⁰¹ There are certain restrictions on the aforementioned types of IPR in achieving HNTE status, and criterion in the Application Form in Annex 4 of the *HNTE Guidance* has been found to say that six non-invention patents (e.g. utility model patents) constitute one invention patent for the purposes of applying for HNTE status.¹⁰² However, the effectiveness of these criteria and the actual vetting process to ensure highest quality patents are used to apply for the HNTE program is dubious, as there is evidence that the system, while perhaps to some degree building quality patents, still favours less-than-highest-quality patents. For example, Chinese government consultations suggest that many enterprises simply use utility models instead of invention patents the purposes of applying for HNTE status.¹⁰³ As such, the HNTE scheme at present very well may encourage filings of less-than-highest quality patents, whereas if reformed it could better stimulate highest-quality patents and related innovation.

III.3.1.1.2 Standardisation policies

Discriminatory standard-making procedures, withholding information on standards, and discriminatory *de jure* standards and *de facto* application of standards have long been used to promote Chinese innovation; however, these initiatives stifle competition, potentially denying the Chinese market certain quality patents and sharing of know-how from foreign and domestic firms. Some key examples of these policies are listed below:

- **Restrictions on standard-making exclude enterprises from patent pools:** Foreign-invested enterprises (FIEs) often do not have access to the Technical Committees in which standardisation is decided, and therefore cannot join patent pools.¹⁰⁴
- **Information restrictions on patent-related requirements needed for implementing standards:** For example, FIEs are unable to obtain information on the scope and requirements of patents to implement the standards which are frequently used in mandatory certification schemes.¹⁰⁵
- **Intentionally developing national standards based only on the capabilities of Chinese SOEs:** By way of example from the ICT sector, specifically in the value-added telecoms and information security industries, standardisation is frequently and increasingly being used to promote patented Chinese technologies by developing national standards exclusively reflecting the capabilities of SOEs and certain private Chinese companies.¹⁰⁶
- **Refusal of certain Chinese entities to license “essential patents”:** Further on this particular point is discussed below.

¹⁰¹ (Appendix) Part V (“Other significant indices”), Section 1, para 1: “Independently developed core intellectual property as referred to in the Recognition Measures includes inventions, utility models, designs in which the pattern and shape of a product is changed in a non-simple manner (which generally means designs generated by the application of scientific and engineering technology in the course of research and development), software copyrights, proprietary rights to integrated circuit layout designs and new varieties of plants.” (emphasis added)

¹⁰² See category 1 in the “Form for expert evaluation in order to be a high-tech enterprise” in the Application for Recognition of Hi-tech Enterprises in Annex 4 of the Appendix to the *HNTE Guidance*.

¹⁰³ 2011, October 28- Meeting with SIPO Commissioner Tian Lipu, other senior SIPO officials, and European Chamber representatives.

¹⁰⁴ European Chamber. (2012, 1 March). Internal document re March 5th meeting with the EC on “Prospects for the Service Sector in China.”

¹⁰⁵ Ibid

¹⁰⁶ Ibid

- **Direct competitors have unnecessary access to IP submitted in application documents for chemical projects:** The approval process for a chemical project in China above \$300 million USD and also certain other projects involves local experts to evaluate the project and advise on its oversight. Expert selection is not transparent, whereas direct competitors of an applicant are often requested to join the advisory panel, thereby gaining access to confidential and proprietary information submitted in application documents. Compounding this is the fact that the high level of detail required in the process is well beyond the information released during a similar process in OECD countries.¹⁰⁷ As such, it is not uncommon in this process that there is leakage of trade secrets and sometimes patented information to Chinese competitors who employ or have close relations with those experts on the aforementioned panels.¹⁰⁸
- **Direct competitors have unnecessary access to IP submitted for approval of pharmaceuticals, and can delay approval of pharmaceuticals:** Direct competitors of a firm applying for approval of a pharmaceutical sit on the State Food and Drug Administration (SFDA)'s approval panel for that pharmaceutical. These competitors thus have access to the wide range of IP-related information required to be submitted as part of the approval process, which raises obvious concerns about IP leakage. Additionally, it is reported that these direct competitors leverage their positions on the panel to delay approval of a pharmaceutical while they themselves push a similar or the same pharmaceutical through the approval process.¹⁰⁹
- **IP leakage during CCC Mark accreditation:** China Compulsory Certification (CCC) Mark accreditation is a safety certification program covering a variety of product categories that is mandatory for such products to be sold in China. For years, foreign industry, particularly software encryption companies, have been required to disclose IP source codes in order to be granted a CCC Mark.¹¹⁰ Although certain CCC Mark-related rules have been revised in recent years, for example in 2009, concerns persist over proprietary IPR leakage due to the fact that the changes still do not adequately reform the system.¹¹¹
- **Domestic IP requirements in the MLPS:** A variety of sources identify the Multi-Level Protection Scheme (MLPS) as problematic in that it includes domestic IP requirements that do not allow foreign companies to build a variety of Chinese infrastructure, whether as part of government procurement or commercial initiatives.¹¹² In a related vein, sources complain that certain commercial encryption regulations do not allow foreign vendors to sell, produce or carry out R&D on encryption-related technology in China.¹¹³

¹⁰⁷ European Chamber (2012, forthcoming). 2012/2013 Petrochemical, Chemical, and Refining (PCR) Working Group Position Paper.

¹⁰⁸ 2012, May 9- Consultations with several members of the European Chamber

¹⁰⁹ 2012, July 14- Consultations with a member of the European Chamber in Shanghai

¹¹⁰ Linton et al. (2010) pp 4-13, 5-14, 5-17

¹¹¹ Hammer, A. et al. (2011). *China: Effects of intellectual property infringement and indigenous innovation policies on the US Economy*. USITC Investigation No. 332-519, pp 5-29. Retrieved from <http://www.usitc.gov/publications/332/pub4226.pdf>

¹¹² Among others see: Neuffer, J. (2011, June). *Statement of John Neuffer on China's Five-Year Plan, indigenous innovation and technology transfers and outsourcing*. Hearing before the US-China Economic and Security Review Commission, pp. 78-79. Retrieved from

http://www.uscc.gov/hearings/2011hearings/transcripts/11_06_15_trans/11_06_15_final_transcript.pdf; also see Wolf, A. (2011, May). Alan Wolff's testimony on "China's Indigenous Innovation Policy". Hearing before the US-China Economic and Security Review Commission. Retrieved from

http://www.uscc.gov/hearings/2011hearings/written_testimonies/11_05_04_wrt/11_05_04_wolff_testimony.pdf

¹¹³ Hammer (2011)

- **Potentially disconcerting requirements involving TCM chips:** China has developed its own Trusted Cryptography Module (TCM), a chip in computers to control security functions, and some worryingly suggest these may be required in products in China.¹¹⁴

At large, the aforementioned approaches to Chinese standards impact patent quality by excluding many foreign and even Chinese companies that may or could be competitive in industries relying on related standards. The policies deny the market know-how, patents, and related innovations that would have been otherwise diffused or newly developed without such practices.

Worse, the aforementioned approaches to Chinese standardisation may actively encourage initiatives that will ultimately fail domestically and/or fail during international expansion attempts, thus wasting resources, whereas this might have been avoided if standards were subject to more transparency and fuller consultation and otherwise more inclusive development. For example, this phenomenon clearly played out in the often cited case of China's WLAN Authentication and Privacy Infrastructure (WAPI).¹¹⁵

While there are inferably security and economic rationales for the aforementioned standardisation policies, these need not justify the level of discrimination in the policies that ultimately hinders developing quality patents and related innovation in China. On one hand, to some extent, reasonable Chinese security rationales underlie certain standards like the MLPS. Also, there are economic rationales that the aforementioned standards are needed to limit license fees paid to developers of international standards, provide an avenue for Chinese firms to earn IP-related revenues for making their own products and processes, among the other rationales mentioned in Box 6 in the IND-IP-based IIPs section. However, on the other hand, it could be argued that these similar objectives can be achieved, and in fact achieved more sustainably, through less discriminatory policies.

Unwillingness of certain Chinese entities to license “essential patents”

Further to the above discussion, it is important to note that China is increasingly seeking to develop what are often termed “essential” patents: patents containing one or more claims that are critical to the implementation of a technical specification or standard.¹¹⁶ For context, amongst members of standards-development/setting organisations (“SDOs” or “SSOs”), for example the European Telecommunication Standards Institute (ETSI), an owner of essential patents containing one or more claims that are essential to the implementation of a technical specification or standard should declare this relation and provide licenses on “fair, reasonable, and non-discriminatory” (FRAND) conditions and terms, subject that the beneficiary also provides reciprocal access on essential patents he/she owns.¹¹⁷ Similarly, China has regulations stipulating that owners of essential patents should report if their patents are part of standard-setting or if their patents are otherwise involved in standards being developed; and such patents are required to either be licensed free-of-charge or below normal royalty rates.¹¹⁸

¹¹⁴ Wolff (2011), p. 18

¹¹⁵ Although a variety of issues outside transparency in its creation also led to WAPI's failure in being recognised as an international standard.

¹¹⁶ Note the patents referred to herein are not necessarily only of the three types of patents granted in China. Also note that “essential patent” may be used in different contexts to, for example, referring to the general commercial competitiveness of the patent.

¹¹⁷ Amar, C., & Puech, J. (2009, July 1). Licensing essential patents in the telecoms industry. *Managing Intellectual Property Magazine*. Retrieved from <http://www.managingip.com/Article/2251048/Licensing-essential-patents-in-the-telecoms-industry.html>

¹¹⁸ See the *Standardisation Administration of the People's Republic of China's 2009 Regulations on Administration of Formulating and Revising National Standards Involving Patents*

It is sometimes difficult for firms to acquire licenses to essential patents in China, which is a particularly pronounced problem hindering innovation and patent quality in industries with patent thickets. “Patent thickets,” the inter-relation between patents across of number of areas (e.g. among telecoms, semiconductors, and computing) are particularly prevalent in certain industries, for example the ICT industry, where implementation of even a single standard may require licenses of dozens or even hundreds of patents owned by multiple licensors.¹¹⁹ Despite a regulatory framework in place for licensing essential patents in China, in practice there are sometimes difficulties in accessing these patents. For example, European IP holders have continued to experience great difficulties in engaging the Chinese telecommunications industry in licensing discussions, while the latter has even made a coordinated effort recently to jointly delay or deny such discussions.¹²⁰ Access to essential patents is critical in order for firms to operate in certain industries, particularly in those with patent thickets, and difficulties in accessing such patents hinder competition which can hamper development of quality patents and related innovation.

On a related issue, there is an increasing acquisition of patents in China through non-practicing entities (NPEs), which in part means more standards will be owned by entities motivated only by the desire to monetise acquired patents.¹²¹ Improved Chinese regulation of NPEs may be needed to keep this concerning trend in check. These trends in some ways create an environment that alienates innovative firms, and therein can hamper China’s initiatives to build quality standards and patents.

International standard-building regulations with IND IP requirements and subsidy components

There are Chinese measures in place that encourage standardisation via potentially concerning IND-IP-based requirements linked to significant subsidies. For example, the *Beijing Administrative Measures of the Special Subsidiary Funds for the Formulation (Revision) of Technology Standards*, issued on November 13th 2006, by the Beijing MoF and Beijing Municipal Bureau of Quality and Technical Supervision, which still appears to be effective, states:

Section 3, Article 6: “Article 6 allowance programs should be qualified for one of the following conditions...6.2 in line with Beijing key industries development; 6.3 taking advantages of advanced research results; 6.4 possessing indigenous intellectual property, beneficial for the forming of competitive industries and striving for the top within industry...”

Article 7: According to the innovation level of the standard initiative, individual subsidy awards for qualified standard projects are as follows:...

(6) Significant standard initiatives of great significance that are authorised and published could surpass the subsidies stipulated in Article 7.1-5 to be subsidised up to 1 million Yuan.”¹²²

¹¹⁹ European Chamber. (2011). 2011/2012 Intellectual Property Rights (IPR) Working Group Position Paper, p. 41.

¹²⁰ 2012, May 14- Consultations with a representative in the telecom industry in the Chamber’s IPR Working Group

¹²¹ European Chamber. (2011). 2011/2012 Standards and Conformity Assessment (SCA) Working Group Position Paper, 84-85.

¹²² Retrieved on June 15, 2012 <http://www.bjtsb.gov.cn/infoview.asp?ViewID=2711> Notes: Translation is from the European Chamber thus is unofficial. There is no definition of the term “indigenous intellectual property” in the measure itself. Article 7.1-5 reads: “(1) Authorised and published in-line with international standards: a subsidy of no more than 500,000 Yuan; (2) Authorised and published in line with national standards: a subsidy no more than RMB 300,000 Yuan; (3) Authorised and published in line with industrial standards: a subsidy no more than 200,000 Yuan; (4) Authorised and published in line with local standards: a subsidy no more than 200,000 Yuan; (5) An enterprise’s indigenously innovative technology which is approved in line with international, national, industrial and local standards: a special subsidy no more than 150,000 Yuan.” Note 3: Article 6.5 also applies the following conditions: “Through adopting, absorbing and transforming international standards or foreign advanced standards; meanwhile improving technology and re-innovating, and then establishing new international, state, industrial and local standards...”

The aforementioned measure may unintentionally drag down patent quality for the same reasons mentioned in the earlier section on standards, and the severity of this drag is compounded by the measure's link to subsidies. The IND IP requirement as linked with subsidies, while indeed perhaps a useful way to encourage domestic enterprises' unilateral development of standards, ultimately may limit the quality of the standards produced through an otherwise more competitive funding process. Also, for other reasons similar to those mentioned in the IND-IP-based IIPs discussion earlier in this Chapter, this approach can have a negative impact on patent quality and related innovation.

III.3.1.1.2.1 Raw deals involving patent ownership in closed sectors

Sources suggest that in closed sectors (often *de facto* rather than *de jure* closed) where the only way of entry is through JVs with Chinese companies that dominate therein (usually SOEs), these dominant companies may leverage low quality patent portfolios in creating what is termed hereafter 'raw deals.' For example, Chinese firms may leverage patent portfolios of dubious quality to get a better financial deal via demanding royalties while using their superior negotiating position to block due diligence on the contents of these patents.¹²³ In the worst case scenario, the portfolio might be significantly composed of low-quality patents.

This phenomenon is compounded by "forced" disclosure of know-how in raw deals. Foreign companies find themselves in weak negotiating positions when entering a closed sector, whereas their prospective Chinese JV partner may require they transfer key patented technology as a precondition to entering the JV.¹²⁴ Also, sources suggest that Chinese partners may, among other tactics, require foreign partners open an R&D centre in China as a precondition for entering a JV.¹²⁵ Sources suggest that foreign firms, and perhaps private Chinese firms, often enter into these raw deals to win big projects, or in other instances certain authorities may pressure firms into transferring core technology by precluding them from enjoying preferential policies otherwise extended to enterprises engaging in certain business operations. For example, Atkinson (2012) cites an instance where a foreign firm was not allowed to qualify for alternative fuel vehicle purchase subsidies unless it transferred its electric motor, complex electronic controls, or power storage devices to a JV with a Chinese automaker.¹²⁶

According to some sources, the Chinese public procurement market is hotbed for raw deals involving quality patents. For example, Atkinson (2012) cites an instance where the Chinese government offered market access to a high-speed railway procurement project contingent on exchange for technology transfer, whereas the winning company was required to (ostensibly unreasonably) share its entire know-how and catalogue of technologies with Chinese engineers working on the project. To compound these concerns, sources suggest it is not uncommon for Chinese SOEs, after they acquire foreign technology through such raw deals, to utilise preferential government support to strategically displace foreign firms from the market. Specifically, Chinese firms may displace foreign competitors from the Chinese market via drawing on favorable government regulatory decisions,

¹²³ Among other sources, see: China's patent strategy worrying foreign firms. (2011, March 22). *The China Post*. Retrieved from <http://www.chinapost.com.tw/china/business/2011/03/22/295534/Chinas-patent.htm>. Note: In some ways, these practices are not necessarily intended to "promote" patents and innovation, but nonetheless can discourage quality patents and innovation.

¹²⁴ 2012 February 15 - Consultations with several professional services' consultants in Shanghai. Note: supra footnote 303.

¹²⁵ Atkinson, R. D. (2012, February). *Enough is enough: Confronting Chinese innovation mercantilism*. The Information Technology & Innovation Foundation [IITIF]. Retrieved from <http://www2.itif.org/2012-enough-enough-chinese-mercantilism.pdf>

¹²⁶ Atkinson (2012), p. 34

and utilising what some alleged to be a depressed currency and other forms of subsidies to strategically displace the same (and other) firms in procurement bids overseas.¹²⁷

From one perspective, the raw deal approach might look sustainable as it could be argued that the Chinese market is 'just too good to ignore/give-up' for some companies' business operations and thus they must agree to deals they would not have in other less promising markets. Indeed, there are clear examples of some of the most well-known multinational companies capitulating to these raw deals to take advantage of the market.¹²⁸ After all, one might argue, 'this is business, and this is China.'

However, at large, the raw deal approach does not appear to be a sustainable for building innovation operations which involve patents. Forcing technology transfer has made Chinese firms more reliant on foreign technology. Worse, in the automobile industry for example, it has sometimes even made such Chinese firms lose the independent innovation capacity they may have once had.¹²⁹ It is possible that the raw deal phenomenon creates a perverse incentive for Chinese companies to continue registering less-than-highest quality patents, and, at worst, low-quality patents. Prevalence of raw deals can make foreign entities in particular less likely to enter the Chinese market at all, pull out of the market, decide against transferring ownership or even licensing quality patents to Chinese entities, invest less in building-up highest-quality patents within JVs than they would have without the raw deals, and so on.

The raw deal phenomenon also may very well increase the perceived urgency to protect techno-economic security in foreign nations as further fanned by the flames of the current economic crisis. This could lead to further closing off and otherwise avoiding technology transfer to China. And some could consider the fact that market access for technology conditions like the type embodied in the aforementioned raw deals appear to be in conflict with WTO commitments in Article 7(3) of China's Protocol of Accession and Paragraph 203 of its Working Party Report¹³⁰ to be an additional argument for supporting stricter techno-economic security policies in response to such deals.

III.3.1.1.3 Ambiguities in technology import and export rules

Rules governing improvements on technology

The *Regulations on Technology Import and Export Administration* (hereafter "*TIER*"), adopted at the 46th Executive Meeting of the State Council and publicly issued on December 10th 2001 and effective as of January 1st 2002, are discriminatory in requiring subsequent improvements on technological development in a contractual relationship be owned by the party making the improvements. Specifically, Article 27 thereto finds:

¹²⁷ Atkinson (2012), p. 35

¹²⁸ For example, see Atkinson (2012), p. 34

¹²⁹ Testimony of Dan Breznitz (2012), p. 7

¹³⁰ See China's Protocol of Accession, Article 7(3): "...Without prejudice to the relevant provisions of this Protocol, China shall ensure that the distribution of import licences, quotas, tariff-rate quotas, or any other means of approval for importation, the right of importation or investment by national and sub-national authorities, is not conditioned on: whether competing domestic suppliers of such products exist; or performance requirements of any kind, such as local content, offsets, the transfer of technology, export performance or the conduct of research and development in China." (emphasis added). And Paragraph 203 of China's Working Part Report: "...The allocation, permission or rights for importation and investment would not be conditional upon performance requirements set by national or sub-national authorities, or subject to secondary conditions covering, for example, the conduct of research, the provision of offsets or other forms of industrial compensation including specified types or volumes of business opportunities, the use of local inputs or the transfer of technology." (emphasis added)

Article 27: “Within the term of validity of a contract for technology import, an achievement made in improving the technology concerned belongs to the party making the improvement.”¹³¹

The wording of Article 27 of the *TIER* creates notable ambiguity for firms working with others to innovate, particularly foreign firms working with Chinese entities, resulting in a drag on patent quality. As stated in the European Chamber’s forthcoming 2012/2013 IPR Working Group Position Paper, in general, while a licensor shall not restrict the licensee from conducting further research on the licensed technology and acquiring ownership rights on such improvements, Article 27 has been found to be problematic in areas where the licensor is the owner of core technology and has *only* granted the right to use it in a *specific context* of outsourcing R&D activities or toll manufacturing.¹³²

As a side note, while some companies have skirted the requirement in Article 27 with certain provisions in contracts, it is unclear if such contracts are legally valid under that article.¹³³ These regulations create ambiguity for firms innovating with other entities, potentially raising the transaction costs and thus damping the efficiency and effectiveness with which patented products and processes underpinning innovation are ultimately developed in China.¹³⁴

Overly broad definitions of technology import and export

The *TIER* is also unclear as to what technologies are covered under the category of “restricted” technology it sets forth. This makes it notably difficult for companies to assess if the imported/exported technology falls into the category, making international companies hesitate to import certain technology into China.¹³⁵

Moreover, it is unclear what technologies are covered under the category of “prohibited” technology in the *TIER*, as their listing in the measure is not exhaustive and there is in fact a non-published list for “prohibited” products. This becomes particularly problematic when a product is claimed to be on this non-published list, and this is used as justification to not authorise transferring or selling of patents (whereas transferring or selling a patent to a foreigner is considered “export of technology”).¹³⁶ This in turn complicates technology transfer and free usage of patents in a way that hampers innovation and building of patents.

Further, the definition of “technology import and export” as defined in Article 2 of the *TIER* is overly broad, creating uncertainty that may indirectly jeopardise patent quality. It is unclear whether the definition employed in Article 2 covers experimental data at an early stage of research, and thus

¹³¹ See an English translation retrieved from <http://tradeinservices.mofcom.gov.cn/en/local/2007-11-13/9733.shtml>. Note 1: English translations on the title of the *TIER Measures* differ. The Chinese name is 中华人民共和国技术进出口管理条例. Note 2: These measures are distinct from the *Measures of the Administration of Technology Import and Export Contracts Registration* (技术进出口合同登记管理办法) issued on February 1st 2009 Decree No. 3 [2009] by MOFCOM, retrieved from http://www.fdi.gov.cn/pub/FDI_EN/Laws/law_en_info.jsp?docid=102316, which replaced the *Measures for the Administration of Technology Import and Export Contracts Registration*, called Decree No. 17 (2001) by the Ministry of Foreign Trade and Economic Cooperation (MOFTEC) (中华人民共和国技术进出口合同登记管理办法) issued on December 30th 2001 and effective on January 1st 2002, retrieved from <http://www.lawinfochina.com/Display.aspx?lib=law&Cgid=38067>. Note: These three different measures have incorrect translations on certain websites, and are sometimes incorrectly referenced in secondary sources.

¹³² European Chamber’s 2012/2013 Annual Position Paper: IPR Working Group chapter (2012, forthcoming)

¹³³ 2012, March 16- Consultations with Dr. Oliver Lutze in Shanghai

¹³⁴ Note: While one might speculate that these loopholes in the law were created to in-part mitigate the threat of litigation China’s ‘incremental innovators’ would otherwise face when following IIP guidance for assimilation, absorption, co-innovation and/or re-innovation of foreign technologies, this is unclear.

¹³⁵ 2012, May 7- Consultations with Lin Xu in Shanghai

¹³⁶ 2012, July 14- Consultations with Elliot Papageorgiou in Shanghai

what types of research needs approval from MOFCOM.¹³⁷ As such, entities face uncertainty over how they need to report to the authorities on certain research activities which creates unnecessary transaction costs that somewhat hamper innovation activities and thus the efficiency and effectiveness with which such activities can lead to quality patents. If the restrictions turn-out to be applied to an overly wide range of activities, this would constitute an overly burdensome restriction, likely to some extent discouraging development of quality patents and related innovation.

Overly strict requirements on liability

As noted in the European Chamber's forthcoming 2012/2013 IPR Working Group Position Paper, Article 24 of the *TIER* sets overly burdensome requirements in mandating foreign technology licensors to bear liability for any accusation of infringement that may be brought against the importer in relation to the use of the licensed technology. In areas with patent thickets and where the licensed technology is still not fully developed, such obligation often creates an undue burden on the licensor and makes some technology transfers unacceptable if there is no flexibility to share risks.¹³⁸ This in turn is a drag on patent quality and related innovation in these areas.

III.3.1.1.4 Uncertainty in inventor remuneration rules

There is some uncertainty over legal liability for "reasonable" inventor remuneration in China, which might in the future hamper patent development. As illustrated in the European Chamber's 2011/2012 Position Paper, Chinese regulations require, in the absence of a specific agreement or relevant company policies, "the entity to which the patent is granted" to pay a minimum level of inventor remuneration. Research activities in China are performed by local Chinese companies under contract or by a foreign-invested R&D centre, and the right to apply for patents on solutions developed therein typically belongs to the company providing the investment or those foreign entities who invest in the R&D centre. The concern is thus that a foreign company might be unnecessarily liable for remuneration contracts even if the foreign company actually has no contractual relationship with an employee doing the inventing.¹³⁹ To the extent that this ambiguity could prevent enterprises from signing contracts and investing in certain other parties' R&D operations this is a drag on quality patent development and related innovation in China.

Some measures have recently been proposed to shape the inventor remuneration system in China, although these do not appear to have fully addressed the aforementioned concerns. Provincial/municipal 12th Five Year on Plans on Intellectual Property, for example, Sichuan's and Tianjin's, recognise the need to improve the inventor remuneration system.¹⁴⁰ As a publication of this study, SIPO was conducting "internal" consultations on the *Regulations on the Remuneration for Inventor-Employee's Invention*.¹⁴¹ In general, regulations on inventor remuneration remain unsatisfactorily reformed throughout China.

¹³⁷ 2012, March 15- Consultations with Dr. Oliver Lutze in Shanghai. Article 2: "The technology import and export as referred to in these Regulations means acts of transferring technology from outside the territory of the People's Republic of China into the territory of the People's Republic of China or visa versa by way of trade, investment, or economic and technical cooperation. The acts mentioned in the preceding paragraph include assignment of the patent right, assignment of the patent application right, licensing for patent exploitation, assignment of technical secrets, technical services and transfer of technology by other means."

¹³⁸ 2012/2013 Position Paper of the European Chamber's IPR Working Group (forthcoming, 2012)

¹³⁹ European Chamber Position Paper 2011/2012 (2011), pp 43-44.

¹⁴⁰ Sichuan's 12th Five Year Plan on Intellectual Property, Section 5, Part 3, Article 1: "...Improve the service invention compensation system." Also see Tianjin's 12th Five Year IP Plan, Section 4, Part 6, Article 1.

¹⁴¹ A draft of this measure was provided exclusively to members of the Quality Brand Protection Committee (QBPC) for comment in August 2012. Consultations with two members of QBPC on August 10th 2012 suggest there are concerning provisions in the measure. Consultations with SIPO on August 9th 2012 suggest the measures will be released for public comment at the end of August 2012 or in September 2012.

III.3.1.1.5 Ambiguities in the Measures on Compulsory Licensing

There are a number of ambiguities in the *Measures on Compulsory Licensing*.¹⁴² For example, as listed in European Chamber IPR Working Group (Nov. 2011), the measures could at least be generally more clear about the requirements for granting a compulsory license; could remedy the fact government proposals for a compulsory license do not require evidential support; the patentee's right to request a hearing is restricted, and there are no legal sanctions in cases where a licensee's activities overextend the scope of the granted compulsory license; among other concerns.¹⁴³ Such uncertainties complicate business planning, which can hamper innovation; although in fairness, in practice these regulations do not seem to be applied in an extreme way as of yet.

III.3.1.2 Sub-section 3.2: Less patent-specific, but still patent-related, measures

Introduction: This sub-section investigates how variety of significant Chinese policies and practices that while not necessarily patent-specific do relate closely to patent development and do not necessarily stimulate patent quality and related innovation in China.

III.3.1.2.1 General IIPs that encourage assimilation, absorption, and/or re-innovation

In addition to the IND-IP-specific issues discussed in the former sub-section, China's overarching encouragement of "assimilation, absorption and re-innovation" as a fundamental approach to foreign firms' patented products (and trade secrets, and knowledge otherwise covered under the *Unfair Competition Law*¹⁴⁴) is in some ways concerning. Certain policies herein are concerning even though they do not explicitly set-forth the concepts of indigenous innovation contingent on IND IP or other IPR preconditions like those in the *Trial Measures for the Administration of the Accreditation of National Indigenous Innovation Products* (2006). Example measures used to explain the different dynamics of these IIPs are listed below:

- Part 7, Chapter 27, para. 3 of China's nationwide 12th Five Year Plan, which focuses on efforts to "enhance the original innovation, integrated innovation and the introduction of digestion and absorption of re-innovation..."¹⁴⁵
- Section IV, Part 2 of the NPDS sets forth the following advice: "Encourage enterprises to acquire patent rights through innovation on the basis of digesting and absorbing imported

¹⁴² Draft most recently released for public comments in October 2011. Note 1: Recent procedures rules relating to compulsory licensing came into effect on May 1st 2012 via that *Notice on Patent Compulsory Licensing* issued on March 15th 2012: http://www.sipo.gov.cn/zwgs/ling/201203/t20120319_654876.html (Note 1: link working when last checked on August 1st 2012). Note 2: Mention of compulsory licensing measures was left out of the Executive Summary of this study due to its relatively lesser importance compared with other issues mentioned therein. Note 3: In some ways, these measures are of course not intended to "promote" patents.

¹⁴³ See the European Chamber's IPR Working Group Response to the Call for *Comments on Measures for Compulsory Licensing*, submitted to SIPO on November 13th 2011 (European Chamber IPR Working Group [Nov. 2011]). Measure retrieved from <http://www.sipo.gov.cn/tz/gz/201110/P020111012508894173220.doc>

¹⁴⁴ *Unfair Competition Law of P.R China*, issued on Sep. 2nd 1993, passed at the 3rd Meeting of 8th National People's Congress Standing Committee, Zhuxi Ling (1993) No.10, retrieved from http://www.saic.gov.cn/fldyfbzdjz/zcfg/fv/200909/t20090928_71369.html

¹⁴⁵ Note: More generally, the term "indigenous innovation" is mentioned throughout the plan, and is reflected in the plan's specific policies to build-up specific sectors.

patented technology.” Part IV, Section 4 of the NPDS mentions developing “self-relied” upon innovation and turning this into property rights.

- The *"Innovation Promotion Regulations of Guangdong Province* (the “2012 Guangdong Ordinance”), promulgated by the Guangdong People’s Congress Standing Committee on November 30th 2011 and effective on March 1st 2012, “*considering the dilemmas of overly emphasising importing, rather than absorbing and re-innovating,*” supports “*establishing and improving the re-innovation policy.*”¹⁴⁶
- Part 2, Article 3 of *Hunan’s Outline on Constructing an Innovative Province*, effective on March 7th 2012 sets forth the following policy objectives: “*...improve the capability of indigenous innovation as the core for enhancing original innovation, integrated innovation, the introduction of digestion and absorption in re-innovation, and collaboration for innovating...*”¹⁴⁷
- The *Opinions of the Supreme People's Court on Giving Full Play to the Functional Role of Intellectual Property Trials in Advancing the Great Development and Prosperity of Socialist Culture and Promoting Independent and Coordinated Economic Development* (Fa Fa [2011] No. 18), issued by the Supreme People’s Court (SPC) and effective on December 16th 2011 (hereafter the “December 16th 2011 SPC Opinion”) contains the following:

Part 1, para. 1: “*The Central Economic Work Conference requires that we...keep strengthening capabilities of integrated innovation, introduction, digestion, absorption and re-innovation; should comply with the innovation drive and strengthen intellectual property protection; should cultivate and develop strategic emerging industries...*”

Part 3, para. 12: “*...focus on improving China's original innovation capacity, integrated innovation capacity and capabilities of introduction, digestion, absorption and re-innovation as important goals...intensify the protection of key core technologies, basic and frontier fields, and emerging strategic industries, promote technical breakthrough and technical innovation...*”¹⁴⁸

Approaches to incremental innovation in an economic context

It is first important to recognise that while the simple mention of the terms “assimilation,” “absorption” and “re-innovation” in policies (hereafter, for simplicity, collectively referred to as incremental innovation policies) raise eyebrows in IPR circles, in fact such an approach to innovation has been promoted by a variety of economists for over 20 years. As noted in the Introduction to this study, it is indisputable that incremental innovation, which is based upon exploitation of existing solutions, has solid value.

Within the concept of incremental innovation, one could theoretically distinguish “import-based” incremental innovation from “domestic-based incremental innovation, whereas “import-based” incremental innovation focuses specially on imported foreign technologies rather than on

¹⁴⁶ For a summary of the policymaking process for the measure see Guangdong Provincial People’s Congress News Conference on Promulgation and Implementation of Provincial Independent Innovation Regulation (2010, February 29). Retrieved from http://www.npc.gov.cn/npc/xinwen/dfrd/guangdong/2012-02/29/content_1693676.htm. Regarding text of the measure, see Chapter 2, Article 6, Article 9(1), and Article 10.

¹⁴⁷ Retrieved from http://www.hunan.gov.cn/zwgk/hndt/zwdt/201203/t20120308_457488.htm

¹⁴⁸ *December 16th 2011 SPC Opinion* retrieved from Westlaw China: http://www.westlawchina.com/index_en.html While full of several examples of disconcerting rhetoric, it is worth noting that the *December 16th 2011 SPC Opinion* also contains some provisions that may indirectly have a positive impact on innovation and the IP framework in China.

domestically-created products. An emphasis on incremental innovation based on outside solutions appears to have started with Cohen (1989) and Levinthal (1990), who promoted “absorption,” an awareness of new information and enhanced ability to assimilate and utilise existing information and ideas developed elsewhere to improve one’s own innovation capacity.¹⁴⁹ Other sources find that countries that are able to develop a sufficient absorption capacity are more likely to maximise usage of foreign technologies and may possibly develop their own new technologies.¹⁵⁰

Some sources argue that certain innovation approaches related to incremental innovation have value. Some have suggested that the *shānzhài* (山寨) culture in China, a term referring to the imitation of goods (often electronics in particular), sometimes with small “improvements” on the original product, is in fact an example of incremental innovation that can be a stepping stone towards more substantive innovation.¹⁵¹ As another approach, sources describe “reverse engineering” as a legitimate building block for innovation,¹⁵² which while not tantamount to incremental innovation can be based upon incremental innovation.

There are studies that discuss how IPR protection specifically fits into this system of incremental innovation. As one example, also cited in the Introduction of this study, Lee and Park (2006) explicitly find that the utility model patent system has a positive influence on developing countries’ innovation and growth as it protects incremental inventions and is more conducive to innovation, diffusion of technology, and economic growth in those countries given the make-up of their economic systems.

Why these IIPs have the propensity to hurt patent quality and related innovation in China

While it is important for the government to carefully consider the aforementioned economic logic and find an appropriate balance in IIPs to stimulate innovation and related patent quality, the current IIP framework likely needs reform. The reasons for this are discussed below.

Choosing between current policy thinking when outside-the-box thinking is needed instead

While recognised by economists as important stepping-stones for developing countries to better innovate, it is also clear that an *overly* heavy focus on incremental innovation policies is negative. At worst, an overly heavy focus on import-based incremental innovation policies makes enterprises so reliant on foreign technologies that they become unable to “independently” innovate and develop highest-quality patents in the short-, mid-, and long-term. And this assertion is not clearly challenged by the aforementioned economic literature: in fact certain academic sources, for example Hu and

¹⁴⁹ Cohen, W. M., & Levinthal, D. A. (1989). Innovation and learning: The two faces of R&D. *The Economic Journal*, 99, 569-596; and Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, Special Issue: Technology, Organizations, and Innovation, 35(1), 128-152.

¹⁵⁰ Nelson, R.R. (Ed.) (1993). *National innovation systems: A comparative analysis*. New York: Oxford University Press; Kim, L. (1997). *Imitation to Innovation: The Dynamics of Korea’s Technological Learning*. Boston: Harvard Business Press; Yu, T.F.-L. (1998) Adaptive Entrepreneurship and the Economic Development of Hong Kong. *World Development*, 26(5), 897-911; World Bank (2001). *Intellectual property: Balancing incentives with competitive access*. Global Economic Prospects. Washington, D.C.: World Bank, 129-150; and Lall, S. (2003). Indicators of the Relative Importance of IPRs in Developing Countries. *Research Policy*, 32(9), 1657-1680.

¹⁵¹ This phenomenon has received an increasing amount of media attention recently, and its merits are subject of some debate in both China and abroad.

¹⁵² For example, where products developed via reverse innovation in developing countries are sold in developed countries at low prices, creating new markets and uses for the solutions. See: Govindarajan, V., & Trimble, C. (2012). *Reverse innovation: Create far from home, win everywhere*. USA: Harvard Business Press.

Matthews (2008), caution against countries like China getting caught in the trap of being a perpetual imitator rather than evolving to sustain “genuine” innovation.¹⁵³

Also, an overly heavily focus on incremental innovation policies, even if they are focused increasingly or more so on domestic-based incremental innovation than import-based incremental innovation, can be negative as they retard healthy development that may have otherwise happened with a more appropriate balance of policies also encouraging breakthrough innovation. To be sure, this latter assertion need not conflict nor should in any way be negated by recent suggestions in Breznitz and Murphee (2011), that China should not overemphasise policies to build-up “novel-product innovation” (roughly tantamount to the concept of breakthrough innovation used in this study) and that China can support its economy in the next decade or so (mid-term) through “secondary innovation” (roughly tantamount to the concept of incremental innovation used in this study).¹⁵⁴ This said, it is admittedly difficult to decide at exactly which point this overemphasis significantly threatens mid- to long-term innovation, patent quality, and resulting economic development.

In some instances, overemphasis on currently conceived IIPs can indoctrinate the policymaking system in a way that prevents creation and implementation of other domestic Chinese innovation policies that would be more helpful for building up innovation and quality patents realised in the longer-term. By way of illustration, it is clear that some provinces, as illustrated in the abovementioned 2012 Guangdong Ordinance, are concerned about moving too quickly towards an approach to innovation based too heavily on importing technologies and want to instead *improve their approach* to incremental innovation. As such, it appears that simply recycling existing approaches to innovation will limit Guangdong-based companies’ ability to develop domestically, let alone internationally. While Guangdong is taking action to revise its own problems in this regard, it is worth further investigating if other provincial/municipal authorities across China are ‘trapped’ in deciding among the IIP approaches passed down for further implementation by national authorities or previous provincial authorities to date, whereas they would be better served to think outside this policy box in revising their individual innovation policies.

In summary, in the opinion of this study, while some may debate if China is focusing too much on breakthrough-innovation policies, it is perhaps more exigent to acknowledge that breakthrough innovations are indeed important for the Chinese economy (even if more so in the medium- to long-term) and scrutinise areas where current IIPs should evolve to better foster *both* incremental and breakthrough innovation. None of this should be mistaken as saying the government should necessarily further use more of the types of IIPs currently promulgated to stimulate incremental innovation instead of breakthrough innovation or vice versa; rather, it is to say that there are instances where either or both types of IIPs as currently understood should be revised and better implemented on-the-ground to more effectively meet the ultimate goal they both share: building China into a powerhouse with solid innovation in the future.

¹⁵³ Hu, M. C., & Mathews, J. A. (2008). China's national innovative capacity. *Research Policy*, Volume. 37, 1465-79.

Retrieved from <http://nthur.lib.nthu.edu.tw/handle/987654321/61675>

¹⁵⁴ Breznitz, D., & Murphee, M. (2011, May). *Run of the red queen: Government, innovation, globalization, and economic growth in China*. New Haven: Yale University Press. Also see the following quote: “Our fear is that by focusing too much on producing novel-product innovation, the central government will harm a key pillar of China’s sustained economic growth – second-generation production and process innovation. In time, China will come to master novel-product innovation, especially in new industries for which the competitive and standards environment has not yet been defined. But instead of forcing itself to copy foreign models developed within different economic systems, China should follow its own development path. There is no urgency for China to master novel-product innovation, especially since the interdependencies fostered by the fragmented global production system make concerns over national technological security largely irrelevant. China’s position at the heart of global production means that the Run of the Red Queen model of development is secure for the next decade or so.” (Source: Breznitz, D., & Murphee, M. (2011, September). Innovation in emerging economies: China’s run of the red queen. *World Financial Review*. Retrieved from <http://www.worldfinancialreview.com/?p=848>)

Potentially enabling infringement

Even if unintentional, it is not difficult to envisage a situation where Chinese IIPs built on the principles of “assimilation,” “absorption,” and “re-innovation” can encourage infringement given the still underdeveloped respect for IPR in China. Given many consumers, businesspeople, and even some government representatives¹⁵⁵ in China still have a generally underdeveloped respect and knowledge of the importance of IPR, IIPs that tout “assimilation,” “absorption” and “re-innovation” as fundamental methods of innovation and patent development may very well be used to justify, or actually interpreted to encourage, development of products, services and processes in a way that nearly outright encourages infringement.

Such policies may to some extent unintentionally increase administrative actions, arbitration, and/or litigation, tying up resources of the state that otherwise should have been preserved for more ‘appropriate’ cases. More appropriate cases herein are those that would arise in a more ‘neutral’ regulatory environment, and/or channeled into more appropriately strengthening the IPR system and otherwise fostering quality patents in China.

Moreover, it is concerning that such policies are explicitly at the heart of judicial approaches to future patent cases as is reflected in the *December 16th 2011 SPC Opinion* (see Part 1. para 3, and Part 3 para. 12 as quoted above), which deserves clarification to ensure it does not discriminatorily favour right-holders in infringement cases. For one, it deserves clarification as to if the opinion might be used in certain circumstances to favor an alleged infringer if he/she was acting in the name of such IIPs. It also deserves clarification if the opinion could possibly create a situation where infringement cases involving products, services, and processes in strategic emerging industries specifically are dealt with different than other cases, creating a discriminatory adjudication environment.

Amidst this, it is important to note that the school of economic thought supporting incremental innovation policies (whether import-based or domestic-based) first mentioned in this section need not be connected with a logic supporting IPR infringement, whereas other strong academic studies suggest China need not rely on full-fledged imitation to build-up its innovative capacity. For example, Maskus, Dougherty, and Mertha (2005) finds inward technology transfer is the main source of new information creating technological advancement and structural transformation in China, and thus imitation of IPR, including patents, does not necessarily need to be a phase of China’s industrial development.¹⁵⁶ This touches upon an important point that may be easily lost in the translation of IIPs into action in China.

III.3.1.2.2 Megaprojects vs. more effective models of innovation-building projects

A notable concern in China’s innovation drive is that its massive funding/commissioning of “megaprojects,” large-scale expensive projects run by only a few entities, is not the most effective way to foster key innovations and likely in-turn hinders the quality of patents that could have been produced if the projects were more effectively commissioned. As McGregor (2010) explains, these megaprojects, for example those commissioned by MoST, are meant to build up industries in China, including via creating innovation infrastructure. McGregor (2010), citing the opinions of a wide range

¹⁵⁵ For example, although not due to shortage of recent efforts from the government to change this trend, a number of government offices throughout the country still use IP-infringing products.

¹⁵⁶ Maskus, K. E., Dougherty, S. M., & Mertha, A. (2005). Intellectual property rights and economic development in China. In Fink, C., & Maskus, K. E. (Eds.) *Intellectual property and development: Lessons from recent economic research* (pp. 295-332). New York: Co-publication of World Bank, Washington D.C. and Oxford University Press. Retrieved from <http://siteresources.worldbank.org/INTRANETTRADE/Resources/Pubs/IPRs-book.pdf>

of scientists, finds the weakness of such megaprojects is that innovation best comes from individuals or comparatively smaller teams working on particular projects that they are passionate about and for which their qualifications, proposals, and work have undergone solid examination.¹⁵⁷ These flaws in the megaproject approach as an optimal strategy to produce higher quality patents in the short-, mid-, and long-term are compounded with those mentioned in the earlier section in this Chapter on IPR ownership prerequisites for participation in such programs.

As mentioned previously, it is worth noting that some recent measures appear to at least realise MoST's approach to S&T projects needs reforming, although it does not appear that they fundamentally challenge the size composition of S&T megaprojects. With the exception of Part 6, measure 61, other provisions from the 2012 *National IP Strategy*, i.e. Part 3, measure 17; and Part 6, measures 58, 60, and 64 all continue to use the keywords "major projects" in a way that may indicate a lack of reform to the megaproject approach to MoST projects but rather only more peripheral reforms (see the "Introduction" section of the Annex for translated text of these provisions). Additionally, Part 3, Section 4, Article 1 of the *SC Notice on IPR in Strategic Industries* mentions initiatives for IP strategy for building IPR in "major technology projects."¹⁵⁸

III.3.1.2.3 Financial incentives not directly linked to IP, but still closely impacting patent quality

III.3.1.2.3.1 "National champion" logic embedded in EIDF subsidies

Further to the above discussion on megaprojects, the structure of some funding in the Electronics and IT Development Fund (EIDF) raises some concerns in relation to patent quality given its focus on large companies. The EIDF was first developed in 1986 and is believed by some to have helped China generate a significant number of patents. For example, Stewart (2007) notes sources consider the EIDF helped generate 2,456 patents. The same source notes that as of 2004, the fund had invested more than 3.9 billion RMB in 1,859 projects via direct finance and other forms of support to the electronics and information technology industries.¹⁵⁹ It is notable that some EIDF funds seem to be focused on large companies (dà gōngsī, 大公司); for example, the *Opinion on Accelerating the Large Company Strategy in the Electronics and Information Industry*, issued by MIIT on January 28th 2005, and which is still effective, states:

Section 5, Article 1.2: "Provide support to the leading large companies. Within government procurement, for key projects (such as new internet, 3G, digital TV, software, automobile electronic product projects, and so on), [those in] the EIDF, the scientific fund... preference will given to these large companies."¹⁶⁰

While it is standard for governments to establish minimum threshold requirements in government procurement, it is different to stipulate that "large companies" full-stop be given preference in government procurement tendering. As such, it is worth considering that even if the EIDF has

¹⁵⁷ McGregor (2010). (Note: Although on the other hand, one may argue the approach is in fact effective for building up certain large scale infrastructure which is best commissioned to a limited amount of people so it relatively seamlessly links up. Also there may be additional near-term employment-based rationale behind such large scale projects.)

¹⁵⁸ Part 3, Article 2: "We shall promote the planning and implementation of intellectual property rights strategy of major technology projects with a focus on industry development..."

¹⁵⁹ Stewart, T. (2007). *China's industrial subsidies study: High technology*. Trade Lawyers Advisory Group. Retrieved from <http://www.uscc.gov/researchpapers/2008/TLAG%20Study%20-%20China%27s%20Industrial%20Subsidies%20High%20Technology.pdf>

¹⁶⁰ Retrieved on March 20, 2012 from http://www.chinabaike.com/law/zy/bw/gw/xc/1355307_2.html Note: Translation from the European Chamber thus is unofficial.

contributed to a significant number of patents in China, if administered in a way that better fosters competition amongst all types of qualified companies it may better contribute to raising patent quality and related innovation in China. Herein, one area to investigate is the evidence behind government statements touting the achievements of the “Large Company Strategy,” inclusive of the aforementioned measure and six specific companies it has been used to support.¹⁶¹

In an increasingly competitive market, sources argue that the “national champion” models once used by nations like South Korea no longer are as relevant for the Chinese government to follow.¹⁶² As such, pushing development of these Chinese behemoths is not only an antiquated approach to building innovation and economic competitiveness but may result in spending that could have been better channeled through different more merit-than-size-based attempts at building innovative and competitive enterprises.

III.3.1.2.3.2 Other subsidy funds

A variety of requirements in subsidies not specifically discussed thus far, while less directly related to IND-IP-based requirements, may also create somewhat of a drag on balanced innovation and patent quality given their blatantly discriminatory/WTO-inconsistent nature. In particular, there is evidence of a variety of subsidies offered on the basis of export performance, import substitution, and to domestic companies in specifically defined industries.¹⁶³

III.3.1.2.4 Lack of transparency in policy formulation and implementation

An often repeated issue, the lack of transparency and uncertainty as to what rules are being drafted and implemented; limited time to comment on these measures before enactment; and lack of translated measures in one or more of the official languages of the WTO also pushes companies to be more reluctant to innovate and contribute to the building of highest-quality patents and related innovation in China. This is a longstanding problem and is not fully aligned with China’s WTO commitments on transparency.¹⁶⁴

¹⁶¹ Note: Interestingly, *MIIT’s Report for the 60th Anniversary of the PRC*, issued by MIIT on September 18th 2009 implies the *Opinion on Accelerating the Large Company Strategy in the Electronics and Information Industry* has had a positive impact. Specifically, Part II, Section 2, Para 4 of the measure finds: “The ‘Large Company Strategy’ has remarkable achievement. The ‘Large Company Strategy’ was developed in 1993 when the new MIIT was established. SVA, Changhong, Caihong, Panda, Lenovo and Hualu have been selected as 6 key companies to support. During this time, MIIT issued the ‘Implementation Measures on Large Company Strategy in Electronics and Information Industry.’ MIIT’s ‘Opinion on Accelerating the Large Company Strategy in the Electronics and Information Industry’ has accelerated this strategy. Industry integration is rising and production is concentrated in large companies and groups. Leading companies’ image and brands are becoming prominent.” (Measure retrieved on August 15, 2012 from <http://www.miit.gov.cn/n11293472/n11293877/n12511031/n12511106/12693827.html>)

¹⁶² Breznitz and Murphee (2011, September)

¹⁶³ Prud’homme (forthcoming 2012)

¹⁶⁴ See GATT Article X, GATS Article III, TRIPS Agreement Article 63, as well as China’s WTO plus commitments in its Report of the Working Paper on the Accession of China to the WTO (e.g. Part VII Other Issues, Section 3. Transparency, Article 334: “The representative of China confirmed that China would make available to WTO Members translations into one or more of the official languages of the WTO all laws, regulations and other measures pertaining to or affecting trade in goods, services, TRIPS or the control of forex, and to the maximum extent possible would make these laws, regulations and other measures available before they were implemented or enforced, but in no case later than 90 days after they were implemented or enforced. The Working Party took note of these commitments.”). Note: lack of transparency is not necessarily intentionally meant to try and “promote” patents and innovation, although sometimes in fact is, and either way can discourage quality patents and innovation.

III.3.1.2.5 Less than optimal coordination of industry park initiatives

It is arguably difficult for many industrial parks in China to best build innovation and produce highest-quality patents given their less than optimal coordination with each other (this situation also more generally applies to different economic-related zones in China at large, not only industrial parks within these zones). Provincial/municipal and local governments often afford industrial parks within their purview a range of tax incentives outside R&D Centre-specific incentives to attract certain companies and industries, for example, among others, refunds on VAT, BT, and EIT paid by companies' value-added operations which while not exclusively tied to R&D operations could be in part used to encourage innovation and in turn quality patent filings. A variety of industrial parks within provinces seek to attract certain types of industries using the aforementioned financial tools as well as certain outreach strategies, but in many cases go about this largely unilaterally whereas several industry parks within one province/municipality could be seeking to boost the exact same niche industry.

This situation hampers patent quality and related innovation in China that likely could otherwise be realised through improved coordination among industrial parks. On one hand, some might argue that industry parks need not coordinate among themselves to best stimulate innovation and resulting patents as the forces of competition would naturally lead to efficiency optimisation therein. On the other hand, this viewpoint does not fully consider the fact that China does not operate in the hands-off fashion that would perhaps in another country allow this approach to work, whereas China's provincial and local governments are bound by a centrally-promulgated innovation policy that they need to implement, albeit in many cases with decent room for discretion in implementation. For example, provincial and local governments are tasked with building up strategic emerging industries as outlined in China's national 12th Five Year Plan (see the Introduction section for a full listing of these industries); however, the fact remains that not every industry park within a province/municipality is capable, nor is it necessarily economically wise, for them to all attempt to build these particular industries. And there is questionable economic utility in, for example, multiple industry parks in a province trying to build their own biomedical engineering equipment industry when they could likely better stimulate other competitive industries. As such, one could argue that if local and/or provincial/municipal governments in partnership with the industrial parks' management were to provide improved management of what an industrial park, given its strengths as measured by an assessment, should focus on as distinct from another industrial park, this may ultimately lead to more mid- to long-term innovation efficiency gains. However, without this improved coordination, the current situation creates inefficiencies and ineffectiveness that likely somewhat hamper development of quality patents and related innovation in China.

III.3.1.2.6 A range of other policies

A variety of other policies are likely in some ways inhibiting the development of the highest-quality patents in particular and related innovation in China. A list of policies not discussed in this study that may more indirectly inhibit efficient and effective innovation and development of quality patents can be found in the European Chamber's Annual Position Paper, among other sources.¹⁶⁵

¹⁶⁵ For example, see Atkinson (2012). Note: one important issue herein is China's increasing industry consolidation of the market for rare earth elements, which are key inputs in highly innovative and patented technologies, which in some circumstances has enabled monopolies to not honor contracts of supply with private businesses, which in-turn may inhibit important R&D efforts already in China (Source: 2012, January 19 – Consultations with a member of the European Chamber)

III.3.2 Summary:

China has a wide-range of patent-specific and other patent-related policies in-place, many of which are at least partially meant to encourage patents, although some of these policies in effect can actually discourage quality patents, and highest-quality patents in particular, and related innovation. The most concerning of these policies are explored in this Chapter.

III.3.3 Recommendations

III.3.3.1 Core recommendations

Sub-section 3.1

- 1. Recommendation: Revise the award criteria in the patent filing subsidy application process, and improve oversight of the patent filing subsidy program.** This system should be codified at the central-level and mandatorily executed in all provinces/municipalities although with flexibility for these provincial/municipal levels to cater the system to their own needs.

8.1 A well-equipped appraisal committee should be set-up to oversee the patent filing subsidy awarding process. The unit should be staffed with technical and legal experts who will provide a formal evaluation of a patent application. The appraisal committee may set forth a standard ranking for these applications. The unit might also be staffed with other experts that would optimally help evaluate how much subsidy monies to provide an applicant based on the aforementioned evaluation. Only those patent applications approved by the appraisal committee would be provided subsidies (see recommendation below for further details).

Patent filing subsidies should be focused more so if not completely on invention patents as opposed to utility models or design patents, and therein subsidies might be geared more so on patentees whose solution has particularly high inventiveness.

A mechanism should be established to ensure an appropriate awarding of patent fees after the subsidy appraisal committee vets prospective patents for subsidisation. Some governments are already only granting subsidies to patents that are granted, although this does not appear to be the case across all of China. In order to prevent unintended stifling of innovation in SMEs with little money to spend up-front on the patenting process, subsidies should not necessarily be only provided *after* the patent is granted, but could be structured in a way that they are appropriately provided to patents that are ultimately granted. Any one, or a combination of, the examples described hereafter are mechanisms that could be used to ensure that subsidies are provided to patents that are granted while also not overly discouraging applicants from applying for subsidies:

Method A1: (1) Applicants can apply for patent filing subsidies for a set of patent-related fees (hereafter the “Patent Fee”). Initially, the Patent Fee is waived. (2) If the patent is granted by SIPO, the applicant then pays a non-refundable fee to then have the application sent to an appraisal committee for consideration for subsidisation of

the Patent Fee. If the patent is approved by this committee, the applicant need not pay any of the Patent Fee (outside the aforementioned non-refundable appraisal committee review fee). However, if the patent is rejected by the appraisal committee, the applicant must pay back the Patent Fee at a to-be-determined, non-subsidised, interest rate under a defined payment plan.

Method A2: (1) An applicant should pay for a patent Search Report from an external agent accredited by SIPO, and SIPO should regulate the fees such agents can charge for these reports. (2) The applicant then applies to the appraisal committee directly, paying a non-refundable fee and enclosing the aforementioned completed Search Report in their application, for their Patent Fees to be subsidised. (3) (a) If approved by the appraisal committee, the applicants' Patent Fee (outside the aforementioned non-refundable appraisal committee review fee) is waived, and the cost of the initial Search Report is reimbursed. The applicant's application is then automatically submitted to SIPO examiners for a patentability review. The aforementioned waiving of the Patent Fee and reimbursement of the Search Report remains as such regardless of whether the patent is subsequently granted by the examiners. (b) However, if rejected by the appraisal committee, the applicant is only reimbursed for the Search Report fee, or a portion of the Patent Fee is deducted when the applicant applies (if they choose to apply) for SIPO examination of the application, and the applicant must pay the rest of the Patent Fee.

Method B: (1) An applicant should pay for a patent Search Report from an external agent accredited by SIPO, and SIPO should regulate the fees such agents can charge for these reports. (2) The applicant then applies to the appraisal committee directly (for free) for their patent to be subsidised, enclosing the aforementioned completed Search Report in their application. (3) (a) If approved by the appraisal committee, the applicant is issued a formal certificate saying they do not have to pay X% portion (e.g. 75%) of the Patent Fee, including the Search Report fee. In the instance that a patent that is approved for subsidisation by the patent subsidy appraisal committee is not actually granted by SIPO examiners, several steps should be undertaken. First, the application should undergo automatic re-examination with the PRB. Pending the reasons for not granting the patent in the first review (and thus the need for re-examination), the re-examination fees should be covered by the appraisal committee rather than the applicant. If deemed fully valid after re-examination, the appraisal committee could pay the applicant an additional amount towards the Patent Fee (e.g. the remaining 25% of the Patent Fee, meaning 100% of the Patent Fee and the Search Report fee would have been ultimately subsidised by the government). If the patent is partially invalidated or fully invalidated by the PRB, pending the reasons, the appraisal committee could still pay the applicant the aforementioned additional amount of the Patent Fee, or instead require the applicant pay this amount. (b) If rejected by the appraisal committee, the applicant would only be reimbursed for the Search Report, or instead a portion of the Patent Fee would be deducted when the applicant applies (if they choose to apply) for the first SIPO examination of the patent. The applicant must pay the rest of the Patent Fee.

Note: To ensure integrity in the review process within Method A1, A2 and B, it might be prudent not to indicate on the patent application subject to the first SIPO examination whether the application is involved in the patent filing subsidy program.

In the instance a set of roughly ‘equally inventive’ patent applications are vying for limited subsidy funds, one might consider a ‘tie-breaker’ criteria for deciding how to grant patent subsidies. For example, the government might support smaller and less well-funded entities applying; however, a thorough policy assessment should be run before any such approach is adopted as a matter of policy. Additionally, one might not only consider the quality of the patent reviewed, but the performance of the patent applicant in terms of serving as a losing defendant in certain IPR infringement cases, among other criteria.

8.2 A supervision committee should be set-up to oversee an opposition mechanism and post-granting monitoring and evaluation. This committee would solicit written opposition comments from third-parties, via a notice in a gazette, on if a patent selected for subsidisation should in fact be subsidised or if an already subsidised patent should remain subsidised. Also, a database with subsidy-related information should be maintained. Through review of this database and the opposition process, patents to receive or already receiving subsidies should be scrutinised, particularly in the instance a patent application procedure is deliberately terminated by the applicant.

Several components should be added to the mechanism to oppose and revoke subsidies. First, the grounds for opposing subsidisation should be clearly stipulated before this process is initiated. Second, to prevent abuse of the opposition process, if opponents abuse the opposition process with unreasonable oppositions, they will be warned/receive a certain type of warning(s) and other punitive action may be taken. Third, a formal and well-functioning mechanism should collate relevant information from State Administration for Industry and Commerce (SAIC), GAC, SIPO, the Ministry of Public Security (MPS)/police, procurators, and other IPR administrative enforcement bodies; arbitration committees; and the judiciary; as well as rights holders and other parties relevant for challenging a particular patent’s/applicant’s access to subsidisation.

In a proven instance of bad faith filings, filing subsidies should be repaid with interest and additional fines imposed. In this instance, the government should (1) ensure any subsidies given for patent filing and development are repaid with interest, and (2) additional fines that become increasingly steep per number of invalidations by a single filer should be considered for repeat offenders (for example, those who file more than X bad faith filings are fined between X-Y RMB, those who file more than Y are fined between Y-Z RMB, and so on). Monies must be repaid to the granting institution based on a repayment system developed by SIPO. As relevant, and pending the Method used as suggested above, the appraisal committee member who approved such a patent for subsidies should be penalised in his/her performance review.

- 2. Recommendation: IIPs premised exclusively on IND-IP-based requirements (as opposed to also on IP licensing from abroad) that are linked to subsidies and other financial incentives should be clearly nullified.** This should be required in the absence of publically available, rigorous analyses (including empirical analyses) that support the idea that IND IP requirements as currently conceived and linked to financial incentives *best* enable economic, environmental, and/or social progress in China in a way a less discriminatory policy approach cannot. To be sure, “best” herein should be based on solid scientific, economic, and legal rationales.

9.1 If any measure, for example an IIP rule mentioned within this study, has in fact been invalidated/made null but is still published online, either remove the regulations from online government sources or require clear indication on the actual text of the measures posted that they have been nullified.

- 3. Recommendation: Amend the requirements in current IND-IP-based IIPs to instead include different, arguably better, determinants of the success of an enterprise in building quality patents.** For example, criteria could be set in terms of high and productive investments in R&D (e.g. measured via R&D returns), invention patents in-force for longer than 6 years or an otherwise appropriate period of time, products or services with high value-added and commercial value, among other criteria.
- 4. Recommendation: Policy advice should focus less on certain current patent-based incentives reviewed in this study and encourage more sustainable incentives to boost innovation and competitiveness.**

11.1 Set forth policy advice that mandates all incentives specifically for patent development set out by provincial/municipal and local levels – whether this support is for patent filings, transformation of patents, monetisation of patents, or other forms of patent development – first meet certain verified patent quality thresholds.

11.2 Consider requiring an assessment on the social impact of certain incentives.

11.3 Policy advice should be revised as necessary to better encourage employers to offer incentives to their employees to innovate not just for the sake of producing patents but to also optimally contribute to the overall competitiveness of the company, research institute, or university.

- 5. Recommendation: Consider elevating the role of MOFCOM in innovation policymaking to be more on par with MoST and NDRC.** In addition to other mechanisms, more formal development of the responsibilities within the Inter-Ministerial Joint Conference could be used as one mechanism to monitor this power-sharing.
- 6. Recommendation: Include foreign and Chinese business and industry associations and other experts in the formulation process for specific regulations on IP management in line with the *Provisional Regulations on Intellectual Property Management of the Major National Scientific and Technological Projects* (as mentioned in Part 6, measure 60 of the *2012 National IP Strategy Plan*), and other related measures.**
- 7. Recommendation: Conduct an audit or series of audits, led by China's National Audit Office, on the workings of all major innovation-related funding programs and other key innovation policies in China.** This report could form the basis for improving related programs and policies as discussed among SIPO, MoST, and other relevant bodies involved in patent and innovation strategy and implementation.
- 8. Recommendation: Relevant government bodies should keep transparent websites that track government funding according to a variety of specific reporting criteria.**

15.1 Consider consolidating information on all major innovation-specific funding programs in a concise manner in English or another WTO language on relevant government websites. The EC-funded project China Access4EU has already compiled

this for many government funding programs at a helpful level of detail, although some major programs appear not to be covered, and the full details of subsidies at provincial and local levels are not clearly outlined.

15.2 Relevant government bodies should keep transparent websites which provide a listing of those entities actually awarded government funding, in addition to other key details. Specifically, the site should present the disaggregated scores for project awards on a set of clearly listed criteria for qualifying for such funding; in addition to details of projects they are working on; and any other relevant information necessary to ensure transparency and foster competition.

- 9. Recommendation: IND IP IPRs linked to subsidies and any other financial preferences (inclusive of those based on WTO inconsistent provisions) should be nullified. Financial incentives should be revised to be less discriminatory and better promote innovation and patent quality.**

16.1 All WTO inconsistent subsidies with IND IP provisions should be clearly nullified and voided. And all relevant subsidies should be reported to the WTO's Committee on Subsidies and Countervailing Duties.

16.2 All subsidies and other financial support that are not necessarily WTO inconsistent but are not awarded equitably to qualified enterprises, including support that is solely innovation-focused, should be opened up equally *de facto* to both foreign and domestic entities.

16.3 As a replacement for IND IP criteria in export subsidies, perfect an outreach program where export-intensive Chinese enterprises are better informed of the need to register their IPR abroad, and are better provided guidance on how to do so. This might, for example, be modelled off of the China IPR SME Helpdesk, a project funded by the EC for EU companies operating or looking to operate in China, and which the European Chamber has been implementing for several years now.

- 10. Recommendation: Enact specific revisions to the criteria for HNTE status.**

17.1 Revise Part V, Section I, para. 1 of the Application for Recognition of Hi-tech Enterprises and reform the actual approval process to notably raise the threshold for the quality of utility models accepted as meeting the IPR requirements for HNTE status.

17.2 Consider adding the preconditions for receiving HNTE status that enterprises are not frequently a losing defendant in patent infringement cases, nor are repeatedly convicted of bad faith filings. These conditions might also be binding while receiving recognition of HNTE status, whereas in certain extreme cases HNTE status might be revoked if the conditions are not met.

17.3 Revise Part V, Section I, para. 4 of the *Working Guidance on the Recognition of Hi-tech Enterprises* to state that qualifying enterprises need not have IP owned in China, but the China affiliate can qualify for HNTE status if possessing appropriate R&D personnel and funding so that it can reasonably be expected that these resources will lead to creation of quality patented solutions in the future.

17.4 Consider revising current Chinese law to, subject to reasonable conditions, state that an HNTE shall own the IP from its research in China but may freely license it to foreign-affiliated companies or third parties without effect on its HNTE status.

17.5 Fully contingent on the above recommendations first being implemented, then consider phasing out the option to use utility models to qualify for HNTE status, instead exclusively requiring filings of quality invention patents. The Application for Recognition of Hi-tech Enterprises could be revised accordingly.

11. Recommendation: Open at least partially more of China's government-sponsored S&T funding programs to foreign entities, and revise IPR restrictions therein to allow project partners to own the knowledge produced from the projects, and beyond this simply require that the project partners reach an agreement among themselves on IPR ownership and licensing and explicitly allow IPR ownership transfer and licensing. This should include replacing the term "national interest" (and perhaps "important public interest") in Article 20 of the *Law on Scientific and Technological Progress* with language that provides a more reasonable and precise scope for exclusivity claims.

12. Recommendation: Open a draft of MoST's *12th Five-Year Special Plan on IP Work of Science and Technology Innovation* (mentioned in Part 6, measure 59, of the *2012 National IP Strategy Plan*) for public comments for at least 60 days.

13. Recommendation: Provide full transparency into the makeup of MoST's Patent Assessment Index System of National Technology Invention Awards and how that might be revised in the future to better foster patent quality.

14. Recommendation: Revise several components of the *TIER*:

21.1 Revise Article 27 to clearly allow negotiation on ownership of improvements on technology (as this may be fundamentally needed in case of technology transfer related to toll manufacturing and service R&D).

21.2 Revise Article 2 to indicate that experimental data at an early stage of research or derived from pure service R&D is excluded from the approval requirements set forth in that article.

21.3 MOFCOM and other relevant government ministries should create a working group with industry and other experts to improve the clarity of the coverage of technologies in the current category of restricted and prohibited import/export technology.

21.4 Revise the *TIER Measures* provisions on liability of the technology transferor or licensor in an infringement claim raised by a third party. These revisions should more fully consider instances where current obligations create an undue burden on the licensor, e.g. in areas with patent thickets and where licensed technology is still not fully developed.

15. **Recommendation: Ensure all overly discriminatory *de jure* and *de facto* restrictions on foreign entities accessing the Technical Committees in which standardisation is decided are removed, and more reasonable access is granted to patent pools and essential patents.** The European Chamber, among other industry associations, should be consulted to provide a specific list of barriers to be removed herein.
16. **Recommendation: Reform the CCC Mark accreditation process in line with recent recommendations provided by foreign governments.**
17. **Recommendation: Establish a Working Group with topical sub-groups made up of government officials, SSOs, experts, and industry representatives (foreign and domestic) to investigate and provide recommendations on improving standard-development and oversight policy in China.** Policies reviewed would include information security regulations, including the MLPS, that may unnecessarily discourage R&D by foreigners; information restrictions on patent-related requirements needed for implementing standards; intentional development of national standards based only on the capabilities of Chinese SOEs; intentional lack of licensing essential patents to foreign enterprises, particularly those in the telecom industry; potentially disconcerting requirements involving TCM chips; IP disclosure to competitors during the chemical project approval process; IP leakage and other issues surrounding SFDA's approval process for pharmaceuticals; and all other standardisation policies flagged as a drag on patent quality. Among those needed to address the aforementioned issues, recommendations to be considered by the Group include Key Recommendation #5 from the European Chamber's 2012/2013 PCR Working Group Position Paper regarding chemical plant approval, and Key Recommendation #6 from the European Chamber's Standards and Conformity Assessment Working Group 2011/2012 Position Paper. The Group could be expanded to cover other concerning standardisation policies not necessarily related to patent quality.
18. **Recommendation: A taskforce should be created among industry associations in China (Chinese and foreign) to conduct an audit of all raw deals and other forms of forced-disclosure of know-how their members have experienced.** Complainants should provide solid evidence as to how the instances harm patent quality and innovation in China. Only the strongest cases should be included in a final report. The report should be published with recommendations and discussed with the MOFCOM, among other ministries.
19. **Recommendation: Implement Key Recommendation #3 in the European Chamber Position Paper 2011/2012 (2011) on clarifying the rules governing inventor remuneration.** That recommendation suggests the SPC or SIPO develop and interpretation on how certain general questions on inventor remuneration will be handled in a dispute. Specifically, clarification is needed that the direct employer of the inventor under a contract bound by Chinese labour law is the only one liable for inventor remuneration, and that labour contracts and company regulations should only be challengeable in extreme cases of willful neglect of the rights of the inventor.
20. **Recommendation: In line with the European Chamber's submission on this topic, consider at least very broadly clarifying certain issues with the *Measures on Compulsory Licensing*.**

III.3.3.2 Other recommendations

Sub-section 3.2

- 21. Recommendation: A taskforce of scholars, government officials, and other experts should be commissioned to conduct a rigorous review of the progress thus far and expected future results of China's IIP policies on assimilation, absorption, co-innovation and re-innovation. The report should be published with recommendations and discussed with the government.**
- 22. Recommendation: Continue, with renewed vigor, discussions in the WTO on including non-violation complaints in the *TRIPS Agreement*, with a view to removing the moratorium on use of these provisions.**
- 23. Recommendation: Delink EIDF and any other subsidies from preferential policies that without mention of procurement threshold requirements full-stop give preference in government procurement tendering to "large enterprises."**
- 24. Recommendation: MoST to re-consider its current approach to innovation and patent filing through megaprojects. As feasible, consider having at least some of these initiatives more focused on basic research and key fields via highly competitive and smaller scale, peer-reviewed projects.**
- 25. Recommendation: Ensure transparency regulations as stipulated in China's WTO commitments are enforced, including on comment periods and notifications of measures, and ensure relevant measures are published in an Official Journal and in a WTO language.**
- 26. Recommendation: A formal relationship should be developed between provincial technology transfer centres and the European Chamber, as well as with the European Chamber and industrial parks in those regions, with a view to better facilitating matchmaking activities with European businesses and Chinese counterparts.**
- 27. Recommendation: Set forth guidance, with some form of penalties for non-compliance, that provinces/municipalities, and more so industrial parks and larger zones within a province/municipality, when possible and appropriate should coordinate with one another in determining their respective competitive advantages and developing accordingly specific plans to attract distinct industries/sets of companies to their industry parks.**

VI References

Note: This reference list includes all references cited in *Dulling the Cutting Edge: How Patent-Related Policies and Practices in Hamper Innovation in China*, and is not limited to those used for Chapter 3 of that study.

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VI.2 Consultations

2011, October 28- Meeting with SIPO Commissioner Tian Lipu, other senior SIPO officials, and European Chamber representatives
2012, January 19- Consultations with a member of the European Chamber
2012, January 19- Consultations with members of the European Chamber
2012, February 15- Consultations with several professional services' consultants in Shanghai
2012, February 20- Consultations with an expert at the EU IPR SME Helpdesk
2012, March 6- Consultations in Shanghai with several R&D managers of large multinational companies involved in the European Chamber
2012, March 13- Consultations with several European Chamber members in Shanghai
2012, March 15- Consultations with Dr. Oliver Lutze, Co-Chair of the European Chamber's IPR Working Group & IPR Working Group Chair in Shanghai, in Shanghai
2012, March 16- Consultations with Dr. Oliver Lutze in Shanghai
2012, March 20- Consultations with Vice Chair of the European Chamber's IPR Working Group in Shanghai and Associate at Taylor Wessing, in Shanghai
2012, March 23- Consultations on SMEs' internationalisation in China with a DG Enterprise representative
2012, March 23- Consultations with Paul Ranjard, Chair of the European Chamber's Working Group in Beijing; Doug Clark, Vice Chair of the European Chamber's Working Group in Shanghai; and Dr. Oliver Lutze

2012, March 31- Consultations with Dr. Oliver Lutze in Shanghai
2012, April 17- Consultations with several members of the European Chamber in Shanghai
2012, April 12, 18- Consultations with several Chinese companies in the nutrition and machinery industries
2012, April 18- Consultations with Dr. Oliver Lutze in Shanghai
2012, April 24- Consultations with Lin Xu in Shanghai
2012, April 25- Consultations with certain Chinese R&D managers, Shanghai
2012, May 7- Consultations with Lin Xu in Shanghai
2012, May 8- Consultations with Qu Xiaoyang, Vice Chair of the European Chamber's IPR Working Group in Beijing
2012, May 8- Consultations with Dr. Oliver Lutze in Shanghai
2012, May 9- Consultations with several members of the European Chamber
2012, May 9- Consultations with Dr. Oliver Lutze in Shanghai
2012, May 14- Consultations with a representative in the telecom industry in the Chamber's IPR Working Group
2012, May 15- Consultations with members of the European Chamber in Shanghai
2012, May 17- Consultations with several members of the European Chamber's R&D Forum
2012, May 17- Consultations with members of the IPR Working Group
2012, May 17- Consultations with Lin Xu
2012, May 23- Consultations with Dr. Oliver Lutze in Shanghai
2012, May 24- Consultations with members of the IPR Working Group
2012, June 11- Consultations with Dr. Oliver Lutze in Shanghai
2012, June 12- Consultations with Elliot Papageorgiou, Executive & Partner at Rouse Legal (China), in Shanghai
2012, June 13- Consultations with Christine Yiu, Senior Associate, Bird & Bird, in Shanghai
2012, June 15- Consultations with a patent attorney based in the US
2012, June 27- Consultations with members of different working groups of the European Chamber
2012, July 10- Consultations with Elliot Papageorgiou in Shanghai
2012, July 12- Consultations with Elliot Papageorgiou in Shanghai
2012, July 13- Consultations with Christine Yiu in Shanghai
2012, July 14- Consultations in Shanghai with a member of the European Chamber
2012, July 14- Consultations with Elliot Papageorgiou in Shanghai
2012, August 2- Consultations with a member of the European Chamber in Shanghai
2012, August 2, 3, and 8- Consultations with three individuals, one based in Beijing and the other two based in Shanghai
2012, August 9- Consultations (via phone) with SIPO

VI.3 Laws, policies, other measures, and court opinions

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Table 14: Comparison chart: Citations for major recent provincial/municipal IP plans and strategies reviewed

Province/Municipality	12 th Five Year IP Plan/equivalent plan** (citation) Time period: 2011-2015	IP Strategy/equivalent strategy** (citation)
Anhui	<i>Anhui's 12th Five Year Plan on Intellectual Property (Patent) Development</i> issued on November 17 th 2011 by the Anhui Intellectual Property Office Link: http://www.ahipo.gov.cn/dt2111111175.asp?DocID=2111116610	No multi-year plan, <i>Major Tasks Regarding Anhui's Patent Development for 2012</i> issued on March 28 th 2012 Link: http://www.sipo.gov.cn/dtxx/gn/2012/201203/t20120327_659916.html
Beijing	<i>Notice on Launching Beijing's 12th Five Year Plan on Intellectual Property (Patent) Development</i> issued on August 24 th 2011 by Beijing Intellectual Property Bureau and Beijing Development and Reform Commission	<i>Advice on Implementation of the Beijing Intellectual Property Strategy Compendium by the Beijing People's Government</i> issued on May 6 th 2009 by the Beijing People's Government

	<p>Link: http://www.bjipo.gov.cn/zcfg/zlgh/201202/t20120207_25714.html.</p>	<p>Link: http://www.gov.cn/gzdt/2009-05/06/content_1305629.htm</p> <p><i>**2012 Major Tasks on Implementation of Beijing's IP Strategy</i> issued on May 4th 2012 under the National Intellectual Property Strategy</p> <p>Link: http://www.nipso.cn/onevs.asp?id=14242</p>
Chongqing	<p><i>Chongqing's 12th Five Year Plan on Intellectual Property (Patent) Development</i> issued on October 27th 2011 by the general office of Chongqing Municipal People's Government</p> <p>Link: http://www.cqipo.gov.cn/templet/default/ShowArticle.jsp?id=5421</p>	<p>None</p>
Fujian	<p>None</p>	<p><i>Advice on Implementation of the National Intellectual Property Strategy Compendium by the Fujian Province People's Government</i> issued on January 30th 2010 by the Fujian Province People's Government</p> <p>Link: http://baike.baidu.com/view/3357924.htm</p> <p><i>**2012 Major Tasks on Implementation of Fujian's IP Strategy</i> issued on April 12th 2012 under the National Intellectual Property Strategy</p> <p>Link: http://www.nipso.cn/onevs.asp?id=13601</p>
Gansu	<p><i>Gansu's 12th Five Year Plan on Intellectual Property (Patent) Development</i> issued on March 22nd 2011 by the Gansu Intellectual Property Office</p> <p>Link: http://www.gsipo.gov.cn/zcfg/detail.php?n_no=38287&dir=%D5%FE%B2%DF%B7%A8%B9%E6/%C6%E4%CB%FB</p>	<p><i>Notice on Launching Gansu Intellectual Property Strategy Compendium by the Gansu Province People's Government (2010) No.49</i> issued on June 18th 2010 by the Gansu Province People's Government</p> <p>Link: http://www.gsipo.gov.cn/zscqzl/detail.php?n_no=36798</p> <p><i>**2012 Major Tasks on Implementation of Gansu's IP Strategy</i> issued on April 12th 2012 under the National Intellectual Property Strategy</p>

		Link: http://www.nipso.cn/onevs.asp?id=13587
Guangdong	<p><i>Guangdong's 12th Five Year Plan on Intellectual Property (Patent) Development</i> issued on August 10th 2011 by the General Office of Guangdong Province's People's Government</p> <p>Link: http://zwgk.gd.gov.cn/006939748/201108/t20110823_269558.html </p>	<p><i>Intellectual Property strategy compendium of Guangdong Province (2007-2020)</i> issued on March 27th 2012 by the Guangdong Intellectual Property Office</p> <p>Link: http://www.sipo.gov.cn/twzb/gdyibkbys/bjzl/201203/t20120327_659900.html </p> <p><i>**2012 Major Tasks on Implementation of Guangdong's IP Strategy</i> issued on April 12th 2012 under the National Intellectual-Property Strategy</p> <p>Link: http://www.nipso.cn/onevs.asp?id=13595 </p>
Guangxi	<p><i>Guangxi Autonomous Region's 12th Five Year Plan on Science and technology Development</i> issued on August 8th 2011 by the Development and Reform Commission of Guangxi Autonomous region and the Science and Technology Office of the Guangxi Autonomous Region</p> <p>Link: http://gov.gxsti.net/zwgk/zxtz/613832.shtml </p>	<p><i>Notice on Advice for Launching the Guangxi Autonomous Region Intellectual Property Strategy Compendium by the Guangxi Autonomous Region People's Government (2009) No.109</i> issued on December 23th 2009 by the Guangxi Autonomous Region's People's Government</p> <p>Link: http://www.gxipo.net/zcfg/zl/554850.shtml </p>
Guizhou	<p><i>Guizhou's 12th Five Year Plan on Intellectual Property (Patent) Development</i> issued on October 13th 2011 by the Guizhou Intellectual Property Office</p> <p>Link: http://www.chinagzpp.cn/Article/ShowArticle.asp?ArticleID=1110 </p>	<p><i>Intellectual Property Strategy Compendium of Guizhou Province (2006-2015)</i> issued on February 14th 2009 by the Guizhou Intellectual Property Office</p> <p>Link: http://www.jsip.gov.cn/news/ztbd/ztbdcs/ztbdpd9/200902/20090214_51568.html </p>
Hainan	<p><i>Hainan's 12th Five Year Plan on Patent Development</i> issued on December 27th 2011 by the Hainan Intellectual Property Office</p> <p>Link http://www.hipo.gov.cn/list.asp?id=3165 </p>	<p><i>Intellectual Property Strategy Compendium of Hainan Province</i> issued on July 6th 2010 by the Hainan Intellectual Property Office</p> <p>Link: http://www.hipo.gov.cn/list.asp?id=2883 </p>
Hebei	<i>Hebei's 12th Five Year Plan on</i>	<i>Advice on Implementation of the National</i>

	<p><i>Patent Development</i> issued on June 10th 2011 by the Hebei Intellectual Property Office</p> <p>Link: http://218.12.44.17/content.jsp?code=40170382-3/2011-00104&name</p>	<p><i>Intellectual Property Strategy Compendium by the Hebei Province People's Government</i> issued on June 22th 2009 by the Hebei Province People's Government</p> <p>Link: http://2010.hebstd.gov.cn/?thread-64-1.html</p> <p><i>**2012 Major Tasks on Implementation of Hebei's IP Strategy</i> issued on April 12th 2012 under the National Intellectual Property Strategy</p> <p>Link: http://www.nipso.cn/onevs.asp?id=13609</p>
Heilongjiang	None	<p><i>Notice on Launching the Heilongjiang Intellectual Property Strategy Compendium by Heilongjiang Province People's Government (2011-2020)</i> issued on May 22nd 2011 by the Heilongjiang Province People's Government</p> <p>Link: http://baike.baidu.com/view/7153606.htm</p> <p><i>**Plan to Put Forward Implementation of Heilongjiang's 2012 IP Strategy</i> issued on February 23rd 2012</p> <p>Link: http://www.sipo.gov.cn/twzb/2012hljzscq/2012hljzscqbzjl/201202/t20120223_646396.html</p> <p><i>**2012 Major Tasks on Implementation of Heilongjiang's IP Strategy</i> issued on June 4th 2012 under the National Intellectual Property Strategy</p> <p>Link: http://www.nipso.cn/onevs.asp?id=14235</p>
Henan	<p><i>Henan's 12th Five Year Plan on intellectual Property Development</i> issued on December 20th 2010 by the Henan Intellectual Property Office</p>	<p><i>Intellectual Property Strategy Compendium of Henan Province (2008) No.59</i> issued on November 23rd 2008 by the Henan Intellectual Property Office</p> <p>Link:</p>

	<p>Link: http://hnszscqzlw.cn/ArticleShow.asp?id=89</p>	<p>http://www.hnpatent.gov.cn/patentwebsite/show.do?method=show&id=3577</p> <p>**2012 Major Tasks on Implementation of Henan's IP Strategy issued on April 12th 2012 under the National Intellectual Property Strategy</p> <p>Link: http://www.nipso.cn/onevs.asp?id=13599</p>
Hubei	<p><i>Hubei's 12th Five Year Plan on Intellectual Property (Patent) Development</i> issued on July 29th 2011 by the Hubei Intellectual Property Bureau</p> <p>Link: http://www.hbipo.gov.cn/upfile/20100729011527652.doc</p>	<p><i>Intellectual Property Strategy Compendium of Hubei Province</i> by Hubei Province People's Government issued on August 11th 2010 by the Hubei Province People's Government</p> <p>Link: http://www.xinhuanet.com/chinanews/2010-08/25/content_20711850.htm http://www.hbipo.gov.cn/upfile/20110307162744906.doc</p> <p>**2012 Major Tasks on Implementation of Hubei's IP Strategy issued on April 12th 2012 under the National Intellectual Property Strategy</p> <p>Link: http://www.nipso.cn/onevs.asp?id=13598</p>
Hunan	<p><i>Hunan's 12th Five Year Plan on Patent Development</i> issued on May 7th 2012 by the Hunan Intellectual Property Office and Development and Reform Commission of Hunan Province</p> <p>Link: http://www.sipo.gov.cn/dttx/zlgzd/2012/201205/t20120507_687187.html</p>	<p><i>Intellectual Property Strategy Compendium of Hunan Province</i> by the Hunan Province People's Government issued on March 27th 2010 by the Hunan Province People's Government</p> <p>Link: http://news.163.com/09/0327/11/55DK0BO K000120GU.html</p> <p>**2012 Major Tasks on Implementation of Hunan's IP Strategy issued on April 12th 2012 under the National Intellectual Property Strategy.</p> <p>Link: http://www.nipso.cn/onevs.asp?id=13596</p>
Inner Mongolia	None	<p><i>Key points in the Implementation of the Inner Mongolia Autonomous Region 2012 Intellectual Property Strategy</i> issued on June 4th 2012</p>

		<p>Link: http://www.nipso.cn/one news.asp?id=14238</p> <p><i>**2012 Major Tasks on Implementation of Inner Mongolia Autonomous Region's IP Strategy</i> issued on June 4th 2012 under the National Intellectual Property Strategy</p> <p>Link: http://www.nipso.cn/one news.asp?id=14238</p>
Jiangsu	<p><i>Jiangsu's 12th Five Year Plan on Patent Development</i> issued on November 2nd 2011 by the Intellectual Property Office of Jiangsu Province</p> <p>Link: http://www.jsip.gov.cn/laws/bmgf xwj/201112/20111216_70465.html</p>	<p><i>Notice on Launching the Intellectual Property Strategy Compendium of Jiangsu Province by Jiangsu Province People's Government</i> issued on January 5th 2009 by the Jiangsu Province People's Government</p> <p>Link: http://www.jsip.gov.cn/news/ywdtnews/200901/20090112_50874.html</p> <p><i>**2012 Major Tasks on Implementation of Jiangsu's IP Strategy</i> issued on June 4th 2012 under the National Intellectual Property Strategy.</p> <p>Link: http://www.nipso.cn/one news.asp?id=14233</p>
Jiangxi	None	<p>Call for comments on the Jiangxi Province Intellectual Property Strategy Compendium by the Intellectual Property Office of Jiangxi Province on April 6th 2011</p> <p>Link: http://zl.ncinfo.gov.cn/readnews.asp?id=2292</p>
Jilin	None	<p><i>**2012 Major Tasks on Implementation of Jilin's IP Strategy</i> issued on June 4th 2012 under the National Intellectual Property Strategy.</p> <p>Link: http://www.nipso.cn/one news.asp?id=14236</p>
Liaoning	<p><i>Liaoning's 12th Five Year Plan on Patent Development</i> issued on November 15th 2011 by the Intellectual Property Office of Liaoning</p> <p>Link: http://www.lnipo.gov.cn/zscqjweb</p>	<p><i>Intellectual Property Strategy Compendium of Liaoning Province by the Liaoning Province People's Government</i> issued on June 8th 2011 by the Intellectual Property Office of Liaoning</p> <p>Link: http://www.lnipo.gov.cn/zscqjweb/zsweb/in</p>

	/zsweb/informationShow.jsp?sectorId=yewgh&infolD=bb45458632fb1d2c0133a58bdb5901b8	formationShow.jsp?sectorId=zscqzlg&infolD=bb4545863068d15001306d2df5070046 <i>**2012 Major Tasks on Implementation of Liaoning's IP Strategy</i> issued on April 12 th 2012 under the National Intellectual Property Strategy Link: http://www.nipso.cn/oneNews.asp?id=13606
Ningxia	None	<i>Notice on Launching the Intellectual Property Strategy Compendium of Ningxia Huizu Autonomous Region by Ningxia Huizu Autonomous Region People's Government</i> issued on September 27 th 2011 by the Ningxia Huizu Autonomous Region People's Government Link: http://govinfo.nlc.gov.cn/nxfz/zfgb/201120/201111/t20111124_1144182.html?classid=423 <i>**2012 Major Tasks on Implementation of Ningxia Huizu Autonomous Region's IP Strategy</i> issued on April 12 th 2012 under the National Intellectual Property Strategy Link: http://www.nipso.cn/oneNews.asp?id=13585
Qinghai	None	<i>Notice of Advice on Implementation of the National Intellectual Property Strategy Compendium by the Qinghai Province People's Government</i> issued on November 19 th 2008 by the Qinghai Province People's Government Link: http://www.qhys.gov.cn/html/42/21102.html <i>**2012 Major Tasks on Implementation of Qinghai's IP Strategy</i> issued on April 12 th 2012 under the National Intellectual-Property Strategy Link: http://www.nipso.cn/oneNews.asp?id=13586
Shaanxi	<i>Shaanxi's 12th Five Year Plan on Intellectual Property (Patent) Development</i> issued on May 20 th	<i>Notice on Launching the Shaanxi Intellectual Property Strategy Compendium (2008-2020) and Shaanxi Intellectual Property Strategy</i>

	<p>2011 by the Shaanxi Intellectual Property Office</p> <p>Link: http://www.snipo.gov.cn/ReadNews.asp?NewsID=11091&BigClassName=%D6%AA%CA%B6%B2%FA%C8%A8%B9%A4%D7%F7%A1%B0%CA%AE%B6%FE%CE%E5%A1%B1%B9%E6%BB%AE&SmallClassName=%B9%A4%D7%F7%B6%AF%CC%AC</p>	<p><i>Implementation Plan (2008-2010)</i> by the Shaanxi Province People's Government issued on November 14th 2008 by the Shaanxi Province People's Government</p> <p>Link: http://www.shaanxi.gov.cn/0/103/6295.htm</p>
Shandong	<p><i>Shandong's 12th Five Year Plan on Patent Development</i> issued on July 15th 2011 by the Shandong Intellectual Property Office</p> <p>Link: http://www.sipo.gov.cn/dfzz/shandong/zcfg/sjwj/201107/t20110715_611387.htm</p>	<p><i>Key points on the Implementation of the Shandong Intellectual Property Strategy</i> issued on May 26th 2011</p> <p>Link: http://www.sipo.gov.cn/dtxx/zlgzdt/2011/201105/t20110526_605561.html</p> <p><i>**2012 Major Tasks on Implementation of Shandong's IP Strategy</i> issued on April 12th 2012 under the National Intellectual Property Strategy</p> <p>Link: http://www.nipso.cn/oneNews.asp?id=13600</p>
Shanghai	<p><i>Shanghai's 12th Five Year Plan on Intellectual Property Development</i> issued on November 19th 2011 by the Shanghai Intellectual Property Administration (officially published on Shanghai Intellectual Property Administration's website on April 16th 2012)</p> <p>Link: http://www.sipa.gov.cn/gb/zscq/node2/node23/userobject1ai9309.html</p> <p>Link http://www.sipo.gov.cn/dtxx/gn/2011/201111/t20111109_629911.html</p>	<p><i>Notice on Drafting the Shanghai Intellectual Property Strategy Compendium (2011-2020)</i> issued on April 8th 2011 by Shanghai Intellectual Property Administration</p> <p>Link: http://www.sipo.gov.cn/dtxx/gn/2011/201104/t20110408_595729.html</p> <p><i>**2012 Major Tasks on Implementation of Shanghai's IP Strategy</i> issued on June 4th 2012 under the National Intellectual Property Strategy</p> <p>Link: http://www.nipso.cn/oneNews.asp?id=14234</p>
Shanxi	<p><i>**A general notice by Shanxi Intellectual Property Office: Shanxi's 12th Five Year Plan on Intellectual Property (Patent) Development</i> issued on December 26th 2011 by the Shanxi Intellectual</p>	<p><i>Notice on Drafting the Shanxi Intellectual Property strategy Compendium</i> issued on August 13th 2009 by the Department of Science and Technology in Shanxi</p> <p>Link:</p>

	<p>Property Office</p> <p>Link: http://218.26.227.183:8000/zscqj/sjdt/1451.htm</p>	<p>http://www.shanxigov.cn/n16/n1611/n3539/n7299/n20244/8365727.html</p> <p><i>**2012 Major Tasks on Implementation of Shanxi's IP Strategy</i> issued on June 4th 2012 under the National Intellectual Property Strategy</p> <p>Link: http://www.nipso.cn/oneNews.asp?id=14239</p>
Sichuan	<p>None</p>	<p><i>Notice on Launching the 2012 Implementation Plan of Sichuan Intellectual Property Strategy by the Sichuan Province People's Government (2012) No.14</i> issued on February 6th 2012 by Sichuan Intellectual Property Office</p> <p>Link: http://www.sc.gov.cn/ztszcz/2012zscq/2012zscq/201202/t20120206_1170226.shtml</p> <p><i>**Major Tasks Regarding Sichuan's Patent Development for 2012</i> issued on February 5th 2012 by the Sichuan Intellectual Property Office</p> <p>Link: http://www.sc.gov.cn/ztszcz/2012zscq/2012zscq/201202/t20120206_1170227.shtml</p>
Tianjin	<p><i>Tianjin's 12th Five Year Plan on Intellectual Property Development</i> issued on December 23rd 2011 by the Tianjin Intellectual Property Office</p> <p>Link: http://www.sipo.gov.cn/dfzz/tianjin/tzgg/201112/P020111222635593820156.pdf</p> <p><i>Notice on Launching Tianjin's 12th Five Year Plan on Patents</i> issued on December 23rd 2011 by the Tianjin Intellectual Property Office</p> <p>Link: http://zc.k8008.com/html/tianjin/szhzhichanju/2011/1223/131829.html</p>	<p><i>Notice on Launching the Intellectual Property Strategy Compendium of Tianjin</i> issued on March 15th 2010 by the Tianjin People's Government</p> <p>Link: http://www.tj.gov.cn/zwgk/wjgz/szfwj/201003/t20100324_115195.htm</p> <p><i>**2012 Major Tasks on Implementation of Tianjin's IP Strategy</i> issued on June 4th 2012 under the National Intellectual Property Strategy</p> <p>Link: http://www.nipso.cn/oneNews.asp?id=14241</p>
Tibet	<p>None</p>	<p><i>Science and Technology Development Plan of the Tibet Autonomous Region 12th Five Year</i></p>

		<p><i>Plan for Further Enacting the Intellectual Property Strategy (2012) No.53</i> issued on May 25th 2012 by the Tibet Autonomous Region People's Government</p> <p>Link: http://www.tibetsti.gov.cn/Item.aspx?id=2562</p> <p><i>Great Progress Made Towards Protecting Intellectual Property Rights in the Xizang Autonomous Region</i> issued on May 29th 2011</p> <p>Link: http://www.sipo.gov.cn/mtjj/2011/201105/t20110526_605517.html</p>
Xinjiang	None	<p><i>Notice on Launching the Intellectual Property Strategy Compendium of the Xinjiang Uygur Autonomous Region</i> issued on April 19th 2010 by the government of Xinjiang Uygur Autonomous Region</p> <p>Link: http://www.akss.gov.cn/childsite/kjj/index.php?option=com_content&view=article&id=360:2010-05-10-09-03-45&catid=46:2009-04-21-01-31-28&Itemid=77</p> <p><i>The Implementation Plan on the Intellectual Property Strategy Compendium of the Xinjiang Uygur Autonomous Region (2011-2015)</i> issued on August 7th 2011 by the Xinjiang Uygur Autonomous Region</p> <p>Link: http://www.xinjiang.gov.cn/xxgk/gwgb/zfwj/2011/81616.htm</p> <p><i>**2012 Major Tasks on Implementation of the Xinjiang Uygur Autonomous Region's IP Strategy</i> issued on April 12th 2012 under the National Intellectual Property Strategy</p> <p>Link: http://www.nipso.cn/onevs.asp?id=13584</p>
Yunnan	Yunnan's 12 th Five Year Plan on Intellectual Property (Patent) Development issued on March 24 th 2011 by the Intellectual Property Office of Yunnan Province	<p><i>Notice on Advice for Implementation of the National Intellectual Property Strategy Compendium by Yunnan Province People's Government (2008) No.18</i> issued on August 7th 2009 by the Yunnan Province People's Government</p>

	<p>Link: http://www.ynipo.gov.cn/newsview.aspx?id=3074</p>	<p>Link: http://www.sipo.gov.cn/dfzz/yunnan/zcfg/zc/200908/t20090807_471689.htm</p> <p><i>**Summary Report for the 2011 IP Work and Major Tasks for 2012 IP Work by the Yunnan Intellectual Property Office issued on February 15th 2012 by Yunnan Intellectual Property Office</i></p> <p>Link: http://www.ynipo.gov.cn/newsview.aspx?id=3075</p>
Zhejiang	<p><i>Zhejiang's 12th Five Year Plan on Patent Development</i> issued on February 1st 2012 by the Zhejiang Provincial Department of Technology</p> <p>Link: http://www.zjkit.gov.cn/news/node01/detail0101/2012/0101_28641.htm</p>	<p><i>Notice on Advice for Implementation of the National Intellectual Property Strategy Compendium by Zhejiang Province People's Government (2009) No.189</i> issued on December 22th 2009 by the Zhejiang Province People's Government</p> <p>Link: http://www.zjpat.gov.cn/details.aspx?newsId=c644de29-7495-4cda-b341-2bc9b51beeb6</p>

†Note: readily available 2012 patent and IP development plans included in chart to provide an idea of the one year initiatives of provinces/municipalities ostensibly meant as an additional method of implementing the multi-year plans and strategies set out. ** Refers to annual (for one year) implementing measures only.

VII Annexes¹⁶⁶

Chapter 3

VII.3.1 Example financial incentives for patent development from major recently promulgated sub-central IP plans and strategies

Table 39: Example financial incentives for patent development from major recently promulgated sub-central IP plans and strategies

Province/ Municipality/ Autonomous Region	Financial support for patent development from 12 th Five Year IP Plans, other equivalent plans , Provincial IP Strategies and other equivalent plans
Anhui	<ul style="list-style-type: none"> • <i>IP Plan issued in 2011:</i> Section 4, Part 3, Article 9: <i>“Increasing support for industrialisation of patent technology to establish special funds for patent utilisation and patent industrialisation, set-up the Anhui Patent Award to improve the patent output quality and levels of industrialisation. Establishing a pilot base for patent industrialisation, carrying out the pilot support for patent ventures to promote the entrepreneurship of non-service inventors and SMEs.”</i> Section 5, Para. 2: <i>“Establishing the continuously increasing mechanism of financial supporting intellectual property budget. Strengthening the management of special funds for patent development... Do an excellent job of subsidising foreign patent applications.”</i>
Hebei	<ul style="list-style-type: none"> • <i>IP Plan issued in 2011:</i> Section 3, Part 2, Para. 2: <i>“Accelerate the establishment of the government-guided, project-driven patent boosting system. Continue to increase the financial input to enterprises and institutions based on their differences in area, size and development stage...”</i> Section 4, Part 2: <i>“Increase financial investment in the major work of the Hebei 12th Five Year Intellectual Property Plan, and make adjustments according to the annual work priorities. Promote that the government at all levels, industry sectors and enterprises, increase patent funding Inputs and guide commercial financial institutions to support the patent commercialisation and industrialisation, and gradually establish and improve a diversified and multi-channel of IP funding input system which is market-oriented and recognise enterprises as the mainstay.”</i>

¹⁶⁶ Special thanks to both Ruben Moen, Working Group Assistant at the European Chamber, for his help in compiling some of the statistics in this Annex; and to Linjia Dai, Working Group Assistant at the European Chamber, for her help in double-checking many of the statistics and some translations provided in this Annex and the body of this study.

<p>Jiangsu</p>	<ul style="list-style-type: none"> • <i>IP Plan issued in 2011:</i> <p>Section 2, Part 2: <i>“Promoting the award policies of indigenous invention, establish government procurement of patent products, explore a new incentive and allocation mechanism of patent transformation...”</i></p> <p>Section 4, Part 3, Para. 3: <i>“Exploring the establishment of a patented operating mechanism. Explore the establishment of Patent Bank, research on the establishment of Patent Bank operating and distribution of benefits mechanism. Establish special Patent Bank funds. Actively encourage, guide and support input by private capital and other social resources into Patent Banks.”</i></p> <p>Section 4, Part 2: <i>“Optimising the subsidisation and awarding system of patents. Verify and improve the ‘Jiangsu Management Measures on Provincial Subsidy Funds,’ promulgate the ‘Jiangsu Patent Award Measure’, stimulating inventions and improving patent output quality.”</i></p> <p>Section 5, Part 2: <i>“Increasing the maximum amount of patent rewards, and strengthening the rewards to outstanding patents/inventors and enterprises with standardisation of IP management. After registering the relevant patent technology transaction contracts, the income of patent intermediary service organisations engaged in patent technology development, transfer, licensing and other related consulting services, can be exempted from the business tax and education surcharge. Increase the amount of patent awards, and increase the award efforts of excellent patents, excellent inventors and excellent intellectual property management of standardised enterprises.”</i></p> <p>Section 5, Part 3: <i>“Increasing the financial fund input into patents, establish special funds for patent. Establish the stably increasing mechanism of financially supporting intellectual property budget, realising the financial investment growth rate should be significantly higher than the regular financial revenue growth. Increasing grants for invention patent applications and patents granted, particularly for invention patents granted. Increase the financial investment on the areas including patent services, overseas rights protection, personnel training, industry early warning mechanisms. Promote the existing special funds of science and technology, education, culture, industry, trade and other areas to tilt to the development of patents...”</i></p>
<p>Liaoning</p>	<ul style="list-style-type: none"> • <i>IP Plan issued in 2011:</i> <p>Section 3, Part 2, para. 3: <i>“Improving the reward system for intellectual property. Put ‘the year-on-year growth rate of China invention patent applications’ into the government performance evaluation system. Enforcing a special government incentive system for intellectual property, providing institutions with the Gold Award for China Patents a one-time award of 500,000 RMB and providing the institutions with the China Patent Excellence Award with a one-time award of 200,000 RMB. Formulating municipal and county award measures based on local practice. ”</i></p>

Ningxia	<ul style="list-style-type: none"> • <i>IP Strategy issued in 2011:</i> Section 5, Part5, Article 38: “Increase capital investment in intellectual property work. Increase financial investment in intellectual property work, promote various types of intellectual property pilot and demonstration projects, cultivate projects with IPR of advantageous enterprises, an intellectual property-focused county (city, district), engineering, intellectual property, implementation and industrialisation of intellectual property, information construction of intellectual property and so on. Establishing special funds for invention patent application and maintenance to promote the dramatic increase of the number of invention patents owned in Ningxia. Municipalities, counties (districts) can increase the financial input for intellectual property work according to the economic and social development needs and local financial situation to promote regional intellectual property. Establishing an intellectual property award mechanism to reward patent technologies, patent products and patent inventors. Award the institutions who win the Gold Award for China Patents, China Patent Excellence Awards and any other national intellectual property awards. Set up the distribution of benefits and reward system of intellectual property rights in enterprises and institutions. Award the inventors, designers, and promotion and service staff who make contribution in the process of intellectual property creation, utilisation and promotion.”
Shandong	<ul style="list-style-type: none"> • <i>IP Plan issued in 2011:</i> Section 3, Part 7, Para. 2: “Increase financial input. Actively see that all levels of government further increase the input of patent work, and universally establish special funds for patent development in governments at or above the county level. Establish a patent reward system, providing recognition awards to excellent indigenous innovation projects with significant economic and social benefits, as well as to the institutions and individuals who make outstanding contributions to the creation and utilisation of patents...”
Shanghai	<ul style="list-style-type: none"> • <i>IP Plan issued in 2011:</i> Section3, Part1, Article 1: “Improve the ‘Shanghai Patent Subsidy Measures’ and formulate the ‘Shanghai Reward Measures for Invention Patents’ to further optimise the patent application structure and to reward significant inventions...”
Sichuan	<ul style="list-style-type: none"> • <i>IP Strategy issued in 2009:</i> Section 5, Part 3, Article 1: “...Increase financial support and reward efforts for invention patents Improve the bonus and payment system of service invention-creations”. Section 5, Part 3, Article 2: “Encourage the use and industrialisation of intellectual property rights. Strengthen the guiding role of government funds for the commercialisation and industrialisation of intellectual property, and continuously improve the quantity and use efficiency of special funds for patent. Use fiscal, financial, investment, and government procurement policies and industry, energy, environmental protection policies to guide the patent utilisation of enterprises and institutions. Establish a government procurement mechanism and prior purchase polices for important equipment and products with indigenous intellectual property rights belonging to enterprises and institutions. Encourage financial institutions and venture capitalists to increase funds for the commercial utilisation of intellectual property.”
Tianjin	<ul style="list-style-type: none"> • <i>IP Plan issued in 2011:</i>

	<p>Section 4, Part 6, Article 1: <i>“Improving patent quantity and quality ... enacting the “Tianjin Implementation Measures on the Ownership and the Bonus and Payment System of Service Invention-Creations.” Implement the “One award, Two rewards” system and other relevant regulations. Encourage annual growth rates of enterprise patent applications up to 20%.”</i></p> <p>Section 5, Part2: <i>“Increasing municipal financial funds on intellectual property, establishing special funds for intellectual property at the district and county level. ...Greatly developing IPR pledge financing, IPR insurance and other financial innovations to shape a multi-channel IP funding input system. A certain proportion of the financial fund input of key scientific research projects and major technological transformation projects should be put into the management of intellectual property rights...”</i></p> <p>Section 5, Article 3: <i>“Greatly publicise and recognise the institutions and individuals who contribute outstandingly to the field of intellectual property, strengthening the influence of awards such as the “Tianjin Patent Award,” “Worker Inventor Award,” “Women Inventor Award,” and “Juvenile Inventor Award.” Setting forth a wide distribution of awards including taking shares in the form of intellectual property rights; accelerating the forming of a new distribution system which will stimulate inventions and the implementation of patent transformation.”</i></p> <p>Section 5, Article 4: <i>“...Strengthen the significance of intellectual property in science and technology awards ...Special funds such as the key technology invention project fund, science and technology invention fund, technology invention fund for technological SMEs, and government financial funds should tilt towards enterprises with indigenous intellectual property rights. ”</i></p>
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Source: Review of provincial/municipal 12th Five Year IP Plans, recent IP Strategies, and equivalent plans and strategies. Note: This is only intended as a sample, i.e. it is a non-exhaustive list of financial incentives from all of these plans. Also, there may be other articles within the policies cited herein that are not mentioned hereto but also relate in some ways to patent-related financial incentives. Translations are from the European Chamber thus are unofficial.

Some other issues

Some other (non-exhaustive list of) issues and recommendations flagged for inclusion but ultimately not included in the body of the report

Explanatory note: While numerous issues were vetted for further analysis in this study and ultimately not included, the following issues were even more seriously considered for potential inclusion in the body of this paper although were also ultimately not included. (Reasons for not including such issues include that perhaps while problematic in their own right, they either do not appear to notably drag down patent quality in China; and/or there is not sufficient evidence for these practices to warrant them being highlighted in the body of the paper; and/or they are notably diverging views on if the issue mentioned is a problem and/or how it should be addressed.)

Inventor clawback

Issue: Other countries do not have rigid rules on inventor “clawback” like China. Like non-compete agreements, this rule reduces labor mobility although also reduces IPR misappropriation. The basis for such rules is listed in the following:

Article 11 of the *Implementation Regulations of PRC Patent Law* (“*Implementing Regulations*”) sets forth the invention clawback regulation in the PRC.

Under Article 6 of *PRC Patent Law*, if an invention is made by a person in execution of the tasks of the entity to which he belongs, or made by him mainly by using the material and technical means of the entity, then the invention is a service invention and its ownership should belong to the entity.

Article 11 of the *Implementing Regulations* further details the circumstances prescribed in Article 6. As to “made by a person in execution of the tasks of the entity to which he belongs,” Article 11 specifically prescribes that such an invention also refers to those which are made “within one year from his resignation, retirement or change of work, where the invention-creation relates to his own duty or the other task entrusted to him by the entity to which he previously belonged.”¹⁶⁷

Recommendation: Amend these rules to be more in-line with international practice.

Concerns with SAC’s Patent Policy Proposal and CNIS’ Patent Disposal Rules

Issue: A variety of concerns surround two particular rules governing essential patents in China: the *Disposal Rules for Inclusion of Patents in National Standards* (“*Patent Disposal Rules*”), issued for comment on January 21st 2010 by the China National Institute of Standardisation (CNIS)¹⁶⁸ (and still undergoing review) and a measure to which it closely relates, the *Proposed Regulations for the Administration of the Formulation and Revision of the Patent-Involving National Standards* (“*SAC Patent Policy Proposal*”), issued by the Standards Administration of China (SAC), on November 2nd 2009.¹⁶⁹ As identified by Willingmyre (2009), a range of problems with the wording of the *SAC Patent*

¹⁶⁷ 19 May 2012 - Consultations with Tony Chen, Partner, Jones Day, Shanghai. Note: in addition to the inventor clawback provision, the “work for hire” clause in Chinese law reduces IPR misappropriation.

¹⁶⁸ Source retrieved from <http://wenku.baidu.com/view/db481c15f18583d049645981.html>

¹⁶⁹ Retrieved from <http://www.sac.gov.cn/upload/091104/0911040916193480.PDF>

Policy Proposal, particularly regarding treatment of compulsory licensing in Articles 12, 13 and 15 and Article 9, potentially drag down patent owners' ability to monetise and receive a reasonable ROI.¹⁷⁰ As identified by Willingmyre (2010), while there are some positive provisions in the *Patent Disposal Rules*, there are still some uncertainties, including the lack of distinction between "essential patents" and "essential patent claims," lack of clarity that a declaration form is not a license, and lack of clarity on certain disclosure obligations.¹⁷¹ Collectively, these shortcomings promote inferior technologies and/or unnecessarily costly implementation for important standards, and may discourage the usage of innovative technologies and related quality patents in international standards.

Recommendation: As suggested in Willingmyre (2010), revise the *SAC Patent Policy Proposal*, particularly regarding treatment of compulsory licensing in Articles 12, 13 and 15 and Article 9. Specifically, clarify uncertainties over the lack of distinction between "essential patents" and "essential patent claims," lack of clarity that a declaration form is not a license, and lack of clarity on certain disclosure obligations.

R&D Centre requirements

Issue: The Chinese government employs a wide-range of incentives, for example tax incentives, to spur innovation through R&D centres which are directly and indirectly intended to encourage patents. These include the ability to be recognised as a qualified R&D Centre if meeting certain legal entity, capital and other (in certain situations employment threshold) requirements. If meeting these criteria, enterprises can qualify for exemption of customs duties and import VAT exemptions on imported equipment, and a Value-added Tax (VAT) refund for certain domestically-purchased equipment. Also, they can receive an EIT exemption on income up to RMB 5 million of transferred income on "self-developed" technology and related services, and a 50% reduction of tax on this type of income above the aforementioned threshold.¹⁷² A range of other tax incentives may be available.

There are some concerns among foreign business about the "overly strict" legal entity and capital requirements for becoming an "R&D Centre,"¹⁷³ in China which may in-turn, albeit indirectly, harm innovation and patent quality development in China. Specifically, these requirements may in effect limit the ability of operations of foreign enterprises to produce quality patents given they are denied access to collaborative networks and financial incentives even though they are just as capable as other legally represented entities in innovating and producing quality patents.

Recommendation: Revise the overly strict legal entity and capital requirements for becoming an official R&D Centre to better allow otherwise qualified affiliates to establish an R&D Centre in China.

¹⁷⁰ Willingmyre, George T. "Take Two: China's Proposed Regulations for Patent-Involving National Standards." Intellectual Property Watch Magazine. December 21st 2009. <http://www.ip-watch.org/2009/12/21/take-two-china%E2%80%99s-proposed-regulations-for-patent-involving-national-standards/>. Note, also see:

<http://www.ipo.org/AM/Template.cfm?Section=Home&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=24603>

¹⁷¹ Willingmyre, George T. "China's Latest Draft Disposal Rules for Patents in Standards: A Step Forward?" April 1st 2010. Intellectual Property Watch Magazine. <http://www.ip-watch.org/2010/04/01/china%E2%80%99s-latest-draft-disposal-rules-for-patents-in-standards-a-step-forward/>

¹⁷² Chan and Liu (2012). Note: Companies operating entities not necessarily qualified as an R&D Centre but in certain industries favored by China's *Foreign Investment Catalogue* may receive some preferential tax treatment similar to these.

¹⁷³ Whereas there are different arguably high threshold requirements for registered capital, and for independent legal persons vs. branches and departments of a company. Source: concerns raised by a member of the European Chamber in January 2012.