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“Measuring Intellectual Property 'Strength' – A Comparative Analysis
of the PRC's and Japan's IP Protection Regimes”

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List of Abbreviations

CCP	Chinese Communist Party
CNIPA	Chinese National Intellectual Property Administration
CPI	Corruption Perception Index
EUIPO	European Intellectual Property Office
GP index	Ginarte and Park index
IDEA	International Institute for Democracy and Electoral Assistance
IP	Intellectual Property
JPO	Japanese Patent Office
PBR	Plant Breeders' Rights
PCT	Patent Cooperation Treaty
PRC	People's Republic of China
SPC	Supreme People's Court
TRIPS Agreement	Agreement on Trade-Related Aspects of Intellectual Property Rights
UCC	Universal Copyright Convention
UPOV	International Convention for the Protection of New Varieties of Plants
WIPO	World Intellectual Property Office

1. Introduction

In today's economy, trade and cross-border transactions have evolved beyond the mere transfer of ownership of physical goods. Innovation, creativity and branding have become a key issue for many business activities, with firms continuously investing in intangible capital to stay ahead of their competitors. Indeed, intangible assets represent a large amount of the value generated in today's global value chain. Already in 2014, intangible capital accounted for a higher share of added value than tangible capital (WIPO 2017, 10ff). How to enhance this value and how to facilitate the flow of knowledge-rich goods and services across borders have therefore become integral considerations in development and trade policies around the globe. To encourage business entities and individuals to develop new innovations that will benefit society as a whole, national legislatures grant creators the right to prevent others from using their inventions, designs or other creations — thereby giving them control over how their intellectual property (IP) is used (WIPO 2020, 2f).

“The importance of protecting IP was first recognized in the Paris Convention for the Protection of Industrial Property of 1883 (Paris Convention) and the Berne Convention for the Protection of Literary and Artistic Works of 1886 (Berne Convention).” (WIPO 2016, 5). Finally, the WTO's Agreement on Trade-Related Aspects of Intellectual Property Rights (*TRIPS Agreement*), concluded in 1994, has established minimum standards of protection and enforcement that each country has to grant to the IP held by nationals of fellow WTO members.¹

On 11 December 2001, China joined the World Trade Organization and thus became member to the TRIPS Agreement, too. Japan, on the other hand, has been a party of GATT (the WTO's predecessor) since 10 September 1955. As the TRIPS Agreement was added to GATT at the end of the Uruguay Round of negotiations, Japan has been a member to it from the very beginning.

Still, despite international harmonisation and the conclusion of the TRIPS Agreement, the extent of protection and enforcement of IP rights still varies widely around the world with different levels of protection granted even among the TRIPS member states. This is partly due to the fact that the TRIPS Agreement mainly aims at aligning the written IP laws while aspects of administration and enforcement are largely left to the national legislature.

¹ The TRIPS Agreement is the most comprehensive multilateral agreement on IP to date; for further information see: https://www.wto.org/english/tratop_e/trips_e/intel2_e.htm (last accessed 10 July 2022).

2. Research Question and Relevance

Against this background, determining the level of IP protection in a given jurisdiction as well as in cross-country comparison has become a lively area of research. In this vein, the present master's thesis seeks to answer the following research question:

What are the shortcomings of the IP protection regimes implemented in the People's Republic of China (PRC) and Japan from an IP owner's point of view, considering the legal situation as well as practical aspects?

The findings obtained from answering this research question may permit companies to assess the IP investment risk in the PRC and Japan and thus support their business decisions involving IP (such as IP filing and investment decisions), particularly in industries that are sensitive to the protection of IP. Since “[e]ntrepreneurs’ incentives to innovate — what Schumpeter terms the “entrepreneurial spirit” — depend on their ability to capture the profit from innovation, which in turn depends on IPR protection and government institutions” (Fang, Lerner and Wu 2017, 2448), the given level of IP protection is a key consideration for any company aspiring to do business in these major markets in East Asia. Risks of ex-post expropriation, counterfeiting or piracy of high-value IP deter companies from entering a market. In particular in East Asia, concerns are high that an infringement of one's IP will go unpunished given the allegedly lax rules and lack of understanding regarding the importance of an effective IP protection regime.

However, China as well as Japan have officially acknowledged the value of having a solid level of IP protection, giving it top priority for future policy making. In its 14th five-year plan for 2021 to 2025, the PRC has signalled that IP protection is a key aspect of its strategy to move towards self-reliance in critical technology: “We will implement a strategy to make China strong on intellectual property rights, implement a strict intellectual property protection system, improve the related laws and regulations, and accelerate the legislation in emerging fields and new forms of business.” (People's Government of Fujian Province 2021, Chapter 7.2). Likewise, in light of losing ground against the PRC in global influence, Japan has proclaimed the need to improve its IP protection regime: “[O]ur nation needs to differentiate itself on the basis of innovation, securing an advantage with an open-close strategy backed by IP. However, Japan's IP strategy and innovation activities are not at an adequate level, nor does the nation make sufficient strategic use of design and branding, which are essential to innovation.” “[I]nvestment in and use of IP and other intangible assets by Japanese companies could hardly

be described as adequate and it will be essential to encourage IP investment and use by Japanese companies if they are to succeed amid fierce global competition” (Intellectual Property Strategy Headquarters 2021, 6; 17).

Hence, knowing the answer to the research question outlined above would allow policy makers in both the PRC and Japan to take necessary measures for further enhancing their country’s attractiveness to foreign companies and investment and for developing national indigenous technological capacity. Measuring the level of IP protection, however, is not as straight forward as it might seem. How this issue has been tackled in the literature will be discussed in the next chapter.

3. Literature Review

3.1. Definition of Intellectual Property

Before going into any detail on the question of how to gauge the level of IP protection, a definition of what actually constitutes IP shall be given. In a nutshell, IP refers to creations of the human mind. These creations can take many different forms: inventions, literary and artistic works, designs and symbols, as well as names and images used in commerce. Such intellectual activities in the industrial, scientific, literary and artistic fields are protected by IP rights, i.e. the exclusive rights given to a person over his/her creation for a certain period of time in order to enable people to earn recognition or financial benefit from what they invent or create. Given the wide range of creations covered, there are several types of IP rights, each having a different scope of protection (WIPO 2020, 1f).

Customarily, IP rights are divided into two areas: (i) copyright and related rights and (ii) industrial property. Generally, literary and artistic works (such as books and other writings, musical compositions, paintings, sculptures, and so on) are protected by copyright. The rights of performers (e.g. actors, singers and musicians), producers of sound recordings and broadcasting organizations also enjoy protection under copyright and related rights. The purpose of copyright protection is to reward creators for their creative work and thus to encourage further works (WIPO 2020, 20ff).

Industrial property, on the other hand, encompasses, inter alia, the protection of inventions and of distinctive signs, in particular trademarks. Trademarks distinguish the goods or services of one undertaking from those of other undertakings, thereby enabling consumers to make informed choices when choosing between different products. Patent protection, in turn, is granted

to inventions, which are new technical solutions to a problem. By maximising profits from their inventions during the patent protection period, inventors are rewarded for their efforts and encouraged to innovate further, which benefits the public as a whole. Further IP rights are industrial designs, trade secrets and geographical indications (WIPO 2020, 3ff; 12ff), which will, however, not be dealt with in this master's thesis due to its limited scope.

3.2. Measuring the Level of IP Protection – Introducing Remarks

As already mentioned, one problem of conducting research into the level of IP protection of a given jurisdiction is the way of measuring it. This question has therefore been a key issue in the literature on the relative “strength” of IP protection at the country level. Accordingly, several contributions have been devoted to constructing indices of IP protection, in an effort to quantify and depict differences in the level of book-law protection and/or enforcement offered by the IP systems of countries over certain periods of time. Since the majority of scholars follow an already well-established approach, the most important IP indices shall be briefly introduced in the following before elaborating on the single index criteria.

Gadbaw and Richards (1988) produced one of the first IP indices, using annual data from seven developing countries (namely Argentina, Brazil, India, Mexico, South Korea, Singapore and Taiwan) from 1984 to 1988. They assessed whether a country's IP legislation was in conformity at that time with the minimum standards of IP protection (for patents, trademarks, copyrights, trade secrets and semi-conductor chip design) as proposed by the U.S. Chamber of Commerce's Intellectual Property Task Force. Still, despite its wide scope, Gadbar and Richard's study has been criticized for being predominantly descriptive in nature as little attention is paid to its methodological construction (Pugatch 2007, 577). *“It was not until the late 1980s that the attempts to measure the strength of national IP regimes across the board became more systematic and serious.”* (Pugatch 2006, 375).

Rapp and Rozek (1990) built on Gadbar and Richard's IP index in developing an index measuring the strength of patent systems in 159 countries for the year 1984. Although often considered the first statistical measure of IP rights (Lesser 2011, 349; Pugatch 2006, 376), their study's primary objective was to establish a correlation between IP strength and the level of economic development of a given country, thereby “predicting” the level of IP protection of a given country on the basis of its state of economic development.

The most widely used and well-known index for measuring cross-national strength of patent protection is the one constructed by Ginarte and Park (1997), which can be regarded as a further development of the Rapp and Rozek index. Criteria the authors used to measure the strength of a country's patent regime are: (i) scope of patent protection; (ii) membership in international treaties; (iii) restrictions on patent rights; (iv) enforcement mechanisms; and (v) duration of patent protection.

Subsequent studies in this field all make reference to these IP indices (see e.g. Hamdan-Livramento (2009); Lesser (2011); Pugatch (2006)) either following their proposed methodology or further refining it. Indeed, since its first publication, the index by Ginarte and Park (*GP index*) has become the point of departure for many scholars drawing up their own IP indices (see e.g. Campi and Nuvolnari (2015); Li and Yu (2014); Pugatch (2006); Smarzynska-Javorcik (2004)). Given its clear and easily comprehensible conceptual framework as well as its transparent methodology, the GP index is indeed a useful tool for researchers. Because the GP index enjoys such an authoritative influence, the criteria used therein shall be examined more closely below.

3.3. IP Protection on the Books

3.3.1. Scope of IP Protection

Given the variety of IP rights, the first question to ask when assessing a country's IP regime is what kind of forms, things and ideas are actually protected as IP. The GP index, like Rapp and Rozek's approach, takes patents as a proxy for a country's entire IP protection regime and examines whether the following seven items – as a category of inventions whose patentability is treated differently across countries – are patentable in a given jurisdiction: (i) pharmaceuticals; (ii) chemicals; (iii) food; (iv) plant and animal varieties; (v) surgical products; (vi) microorganisms; and (vii) utility models (Ginarte and Park 1997, 286). In his update to the GP index, Park (2008) further added the category of patentability of software. Some works have followed this approach, which exclusively focuses on patent rights (see e.g. Li and Yu (2015)).

Others have reduced the scope under consideration even further: Since the TRIPS Agreement has harmonized the protectable subject matters while leaving countries only a choice regarding the patentability of plants, Lesser (2001 and 2011) merely focused on the patent protection granted to living organisms and genetically modified life forms and took this as an indicator of an entire national IP system. He did so “*because such forms of protection tend to be both technically complex and socially controversial, so that systems which provide complete coverage in those areas likely provide substantial coverage for other forms of creation as well. That is, as goes biotechnology so goes other forms of protection*” (Lesser 2001, 6).

Since these patent indices merely illuminate a certain part of a country's entire IP protection regime, Park (2005) as well as Reynolds (2003) developed two further indices – in addition to Ginarte and Park's patent index – on copyright and trademarks to investigate the economic impact of these IP types. These two indices of copyright and trademark protection cover the same criteria of analysis as used in the GP index relating to the coverage, usage and enforcement of IP as well as membership in international IP treaties but with a focus on the respective type of IP right. Coverage refers to the subject matter that is protected: In the case of copyright, it was analysed whether, generally, literary, dramatic, and artistic works are protected and, specifically, whether protection was provided in the form of performance rights, for sound recordings, cinematographic works and broadcasting.

To this list, Park and Lippoldt (2007) added the existence of a *droit de suite* (i.e. the artists' right to receive a fee on the resale of their works of art) and the protection of computer programmes. Regarding trademarks, Park (2005) asked whether protection is granted to service marks, certification marks, and collective marks while Reynolds (2003) and Park and Lippoldt (2007) supplemented this list with colours, shapes and well-known marks.

Ostergard (2000), following a more holistic approach, took patents, copyrights and trademarks into his analysis, because “*the bulk of IP is protected under these laws and the information on cross-national patent, copyright, and trademark laws are more readily available than other types of IP laws*” (Ostergard 2000, 354).

However, the use of IP rights can “*vary substantially across industries due to differences in the availability, scope, term, and strength of IP instruments available to protect inventions in a particular industry*” (Liu and La Croix 2015, 207). Thus, rather than assessing the national level of IP protection as a whole or with regard to a certain kind of IP right (without making a distinction between different fields of technology), some scholars have followed an industry-based approach developing special indices to capture the availability of law-on-the-books provisions related to specific industries, in particular the pharmaceutical industry. Using the same general methodology as Ginarte and Park, Pugatch (2006) built the first cross-country index of IP protection for pharmaceutical inventions, thereby establishing index values for 2005 for four countries (the United States, the United Kingdom, Singapore, and Israel). Besides patent protection, his index also considers other forms of IP protection, such as IP instruments that are associated with data exclusivity and other *sui generis* protection, e.g. with regard to orphan drugs and paediatric drugs (Pugatch 2006, 380).

A subsequent approach by Liu and La Croix (2015) drew upon the general methodology of Ginarte and Park while incorporating some of the pharmaceutical-specific variables used by Pugatch to develop a pharmaceutical index for 154 countries spanning the time period of 1960 to 2005. Focusing on the IP protection of plant breeding and agriculture, Campi and Nuvolnari (2015), on the other hand, measured the strength of 69 countries' IP regimes over the period 1961–2011 and considered the following fields: (i) food; (ii) plants and animals; (iii) microorganisms; (iv) pharmaceutical products; and (v) plant varieties.

3.3.2. Membership in International Conventions

A further criterion used in the GP index and frequently applied in the literature is the membership of a given country in international conventions on IP protection. By participating in international IP treaties, it is assumed that signatory states indicate a willingness to provide an adequate level of IP protection (Park 2001, 107). The GP index takes three major agreements on patent protection into account: (i) the Paris Convention of 1883 (and its subsequent revisions); (ii) the Patent Cooperation Treaty (*PCT*) of 1970; and (iii) the International Convention for the Protection of New Varieties of Plants (*UPOV*) of 1961.

Ginarte and Park chose these conventions as they all play a special role in internationally harmonizing the level of patent protection: “*The Paris Convention provides for national treatment to foreign nationals in the provision of patent rights. The main objective of the PCT is to harmonize and simplify administrative procedures. It allows the filing of a single patent application that is effective in any of the member country patent offices. The UPOV confers plant breeder's rights, a form of protection similar to a patent.*” (Ginarte and Park 1997, 286f).

Disregarding national legislation, Ferrantino (1993) built his IP index solely using the membership in WIPO² basic conventions as well as the term of patent protection as a measure of IP protection strength for 75 countries. According to his findings, however, only the duration of patent protection can be regarded as a significant explanatory factor. “*This was perhaps not a surprising result as membership in the Paris Convention is quite broad (about 100 countries) while UPOV had but a handful of country members corresponding to the 1980 time period of the data used, so there was relatively little variability in the independent variables to explain differences [in the national level of IP protection].*” (Lesser 2001, 4).

² The World Intellectual Property Organization is a global forum and agency of the United Nations for IP services, policy, information and cooperation, with 193 member states; for further information see: <https://www.wipo.int> (last accessed 10 July 2022).

Lesser (2001 and 2011) followed Ginarte and Park in also taking membership in UPOV and PCT into account. However, he dismissed the criterion of membership in the Paris Convention given that most countries of the world are members and compliance with its requirements is mandated by the TRIPS Agreement (Lesser 2001, 9). Li and Yu (2015) as well as Park and Lippoldt (2007), on the other hand, added the Budapest Treaty adopted in 1977 (concerning microorganisms) and the TRIPS Agreement to this list when assessing the level of IP protection, whereas Liu and La Croix (2015) only analysed a country's participation in the Paris Convention (and subsequent revisions), the PCT, and the TRIPS Agreement.

As a striking deviation from previous approaches, Hamdan-Livramento (2009) considered only membership in the TRIPS Agreement in his analysis treating other IP treaties as irrelevant. He argued that by adopting the main elements of previous international agreements while being better enforceable, the TRIPS Agreement is simply “stronger” than its predecessors (Hamdan-Livramento 2009, 22).

3.3.3. Restrictions on IP Protection

The exclusive rights granted to IP under national law are not absolute but may be qualified by limitations for various reasons, in particular public interests. Some national IP regimes have a broader focus than just benefiting the individual creator: IP should serve society as a whole. For this reason, some provisions of national IP legislation may weaken IP rights or IP holders may forfeit their rights post-grant. In the context of patents, Ginarte and Park called such provisions “loss of protection” and analysed three legal sources of such loss: (i) working requirements; (ii) compulsory licensing; and (iii) revocation of patents. All such provisions restrict the freedom of choice of the patent owner: A “working requirement” states that a domestic patent holder must manufacture a patented product or apply the patented process within the patent-granting country. A foreign patent holder usually has the additional option of importing the product (Park 2001, 105). *“In the absence of such requirements, the patentee does not have to put the invention into practice in order to enjoy patent protection, an advantage when the patentee is not financially able to work the invention or if working is not at that point economically feasible.”* (Ginarte and Park 1997, 287).

A “compulsory license” is an authorization given by a national authority to a third party, without or against the consent of the IP owner, to exploit the subject matter protected by a patent or other IP right, thereby reducing the financial returns the IP holder can appropriate. For instance, if a patent is not worked within a certain time, the patent owner may be required to give a license to a third party willing and able to work the patent (in exchange for a “reasonable” royalty).

Compulsory licensing may also be imposed in case of inventions that are significant for social welfare and health, e.g. related to food and medicine, or if another patent is being blocked (Park 2001, 105).

Finally, some countries may revoke IP rights post-grant for various reasons. Ginarte and Park analysed whether a patent can be revoked because the patent holder did not manufacture the patented product within the patent-granting country (Ginarte and Park 1997, 287). Following the GP index, a number of authors have applied these criteria of restrictions on IP protection in their studies (see e.g. Park (2001); Li and Yu (2015); Liu and La Croix (2015)).

Others, with a more industry-specific focus, have analysed different variables. For instance, Pugatch (2006) included in his pharmaceutical IP index the following criteria to examine restrictions on IP protection: (i) free pricing without regulatory restrictions; (ii) the existence of a post-grant opposition; (iii) a ban on direct to consumer advertising of prescription drugs; and (iv) free use of brands in packaging. Concerning copyright, Reynolds (2003) used three variables to capture limitations in protection: (i) private use allowances without payment; (ii) the existence of collective licensing schemes; and (iii) whether compulsory translations are allowed, while Park (2005) added the criterion of limitation on the right of re-sale (*droit de suite*).

With regard to trademarks, Reynolds (2003) analysed whether national laws include use-or-lose provisions that require trademark holders to use their marks in commerce or risk losing them. Further, national IP legislation may impose licensing restrictions or place limits on how trademarks can be bought and sold (Reynolds 2003, 53f). Park (2005) further supplemented his analysis with the criterion of lack of protection for well-known marks due to non-use in the local market.

3.3.4. Enforcement Measures

Laws require adequate mechanisms of enforcement. The strength of a granted IP right largely depends upon how easily the holder can defend it in case of violation. Ginarte and Park (1997), like other scholars building upon their index (see e.g. Li and Yu (2015); Liu and La Croix (2015); Park (2001); Park (2005)), examined three means provided for in national law to facilitate IP enforcement: (i) preliminary injunctions; (ii) contributory infringement pleadings; and (iii) burden-of-proof reversals. Preliminary injunctions are pre-trial actions that require individuals to cease an alleged infringement until a final decision is made by the competent court (Ginarte and Park 1997, 287).

Contributory infringement refers to actions that contribute (or potentially contribute) to someone else infringing an IP right. For example, a third party can provide material or machine parts that are central to the manufacturing of the patented invention without being directly involved in the unauthorised reproduction. Thus, third-party participants may be liable as infringers even though they did not actually engage in infringing activities (Park 2001, 106).

Unlike in regular legal proceedings, when a burden-of-proof reversal applies, it is not the plaintiff but the defendant who has the burden to prove his case. In IP infringement cases, such a shift in burden can be a powerful enforcement mechanism, since IP owners often face difficult conditions to prove that others are infringing on their IP rights (Ginarte and Park 1997, 287f).

Following the GP index, Liu and La Croix (2015) further added the mechanism of national exhaustion to evaluate the strength of enforcement provisions. The principle of exhaustion holds that once a product has been put on the market by, or with the consent of, the owner of the IP rights in it, then these rights are “exhausted” and can no longer be used to prevent or control distribution or further sale of the respective product (Liu and La Croix 2015, 210). Thus, this mechanism substantially limits an IP owner’s rights of disposal.

3.3.5. Duration of IP Protection

“The length of the [protection period] is important for ensuring adequate returns to innovative activity.” (Ginarte and Park 1997, 288). Generally, there is an international baseline for the duration of IP protection. The GP index takes the standard term of patent protection in calculating a duration score for each country under scrutiny. Countries that grant the international baseline or more receive a value of 1 in this category. Those that provide shorter terms receive a value equal to the fraction of the baseline that is provided (Ginarte and Park 1997, 288). This scoring approach has been followed by other IP indices (see e.g. Pugatch (2006); Lesser (2001); Li and Yu (2015); Park (2001)).

In the case of patents, the TRIPS Agreement has harmonized the duration of patent protection at 20 years from first application (Art. 33). The GP index considers cross-country variations in the definition of the starting point of patent terms, being it either the date of application or the date of grant. Since the processing of the application often takes as much as three or four years, for patent terms established from the date of grant, 17 years are assumed as the standard duration (Ginarte and Park 1997, 288). In the case of copyright, Art. 12 of the TRIPS Agreement foresees 50 years of protection from the end of the calendar year of authorized publication or making of the work, which is adopted by Hamdan-Livramento (2009) as the international standard, while Park and Lippoldt (2007) assumed 70 years without further explaining why.

As for the duration of trademark protection, although Art. 18 of the TRIPS Agreement only mandates a term of seven years, Park (2005) took ten years as a baseline (Park 2005, 14f). He did so probably because in most countries today, trademark protection lasts for ten years, starting from the date of application (WIPO 2020, 14).

3.4. IP Protection in Practice

3.4.1. General Remarks

Most of the IP indices mentioned so far can be regarded as text-based, i.e. they only consider book-law, statutes, and so forth in determining the level of IP protection. How such written law is actually enforced and how IP protection is lived in practice is not part of their analysis. Already Gadbow and Richards recognized the limitation of such a “textbook” approach. Therefore, in addition to analysing the legislation of the countries under scrutiny, their study also examined their enforcement activities concerning IP as well as a wide set of policy factors, such as the approach of governments to IP protection, external pressures from major trading partners, political pressures from lobbying groups and the scale of infringement (Gadbow and Richards 1988, 1-40). The GP index, on the other hand, suffers from the same weaknesses as Rapp and Rozek’s approach: analysing solely the existing legal and institutional arrangements, it does not attempt to measure the level of effective IP protection as applied in practice on a daily basis. Likewise, many studies based on the GP index follow the “textbook” approach (see e.g. Hamdan-Livramento (2009); Liu and La Croix (2015); Campi and Nuvolnari (2015)).

By merely measuring the legislative level, this approach clearly lacks the ability to gauge the level of IP protection in practice, in particular the enforcement-related aspects. Hence, a different approach taken in the IP-index literature seeks to provide a more accurate description of the actual level of IP protection granted in a certain country by also capturing aspects of IP protection that are not recorded “on the books”, i.e. shortcomings in the application of national IP legislation.

This must also be viewed against the background that the widespread adoption of minimum requirements stipulated by the TRIPS Agreement has harmonized to a great extent the legal standards of IP protection offered by countries while differences in their administrative and judicial system remain. Criteria of IP protection that matter in practice and that are regularly mentioned in the literature are costs, quality of administration and enforceability of IP rights. These will be discussed in the following.

3.4.2. Cost of IP Protection

It goes without saying that costs always play a role in any business decision. IP protection does not come for free. When interacting with the competent authorities, generally fees accrue, the amount of which can vary substantially across countries. Further, by monitoring and defending one's IP rights transaction costs will likely arise in the form of legal expenses. *“Despite the lack of empirical evidence, some scholars raised the idea that fees may partly explain differences in patenting rates across countries.”* Hence, *“fees could help to explain differences in the [...] behaviour of applicants across countries.”* (de Rassenfosse and van Pottelsberghe de la Potterie 2013, 703; see also for further reference). Nonetheless, despite being an important issue for firms, a cost criterion is mostly missing in the IP indices developed in the literature.

Although being one of the few scholars mentioning the cost aspect, Lesser does not attempt to include a measure of costliness in his scoring because *“no data set of costs by developing countries presently exists while only a few countries make even posted fees readily available through a web site or other system”* (Lesser 2001, 9; Lesser 2011, 354).

Still, there are some authors seeking to capture the relevance of costs in a country's IP system: Papageorgiadis, Cross and Alexiou (2014) examined three specific types of transaction costs which arise from the interactions of foreign firms with the patent system of host countries in their study, namely (i) servicing costs, (ii) property rights protection costs, and (iii) monitoring costs. However, although terming their variables “costs”, the authors actually used data on the quality of a country's administration and judiciary and did not quantify their results in monetary terms (Papageorgiadis, Cross and Alexiou 2014, 589).

Van Pottelsberghe de la Potterie and Francois (2009), on the other hand, assessed to what extent the cost of patenting affects the demand for patents, focusing on the patent systems of the USA, Japan and Europe in 2003. They concluded that the cost of patenting is not straightforward to measure since it depends on a number of different factors, e.g. the size and technological complexity of the invention, the desired duration for the patent protection, the quality of professional services provided by patent attorneys, and so on. Hence, the authors distinguished between different cost components, namely (i) procedural costs, (ii) translation costs, (iii) costs related to external legal services, and lastly (iv) costs related to the duration of protection, i.e. renewal fees required to keep a patent in force. As a main finding, the authors showed that there is indeed a negative relationship between patent cost per claim per capita and the number of claims filed (Van Pottelsberghe de la Potterie and Francois 2009, 344).

3.4.3. Quality of Administration

Costs are not the only issue in practice, however. Quality of administration also matters. An IP right acquired through a cheap granting process is not worth much if it is of low quality and will thus be likely revoked in the future. “[IP] administration incorporates a range of critical factors, from efficiency and transparency [of the granting process] to adequacy of [the IP offices’] funding and training of examiners.” (Lesser 2001, 9). However, measuring this criterion is especially difficult since few IP offices provide information on their internal workings and the professional backgrounds of their employees.

As an expedient to measure the quality of administrative authorities, Lesser (2001) used the existence of a detailed web page to reflect an office which is better equipped and more interconnected. In 2011, Lesser updated his scoring system because establishing a website had become far simpler. Therefore, he adopted the ability to search a national patent database online as an alternative proxy for patent office efficiency (Lesser 2011, 356).

Given the complexity of measuring administrative quality, some authors rely on expert surveys. Yang and Sonmez (2013) conducted interviews with WIPO and WTO directors and employees in order to assess the following criteria: (i) transparency, meaning that the national patent law is online available in English and the native language; (ii) frequency of patent law revisions, which demonstrates government efforts to improve patent mechanisms based on TRIPS standards; (iii) timescale to grant patents, which shows administrative efficiency; and (iv) patent educational institutions reflecting the IP awareness of the general public.

The index developed by Papageorgiadis, Cross and Alexiou (2014), on the other hand, places particular emphasis on the enforcement mechanisms and the overall administrative functioning of the system as perceived by managers. Using surveys as well as secondary data on the effectiveness of enforcement, the authors analysed a variety of aspects of administrative quality, such as (i) the level of corruption in judiciary, (ii) the effectiveness of police enforcement, (iii) strength of border controls, as well as (iv) the general perception of patent owners about national patent protection.

3.4.4. Enforceability

Closely intertwined with administrative quality is the actual enforceability of IP rights in practice. During the term of protection, IP holders may be required to defend or enforce their IP rights, thereby largely seeking redress through the court system. Strict IP laws are of little use if they are not put into action in case of an infringement. Indeed, “[p]oor enforcement mechanisms have the effect of devaluing [IP] rights and discouraging [their registration].” (Park

2001, 105). Yet again, the level of enforceability is not straight-forward to measure since there is no generally available ranking of national legal systems, assessments of the competence of judges, and the like.

By relying on the US State Department's Country Reports on Economic Policy and Trade Practices, Ostergard (2000) supplemented his analysis with an enforcement score. Under the 1988 Omnibus Trade and Competitiveness Act, the United States Department of State was legislatively mandated to track the status of the IP laws and enforcement practices of the United States' trading partners. Smarzynska-Javorcik (2004), on the other hand, added the element of enforcement by using evidence derived from the qualitative analysis of IP systems in the US Trade Representative's "Special 301" Report.³ Just like Lesser (2001 and 2011), she further relied on the Transparency International's Corruption Perception Index to proxy for the actors' perceptions of law in practice.

Likewise, Li and Yu (2014) considered the aspect of law enforcement when analysing China's IP protection regime's strength from 1985 to 2010. They used the economic and social development level (proxied by the human development index published by the United Nations Development Program) as well as the level of rule of law (proxied by the case finalization rate of IP cases and the per capita ratio of lawyers) as a means to assess patent protection in practice.

3.5. Ranking of Criteria

As the final step of drawing up an IP index, a proper weighting scheme for aggregating the individual criteria into a single index figure must be identified. Ginarte and Park (1997) calculated their index as the unweighted sum of the five variables applied. When testing the sensitivity of the overall index value based on different weighting schemes, they found that the rank sensitivity is rather low, i.e. regardless of the weighting applied there was essentially the same ordering of countries by strength of patent rights (Ginarte and Park 1997, 288f).

While following Ginarte and Park in using equal weighting of the main categories, Pugatch (2006) applied different weights to the sub-criteria (between 5% and 40%), arguing that some are more important than others in terms of substantial IP protection (Pugatch 2006, 382). This discretionary weighting, however, makes Pugatch's index clearly more arbitrary compared to other indices such as the GP index, since opinions will likely vary about the relative importance of each sub-category.

³ The "Special 301" Report reflects the outcome of a Congressionally-mandated annual review of the global state of IP rights protection and enforcement; for further information see: <https://ustr.gov/issue-areas/intellectual-property/Special-301> (last accessed 10 July 2022).

Other scholars have relied on an unequal weighting scheme altogether: Lesser (2001; 2011) used a weighting of factors according to a survey sent to patent attorneys and licensing executives of agricultural and pharmaceutical firms in the United States and Europe. Although not based on his personal opinion, his weighting scheme still seems rather arbitrary, which is underlined by the fact that he applied different weights to the same criteria in his studies dated 2001 and 2011.

Liu and La Croix (2015) calculated their IP index as a composite of three sub-indexes concerning the law on the books, membership in international agreements and enforcement in practice. They applied equal weights to these sub-indexes, but – unlike other scholars – they aggregated those multiplicatively (Liu and La Croix 2015, 211).

3.6. Concluding Remarks

As has been shown in this chapter, prior attempts of measuring the level of IP “strength” seem to be rather limited in their ability to capture the IP protection regime of a country in its entirety. Many scholars focus exclusively on the written law with no attention being paid to how this is actually enforced in practice. However, given the minimum legal standards for IP protection already established by the TRIPS Agreement, the distinguishing factor among countries today is arguably how well their enforcement mechanisms and administrative institutions are developed. Thus, gauging those will be critical in assessing the national performance concerning the protection of IP rights. Accordingly, when measuring the level of IP protection, this master’s thesis will use an eclectic approach that incorporates the strength of national IP laws on the books as well as practical aspects in terms of administration and enforcement. The following chapter shall present the analytical framework that will subsequently be applied to the case of the PRC and Japan.

4. Analytical Framework

4.1. Introducing Remarks

Based on Ginarte and Park's approach, I will develop my own IP index for gauging the level of IP protection of the countries under scrutiny, albeit with some modifications given the broader scope of this master's thesis. Generally, each criterion can score values between 0 and 1 and the cumulative score of the index ranges between 0 and 35. Similarly to the GP index, each category includes sub-categories, which may be assigned either the value of 0 (if the particular IP component does not exist in national law or the country's performance in this criterion is poor), 0.5 points (if the requirement is only partly fulfilled) or 1 (in case of full compliance). Unlike the GP index, however, I will supplement my analysis with further criteria evaluating the level of IP protection in practice. Regarding these criteria, a similar scoring will be applied, depending on whether the country's performance is poor (i.e. 0 points), average (i.e. 0.5 points) or high (i.e. 1 point).

4.2. IP Protection on the Books

4.2.1. Scope of IP Protection

The GP index, like many other IP indices, solely deals with the patent system of a given country disregarding other forms of IP rights (Ginarte and Park 1997, 286). Indeed, given their allegedly close link to economic variables such as investment, technological progress, and productivity growth, patent rights have received the most attention in the literature. Hence, the level of patent protection is very often taken as proxy for the overall strength of a country's IP protection regime (Park 2001, 101). *"However, a more complete picture of a nation's intellectual property regime would need to incorporate the other instruments of intellectual property protection. Though, in most cases, the strength of these individual instruments should be highly correlated, in some cases they may not."* (Park 2001, 101). Further, there are industry-specific differences in the importance of individual IP rights given their specific scope of protection. Focusing only on one kind of IP right therefore paints an incomplete picture.

The TRIPS Agreement mandates a minimum scope of subject matter not only for patent protection but also for other forms of IP rights, in particular copyright and trademarks. Thus, following a more holistic approach, I will also analyse the legal situation regarding these forms of IP rights. A complete analysis of all IP rights available in the countries' national law, such as industrial designs, geographical indications or trade secrets, cannot be conducted in this master's thesis, though.

Regarding patentable inventions, the TRIPS Agreement provides that “*patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application*” (Art. 27). Apart from limited exceptions, the TRIPS Agreement states the principle that any invention should be granted patent rights if it fulfils the patent requirements and thus prohibits member states from making unreasonable exceptions to the patentable subject matter. Therefore, provisions excluding inventions in particular fields, such as pharmaceuticals, chemicals and software, conflict with the TRIPS Agreement.

Unlike the GP index, I will not analyse the potential protection of food, but rather determine whether software may enjoy patent protection given its paramount importance in today’s society. Further, the TRIPS Agreement stipulates that “[m]ember states shall provide for the protection of plant varieties either by patents or by an effective *sui generis* system or by any combination thereof” (Art. 27 (3)). Against this backdrop, I will analyse whether the PRC and Japan have implemented patent protection for the following inventions: (i) pharmaceuticals; (ii) chemicals; (iii) software; and (iv) plant varieties.

Copyright, on the other hand, protects works that creatively express thoughts and emotions, in literary, scientific, artistic, musical, architectural and other fields. Besides making compliance with the Berne Convention a basic requirement for member states, the TRIPS Agreement further raises and expands the level of protection. The Berne Convention provides in its Art. 2 that “*the expression "literary and artistic works" shall include every production in the literary, scientific and artistic domain, whatever may be the mode or form of its expression [...]*”.

Moreover, the Berne Convention states that “*a cinematographic work shall be protected as an original work. The owner of copyright in a cinematographic work shall enjoy the same rights as the author of an original work.*” (Art. 14bis). In addition, the TRIPS Agreement provides that “*computer programs, whether in source or object code, shall be protected as literary works under the Berne Convention*” (Art. 10 (1)).

Further, although under the Berne Convention literary or artistic works that constitute intellectual creations by reason of the selection and arrangement of their contents (such as encyclopaedias) are subject to protection pursuant to Art. 2 (5), there is no express provision that databases shall also enjoy protection. In contrast, the TRIPS Agreement stipulates that “*compilations of data or other material, whether in machine readable or other form, which by reason of the selection or arrangement of their contents constitute intellectual creations shall be protected as such*” (Art. 10 (2)). Given these international requirements, it will be

determined whether copyright is granted to the following kind of works: (i) literary, dramatic and artistic works in general; (ii) cinematographic works; (iii) computer programs; and (iv) databases.

With respect to what constitutes a protectable trademark, Art. 15 (1) of the TRIPS Agreement says that “*any sign, or any combination of signs, capable of distinguishing the goods or services of one undertaking from those of other undertakings, shall be capable of constituting a trademark*”. Thus, the TRIPS Agreement treats trademarks attached to goods the same as service marks that indicate services. It further states that the main provisions of the Paris Convention shall also apply to service marks (Art. 16 (2)). In addition, regarding the objects of trademark protection, the TRIPS Agreement mandates that “*signs, in particular words including personal names, letters, numerals, figurative elements and combinations of colours as well as any combination of such signs, shall be eligible for registration as trademarks*” (Art. 15 (1)).

Moreover, well-known marks shall also enjoy protection in that the use of a third-party trademark in relation to goods or services which are not similar to those of the well-known mark shall also be prohibited if such use would indicate a connection between the well-known mark and the third-party trademark and provided that the interests of the owner of the well-known mark are likely to be damaged by such use (Art. 16 (3)). Therefore, I will analyse whether trademark protection is granted to: (i) service marks; (ii) colours; (iii) shapes; and (iv) well-known marks.

Analytical Criteria	Sub-criteria	Scoring
Patent Protection Scope	pharmaceuticals	1
	chemicals	1
	food	1
	plant varieties	1
Total		4
Copyright Protection Scope	literary, dramatic and artistic works	1
	cinematographic works	1
	computer programs	1
	databases	1
Total		4

Trademark Protection Scope	service marks	1
	colours	1
	shapes	1
	well-known marks	1
Total		4

4.2.2. Membership in International Conventions

As already mentioned, membership in a variety of IP treaties indicates a country's willingness to adhere to international standards and to provide for an adequate level of protection. Most studies in the literature analyse whether countries have joined the following agreements: (i) the Paris Convention; (ii) the Berne Convention; (iii) the PCT; and (iii) the UPOV. However, in the aftermath of the TRIPS Agreement, it seems that these approaches are somewhat flawed since compliance with the main requirements of both the Paris and the Berne Convention is mandated by it (Lesser 2011, 354). *"Therefore, tracking a country's membership of both the Paris and the Berne Convention in addition to the TRIPS Agreement is redundant."* (Hamdan-Livramento 2009, 8).

On the other hand, a country's participation in the PCT offers several benefits for technology owners. In particular, membership reduces direct and indirect costs of application. Since the PCT's main objective is to harmonize and simplify administrative procedures, applicants can seek patent protection for an invention in each of the member states by filing only one international patent application and designating those countries in which they wish the application to have effect (Lesser 2001, 9; Liu and La Croix 2015, 209). Membership in the PCT therefore serves as a good proxy for a country's level of IP protection.

Although many IP indices in the literature cover membership in the UPOV, I will not include this convention in my analysis, because under Art. 27 (3(b)) of the TRIPS Agreement countries have the option of using patents and/or Plant Breeders' Rights (*PBR*) in order to protect plant varieties. Membership in UPOV therefore merely serves as an indication of the selection of the PBR-option. Consequently, the approach of using UPOV misses those countries which make legal protection available via patentability under national law (Lesser 2001, 9) and is therefore no meaningful criterion for gauging the overall level of IP protection.

To further cover the aspect of copyright and trademark protection, I will follow Park (2005) in capturing membership in (i) the Universal Copyright Convention (*UCC*; adopted in 1952),

which provides minimum legal obligations for each contracting state to ensure an author's economic interest, and (ii) the Madrid Agreement of 1891, which governs the international registration of trademarks.

Of course, *“there may be some double-counting in that a nation gets credit for having certain legal features in national law, but those features may be part of an international law treaty to which the nation is a signatory and for which the nation already gets credit for being a member of that particular treaty. However, membership in an international treaty in and of itself provides some value-added information, particularly about the willingness of particular nations to adhere to shared international principles.”* (Park 2005, 12). Therefore, I will add the membership criterion to my IP index.

Analytical Criterion	Sub-criteria	Scoring
Membership in	PCT	1
	UCC	1
	Madrid Agreement	1
Total		3

4.2.3. Restrictions on IP Protection

Restrictions on IP protection can take different forms depending on which IP right is concerned. Given the holistic approach of this master's thesis, I will focus on those kinds of restrictions that matter for patent, copyright as well as trademark protection. Thus, following Ginarte and Park, I will analyse whether (i) there are any working requirements in national law; (ii) compulsory licensing may be imposed; and (iii) there is a risk of revocation.

As indicated earlier, working requirements refer to the mandatory exploitation of IP rights within a country's territory. In essence, Art. 30 of the TRIPS Agreement permits limited exceptions to the exclusive rights conferred by the grant of a patent. A country will be considered to have a local working requirement if a compulsory license could be issued, or the IP right could be revoked, if the IP holder does not exploit his IP within the country.

Further, pursuant to Art. 5 of the Paris Convention, a compulsory license (i.e. a license not granted by the IP owner but by a public authority) *“may only be granted pursuant to a request filed after three years from the grant of the patent or four years from the filing date of the patent application, and it must be refused if the patentee gives legitimate reasons to justify this inaction”*. Hence, a country will be scored if it refrains from imposing compulsory licensing within 3 or 4 years from the date of patent grant or application, respectively.

Lastly, Art. 5A of the Paris Convention allows a patent to be revoked under certain circumstances, while Art. 32 of the TRIPS Agreement addresses revocation issues indirectly by requiring judicial review of administrative decisions to revoke or forfeit patents. I will consider a country to have a revocation provision if an IP right can be revoked because the IP holder did not use his IP rights or manufacture the IP-protected products within the respective country.

Analytical Criterion	Sub-criteria	Scoring
Restrictions	Working Requirements	1
	Compulsory Licensing	1
	Risk of Revocation	1
Total		3

4.2.4. Enforcement Measures

Also with regard to enforcement measures, I will base my analysis on the GP index, in particular given its alignment with the TRIPS requirements. Art. 50 of the TRIPS Agreement mandates that “*judicial authorities shall have the authority to order prompt and effective provisional measures*” to prevent an infringement of any IP right from occurring and to preserve relevant evidence concerning the alleged infringement.

On the concept of contributory infringement, on the other hand, the TRIPS Agreement does not provide much guidance regarding the nature or scope. However, preventing activities that do not in themselves infringe an IP right, but cause or otherwise result in infringement by others improves an IP holder’s position tremendously, because legal action against the actual infringers is often not feasible. Thus, I will include this criterion in my analysis.

Further, the TRIPS Agreement stipulates a burden-of-proof reversal in that “*the judicial authorities shall have the authority to order the defendant to prove that the process to obtain an identical product is different from the patented process*” (Art. 34). This mechanism shall apply if the patent holder is unable through reasonable efforts to determine the process actually used by the potential infringer. However, IP owners in general often face considerable difficulties in proving an infringement of their IP rights. Accordingly, I will also determine whether a shift of the burden of proof is provided for in other cases as well, which would significantly improve the enforcement of IP rights.

Art. 4 of the TRIPS Agreement allows member states to decide whether the exhaustion principle should be applied within their national territory. As already explained, under the doctrine of “national exhaustion”, the enforceability of patent, trademark or copyrights in a product become

“exhausted” after the first sale. The IP owner has no right to stop others from reselling or using the product. In following Liu and La Croix (2015), I will add this criterion to my analysis, but will code it reversely, since from an IP holder’s point of view, the principle of national exhaustion limits his rights. Thus, a country scores 1 if it does *not* stipulate national exhaustion in its laws.

Analytical Criterion	Sub-criteria	Scoring
Enforcement Measures	Preliminary Injunctions	1
	Contributory Infringement Pleadings	1
	Burden-of-Proof Reversal	1
	Absence of National Exhaustion	1
Total		4

4.2.5. Duration of IP Protection

The TRIPS Agreement sets clear requirements for the duration of protection member states shall grant to IP rights. With regard to patents, it requires that the “*term of protection available shall not end before the expiration of a period of twenty years counted from the filing date*” (Art. 33). Likewise, concerning copyrights, pursuant to Art. 12 the protection term “*shall be no less than 50 years from the end of the calendar year of authorized publication, or, failing such authorized publication within 50 years from the making of the work, 50 years from the end of the calendar year of making*”. In the case of trademarks, Art. 18 of the TRIPS Agreement requires that “*initial registration, and each renewal of registration, of a trademark shall be for a term of no less than seven years*”. Given the TRIPS-focus of this master’s thesis, I will use the respective term of protection required by the TRIPS Agreement in my analysis.

When it comes to scoring, I will follow the well-established approach in calculating the duration score as a ratio of the statutory duration to the international baseline, namely 20 years in the case of patents, 50 years regarding copyrights and 7 years for trademarks. A country that provides the respective baseline of protection or more years receives a value of 1 in this category.

Analytical Criterion	Sub-criteria	Scoring
Duration of IP Protection	for Patents (statutory term / 20 years)	1
	for Copyrights (statutory term / 50 years)	1
	for Trademarks (statutory term / 7 years)	1
Total		3

4.3. IP Protection in Practice

4.3.1. General Remarks

In measuring the strength of IP protection, the analytical focus thus far has been on the “laws on the books”. In practice, however, there might be serious gaps between actual and statutory protection. A country may have strong IP laws, but unless those laws are enforced, they are virtually non-existent in terms of the protection afforded to IP owners. In particular, institutional differences can slow down processes and hamper enforcement, such as inadequate resources, or corrupt officials. Determining whether and how laws are actually enforced is difficult for any legal statute, let alone IP laws. Nonetheless, some indirect evidence is worth considering, which will be presented in the following.

4.3.2. Cost of IP Protection

In the literature, the optimal level of costs for IP protection has been mostly assessed from a macroeconomic viewpoint, meaning that fees must strike a balance between two goals: “*to provide an incentive to innovate on the one hand, and to limit monopoly rent on the other hand*” (de Rassenfosse and Van Pottelsberghe de la Potterie 2013, 707). However, given the micro-economic focus of this master’s thesis (i.e. the perspective of an entity seeking IP protection), I will consider lower fees as more favourable to businesses and will thus score them higher.

Determining the cost of IP protection is a complex matter, mostly because of external costs (in particular for legal advice) where no reliable data is readily available for a cross-country comparison. I will therefore focus on the most obvious costs arising in the process of seeking IP protection: official fees, which accrue when a patent or trademark is registered and subsequently renewed. Since application fees are generally subject to the number of claims (in the case of patents) or classes (in the case of trademarks) applied for, I will assume the most basic version of the respective IP right for my analysis. Further, I will calculate the renewal fees incurred over the lifetime of the respective IP right using the international standard duration as the baseline.

The fees so calculated for the PRC and Japan will be compared to the fees charged by the European Intellectual Property Office (EUIPO) as a reference for expensive fees and its US equivalent being regarded as having cheap fees (de Rassenfosse and Van Pottelsberghe de la Potterie 2013, 700). The relevant fees are available online for the respective national IP offices. Fees in the range of the amount charged by the EUIPO score 0 points, while fees falling between the EUIPO and US level will receive 0.5 points. Low fees comparable to those of the US Patent and Trademark Office will be awarded 1 point.

Analytical Criterion	Sub-criteria	Scoring
Cost of IP Protection	Patent Application Fees	1
	Patent Renewal Fees	1
	Trademark Application Fees	1
	Trademark Renewal Fees	1
Total		4

4.3.3. Quality of Administration

As already mentioned, the institutional set-up of a country's IP regime can be regarded as the other side of the protection coin. A number of proxies for measuring administrative quality have been used in the literature. I will not follow Lesser's approach, since an adequate web presence of a country's IP office can reasonably be assumed in 2022. Lacking the ability to conduct an expert survey on this matter, as other scholars have done, I will use several indices and rankings on the quality of countries' public administration to proxy for the level of IP protection in practice.

Firstly, I will follow Smarzynska (2004) in relying on the Transparency International's Corruption Perception Index (*CPI*) as a proxy for the overall quality of administration. The CPI aggregates data from a number of different sources that provide perceptions among business people and country experts of the level of corruption in the public sector. For the year 2020, it is calculated using 13 different data sources from 12 different institutions that capture perceptions of corruption within the past two years (Transparency International 2021, 24).

Limitations nonetheless remain, since all such indexes reflect perceptions only and are thus inherently subjective. Further, there might be a gap between the matter of interest here, namely the quality of the IP administration system, and what is measured by the CPI, i.e. aggregate perceptions of corruption in private-public interactions. *"Nonetheless, the CPI does represent a systematic effort to quantify aspects of the application of law in a diverse group of countries"* (Lesser 2001, 10) and can thus be regarded as a meaningful proxy for the criterion of administrative quality. The original index ranges between 100 (highly clean) and 0 (highly corrupt). To facilitate interpretation of the results, I will re-scale the index in the following way: a score of 0-39 will be treated as highly corrupt with no points awarded; 40-70 will be regarded as average performance receiving 0.5 points; and a score of 71-100 will be awarded 1 point. The latest data available are for the year 2020.

Secondly, I will use the “Predictable Enforcement” indicator published by the International Institute for Democracy and Electoral Assistance (*IDEA*) as part of the Global State of Democracy Indices. As the name suggests, it indicates the extent to which the executive and public officials of a country enforce laws in a predictable manner and encompasses the following sub-indicators: (i) the executive’s respect for constitutional provisions; (ii) the presence of transparent laws with predictable enforcement; (iii) rule-abiding in the public sector; (iv) whether meritocratic recruitment procedures in state administration and armed forces are used; and (v) the strength and expertise of the bureaucracy (*IDEA* 2021, 31f). The index ranges from 0.0 points (i.e. low performance) to 1.0 (high performance). I will award 0 points for a scoring of 0.0 to 0.399; 0.5 points for a scoring of 0.4 to 0.7; and 1 point for a scoring of 0.71 to 1.0. As the latest data available, I will use the figures for the year 2020.

Thirdly, I will rely on the “Government Effectiveness” indicator by the World Bank, which captures perceptions of (i) the quality of public services; (ii) the quality of the civil service and the degree of its independence from political pressures; (iii) the quality of policy formulation and implementation; and (iv) the credibility of the government’s commitment to such policies (*World Bank* 2010, 4). A country’s score is given in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5. I will re-scale the scoring in the following way: 0 points will be awarded for a scoring of -2.5 to -0.83; 0.5 points for -0.84 to 0.84; and 1 point for 0.85 to 2.5. The latest data available relate to the year 2020.

Analytical Criterion	Sub-criteria	Scoring
Quality of Administration	Level of Corruption	1
	Predictable Enforcement	1
	Government Effectiveness	1
Total		3

4.3.4. Enforceability

In the case of infringement, IP owners rely on an effective and well-functioning judicial system for remedy. Just like with the administration, underdeveloped legal institutions can therefore devalue any IP rights post-grant because they are inadequately protected. Yet again, there is no generally available ranking of national legal systems in this respect. However, several other possible measures to proxy for enforceability can be used.

These include, on the one hand, World Bank data on the “Rule of Law” as part of the Worldwide Governance Indicators. This indicator captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence (World Bank 2010, 4). Although this indicator does not directly focus on aspects of IP enforcement, “[t]here are arguably clear if imperfect connections between the enforceability of contracts and enforcing [IP] rights” (Lesser 2011, 356). A country’s score is given in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5. Again, I will re-scale the scoring in the following way: a country will receive 0 points for a scoring of -2.5 to -0.83; 0.5 points for -0.84 to 0.84; and 1 point for 0.85 to 2.5. The latest data available are for the year 2020.

The “Judicial Independence” indicator, on the other hand, is another of the Global State of Democracy Indices. It indicates the extent to which national courts are not subject to undue influence from the other branches of government, especially the executive (IDEA 2021, 17). A close correlation between the way that IP rights are enforced by the judicial system of a country and respondents’ perceptions of the overall fairness of a country’s judiciary can be assumed. Again, the minimum score is 0.0 (i.e. undue influence is high) while the maximum is 1.0 (i.e. undue influence is virtually non-existent). I will re-scale the index for better usability the following way: 0 points will be awarded for a scoring between 0.0 to 0.399; 0.5 points for a scoring of 0.4 to 0.7; and 1 point for a scoring of 0.71 to 1.0. As the latest data available, I will use the figures for the year 2020.

Thirdly, the Global Competitiveness Report published by the World Economic Forum comprises an “Intellectual Property Protection” indicator. Based on an executive opinion survey, it shows the responses to the survey question “*In your country, to what extent is intellectual property protected?*”, whereby 1 equates to “not at all” and 7 “to a great extent” (World Economic Forum 2019, 616). I will again re-scale the scores in the following way: 1.0 to 2.33 will be awarded 0 points; 2.34 to 4.66 0.5 points; and 4.67 to 7.0 1 point. The latest data available relate to the year 2019.

Analytical Criterion	Sub-criteria	Scoring
Enforceability	Rule of Law	1
	Judicial Independence	1
	Intellectual Property Protection	1
Total		3

4.4. Ranking of Criteria

Since Ginarte and Park have demonstrated that the GP index is not sensitive to (un)equal weighting of categories (Ginarte and Park 1997, 289), the criteria of the IP index used in this master's thesis will be equally weighted, too. Applying equal weighting is further supported by the fact that alternative weighting schemes based on the relative importance of different IP components are difficult to justify by substantive criteria and thus risk making the IP index more arbitrary. I will not apply multiplicative aggregation, as Liu and La Croix (2015) did, because the IP index would equal zero if a country fails in one category. This would clearly distort the overall outcome. Therefore, in determining the overall level of IP protection, each criterion and sub-criterion will be equally weighted for the purpose of my analysis. The following table shall give an overview of the variables that make up the Analytical Framework applied in this master's thesis:

Analytical Criteria	Sub-criteria	Scoring
IP Protection on the Books		
Patent Protection Scope	pharmaceuticals	1
	chemicals	1
	software	1
	plant varieties	1
Total		4
Copyright Protection Scope	literary, dramatic and artistic works	1
	cinematographic works	1
	computer programs	1
	databases	1
Total		4
Trademark Protection Scope	service marks	1
	colours	1
	shapes	1
	well-known marks	1
Total		4
Membership in	PCT	1
	UCC	1
	Madrid Agreement	1
Total		3

Restrictions	Working Requirements	1
	Compulsory Licensing	1
	Risk of Revocation	1
Total		3
Enforcement Measures	Preliminary Injunctions	1
	Contributory Infringement Pleadings	1
	Burden-of-Proof Reversal	1
	Absence of National Exhaustion	1
Total		4
Duration of IP Protection	for Patents (statutory term / 20 years)	1
	for Copyrights (statutory term / 50 years)	1
	for Trademarks (statutory term / 7 years)	1
Total		3
IP Protection in Practice		
Cost of IP Protection	Patent Application Fees	1
	Patent Renewal Fees	1
	Trademark Application Fees	1
	Trademark Renewal Fees	1
Total		4
Quality of Administration	Level of Corruption	1
	Predictable Enforcement	1
	Government Effectiveness	1
Total		3
Enforceability	Rule of Law	1
	Judicial Independence	1
	Intellectual Property Protection	1
Total		3
Possible overall score:		35

Following the Analytical Framework as explained above, chapter 5 will gather empiric findings for the case of the PRC, while data on Japan will be presented in chapter 6 of this master's thesis.

5. Empiric Findings regarding the PRC

5.1. IP Protection on the Books in China

5.1.1. Scope of IP Protection

5.1.1.1. Patent Protection

As the first component of IP protection according to the Analytical Framework, I will look into the scope of IP protection available under the laws of the PRC. With regard to patents, I will examine whether protection is granted to (i) pharmaceuticals; (ii) chemicals; (iii) software; and (iv) plant varieties. The PRC's present Patent Law was adopted in 1984 and entered into force on 1 April 1985.⁴ The fourth and latest Patent Law amendment became effective on 1 June 2021 (Ganea 2021a, 15f).

Art. 2 (2) of the Patent Law defines an “invention” as “*any new technical solution proposed for a product, a process or the improvement thereof*”. Thus, only a “technical” subject matter is patentable. Art. 25 (1) (1) excludes scientific discoveries from patent protection, encompassing observations of natural phenomena as well as scientific theories. In the field of pharmaceuticals and chemicals, such an exemption can be problematic. As in other jurisdictions, the competent authorities try to delineate the issue as follows: “[A] *chemical substance found in nature in its natural state is a discovery and therefore not patentable. However, if such substance with a hitherto unknown, precisely explained structure, morphology or other chemical or physical parameters is extracted or isolated from nature for the first time and fit for industrial application, such substance as well as the process of obtaining it can be patented.*” (Ganea 2021a, 68; see also State Intellectual Property Office 2010, 134; 326). Therefore, on these terms chemicals can enjoy patent protection in the PRC. Accordingly, China receives 1 point for meeting this criterion.

Art. 25 (1) (3) of the Patent Law, on the other hand, excludes methods for the diagnosis or for the treatment of diseases from patent protection for two reasons: Firstly, patents shall not prevent a doctor from choosing the most promising medical treatment in the individual case; secondly, this kind of methods are generally not susceptible of industrial application. However, material and equipment used when applying the method does not fall under this exception (State Intellectual Property Office 2010, 136). In this respect, the novelty prerequisite requires that a

⁴ The current Patent Law after its fourth amendment of 2020, as well as the Examination Guidelines (providing interpretation to a number of provisions) can be accessed on the website of China's National Intellectual Property Administration: <https://www.cnipa.gov.cn/col/col97/index.html> (last accessed 10 July 2022). An English version of the current Patent Law can be obtained from the WIPO Lex database: <https://wipo.lex.wipo.int/en/text/585084> (last accessed 10 July 2022).

new use of a medical substance, for which patent protection is sought, must relate to the manufacturing of the pharmaceutical product (State Intellectual Property Office 2010, 335). “*Otherwise, if the feature that distinguishes the new use from prior art can only be found in the administration of the drug, the invention will be found non-patentable due to lack of novelty.*” (Ganea 2021a, 52). Hence, medical substances for treatment of diseases are subject matters for which patent protection may be granted subject to certain conditions, which is why 1 point is awarded in this category.

In recent years, access to patent protection in specific areas, which are deemed to be favourable for domestic industrial development, has been facilitated. This applies in particular to software. Still, in accordance with the legal definition of an invention in Art. 2 (2) of the Patent Law, according to which only a “technical” subject matter is patentable, “[*the most recent*] *amendment only stretches the boundaries of the technicality principle without abandoning it*” (Ganea 2021a, 24). Consequently, software “*must still be part of an invention that has at least a loose connection with the physical world to be regarded as "technical" enough to fulfil the patent prerequisites. Software per se such as office software, which, apart from its interaction with the hardware on which it is run, has no impact on the physical world, can only be copyright protected.*” (Ganea 2021b, 320f). Given this limited scope of patent protection for software, the PRC receives 0.5 for this criterion.

As regards plant varieties, Art. 25 (1) (4) of the Patent Law explicitly states that animal and plant varieties are not patentable, but processes for their production are (Art. 25 (2)), unless these are also “essentially biological” which depends on the degree of human technical involvement in the process. For instance, a technical method of enhancing the efficiency of a biological process, e.g., a method of raising high-yield cattle by irradiation, is therefore patentable (State Intellectual Property Office 2010, 140f). Protection of plant varieties obtained through conventional breeding, however, is available under special legislation in compliance with UPOV (Ganea 2021a, 50). Since plant varieties per se are not patentable, but protected under a separate sui generis system, China is scored 0.5 in this category.

5.1.1.2. Copyright Protection

Copyright protection, on the other hand, is granted under the Copyright Law of 1990,⁵ which leans towards Continental European copyright thinking in distinguishing between the author's moral rights and his economic exploitation rights. The latest Copyright Law amendment of November 2020 entered into force on 1 June 2021 (Ganea 2021b, 308). Based on the Analytical Framework, I will assess whether copyright is granted to the following kinds of work: (i) literary, dramatic and artistic works in general; (ii) cinematographic works; (iii) computer programs; and (iv) databases.

Art. 3 of the Copyright Law defines “works” as “*intellectual achievements in the fields of literature, art and science, which are original and can be expressed in a certain form*”. Further, Art. 2 of the Implementing Regulation adds the criterion of reproducibility in tangible form to the definition of “works” (State Council 2013). The Copyright Law provides a non-exhaustive list of work categories in its Art. 3, which are further defined in Art. 4 of the Implementing Regulations. For the purpose of this master's thesis, the following work categories are of particular interest:

- written works, meaning works expressed in written form, such as novels, poems, essays and theses;
- musical, dramatic, *quyi*, choreographic and acrobatic art works, such as songs and symphonic works, with or without accompanying words, which can be sung or performed as well as dramas, operas and local traditional operas for stage performance, but also works expressed through body movements and skills;
- audiovisual works; and
- computer software.

As already mentioned, a work is protected by copyright if (i) it is the result of intellectual creation in the fields of literature, art or science, (ii) expresses originality and (iii) is reproducible in tangible form. Still, there is no general requirement that a work must be fixated for protection. Rather, it suffices that fixation of the work possible. For instance, performed works can be audio or video recorded (Ganea 2021b, 313). Against this background and in light of the extensive catalogue of work categories, it can be said that Chinese copyright protects literary, dramatic and artistic works in general. Accordingly, the PRC receives 1 point for this criterion.

⁵ The current Copyright Law after its third amendment of 2020 can be accessed on the National Copyright Administration's website: <https://www.ncac.gov.cn/chinacopyright/contents/12230/353795.shtml> (last accessed 10 July 2022). An official English translation can be found here: <http://www.npc.gov.cn/english-npc/c23934/202109/ae0f0804894b4f71949016957eec45a3.shtml> (last accessed 10 July 2022).

Cinematographic works are treated differently, though. The latest amendment of the Copyright Law replaced the term “cinematographic works and works created by a process analogous to cinematography” by “audio-visual works”, in order to encompass video games and other non-conventional audio-visual content as well. According to the definition in Art. 4 (11) of the Implementing Regulations, they constitute “*works which are recorded on some material, consisting of a series of images, with or without accompanying sound, and which can be projected with the aid of suitable devices or communicated by other mean*” (State Council 2013). Accordingly and in contrast to other work categories, cinematographic works must be fixated to be protected. Still, they are eligible for copyright protection and thus China is awarded 1 point for meeting this criterion.

Computer software, in turn, is mentioned as a work category of its own in Art. 3 (8) of the Copyright Law. Art. 64 delegates the detailed regulation to the State Council, which enacted the first Software Regulations⁶ in 1991 (Ganea 2021b, 320f). Although the Copyright Law uses the term “computer software”, not all types of computer software can be copyright protected. Being a subcategory of “works” under Art. 3 of the Copyright Law, they must comply with the general requirements (Ganea 2021b, 323). In this regard, Art. 4 of the Software Regulations require the software to be individually created by its developer and materially fixated. Not only the final program (with both source and object code being protected according to Art. 3 (1) of the Software Regulations), but also material used in the development process may be subject to copyright protection (Art. 3 (2)). Against this backdrop, the PRC earns 1 point under the Analytical Framework.

“To harmonize copyright with international requirements, the [latest amendment of the Copyright Law] also broadened the scope of subject matter eligible for copyright protection, for instance by extending the protection of compilations of works to compilations of mere data.” (Ganea 2021b, 306). Hence, mere databases are now copyright-protected. In accordance with Art. 10 (2) TRIPS Agreement, Art. 15 of the Copyright Law stipulates that a compilation may not only consist of (fragments of) works but also of unprotected data, provided that it reflects originality by reason of selection or arrangement. By contrast, previously only compilations of works or fragments of works enjoyed copyright protection (Ganea 2021b, 330f). According to the Analytical Framework, China therefore receives 1 point in this category.

⁶ An English translation of the latest version of the Regulations on Computer Software Protection (promulgated by Decree No. 339 of the State Council of the People’s Republic of China on 20 December 2001, and effective as of 1 January 2002) can be accessed here: <http://www.china.org.cn/english/DAT/214781.htm> (last accessed 27 July 2022).

5.1.1.3. Trademark Protection

Lastly, trademark protection is granted under the Trademark Law, which was first introduced in 1983.⁷ The fourth and latest amendment took effect in 2019. For the purpose of this master's thesis, it will be analysed whether (i) service marks; (ii) colours; (iii) shapes; and (iv) well-known marks are granted trademark protection. Under Chinese law, a trademark is defined as “[a]ny sign, capable of distinguishing the goods or services of one natural person, legal person or any other organization from those of other persons, including words, devices, letters, numerals, three-dimensional signs, combination of colours, sounds, as well as the combination of such signs” (Art. 8 of the Trademark Law).

As Art. 8 already states, signs can be registered as trademarks for goods as well as services. Art. 4 (2) further clarifies that provisions on trademarks for goods shall equally apply to service marks. Accordingly, China scores 1 point for meeting this criterion.

Trademarks can be registered in black and white, but also in colour combinations. Since 2013, isolated colour combinations of two or more colours are also eligible for trademark protection, provided that there exists, from the relevant public's point of view, a sufficiently direct and concrete connection between the colour and the goods and services marketed thereunder. The public must be capable of distinguishing the source of the goods or services of one party from those of others. According to the Standards for Trade Mark Examination and Trial, a colour combination trademark would generally only acquire distinctiveness after long-term use and the Trademark Office may require the applicant to submit use evidence (Friedmann 2021, 168; Trademark Office 2016, 109f). Therefore, requirements for registration of a colour as a Chinese trademark are high, but manageable if the applicant can demonstrate that the colour trademark has acquired distinctiveness. Thus, the PRC receives 1 point in this regard.

Further, three-dimensional marks can be registered in China, as they are explicitly mentioned in Art. 8 of the Trademark Law as one of the signs capable of distinguishing the source of the goods of one undertaking from those of other undertakings. In practice, however, the Chinese Trademark Office and national courts tend to apply a higher standard, since generally the relevant public will not take the shape of certain goods as a source identifier (Friedmann 2021, 169f). Pursuant to Art. 12, “*registration is not possible where the three-dimensional mark: (i) arises from the natural shape of the product itself; (ii) is exclusively necessitated by its technical features; or (iii) has aesthetic features giving substantial value to the goods.*” Hence, only “an

⁷ The current Trademark Law after its fourth amendment of 2019 can be accessed via the WIPOLex database: <https://wipolex.wipo.int/en/text/547082> (last accessed 10 July 2022), where also an English translation is provided: <https://wipolex.wipo.int/en/text/579988> (last accessed 10 July 2022).

unusual shape that has nothing to do with the product but everything with the source of the product is eligible for protection as a three-dimensional trademark” (Friedmann 2021, 179). Still, since shapes may enjoy trademark protection in China, 1 point is awarded under the Analytical Framework.

As regards well-known marks, the Trademark Law distinguishes between those internationally known and also recognized in China and locally famous marks (so called “national champions”). The first category protects primarily foreign trademarks, irrespective of whether these are registered in China (Friedmann 2021, 249f). *“The following factors shall be taken into consideration in the recognition of a well-known trademark: (i) the recognition degree of the trademark among the relevant public; (ii) the duration in which the trademark has been in use; (iii) the duration, extent and geographical scope of all publicity operations carried out for the trademark; (iv) the records of protection of a well-known trademark provided for the trademark; and (v) other factors making the trademark well-known.”* (Art. 14 of the Trademark Law). If a trademark imitates a well-known mark thereby causing public confusion or misleading the public, it may not be registered and its use shall be prohibited (Art. 13 of the Trademark Law). Therefore, China has implemented its international obligations to protect well-known marks and scores 1 point for meeting this criterion.

Analytical Criteria	Sub-criteria	Scoring
Patent Protection Scope	pharmaceuticals	1
	chemicals	1
	software	0.5
	plant varieties	0.5
Total		3/4
Copyright Protection Scope	literary, dramatic and artistic works	1
	cinematographic works	1
	computer programs	1
	databases	1
Total		4/4
Trademark Protection Scope	service marks	1
	colours	1
	shapes	1
	well-known marks	1
Total		4/4

5.1.2. Membership in International Conventions

Following the Analytical Framework, I will now ascertain whether China has acceded to the relevant IP conventions, namely (i) the PCT; (ii) the UCC; and (iii) the Madrid Agreement. Indeed, after joining the WIPO in 1980, China became a member of the Madrid Agreement in 1989, of the Universal Copyright Convention in 1992, and of the Patent Cooperation Treaty in 1993 (Ganea and Friedmann 2021, 4). Accordingly, the PRC receives the full score in all three categories.

Further, in preparation for the accession to the WTO in 2001, China acceded to several other international agreements, including the Nice Agreement Concerning the International Classification of Goods and Services for the Purposes of the Registration of Marks in 1994, the Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure in 1995, the Madrid Protocol in 1995, the Strasbourg Agreement Concerning the International Patent Classification, the Locarno Agreement Establishing an International Classification for Industrial Designs in 1996, and the International Convention for the Protection of New Varieties of Plants in 1999 (Ganea and Friedmann 2021, 4f). This comprehensive list clearly indicates that since the country's opening, China has shown a great willingness to comply with international regulations in the field of IP.

Analytical Criterion	Sub-criteria	Scoring
Membership in	PCT	1
	UCC	1
	Madrid Agreement	1
Total		3/3

5.1.3. Restrictions on IP Protection

Next, potential restrictions on IP protection under Chinese law will be determined, namely whether there are (i) any working requirements; (ii) compulsory licensing obligations; and (iii) risks of revocation. An obligation to exploit one's IP right within the territory of the PRC can only be found with regard to trademarks. If a trademark has not been used for three consecutive years without a justifiable reason, anyone may apply to the Chinese Trademark Office for cancellation (Art. 49 of the Trademark Law). Neither the Patent Law nor the Copyright Law contain an equivalent provision.

However, non-use of IP rights may lead to compulsory licenses being granted to interested third parties. In this regard, the relevant provisions in the Patent Law have undergone considerable

changes since 1984 (Ganea 2021a, 109). The fourth amendment added a new chapter on “Special License for the Exploitation of a Patent” (Art. 48 to 63), which distinguishes between different kinds of licenses.⁸ A compulsory licensing obligation in its strict sense can be found in Art. 53 of the Patent Law. A license can be requested if the patent owner has not or not sufficiently exploited his patent without due reason for three years since grant and four years since application. When applying for a license, the interested third party “*shall provide evidence to prove that it or he has made a request for a license from the patentee to exploit the patent under reasonable terms, but has failed to obtain such a license within a reasonable period of time*” (Art. 59).

A work protected by copyright may be used without permission of the copyright owner and without payment of a remuneration in the cases listed in Art. 24 of the Copyright Law, e.g. for personal study, or quotation purposes. However, such statutory licenses do not amount to a compulsory licensing obligation as defined in the Analytical Framework. The Trademark Law, in turn, does not contain any provisions on compulsory licenses. Therefore, since Art. 53 of the Patent Law is line with Art. 5 of the Paris Convention in that a compulsory license may only be granted after three years since grant and four years since application (provided that there is no legitimate reason for non-performance of the patent), China receives 1 point in the category of compulsory licensing obligations.

Concerning risks of revocation, China has implemented a system of post-grant patent invalidation. Following the grant of a patent, a third party may request that the Patent Review Board declare the said patent right invalid (Art. 45 of the Patent Law). However, legitimate reasons for invalidation of a patent are limited to concerns about the patent’s compliance with the general requirements pursuant to the Patent Law, such as its novelty, inventiveness, and practical applicability (Rule 64 of the Implementing Regulations).⁹ Thus, a patent cannot be revoked because the patent owner did not manufacture the protected products in China.

⁸ There is also the obligation of state-owned enterprises and institutions, upon decision of the competent authority, to allow designated entities to exploit their inventions within a specified scope and against payment of a royalty, provided that the invention is of “great significance” to the interest of the state or the public (Art. 49). Further, the latest amendment introduced the new “open license” regime, whereby a patentee submits an open license statement specifying the payment method and royalty. An interested entity or individual may then obtain a license by notifying the patentee and paying the royalty in accordance with the statement (Art. 50f). Moreover, a compulsory license can be imposed if the exercise of the patent at issue has been legally confirmed to be anticompetitive (Art. 53 (2)) or where a national emergency or any extraordinary state of affairs occurs, or where the public interests so require (Art. 54).

⁹ The Implementing Regulations of the Patent Law of the People’s Republic of China (promulgated by Decree No. 306 of the State Council of the People’s Republic of China on 15 June 2001, and effective as of 1 July 2001) are available via the WIPO Lex database: <https://wipo.lex-res.wipo.int/edocs/lexdocs/laws/en/cn/cn023en.pdf> (last accessed 28 July 2022).

By contrast and as already mentioned above, a registered trademark can be revoked by the Trademark Office *ex officio* or upon a third party's application, where the trademark owner fails to practically and continuously use a registered trademark within the PRC's territory for three years on the goods/services that it has been registered for (Art 49. (2) of the Trademark Law). After a non-use cancellation petition, the trademark holder has the burden of proof to demonstrate use. Therefore, "[t]o be on the safe side, some brand owners engage in small scale production or advertisement of the relevant products" in China (Friedmann 2021, 217). Further, a trademark shall be used consistently in the way it has been registered and thus the trademark owner is prohibited from making any changes to the registered sign without authorization, such as the colour, font, or combination of each element. Consequently, the trademark owner would be ordered to correct the trademark within a stipulated period, otherwise the registration will be revoked by the Trademark Office (Art 49. (1) of the Trademark Law). Copyrights, on the other hand, arise with the creation of a work and not by registration, which is why there is no risk that they will be revoked later on. In summary, only with regard to trademarks there is a risk of revocation in case of non-use. Hence, China scores 0.5 points for this criterion.

Overall, however, Chinese IP laws contain working requirements, since non-working of IP rights may lead to compulsory licenses (for patents) or post-grant cancellation (for trademarks). Therefore, as regards the absence of working requirements in general, the PRC fails to meet this criterion, which is why no points are awarded under the Analytical Framework.

Analytical Criterion	Sub-criteria	Scoring
Restrictions	Working Requirements	0
	Compulsory Licensing	1
	Risk of Revocation	0.5
Total		1.5

5.1.4. Enforcement Measures

The next section will assess whether Chinese law provides for sufficient measures to enforce IP rights. Specifically, provisions that grant (i) preliminary injunctions, (ii) contributory infringement pleadings, and (iii) burden-of-proof reversals will be addressed. In addition, (iv) the absence of national exhaustion will be scrutinized.

All of the PRC's laws governing IP contain special provisions allowing for preliminary or interim injunctions to be applied. According to Art. 72 of the Patent Law, where the patent owner has evidence to prove that another person is infringing or is about to infringe his patent right,

preliminary injunctions shall be adopted, encompassing property preservation as well as ordering or prohibiting the execution of a specific act. Likewise, the Trademark Law gives the trademark owner the possibility of immediately applying to the competent court for cessation of infringement and property preservation prior to instituting a main action (Art. 65). In the same vein, the Copyright Law foresees that, in order to prevent infringement, a copyright owner may, before bringing a lawsuit, apply to a court for taking such measures as preserving property, ordering performance of a specific act, or prohibiting a specific act (Art. 56). Since all IP laws provide for interim injunctions in the enforcement of IP rights, China scores 1 point for meeting this criterion.

Concerning contributory infringement pleadings, the Patent Law provides as a general rule that patent owners are entitled to prohibit the making, use, offer for sale, sale and import of the patented product, and that the owner of a process invention patent is protected against the use of the patented process and the use, offer for sale, sale and import of the products that directly resulted from such patented process (Art. 11). With regard to indirect IP infringement, however, the Patent Law remains silent. Also the Trademark Law and Copyright Law say nothing about indirect infringement.

Although there have been a number of proposals on indirect liability in IP cases, the Chinese legislature has to date refused to adopt such a provision, because of “*the difficulties that indirect liability could pose to innocent suppliers of means that can be used for [IP] infringement*” (Ganea 2021a, 28). In contrast to the legislature, however, already in 2016, the Supreme People’s Court (SPC) included a provision on indirect infringement in Rule 21 of its Interpretation (II) on Several Issues Concerning the Application of Law in the Trial of Disputes over Infringement of Patent Rights.¹⁰ According to the SPC, supplying another party with products for the infringing implementation of a patent without the authorization of the patent owner may amount to “assisting another person to commit an infringing act” under Art. 1169 of the Civil Code, provided that such person is well aware of the fact that such products form material, equipment, spare parts, intermediary products or the like specifically used for the implementation of the patent. Therefore, even though there is no Patent Law provision on indirect infringement, SPC judges base such a claim on general civil law provisions (Cao 2016, 250f). Still, given the ambiguity of the legal situation, China receives only 0.5 points in this category.

¹⁰ An English translation is available here: <https://www.afdip.com/index.php?ac=article&at=read&did=3792> (last accessed 27 July 2022).

As regards the burden of proof, the general rule under the Code of Civil Procedure places the burden of proof on the party that asserts a matter (Art. 64). In IP cases, this general rule regularly presents plaintiffs with a hurdle to prove their case, which should not be underestimated. Therefore, in some cases the burden of proof is shifted by statute: For instance, in cases involving process patents for manufacture of a new product, the burden of proof is shifted to the defendant to prove that a different process has been used (Art. 66 of the Patent Law), since it is mostly impossible for the plaintiff to prove that the third-party products have actually been obtained from the same process (Ganea 2021a, 137f).

In the same vein, the Copyright Law contains two cases of burden-of-proof reversal: (i) a publisher or producer of a copyright-protected work has to prove that its publication or production has been authorized and (ii) the distributor or renter of a cinematographic (or similar) work, computer software, sound recording or video recording bears the burden of proof that the copies it has distributed or rented have been obtained from a lawful source (Art. 59 of the Copyright Law). Further, in certain circumstances the court may reverse the burden of proof where a party can establish they have no way of gathering evidence or where they can show they have taken all possible steps to obtain the evidence (Clark 2021, 509). Given these forms of alleviation of the traditional burden of proof in IP cases, China is scored 1 point according to the Analytical Framework.

Lastly, there is the issue of exhaustion of IP rights, meaning that once an IP owner or its licensee sells goods which are protected by IP rights, the right to exercise the IP rights in respect of such goods is exhausted and other persons can commercially distribute the goods without the IP owner's consent. The Patent Law is the only Chinese IP law that contains a clear provision in this regard, stipulating that *"where, after the sale of a patented product or a product acquired directly in accordance with a patented process by the patentee or any entity or individual authorized by the patentee, any other person uses, offers to sell, sells, or imports that product"*, this shall not be deemed as infringement of the patent right (Art. 75 (1)). Therefore, patent exhaustion is triggered not only if products have been first sold within China, but also in cases of parallel import of such products first sold abroad with the consent of the patent owner (Ganea 2021a, 123f).

Whereas the Patent Law is clear on the issue of exhaustion, corresponding provisions are neither to be found in the Copyright Law nor in the Trademark Law. However, according to case law, the doctrine of exhaustion also applies to trademarks. With regard to cases of parallel imports, i.e. the third-party importation of goods marketed abroad by the trademark owner or with its

consent, Chinese courts have taken the view that “*if the suspect goods are sourced from the rights holder or the authorized dealer, the rights holder would have fully realized the commercial value of the trademark from the first sale of such goods, and thus could no longer prevent others from carrying out secondary sales or reasonable commercial marketing of these goods*” (Friedmann 2021, 242). As regards copyright, at least with regard to works created by foreigners, the applicable Implementation Regulations seemingly lean towards the international exhaustion doctrine and it can be argued that Chinese nationals, who are protected on an even lower level, should all the more be deprived of a right to control parallel imports of copies of their works. However, up to date, case law is silent on this issues, as well as on exhaustion of copyrights in the national sphere (Ganea 2021b, 351f). As the legal situation regarding the exhaustion of IP rights is currently ambiguous and unclear with only the Patent Law providing for an express provision, China receives 0.5 for this criterion.

Analytical Criterion	Sub-criteria	Scoring
Enforcement Measures	Preliminary Injunctions	1
	Contributory Infringement Pleadings	0.5
	Burden-of-Proof Reversal	1
	Absence of National Exhaustion	0.5
Total		3/4

5.1.5. Duration of IP Protection

Next, in accordance with the Analytical Framework, the statutory term of protection for (i) patents, (ii) copyright protected works, and (iii) trademarks will be scrutinized. After grant, patents are protected for a period of 20 years (Art. 42 of the Patent Law). The latest Patent Law amendment even introduced a patent term extension for pharmaceutical inventions of up to five years (Art. 42(3)) and added a new paragraph 2 to Art. 42 that entitles patent owners to claim a patent term extension in all technical fields as compensation for unreasonable delays in examination caused by the Chinese patent office, i.e. if the patent is granted after four years from the application date and three years from the date of requesting substantive examination have passed. Therefore, the Chinese Patent Law complies with Art. 33 of the TRIPS Agreement and the PRC receives 1 point for meeting this criterion.

In the case of copyright, the Chinese Copyright Law distinguishes between the different rights of an author: “*The term of protection of an author’s right of authorship, alteration and integrity shall be unlimited*” (Art. 22), whereas the right of publication and similar economic rights shall

exist for the lifetime of the author and 50 years after his death (Art. 23 (1)). In deviation from this general rule, the publication right and the economic rights in a cinematographic work are protected for 50 years after the publication, not post mortem (Art. 23 (3)), “*considering that copyright in the dependent contributions to a cinematographic work belongs to the producer and therefore not to a natural person*” (Ganea 2021b, 315). Generally, if copyright is owned by a legal person or other organization, the protection term ends 50 years after completion of the work (Art. 23 (2)). In all these cases, the TRIPS minimum requirement regarding the protection period is met, which is why China is scored 1 point in this category.

Lastly, “[t]he period of validity of a registered Chinese trademark is ten years, counted from the day the registration is approved” (Art. 39 of the Trademark Law), and can be renewed indefinitely. If the trademark owner intends to continue using his trademark, he must file a renewal request within 12 months prior to the expiry date. “*If no application for renewal is filed upon expiry of the extension period, the registered trademark will be cancelled.*” (Art. 40 of the Trademark Law). Since the TRIPS Agreement only requires a trademark duration of 7 years, China even goes beyond the internationally required term of protection. Accordingly, the full score is awarded under the Analytical Framework.

Analytical Criterion	Sub-criteria	Scoring
Duration of IP Protection	for Patents (statutory term / 20 years)	1
	for Copyrights (statutory term / 50 years)	1
	for Trademarks (statutory term / 7 years)	1
Total		3/3

5.2. IP Protection in Practice in China

5.2.1. Cost of IP Protection

As explained in the Analytical Framework, the cost of IP protection is a relevant factor when assessing the effectiveness of IP protection in practice. Therefore, this section will look into the official fees for application and renewal with regard to (i) patents and (ii) trademarks and will compare them to the equivalent fees charged by the European Intellectual Property Office (EUIPO) and the US Patent and Trademark Office. In doing so, I take the most basic version of a patent and trademark application as a reference basis.

In China, the various fees to be paid for administrative services related to the acquisition, maintenance and invalidation of patents are regulated in the official fee schedule of the Chinese National Intellectual Property Administration (CNIPA) dated 22 November 2019. The initial

filing fee for a patent application is RMB 950 (about USD 140), while the costs for filing an examination request amount to RMB 2,500 (about USD 370). For the issuance of the patent certificate another RMB 255 (about USD 38) are charged. In total, registration of a patent incurs costs of RMB 3,705 (about USD 549).¹¹

For a European (unitary) patent, by comparison, fees are charged for filing, search, designation of contracting states, claims (if more than fifteen), examination, grant and printing. The filing fee amounts to EUR 130, while for search and examination of the application EUR 1,390 and EUR 1,750 are charged. Designating a contracting state costs EUR 630. For granting and printing EUR 990 are levied. In total, receiving a European (unitary) patent incurs costs of EUR 4,890 (about USD 4,965).¹² For a US patent, the basic filing fee amounts to USD 320. However, except for provisional applications, each application for a patent requires the appropriate search fee and examination fee in addition to the filing fee. Thus, a basic patent application incurs another USD 700 and USD 800, amounting to application costs of USD 1,820 in total.¹³ This comparison shows that official fees for registration of a Chinese patent are extraordinarily low, being about one third of the application costs for a US patent. Accordingly, China scores 1 point for this criterion.

The annual renewal fees for a Chinese patent, on the other hand, increase from RMB 900 to 8,000 over the full 20-year patent term.¹⁴ Thus, a total amount of RMB 22,100 (about USD 3,274) will be charged for maintaining a patent for 20 years. The renewal fees for a European (unitary) patent are payable annually and also increase continuously over the term of the patent, starting very low at EUR 35 in the second year and amounting to EUR 4,855 in year 20. In total, costs in the amount of EUR 35,555 (about USD 36,099) will be incurred over the lifetime of a patent.¹⁵ For maintaining a US patent, after 3.5 years a fee of USD 2,000 becomes due, after 7.5 years the costs already amount to USD 3,760 and after 11.5 years the patent owner will be charged USD 7,700 in order to renew the patent.¹⁶ In total, the costs for maintaining a patent over its maximum lifetime of 20 years will run up to USD 13,460. Again, official fees for patent renewal are very low when benchmarked against Europe and the US. Accordingly, China receives 1 point in this category.

¹¹ See https://www.chinatradeoffice.com/about/fee_all.html (last accessed 18 July 2022).

¹² See <https://my.epoline.org/epoline-portal/classic/epoline.Scheduleoffees> (last accessed 18 July 2022).

¹³ See <https://www.uspto.gov/learning-and-resources/fees-and-payment/uspto-fee-schedule> (last accessed 25 July 2022).

¹⁴ See https://www.chinatradeoffice.com/about/fee_all.html (last accessed 18 July 2022).

¹⁵ See <https://www.epo.org/applying/european/unitary/unitary-patent/cost.html> (last accessed 25 July 2022).

¹⁶ See <https://www.uspto.gov/learning-and-resources/fees-and-payment/uspto-fee-schedule> (last accessed 18 July 2022).

Concerning trademarks, the official fees for registration of a Chinese trademark in one class amount to USD 180 (for up to ten goods and services), while USD 500 will be charged for an extension of trademark protection after 10 years.¹⁷ The basic fee for an EU trademark application is EUR 850 (about USD 863) and covers one class of goods and services.¹⁸ After ten years, another EUR 850 (about USD 863) will be charged for extension of the protection term.¹⁹ For US trademarks, an application fee of USD 500 will be levied (for each class of goods and services). After ten years, the renewal fee per class amounts to USD 300. Additionally, USD 225 are charged for a declaration by the US Patent and Trademark Office affirming that the registered trademark has been in use continuously for a period of five years (without such a declaration the trademark will be cancelled).²⁰ Thus, in total USD 525 are charged in order for a trademark to be extended for another ten years. Also with regard to trademarks, Chinese fees are lower than their European and US counterparts for application as well as renewal, even though the difference between the Chinese and the US fees is not that great when it comes to the renewal of trademarks. Therefore, the PRC obtains the full score for both criteria.

Analytical Criterion	Sub-criteria	Scoring
Cost of IP Protection	Patent Application Fees	1
	Patent Renewal Fees	1
	Trademark Application Fees	1
	Trademark Renewal Fees	1
Total		4/4

5.2.2. Quality of Administration

Next, the quality of Chinese IP administration will be scrutinized based on a number of different indices created by independent bodies. Firstly, in Transparency International's Corruption Perception Index, which serves as a proxy for the overall quality of administration, China scores 42 out of 100 points and is ranked 78th of 180 countries (Transparency International 2021, 2).

Since its foundation, the PRC – or rather the Chinese Communist Party (CCP) – has struggled with corruption that undermines its political legitimacy. In 2012, Xi Jinping's takeover as the new General Secretary of the CCP Central Committee signified the beginning of a new phase

¹⁷ See https://www.chinatradeoffice.com/about/fee_all.html (last accessed 18 July 2022).

¹⁸ The fee for the second class of goods and services is EUR 50 and for three or more classes EUR 150 for each class (see <https://euipo.europa.eu/ohimportal/en/fees-and-payments>; last accessed 16 July 2022).

¹⁹ See <https://euipo.europa.eu/ohimportal/en/fees-payable-direct-to-euipo> (last accessed 18 July 2022).

²⁰ See <https://www.uspto.gov/learning-and-resources/fees-and-payment/uspto-fee-schedule> (last accessed 18 July 2022).

in the fight against corruption. Indeed, Xi's anti-corruption crusade has been far-reaching. The Party has also made efforts to curb official misconduct and malpractice that may be considered hidden or potential corruption (Gong and Tu 2022, 7). Hence, *"the central leadership made clear that its intention was to fight against corruption committed by both high-ranking officials and grassroots civil servants [...]"* (Gong and Tu 2022, 7). Nevertheless, the efforts made so far do not seem to have achieved sufficient success. Based on the Transparency International's Corruption Perception Index and according to the Analytical Framework, the PRC thus receives 0.5 points for this criterion. Some of the underlying reasons for China's rampant corruption will be presented in chapter 7.

The "Predictable Enforcement" indicator published by IDEA, on the other hand, awards China a mere 0.39 out of 1 point (IDEA 2022a, 1), which translates into 0 points pursuant to the Analytical Framework. Generally, administrative bodies enjoy a strong position in making and implementing IP law in the PRC and administrative IP enforcement has played a significant role in cracking down on large-scale counterfeiting and piracy (Zhang and Lee 2018, 66). This powerful and proactive role of China's IP administration may be regarded as favourable, were it not for the numerous points of criticism, *"such as a lack of transparency, inconsistent implementation at different levels and in different regions, insufficient training and financial resources, conflicts of interests, the tedious procedures in government bodies, and a lack of efficient cooperation between different government bodies"* (Zhang and Lee 2018, 67). Some of these shortcomings in administrative enforcement will be further analysed in chapter 7.

Lastly, under the "Government Effectiveness" indicator by the World Bank, China achieves a score of 0.65 (out of 2.5),²¹ which is why no points are awarded under the Analytical Framework. The administration of IP in China has undergone major changes over the last years. Since 2020, the China National Intellectual Property Administration (CNIPA) has acted as the competent administrative body for all IP rights, except for copyright (Clark 2021, 519f; Friedmann 2021, 203; Ganea 2021a, 21f). By contrast, the National Copyright Administration of China has remained largely unaffected by the institutional reforms (Ganea 2021b, 300). A peculiarity of the Chinese IP protection system is the so-called "dual-track" or bifurcation system. It offers claimants the possibility to enforce their rights through two tracks, namely in judicial proceedings and by administrative means. *"If administrative entities find that infringement exists, they are entitled to impose official measures, including requiring the infringer to cease infringement"*

²¹ See https://govdata360.worldbank.org/indicators/h580f9aa5?country=CHN&indicator=388&viz=line_chart&years=1996,2020 (last accessed 18 July 2022).

activities and pay damages, confiscating and destroying infringing products and tools, and imposing administrative penalties. The IP holder, on the other hand, could also initiate civil proceedings for infringement of [IP rights] at any time.” (Tang 2019, 181). Although the dual-track system is designed to further the protection of IP holders, it also suffers from disadvantages in terms of government effectiveness, which will be discussed in chapter 7.

Analytical Criterion	Sub-criteria	Scoring
Quality of Administration	Level of Corruption	0.5
	Predictable Enforcement	0
	Government Effectiveness	0
Total		0.5/3

5.2.3. Enforceability

As the last criterion of the Analytical Framework, I will look into the enforceability of IP rights in the PRC. In doing so, I will rely on three independent indicators. Firstly, according to the World Bank data on the “Rule of Law” as part of the Worldwide Governance Indicators, China scores -0.1 out of 2.5 points.²² While Chinese policy emphasizes fair trial of IP disputes, especially in foreign-related cases, stating that all entities and parties – whether publicly or privately owned, and whether Chinese or foreign – are entitled to equal procedural and substantive rights in an IP action, the reality, however, looks quite different: On the one hand, general policy considerations have a significant influence on judicial decision making. On the other hand, there is a strong tendency for local protectionism (Tang 2019, 192f). These impediments to the rule of law rooted in the Chinese legal system will be analysed in chapter 7. Against this backdrop, the PRC scores 0.5 points for this criterion under the Analytical Framework.

Under the “Judicial Independence” indicator, on the other hand, as another of the Global State of Democracy Indices, China achieves a mere 0.17 out of 1 point (IDEA 2022a, 1), thus receiving no points according to the Analytical Framework. Pursuant to Art. 126 of the Chinese Constitution, the “*people’s courts shall, in accordance with the law, exercise judicial power independently, in accordance with the provisions of law, and not be subject to interference by any administrative organ, public organization or individual*”.²³ However, judicial independence comprises of more than just a statement of non-interference by the executive. Further important aspects concern, among other things, the selection procedure and judicial tenure, conditions for

²² See <https://databank.worldbank.org/source/worldwide-governance-indicators> (last accessed 18 July 2022).

²³ The full text can be obtained here: <http://www.npc.gov.cn/englishnpc/constitution2019/201911/1f65146fb6104dd3a2793875d19b5b29.shtml> (last accessed 27 July 2022).

removal as well as salary insulation (Feng 2017, 86). The implications of Chinese judges' independence being only partly protected under the constitution will be discussed in chapter 7.

Lastly, under the “Intellectual Property Protection” indicator published by the World Economic Forum, China ranks 47th of 141 countries with 4.5 out of 7 points (World Economic Forum 2019, 155), which translates into a score of 0.5 points under the Analytical Framework. Already in the early 1990s, the PRC began attempting to specialize IP litigation with IP divisions being established within the higher and intermediate courts across China.²⁴ However, since these divisions are scattered, the standards applied and the implementation of law have been hardly consistent. To foster the uniformity and quality of IP adjudication especially in technically demanding areas, recent reforms in the area of judicial enforcement therefore included far-reaching institutional rearrangements. In 2014 and 2015, the first three ‘trial’ IP courts were established in Beijing, Shanghai and Guangzhou, in addition to 16 specialized IP tribunals in major industrial cities. In the same vein, a specialized IP appellate court was introduced and has operated since 2019 as part of the Supreme People’s Court (Ganea 2021a, 25f; Stevenson 2020, 175f). Nevertheless, the new judicial system for IP cases continues to show weaknesses, which will be examined in more detail in chapter 7.

Analytical Criterion	Sub-criteria	Scoring
Enforceability	Rule of Law	0.5
	Judicial Independence	0
	Intellectual Property Protection	0.5
Total		1/3

²⁴ “In the PRC, there exist four levels of courts with a two instance trial system. [...] The lowest level of courts are the Basic People’s Courts. One tier above are the Intermediate People’s Courts. [...] In each province, the highest court is the Higher People’s Courts. Higher People’s Courts generally act as appellate court from Intermediate People’s Courts but can also hear large first instance cases. Finally, the highest court for civil, administrative and criminal cases is the Supreme People’s Court located in Beijing.” (Clark 2021, 488).

5.3. Summary of the Empiric Findings for China

Analytical Criteria	Sub-criteria	Score
IP Protection on the Books		
Patent Protection Scope	pharmaceuticals	1
	chemicals	1
	software	0.5
	plant varieties	0.5
Total		3/4
Copyright Protection Scope	literary, dramatic and artistic works	1
	cinematographic works	1
	computer programs	1
	databases	1
Total		4/4
Trademark Protection Scope	service marks	1
	colours	1
	shapes	1
	well-known marks	1
Total		4/4
Membership in	PCT	1
	UCC	1
	Madrid Agreement	1
Total		3/3
Restrictions	Working Requirements	0
	Compulsory Licensing	1
	Risk of Revocation	0.5
Total		1.5/3
Enforcement Measures	Preliminary Injunctions	1
	Contributory Infringement Pleadings	0.5
	Burden-of-Proof Reversal	1
	Absence of National Exhaustion	0.5
Total		3/4

Duration of IP Protection	for Patents (statutory term / 20 years)	1
	for Copyrights (statutory term / 50 years)	1
	for Trademarks (statutory term / 7 years)	1
Total		3/3
IP Protection in Practice		
Cost of IP Protection	Patent Application Fees	1
	Patent Renewal Fees	1
	Trademark Application Fees	1
	Trademark Renewal Fees	1
Total		4/4
Quality of Administration	Level of Corruption	0.5
	Predictable Enforcement	0
	Government Effectiveness	0
Total		0.5/3
Enforceability	Rule of Law	0.5
	Judicial Independence	0
	Intellectual Property Protection	0.5
Total		1/3
Overall Score:		27/35

6. Empiric Findings regarding Japan

6.1. IP Protection on the Books in Japan

6.1.1. Scope of IP Protection

6.1.1.1. Patent Protection

Turning to the case of Japan, I will first scrutinize the scope of IP protection offered under Japanese law. Concerning patents, it will be determined whether protection is granted to (i) pharmaceuticals; (ii) chemicals; (iii) software; and (iv) plant varieties. Although Japan has had patent statutes since the late nineteenth century, the modern Patent Act²⁵ traces back to 1959, and has been amended many times since then. The latest amendment took place on 1 April 2022. It sets forth the basic statutory framework governing patents in Nippon.²⁶

The Patent Act limits patent-eligible subject matter to inventions, and defines “invention” as the “*highly advanced creation of technical ideas utilizing the laws of nature*” (Art. 2(1)). In addition, the invention must be capable of industrial application, satisfy a novelty criterion, and demonstrate an inventive step (Art. 29ff). On the other hand, inventions that are likely to disrupt public order, corrupt public morals or harm public health are excluded from patent protection (Art. 32 of the Patent Act).

Generally, “*mere discoveries, such as discoveries of natural things or natural phenomena, for which an inventor does not create any technical idea with intention, are not considered as a statutory "invention". However, if things in nature such as chemical substances or microorganisms have been isolated artificially from their surroundings*”, those may be eligible to patent protection.²⁷ Therefore, a new technical idea, which utilizes a natural law, is patentable if it is industrially applicable. Accordingly, chemicals may be patentable under Japanese law and thus 1 point is awarded.

In the same vein, a patent may be granted for a pharmaceutical invention, since it is defined by its medical use, and intended to be applied, administered or spread to a human body. A method of treating humans by surgery or therapy, on the other hand, is not patentable in Nippon because it does not meet the industrial applicability requirement. Likewise, diagnostic methods practised

²⁵ Act No. 121 of 13 April 1959, as amended up to 1 April 2022, can be accessed via the WIPO Lex database: <https://wipo.lex.wipo.int/en/text/585164> (last accessed 24 July 2022), where an English version can be obtained as well: <https://wipo.lex.wipo.int/en/text/585163> (last accessed 24 July 2022).

²⁶ Additionally, in order to achieve consistency among decisions reached by patent examiners, the Japan Patent Office (JPO) has issued comprehensive patent examination guidelines. These can be found on the JPO’s website: <https://www.jpo.go.jp/e/system/laws/rule/guideline/patent/index.html> (last accessed 24 July 2022).

²⁷ Examination Guidelines, Part III, Chapter 1, 2 (https://www.jpo.go.jp/e/system/laws/rule/guideline/patent/tukujitu_kijun/document/index/03_0100_e.pdf (last accessed 29 July 2022)).

on the human body cannot be patented.²⁸ Since pharmaceuticals are generally patent-eligible (subject to additional requirements), Japan is scored 1 point for this criterion.

Software, in turn, if claimed in connection with hardware, may be deemed a “technical” idea and hence may qualify as patent-eligible. Since 2002, Art. 2 (4) of the Patent Act classifies computer programs as “product inventions”. The problem that computer programs as such do not meet the requirement of technicality in the strict sense is circumvented by the assumption that the interaction between the program and the hardware on which it is run generates a technical, physically perceivable effect (Ganea 2005, 27; Uemura and Kato 2011, 67f). Therefore, also software enjoys patent protection under Japanese law and thus 1 point is awarded under the Analytical Framework.

Also with regard to plant varieties, the general rule applies according to which mere discoveries of natural phenomena are not patentable, whereas biological material that is artificially isolated from natural surroundings may be considered an invention, provided that it is also industrial applicable. Further, plant varieties obtained both by genetic engineering as well as by other means may enjoy patent protection as long as such plant involves an inventive step, i.e. if it has advantageous effects that a person skilled in the art cannot expect.²⁹ Therefore, also for this criterion Japan earns 1 point.

6.1.1.2. Copyright Protection

As regards copyright, I will examine whether copyright is granted to the following kind of works: (i) literary, dramatic and artistic works in general; (ii) cinematographic works; (iii) computer programs; and (iv) databases. Japan’s first modern law on copyright became effective in 1899 and was not replaced until 1970 by the present Copyright Act³⁰ (in force since 1 January 1971). However, from the mid-1980s on, due to rapid technological advances, the Japanese legislature was forced to amend the law at very short intervals, resulting in 11 amendments since 1970, most recently in January 2022 (Saitō and Isa 2005, 11). The Copyright Act protects the expression of a “work”, defined as a “*creatively produced expression of thoughts or sentiments that falls within the literary, academic, artistic, or musical domain*” (Art. 2 (1) (i)). Therefore, the following requirements must be met to qualify as a work: (i) It must express

²⁸ Examination Handbook, Annex B, Chapter 3, 6 (https://www.jpo.go.jp/e/system/laws/rule/guideline/patent/handbook_shinsa/document/index/app_b3_e.pdf; last accessed 29 July 2022).

²⁹ Examination Handbook, Annex B, Chapter 2, 17; 22 (https://www.jpo.go.jp/e/system/laws/rule/guideline/patent/handbook_shinsa/document/index/app_b2_e.pdf; last accessed 29 July 2022).

³⁰ Act No. 48 of 6 May 1970, as amended up to 1 January 2022 can be accessed via the WIPO Lex database: <https://wipo.lex.wipo.int/en/text/584885> (last accessed on 24 July 2022). Also an English translation is available there: <https://wipo.lex.wipo.int/en/text/584874> (last accessed on 24 July 2022).

“thoughts or sentiments” and thus be personal to the author. Mere communication of facts, such as daily news, are excluded from copyright protection (see also Art. 10 (2)); (ii) such thoughts and sentiments must be expressed in a “creative” manner, so that copying another person’s work is not sufficient; (iii) the thoughts and sentiments must be “expressed” and thereby made perceivable for others, but not necessarily fixed in any kind of medium; and (iii) the work must belong to the “literary, artistic or musical domain”, which is interpreted extensively, though (Ganea 2005, 19f).

Art. 10 (1) of the Copyright Act contains a non-exhaustive list of copyright protected subject matter, including literary works (such as novels, scenarios, articles, and lectures), musical works, choreographic works as well as paintings, woodblock prints, sculptures, and other works of fine art. Hence, literary, dramatic and artistic works in general enjoy copyright protection under Japanese law and thus Nippon receives 1 point in this category. Moreover, also cinematographic works are eligible to copyright protection. Pursuant to Art. 2 (3), a cinematographic work must be expressed “*in a manner that produces a visual or audio-visual effect analogous to those of cinematography*” and has to be fixed in some material form (Ganea 2005, 24). Hence, also this criterion is fulfilled and Japan earns 1 point under the Analytical Framework.

In the mid-1980s, computer programs have come to be protected as independent works and were explicitly introduced as new work categories (Ganea 2005, 26). Under the Copyright Act, a “computer program” is defined as “*something expressed as a set of instructions written for a computer, which makes the computer function so that a specific result can be obtained*” (Art. 2 (1) (x-2)). “*The creative activity that turns a computer program into a “work” therefore consists of the combination of instructions given to a machine in order to solve a certain problem.*” (Ganea 2005, 26). Art. 10 (3) clarifies that programming languages, rules and algorithms are excluded from copyright protection. Therefore, Japan is scored 1 point in this category.

A “database”, on the other hand, is defined as “*an aggregate of data such as articles, numerical values, or diagrams, which is systematically constructed so that such data can be searched with a computer*” (Art. 2 (1) (x-3)). The Copyright Act regulates databases separately from “compilations” as a work category of its own. Art. 12-2 provides that only such databases which “*by reason of the selection or systematic structuring of the information contained therein*” form intellectual creations may enjoy copyright protection. Accordingly, non-creative databases, even where they represent a substantial economic investment, are not copyright-eligible (Ganea 2005, 28). Since creative databases are protected by copyright, Japan receives 1 point for meeting this criterion.

6.1.1.3. Trademark Protection

Turning to trademarks, Japan's first trademark law was the Trademark Ordinance of 1884. In 1921, it was replaced with the Trademark Law, which, in turn, was succeeded by the Trademark Act of 1959 (WIPO 2014, 1).³¹ The latest amendment took place on 1 April 2022. Following the Analytical Framework, I will examine whether (i) service marks; (ii) colours; (iii) shapes; and (iv) well-known marks are granted trademark protection. The Trademark Act defines a "trademark" as "*any character, figure, sign or three-dimensional shape or colour, or any combination thereof*", provided that it is used in connection with goods or services in order to differentiate them from those offered by other parties that are of the same or of a similar type (Art. 2 (1)). As Art. 2 already states, trademarks may also be used with respect to services, which are extensively defined as including the "*provision of benefits for customers conducted in the course of retail and wholesale business*" (Art. 2 (2)). Thus, service marks are eligible to trademark protection under Japanese law. Therefore, Nippon scores 1 point in this category.

In 2015, Japan allowed the registration of non-traditional trademarks like colour per se marks. Since then, judicial decisions from the Japanese Intellectual Property High Court have outlined the criteria for registration of colour trademarks under the Trademark Act. The court took a cautious approach in that a single business shall not be granted "*an unjustified competitive advantage to exclusively use a colour if said colour has a functional purpose [...] or that colour has already been widely and freely used by many other companies in the field*" (Tessensohn 2021, 981f). For, in principle, single colour trademarks are considered to fall within the prohibition under Art. 3 (1) (vi) of the Trademark Act, which holds that a commonly used sign is not registrable as it lacks distinctiveness and thus consumers are not able to recognize the goods or services as those pertaining to a particular business. Therefore, when applying for trademark registration, the applicant must submit evidence that the colour has gained distinctiveness as a source identifier for the designated goods or services (Tessensohn 2021, 974f). Potentially, therefore, a colour mark may be trademark protected, but the hurdles for registration are relatively high in Nippon. Nonetheless, Japan receives 1 point for this criterion.

Shapes, i.e. three-dimensional marks, on the other hand, have been registrable in Japan since 1997. Yet, trademarks that consist solely of the shape of the goods in question are capable of registration only when, as a result of the use of such mark, consumers are able to recognize the goods as those from a certain business (Art. 3 (1) (iii) and (2) of the Trade Mark Act). Japanese

³¹ Act No. 127 of 13 April 1959, as amended up to 1 April 2022 can be accessed via the WIPO Lex database: <https://wipo.lex.wipo.int/en/text/585155> (last accessed 24 July 2022), where also an English translation can be obtained: <https://wipo.lex.wipo.int/en/text/585154> (last accessed 24 July 2022).

courts and the Japan Patent Office (*JPO*) have made it clear that in order to become registrable, a three-dimensional mark must have obtained distinctiveness, and even if this can be demonstrated, that its form is not purely functional (Heath 2012, 536). Despite this strict standard for registration, Japan is awarded 1 point under the Analytical Framework.

Lastly, when it comes to well-known marks, Art. 4 (1) (x) of the Trademark Act stipulates that no trademark may be registered if the trademark “*is identical with, or similar to, another person’s trademark which is well known among consumers as that indicating goods or services in connection with the person’s business, if the trademark is used in connection with the goods or services or goods or services similar thereto*”. Accordingly, the JPO must refuse an application for trademark registration if it is identical with or similar to a well-known mark of another person used for the same or similar goods or services, irrespective of whether the well-known mark is registered in Japan. According to the Examination Guidelines, a “well known mark” includes not only a trademark which is well known among end consumers but also among traders in the industry, be it throughout the country or only in a certain area.³² Hence, the definition of what constitutes a well-known mark is rather broad and Japan earns 1 point for this criterion.

Analytical Criteria	Sub-criteria	Scoring
Patent Protection Scope	pharmaceuticals	1
	chemicals	1
	software	1
	plant varieties	1
Total		4/4
Copyright Protection Scope	literary, dramatic and artistic works	1
	cinematographic works	1
	computer programs	1
	databases	1
Total		4/4
Trademark Protection Scope	service marks	1
	colours	1
	shapes	1
	well-known marks	1
Total		4/4

³² Examination Guidelines for Trademarks, Part III Chapter 9: Art. 4 (1) (x), 79 (<https://www.jpo.go.jp/e/system/laws/rule/guideline/trademark/kijun/document/index/0309.pdf>, last accessed 29 July 2022).

6.1.2. Membership in International Conventions

In the next section, Japan's membership in international conventions regarding the protection of IP will be scrutinized, in particular whether or not Nippon has joined (i) the PCT; (ii) the UCC; and (iii) the Madrid Agreement. Indeed, Japan has entered into most of the important international conventions related to IP rights: Already in 1899, it acceded to the Paris Convention for the Protection of Industrial Property with a view to enhancing Japan's modernization during the Meiji Era. In 1956, Japan joined the Universal Copyright Convention (Japan Patent Office 2008, 12) and thus is awarded 1 point for meeting this criterion.

In the period of high economic growth (up to the 1980s), Japan further promoted the internationalization of its IP system. The Patent Cooperation Treaty was adopted in 1970 and took effect in 1978. As one of the world's leading countries in patent applications, Japan participated in the negotiations from the treaty-drafting stage (Uemura and Kato 2011, 69f). Against this backdrop, Japan earns 1 point.

By contrast, although the Madrid Agreement has been in effect since 1891, Japan has never become a signatory state, because, at that time, the country's focus was on the domestic market and it lacked many of the necessary structures for international trademark applications. The introduction of the Madrid Protocol in 1989, however, made the Madrid System more attractive to Nippon, which is why it decided to join in the same year (WIPO 2014, 1). Because of this, Japan is firmly integrated into the international Madrid System today even without joining the Madrid Agreement, which is why it also receives 1 point in this category.

Besides these major international conventions, Japan also acceded, inter alia, to the Berne Convention for the Protection of Literary and Artistic Works in 1971, the Strasbourg Agreement concerning the International Classification in 1977, the Budapest Treaty in 1980, the Nice Agreement Concerning the International Classification of Goods and Services for the Purposes of the Registration of Marks in 1991, and the Trademark Law Treaty in 1994, which underpins Japan's willingness to adhere to the internationally established IP rules (Harris and Ohashi 2011, 203; Uemura and Kato 2011, 67f).

Analytical Criterion	Sub-criteria	Scoring
Membership in	PCT	1
	UCC	1
	Madrid Agreement	1
Total		3/3

6.1.3. Restrictions on IP Protection

Following the Analytical Framework, the next section will deal with potential restrictions on IP protection under Japanese IP law, namely whether it contains (i) any working requirements; (ii) compulsory licensing obligations; and (iii) risks of revocation.

Japan's Patent Act provides for three cases in which compulsory licenses may be granted. For the purpose of this master's thesis, however, only Art. 83 is of interest.³³ This provision offers a third party intending to work a patented invention the opportunity to receive a non-exclusive license if the patented invention has not been sufficiently and continuously worked for three years or longer in Japan. Provided that at least four years have passed since the filing date of the application for the patented invention, the interested third party shall first request the patent owner or the exclusive licensee to negotiate a license. If no agreement is reached, however, the Commissioner of the Japan Patent Office may grant a license. Only in case the patent holder can demonstrate legitimate reasons for not practicing the invention, the JPO would refrain from granting a compulsory license (Art. 85 (2) of the Patent Act).

In this regard, it is currently unclear whether importing of a product covered by a patent would suffice to avoid the patent owner's obligation of granting a license under Art. 83 of the Patent Act. *"The official view continues to state that importation would [...] not constitute a sufficient practice of the invention pursuant to Article 83. At the same time, the vast majority of influential commentators are challenging this official view, reasonably arguing that it would be an out-dated requirement to have a patentee to practice the patent through manufacture in every country in which patent exclusivity is sought."* (Rademacher 2018, 230).

As regards copyright, Art. 67-70 address the "exploitation of a work based on a compulsory license". *"Requests for compulsory licences are addressed to the Director of the Cultural Agency who, in the following cases, may impose a compulsory licence and determine a royalty that must correspond to an ordinary royalty rate: (i) Where the author of the work that the requesting party intends to exploit remains untraceable or unknown even after that party has undertaken due efforts to contact him, provided that the work has been already publicly available for a considerable period of time [...]"* (Art. 67); *(ii) Where a broadcasting enterprise [...]"*

³³ A compulsory license may also be granted, if a patented invention is based on another person's patented invention or is in conflict with another person's IP right(s). Initially, the patentee may request the other person to hold discussions toward a license agreement (Art. 92). If no agreement is reached, the patentee may file a request to be awarded a non-exclusive license by the Commissioner of the Japan Patent Office. Only if granting a non-exclusive license would be unreasonably prejudicial to interests of the other person, the JPO will not award a compulsory license. Moreover, Art. 93 allows for the granting of a non-exclusive license if the patented invention is particularly necessary to the public interest. In such a case, however, the Minister of Economy, Trade and Industry will decide whether or not to grant an award (Rademacher 2018, 232).

has failed to obtain permission to broadcast a published work after negotiating with the right owner or to enter into negotiations with him (Art. 68 (1)), unless the copyright owner proves that there were crucial reasons preventing him from permitting the broadcast (Art. 70 (4) (ii)) [...]; and (iii) Where a party intends to make sound recordings of a phonogram and to distribute copies, but has failed to obtain a licence from the right owner or to enter into negotiations with him, provided that not less than three years have passed since the first domestic sale of the phonogram (Art. 69).” (Ganea 2005, 67f). Concerning trademarks, on the other hand, the Trade-mark Act does not provide for compulsory licenses. Since Japanese IP laws implement the timelines stipulated by Art. 5 of the Paris Convention, Japan receives 1 point in this category, despite the legal uncertainty regarding the working requirement under Art. 83 of the Patent Act.

Post-grant revocation of IP rights is possible in the case of trademarks and patents. The Trade-mark Law establishes that the JPO shall, at the request of anyone, cancel a trademark registration when, without good reason, the trademark has not been used in the territory of Japan, by the owner, a licensee or other authorized person, for three consecutive years immediately before the filing date of the petition for non-use cancellation (Art. 50 (1)). The trademark holder bears burden of proof to show actual use of the trademark. In addition, if the trademark is used only within three months prior to the petition filing for cancellation – and the petitioner proves the trademark was only used after becoming aware the petition would be filed – the trademark right holder cannot avoid cancellation (Art. 50 (3)).

Likewise, the validity of an issued patent may be challenged before the JPO or in infringement litigation (Art. 104(3)(i) of the Patent Law). The Patent Act provides for two ways to challenge the validity of a patent after it has been granted: a patent opposition (Art. 113) and an invalidation trial (Art. 123). Anyone may file an opposition against a patent with the JPO Commissioner within six months of publication of the patent, while a patent invalidation trial may be requested only by an interested party. However, the grounds for invalidation of a patent mainly relate to the non-fulfilment of the prerequisites for patent registration. Non-working of a patent cannot lead to its revocation. Still, a risk of revocation exists for trademarks and thus Nippon only receives 0.5 point in this category.

In light of these findings, it can be concluded that considerable working requirements exist in Japan, because as a consequence of non-working compulsory licenses may be imposed (with regard to patents) and, on the other hand, the IP right may also be withdrawn retroactively (in the case of trademarks). Therefore, Japan does not score any points for this criterion.

Analytical Criterion	Sub-criteria	Scoring
Restrictions	Working Requirements	0
	Compulsory Licensing	1
	Risk of Revocation	0.5
Total		1.5

6.1.4. Enforcement Measures

Next, I will look into measures for improving IP enforcement offered under Japanese law, namely (i) preliminary injunctions, (ii) contributory infringement pleadings, (iii) burden-of-proof reversals, and (iv) the absence of national exhaustion.

In Japan, preliminary injunctions are generally considered as an important instrument to enforce IP rights at least in situations where the infringement is clear. Under the Civil Provisional Remedies Act,³⁴ the IP owner can seek injunctive relief from the competent court, when his IP right is infringed or there is a likelihood of infringement, and the need to stop the infringement is apparent. This applies to patents, copyrights as well as trademarks. The IP holder must submit a brief with evidence demonstrating that his IP rights are being infringed or that there is threatened infringement, and also the necessity for a temporary injunction (Iizuka, Heath and Komada 2005, 112; Shull, Hara, and Ōmori 2008, 4). “A showing of necessity is facilitated in cases of infringement likely to result in damages that would be difficult to compensate monetarily. [...] Another factor supporting the necessity of a preliminary injunction would be a possible lack of financial means of the defendant limiting his capability to compensate any damages.” (Rademacher 2018, 226). Before declaring an injunction, the competent court gives the defendant the opportunity to appear before court (Art. 23 (4) of the Civil Provisional Remedies Act) and finally decides by balancing the hardships between the plaintiff and the defendant. Since preliminary injunctions are available in all kinds of IP infringement cases, Japan receives the full score in this category.

Contributory infringement pleadings, on the other hand, are only available for patent and trademark infringements. The legal provisions on indirect infringement of patents are contained in Art. 101 of the Patent Act, according to which an act of producing, importing, or assigning, etc. a product – even if said product itself does not fulfil the configuration elements of a patented invention – is considered an act of indirect infringement of a patent, if it falls under any of the

³⁴ Act No. 91 of 22 December 1989 can be accessed via the WIPO Lex database: <https://wipo.lex.wipo.int/en/text/260082> (last accessed 29 July 2022).

type of acts described there. A person who has conducted any of said acts as a business will be liable for injunctive relief and/or damages (Iizuka 2019, 307; Nunoi and Sumida 2010, 514). Likewise, the Trademark Act defines preparatory acts prior to the commission of acts of infringement as indirect infringement (Art. 37). Unlike in cases of direct infringement, however, an additional subjective element is required (Japan Patent Office 2010, 14).

By contrast, for copyright infringements, injunction orders are granted for acts of direct infringement only, since Art. 112 (1) is generally construed to apply only to direct infringers. Indeed, there have been several court cases that denied injunctive remedies against indirect infringement of copyright. According to case law, copyright holders may only claim damages against indirect infringers, which is, however, less effective (Yamamoto 2013, 209). Given this limitation in the application of the concept of indirect infringement in Japan, only 0.5 are awarded for this criterion.

As regards the burden of proof, Japanese law provides for procedures to ease the IP owner's burden of describing the conditions of infringement in the complaint. Generally, on the part of the plaintiff it suffices to describe the allegedly infringing activities. In patent cases, Art. 104-2 of the Patent Act requires an accused infringer to identify "the specific conditions" forming the basis for his non-infringement defense. Likewise, in copyright cases, Art. 114-2 of the Copyright Act stipulates the same obligation of the accused infringer, while Art. 104-2 of the Patent Act shall apply *mutatis mutandis* to the infringement of a trademark right pursuant to Art 39. of the Trademark Act. *"In other words, the accused infringer cannot merely deny the allegations of infringement. Rather, the accused infringer must specifically describe the facts supporting his non-infringement contentions in its answer to the complaint."* (Shull, Hara, and Ōmori 2008, 1).

Further, Art. 104 of the Patent Act stipulates that *"[i]f a patent is granted on an invention that is a process for producing a product and the product was not publicly known in Japan prior to the filing of the patent application, any article identical to that product is presumed to have been produced using the patented process."* In short, this means that *"if the product sold by the accused infringer is identical to the product manufactured by the patent process, it is presumed that the defendant infringes the patented process. The burden then shifts to the accused infringer to produce evidence to rebut the presumption."* (Shull, Hara, and Ōmori 2008, 2). Since Japanese laws allow for a shifting of the burden of proof in IP cases, Japan receives 1 point for meeting this criterion.

Lastly, concerning the exhaustion of IP rights, only the Copyright Act contains a provision which touches upon the doctrine: Art. 26-2 (2) states that the exclusive right of the author to offer his work to the public by transfer of ownership shall not apply if the ownership of the original or copies of a work has already been transferred (abroad) to the public with the author's consent. Although clumsily worded, the provision stipulates that acts of first sale, be they domestically (alternative (i)), or abroad (alternative (iv)) trigger exhaustion (Ganea and Heath 2005, 72f).

By contrast, for patents and trademarks, the exhaustion doctrine is not explicitly laid down in Japanese law, but was introduced by case law instead. Already in 1969, a first decision on the parallel importation of patented goods was rendered by the Osaka District Court. The court discussed the problem of market separation, but felt bound by the legal provisions and thus rejected the applicability of the doctrine. *“For 25 years, this decision was regarded as the precedent of how the parallel importation of patented products should be dealt with.”* (Heath 2019, 337).

However, with its decision in the BBS Parallel Import case,³⁵ the Japanese Supreme Court set forth the doctrines of domestic and international exhaustion for the first time in Japan. According to its ruling, when a patent holder or a licensee has put a patented product on the market in a country, the patent right pertaining to said product is exhausted after having fulfilled its purpose, and the patent right does not extend to further use or assignment of the product. Thus, the patent holder is no longer allowed to exercise his patent right to seek injunctive relief concerning the product (Mimura 2011, 521f).

Likewise, according to Japanese case law, the holder of a trademark cannot oppose importation of his own goods to Nippon, because the consumers rightly assume that they purchase genuine goods from the parallel importer. *“The idea is that the consumers will still correctly perceive the goods as originating from the same source.”* (Husovec 2017, 12f). As the doctrine of exhaustion is by now fully established in Japan, no points are awarded in this category.

³⁵ Case H07 (O) No. 1988 decided by the Japanese Supreme Court.

Analytical Criterion	Sub-criteria	Scoring
Enforcement Measures	Preliminary Injunctions	1
	Contributory Infringement Pleadings	0.5
	Burden-of-Proof Reversal	1
	Absence of National Exhaustion	0
Total		2.5/4

6.1.5. Duration of IP Protection

Following the Analytical Framework, the duration of protection granted to (i) patents, (ii) copyright protected works and (iii) trademarks will be scrutinized in this section. The term of a Japanese patent expires after a period of 20 years from the filing date of the patent application (Art. 67 (1) of the Patent Act). However, the patent holder may apply for an extension of protection with the JPO if it took more than five years for registration of the patent (Art. 67 (2)). Moreover, if the patented invention may not be worked because of pending approvals prescribed by relevant law, the patent term may be extended upon request by a period not exceeding five years (Art. 67 (4)). Against this backdrop, Japan receives 1 point for meeting this criterion.

Copyright protection, on the other hand, is granted for the life of the author plus 70 years after his death (Art. 51 (2) of the Copyright Act), while for works authored by a company or cinematographic works, copyrights last for 70 years after the work is made public (Art. 53 and Art. 54). However, the term for copyright protection does not apply to an author's moral rights. *"Because of the inalienability of moral rights, they generally expire with the death of the author."* (Japan Patent Office 2008, 30ff). Since Japanese law even goes beyond the minimum protection term of 50 years pursuant to Art. 12 of the TRIPS Agreement, Japan receives the full score in this regard.

Lastly, pursuant to Art. 19 (1) of the Trademark Act, the term of a trademark right is ten years from the date of registration and can be renewed indefinitely upon filing a request. An application for renewal must be filed during the six-month period prior to the expiration of the trademark. Without such a request, a trademark right will be terminated. Also with regard to trademarks, Japan clearly fulfils the minimum requirements laid down in Art. 18 of the TRIPS Agreement and thus is awarded 1 point.

Analytical Criterion	Sub-criteria	Scoring
Duration of IP Protection	for Patents (statutory term / 20 years)	1
	for Copyrights (statutory term / 50 years)	1
	for Trademarks (statutory term / 7 years)	1
Total		3/3

6.2. IP Protection in Practice in Japan

6.2.1. Cost of IP Protection

In the following section, the cost of IP protection in Japan will be determined. In doing so, I will use the official fees for application and renewal of (i) a patent and (ii) a trademark in Japan and will compare these to the equivalent fees charged by EUIPO and the US Patent Office.

According to the fee schedule dated 1 April 2022, the Japanese Patent Office (*JPO*) will charge JPY 14,000 (about USD 103) for the application of a patent.³⁶ In addition, in Nippon, a patent application is not examined unless a “request for examination” has been submitted to and received by the JPO within three years of the filing date of the patent application. If no such request is submitted within the prescribed period, the patent application is deemed to have been withdrawn.³⁷ Such a request, however, will cost the patent applicant JPY 138,000 plus JPY 4,000 per claim. In total, therefore, a basic patent application incurs costs of JPY 156,000 (about USD 1,144). It is recalled that the costs of patent application with the EUIPO amount to EUR 4,890 (about USD 4,965), whereas a US patent will incur application fees of USD 1,820. Against this backdrop, applying for a Japanese patent is surprisingly cheap in international comparison and thus, Japan receives 1 point for this criterion.

For a renewal of a Japanese patent, the applicable fees will rise over the duration of protection, with JPY 4,300 plus JPY 300 per claim charged annually for the first three years and JPY 59,400 plus JPY 4,600 per claim for the 10th year of lifetime onwards. In total, therefore, upholding a patent for 20 years incurs costs in the amount of (at least, depending on the number of claims) JPY 831,200 (about USD 6,096).³⁸ Again, compared to renewal fees in the amount of USD 13,460 for US patents and EUR 35,555 (about USD 36,099) for European (unitary) patents, the costs for maintaining a Japanese patent are surprisingly low. Therefore, Japan is awarded the full score under the Analytical Framework.

³⁶ See <https://www.jpo.go.jp/e/system/process/tesuryo/hyou.html> (last accessed 25 July 2022).

³⁷ See Question 6-5 in the FAQs on patents by the JPO: <https://www.jpo.go.jp/e/faq/yokuaru/patent.html#anchor6-2> (last accessed 25 July 2022).

³⁸ See <https://www.jpo.go.jp/e/system/process/tesuryo/hyou.html> (last accessed 25 July 2022).

A Japanese trademark application, on the other hand, incurs a fee of JPY 3,400 plus JPY 8,600 per registered class of goods and services. In addition, a registration fee in the amount of JPY 32,900 per class will be levied. In total, therefore, fees of at least JPY 44,900 (about 332 USD) will be charged for receiving a Japanese trademark. After ten years, renewal of a trademark will trigger costs in the amount of JPY 43,600 (about USD 322) per registered class.³⁹ By comparison, the application fee for an EU trademark amounts to EUR 850 (about USD 863) and another EUR 850 will be charged for extension of the protection term after ten years.⁴⁰ For US trademarks, on the other hand, an application fee of USD 500 will be levied (for each class of goods and services), while USD 525 are charged in order for a trademark to be extended for another ten years. Also with regard to the fees charged for trademark application and renewal, Japan clearly emerges as the most favourable jurisdiction when benchmarked against the EU and US. Nippon, therefore, receives one point in each of the two categories.

Analytical Criterion	Sub-criteria	Scoring
Cost of IP Protection	Patent Application Fees	1
	Patent Renewal Fees	1
	Trademark Application Fees	1
	Trademark Renewal Fees	1
Total		4/4

6.2.2. Quality of Administration

The next section will deal with the quality of Japanese IP administration. In particular, Japan's performance will be assessed in terms of (i) corruption perception, (ii) predictable enforcement, and (iii) government effectiveness. Firstly, under Transparency International's Corruption Perception Index, Japan is ranked 19th of 180 countries with a score of 74 out of 100 (Transparency International 2021, 2). Due to this very good performance, Japan receives the full score in this category. However, although there is a general perception that Japan is one of the least corrupt societies in the world, corruption may be, in fact, widespread and systematically perpetrated (Choi 2007, 930). Some of the reasons for the structural embeddedness of corruption in Japan's administration will be elaborated in chapter 7.

Likewise, the "Predictable Enforcement" indicator published by IDEA gives Japan high marks by awarding it 0.82 out of 1 point (IDEA 2022b, 1), which translates into the full score under

³⁹ See <https://www.jpo.go.jp/e/system/process/tesuryo/hyou.html> (last accessed 28 July 2022).

⁴⁰ See <https://euipo.europa.eu/ohimportal/en/fees-payable-direct-to-euipo> (last accessed 18 July 2022).

the Analytical Framework. Nevertheless, Japan’s administrative system is not without its shortcomings. Because many Japanese laws are ambiguously worded in terms of the actual requirements of what an entity is obliged to do, many Japanese businesses seek advice from the competent authority before acting. Therefore, “[g]uidance from administrative bodies is plentiful in Japan.” (Goodman 2017, 431). The legal issues associated with such a practice will be discussed in chapter 7.

Lastly, under the “Government Effectiveness” indicator by the World Bank, Japan scores 1.6 out of 2.5 points⁴¹ and thus receives 1 point for this criterion. An important characteristic of the Japanese governmental system is its strong bureaucracy, that is, bureaucrats have extensive responsibilities and exert a sizable influence in policy-making. “*In Japan, bureaucrats have traditionally been hired through a merit system that requires a standard qualification exam.*” (Terada 2019, 433). However, in the past two decades, the deficiencies of the bureaucracy’s personnel system have come to be widely recognized and many reform proposals have been made, mainly focusing on removing the *kyaria* system (Mishima 2013, 704ff). Despite Japan’s high performance in terms of government effectiveness, shortcomings of its administrative system will thus be presented in chapter 7.

Analytical Criterion	Sub-criteria	Scoring
Quality of Administration	Level of Corruption	1
	Predictable Enforcement	1
	Government Effectiveness	1
Total		3/3

6.2.3. Enforceability

Lastly, the enforceability of IP rights in Japan will be assessed based on three independent indicators. The World Bank data on the “Rule of Law” as part of the Worldwide Governance Indicators awards Japan 1.5 out of 2.5 points.⁴² Pursuant to the Analytical Framework, Japan, therefore, earns 1 point for this criterion. Indeed, the Code of Civil Procedure⁴³ calls upon courts to handle cases fairly and in good faith (Art. 2). Nonetheless, due to social norms that are still widespread in today’s society, many consider resort to the legal system a last resort after sincere efforts to resolve differences. There is even a fable establishing the priority of an amicable

⁴¹ See https://govdata360.worldbank.org/indicators/h580f9aa5?country=JPN&indicator=388&viz=line_chart&years=1996,2020 (last accessed 25 July 2022).

⁴² See <https://databank.worldbank.org/source/worldwide-governance-indicators> (last accessed 25 July 2022).

⁴³ Act No. 109 of 26 June 1996 last amended in 2011, can be accessed via the WIPO Lex database: <https://wipo.lex.wipo.int/en/legislation/details/11608> (last accessed 25 July 2022).

resolution over legal rules that is allegedly still cited among Japanese lawyers, legal philosophers and judges: “A local lord resolved a dispute between two samurai over ownership of three gold coins by donating one coin of his own and distributing two coins to each of the samurai—thus each lost just one.” (Goodman 2017, 315). Accordingly, Japanese judges often view it as their duty to bring about settlements that restore the social harmony, rather than enforce the law (Goodman 2017, 314f). This particularity of the Japanese judicial system will be addressed in more detail in chapter 7.

Under the “Judicial Independence” indicator, on the other hand, Japan receives a score of 0.57 out of 1 point (IDEA 2022b, 1), which translates into 0.5 points under the Analytical Framework. The judiciary is governed by Art. 76 to 82 in Chapter 6 of the Japanese Constitution.⁴⁴ With regard to judicial independence, Art. 76 reads as follows: “All judges shall be independent in the exercise of their conscience and shall be bound only by this Constitution and the laws”. Further, the Japanese Constitution ensures that the political branch would not interfere with the judiciary’s independence, by providing that “[j]udges shall not be removed except by public impeachment unless judicially declared mentally or physically incompetent to perform official duties. No disciplinary action against judges shall be administered by any executive organ or agency” (Art. 78). It also makes sure that judges receive predetermined salaries and their salaries will not be reduced during their term of office (Art. 79). Judicial independence is thus constitutionally guaranteed. On the face of the Constitution, therefore, all essential elements of judicial independence seem to be secured. In practice, however, there are also shortcomings in the protection of judicial independence, as will be discussed in chapter 7.

As the last criterion, the level of overall “Intellectual Property Protection” is determined by relying on the relevant indicator of the Global Competitiveness Report published by the World Economic Forum. Here, Japan is ranked 8th of 141 countries scoring 6 out of 7 points (World Economic Forum 2019, 323). In view of this result, Japan receives 1 point in this category. Since 1999, the Japanese government has focused its attention on reforming court proceedings in order to facilitate enforcement of IP rights. In 2003, this effort resulted in the revision of the Japanese Code of Civil Procedure, which gave exclusive jurisdiction to Tokyo and Osaka District Courts,⁴⁵ in the eastern and western parts of Japan respectively, for cases involving infringement of patents, utility model registrations, integrated circuit layout design rights, and

⁴⁴ An English version of the Japanese Constitution is available via the WIPO Lex database: <https://wipo.lex.wipo.int/en/text/191550> (last accessed 28 July 2022).

⁴⁵ In simplified terms, the hierarchy of Japanese courts is as follows: “The Summary Court is a court of limited jurisdiction, accepting small claim civil cases and hearing petty crimes. The District Court is a court of general jurisdiction accepting more serious civil cases and hearing more serious criminal cases. The Family Court has

computer program copyrights. As the second instance, the Tokyo High Court acts as the single appeal court for technology-related IP cases, while a court specialized on IP cases was established in 2005 as a branch of the Tokyo High Court, which operates “semi-independently” with its own administrative power and secretariat (Takenaka 2009, 386f; Tokunaga 2011, 58). “*This made the Tokyo High Court Japan’s de facto IP High Court, with exclusive jurisdiction over both infringement and validity disputes regarding patents and other IP rights.*” (Takenaka 2009, 379). The details of the judicial system for IP protection will be discussed in chapter 7.

Analytical Criterion	Sub-criteria	Scoring
Enforceability	Rule of Law	1
	Judicial Independence	0.5
	Intellectual Property Protection	1
Total		2.5/3

jurisdiction over domestic issues and juvenile protection procedures. The High Court is an appellate court, accepting appeals from District Court judgments, as well as second appeals from Summary Court judgments. The Supreme Court is the highest court in Japan, accepting appeals from the judgments of the High Court.” (Matsui 2017, 211).

6.3. Summary of the Empiric Findings for Japan

Analytical Criteria	Sub-criteria	Score
IP Protection on the Books		
Patent Protection Scope	pharmaceuticals	1
	chemicals	1
	software	1
	plant varieties	1
Total		4/4
Copyright Protection Scope	literary, dramatic and artistic works	1
	cinematographic works	1
	computer programs	1
	databases	1
Total		4/4
Trademark Protection Scope	service marks	1
	colours	1
	shapes	1
	well-known marks	1
Total		4/4
Membership in	PCT	1
	UCC	1
	Madrid Agreement	1
Total		3/3
Restrictions	Working Requirements	0
	Compulsory Licensing	1
	Risk of Revocation	0.5
Total		1.5/3
Enforcement Measures	Preliminary Injunctions	1
	Contributory Infringement Pleadings	0.5
	Burden-of-Proof Reversal	1
	Absence of National Exhaustion	0
Total		2.5/4

Duration of IP Protection	for Patents (statutory term / 20 years)	1
	for Copyrights (statutory term / 50 years)	1
	for Trademarks (statutory term / 7 years)	1
Total		3/3
IP Protection in Practice		
Cost of IP Protection	Patent Application Fees	1
	Patent Renewal Fees	1
	Trademark Application Fees	1
	Trademark Renewal Fees	1
Total		4/4
Quality of Administration	Level of Corruption	1
	Predictable Enforcement	1
	Government Effectiveness	1
Total		3/3
Enforceability	Rule of Law	1
	Judicial Independence	0.5
	Intellectual Property Protection	1
Total		2.5/3
Overall Score:		31.5/35

7. Analysis

7.1. Introducing Remarks

In the following, I will analyse the empirical findings for China and Japan, which have been presented in chapter 5 and chapter 6, respectively. It has been shown that, when focusing on the law on the books, China performs quite well scoring 21.5 out of 25 points. Considering merely the findings relating to the law on the books, the level of IP protection in China is surprisingly high with only a few points in need of improvement. The PRC's legal landscape is therefore largely compliant with minimum requirements imposed by the TRIPS Agreement. Also Japan has, by and large, duly implemented the TRIPS requirements. Under the Analytical Framework, Nippon has thus been awarded 22 out of 25 points. From a de jure perspective, both countries offer a comparable level of IP protection.

However, turning to IP protection in practice, the empirical part has revealed considerable shortcomings of the Chinese IP regime in terms of quality of administration and enforceability, which significantly undermine the legal position of IP owners, foreign as well as domestic. Thus, the PRC has received a mere 5.5 out of 10 points. By contrast, when assessing the level of IP protection in practice, Japan performs even better, earning a score of 9.5 out of 10 points. Overall, China achieves an overall score of 27 out of 35 points, suggesting a solid level of IP protection that still requires improvement, though. Japan, in turn, scores 31.5 out of 35 points for its IP regime, which gives testimony to a strong and robust system. Still, also in the Japanese legal system there are some troublesome aspects worth noting, which will be discussed below.

This result clearly shows that the main difference between the two IP regimes lies in the practical application of the law. Accordingly, the following analysis will focus on this aspect. However, due to the limited scope of this master's thesis, no conclusive analysis of the deficiencies' underlying reasons can be given. Nevertheless, some of the main issues shall be pointed out and discussed in the following.

7.2. IP Protection on the Books

7.2.1. Scope of Protection

The empirical findings in chapter 5 and chapter 6 have demonstrated that the scope of IP protection available under Chinese as well as Japanese law is quite comprehensive. In both countries, the scope of eligible subject matter is (almost) as extensive as demanded by international treaties. Copyright protection is granted to literary, dramatic and artistic works in general, as well as to cinematographic works, computer programs and databases. Likewise, service marks, colours, shapes and well-known marks enjoy trademark protection in the PRC as well as in

Japan. With regard to the scope of patent-eligible subject matter, as the only weakness under Chinese law, protection of software and plant varieties should be further improved. Pharmaceuticals and chemicals, on the other hand, enjoy patent protection under the Chinese Patent Law. By contrast, under the Japanese Patent Act, pharmaceuticals, chemicals, software and plant varieties qualify as patent-eligible subject matter. Hence, for Nippon there is no need for improvement in this category.

7.2.2. Membership in International Conventions

Further, both countries show a clear willingness to comply with international IP rules in that they have joined the major international IP treaties, like the PCT and the UCC. A surprising difference in their approach, however, is that Japan has never become a party to the Madrid Agreement because of a lack of administrative structures, while the PRC joined in 1989. Instead, also in 1989, Japan acceded to the Madrid Protocol. Together, the Agreement and the Protocol are known as the Madrid System for the International Registration of Marks.⁴⁶ Therefore, although Japan has only joined the Madrid Protocol – whereas the PRC is a party to both Madrid treaties – Nippon is today firmly integrated into the international Madrid System. Accordingly, both countries have received the full score in this category.

7.2.3. Restrictions on IP Protection

When it comes to restrictions on IP protection, considerable working requirements can be found in Chinese as well as Japanese IP laws. Both countries provide for the same legal consequences in case of non-use of IP rights in their territories: Non-working of a patent may lead to compulsory licenses, while for trademarks there is a risk of cancellation if these have not been used for three consecutive years. To make things worse, in Japan, there is also a legal uncertainty as to whether the import of patent-protected goods is sufficient to avert the risk of compulsory licensing. A clarification of the legal situation would be urgently required. Generally, such legal provisions considerably limit an IP holder's freedom of disposal over his rights and thus make the registration of IP rights in both countries less attractive. Both the Chinese and Japanese legislature should reconsider whether such working requirements are still appropriate in their globally networked countries. Even though the criteria of “compulsory licensing” and “risk of revocation”, when considered individually, are basically fulfilled, they altogether represent a massive restriction of IP owners' leeway. Consequently, both IP systems lose a great deal of their attractiveness.

⁴⁶ For further information on the Madrid System see: <https://www.wipo.int/madrid/en/> (last accessed 31 August 2022).

7.2.4. Enforcement Measures

Regarding legal measures intended to enhance the enforcement of IP rights, the PRC and Japan achieve similar results as they both provide for a mixed picture: On the one hand, preliminary injunction and burden-of-proof reversals are an integral part of their legal landscape, thereby significantly benefitting IP holders in enforcing their rights. In China, concerning the application of interim measures in IP cases, interpretations of the SPC⁴⁷ provide detailed rules on how and when preliminary injunctions should be issued. In particular, they “*offer relatively detailed guidance on what factors should be considered by the courts when exercising discretion. [...] Needless to say, simply listing the factors may not be enough and discretion-making requires weighing and balancing all the factors and interests, including conflicting factors, which would still present a challenge to many Chinese judges.*” (Tang 2019, 189f). In practice, therefore, a plaintiff may fail to obtain a preliminary injunction even though it would be legitimate and justified. Accordingly, frequently voiced concerns relate to the difficulty to obtain interim injunctions in China, despite their paramount importance for effective IP protection and enforcement (EU Commission 2021, 22). As far as can be seen, such allegations do not exist for Japan. Still, since only the law on the books is scrutinized under this criterion, also China has been awarded the full score.

However, the situation is different with regard to contributory infringement pleadings and the absence of national exhaustion. Generally, the PRC largely lacks clear legal provisions in this respect. Due to the ambiguity of relevant Chinese IP laws, case law plays a critical role, but has also failed to fully clarify the legal situation (Cao 2016, 250f). Concerning the issue of indirect infringement, the SPC has resorted to general principles of civil law. However, some commentators criticize that “assisting” according to general tort law requires a too strict linkage between the direct and the indirect infringing act, which leaves considerable gaps in IP protection (Ganea 2021a, 134). In Japan, in turn, legal action against indirect infringers is only available in patent and trademark cases. For copyright infringements, injunction orders are granted for acts of direct infringement only. Depriving authors of the possibility to take action against indirect infringers opens up a considerable gap in protection. This cannot be adequately compensated for by merely granting damages. Further, it is difficult to see how such different treatment of IP rights may be reasonable and justified. In both countries, therefore, the relevant legal provisions

⁴⁷ The latest judicial interpretation entitled “Provisions on Several Issues Concerning the Application of Law in Reviewing the Injunction Cases Involving Intellectual Property Disputes” entered into force on 1 January 2019. An English translation can be found here: https://www.lindapatent.com/en/law_patent/803.html (last accessed 27 July 2022).

should be revised in order to achieve clarity and uniform treatment of IP rights in contributory infringement pleadings.

As regards the doctrine of exhaustion, in the PRC the legal situation is currently ambiguous and unclear with only the Patent Law providing for an express provision, whereas in Japan the doctrine has been firmly established by statute (in the case of copyright) and case law (for patents and trademarks). From a macro-economic point of view, such an exhaustion of the IP holders' rights makes good sense. From an IP owner's perspective, however, this aspect must be considered a disadvantage, since it negatively affects his rights of disposal. Therefore, both countries perform poorly in this category.

7.2.5. Duration of IP Protection

Lastly, concerning the term of IP protection granted under Chinese and Japanese IP laws, both countries are fully compliant with the TRIPS minimum requirements. In China, patents and copyright protected works enjoy a term of 20 and 50 years respectively, just as demanded by international obligations, while trademarks even last for 10 years and thus considerable longer than the minimum requirement of 7 years pursuant to the TRIPS Agreement. Likewise, in Japan, the duration of IP protection required by the TRIPS Agreement is not only fulfilled, but even exceeded. Although only 50 years would be mandatory, copyright protection lasts for the life of the author plus 70 years after his death. Also trademarks enjoy a longer protection of 10 years instead of only 7 years stipulated by international obligations. Patents, on the other hand, are protected for 20 years in line with the TRIPS requirements.

7.3. IP Protection in Practice

7.3.1. General Remarks

The previous section has shown that both countries under scrutiny have thoroughly implemented international requirements into their legal landscape. Some aspects still require further refinement, but overall, from a *de jure* point of view, the PRC's and Japan's IP regime is very well developed.

However, when considering the practical aspects of their IP regimes, significant differences between the countries become evident. Already a look at the PRC's performance under the Analytical Framework reveals considerable weaknesses in terms of quality of administration and enforceability of IP rights. By contrast, Nippon again performs very well in this category. Be it the cost of IP protection, its quality of administration or the enforceability of IP rights, Japan's legal system appears to be flawless, were it not for the criterion of judicial independence. However, the empirical findings are based on particular indices, which naturally come

with certain limitations. Thus, despite the good rating, also in the Japanese system there are arguably still aspects in need of improvement. Given the limited scope of this master's thesis, I will only highlight some of the most important issues, without any claim to completeness.

7.3.2. Cost of IP Protection

Under the Analytical Framework, both countries have received the full score in this category. For China, a comparison with the official fees charged by EUIPO and the US Patent and Trademark Office has shown that the amounts levied by the CNIPA are extraordinarily cheap, especially in light of the huge and increasingly wealthy market for which the respective patent or trademark rights are sought. Nonetheless, foreign applicants will have to bear additional costs, since they have to resort to a legally established patent agency if they want to apply for a patent in the PRC or handle other patent-related matters (Art. 18 (1) of the Patent Law). By contrast, Chinese nationals may choose whether they want to appoint a patent agency or handle their patent matters on their own (Art. 18 (2)). Although not legally required, foreign trademark applicants are also well advised to turn to a specialized marketing agency or consultancy for handling the application procedure as they should not underestimate the complexities in selecting an appropriate name for their Chinese character brands (Friedmann 2021, 200). Therefore, foreign applicants must reckon with further costs in addition to the official fees charged by the CNIPA. Still, since this master's thesis focuses on the official fees only, China performs very well in this category.

For Japan, too, the empirical findings have shown that the official fees charged for patent and trademark registration and renewal are surprisingly cheap compared to those levied by the EUIPO and the US Patent and Trademark Office. Still, like in China, foreign patent applicants have to face additional costs when applying for a patent. Lacking a permanent address in Japan, a legal representative (such as a patent attorney) with a Japanese permanent address or residence must be appointed as a "patent administrator" according to Art. 8 of the Patent Act. However, focusing on official fees only, it can be said that also Japan offers highly attractive fees for entities aspiring IP protection, especially in light of the large and economically developed market for which they are granted.

7.3.3. Quality of Administration

7.3.3.1. Level of Corruption

As has been shown, the quality of Chinese IP administration is rather poor, with 0.5 points awarded for the level of corruption. By contrast, Japan has received the full score for this criterion under the Analytical Framework. This assessment, however, is based on the Transparency International's Corruption Perception Index, which measures the *perception* of corruption, not its actual existence and extent. In this sense, Japan benefits from a very good image of being one of the most corruption-free countries in the world. Yet, it can be argued that due to some peculiarities of the Japanese social and political system, this perception does not fully correspond to reality. For both countries, some of the factors in their societies that are conducive to corruption will be highlighted in the following. A comprehensive analysis of this complex topic cannot be conducted in this master's thesis, though.

China's issue of rampant corruption is well known, also among the highest circles of the government. Indeed, the CCP under Xi Jinping has embarked on an anti-corruption crackdown, which is far more ambitious and systematic than before. It involves measures in the areas of supervision, accountability, and punishment, including the promulgation of a series of powerful party and state regulations, the reorganization of anti-corruption agencies, and the reinforcement of accountability mechanisms (Gong and Tu 2022, 7ff). Still, despite the considerable effort that has been put into combatting corruptive behaviour of Chinese administrative officials and cadres, corruption remains a widespread and intractable problem in the Chinese system. Among other things, this can probably be attributed to the phenomenon of "*guanxi*", which is deeply rooted in Chinese society.

The term *guanxi* – literally meaning "connections" or "relationship" – refers to intricate, pervasive interpersonal networks built upon implicit mutual obligations, assurances, and understanding. In short, it describes a social concept of drawing on connections in order to secure favours in personal relations. *Guanxi* is therefore not to be confused with friendship or simple interpersonal relations. Rather, "*it includes reciprocal obligations to respond to requests for assistance. [...] This reciprocity is implicit, without time specifications, not necessarily equivalent, and only socially binding.*" (Luo 2020, 2).

Creating such networks of mutual dependence involves the regular exchange of favours and gifts. In the business context, however, the boundaries between acceptable gifts and improper bribes become blurred, which makes the enforcement of anti-bribery laws very difficult in China. What proves particularly problematic here is the usual time-lag between the "gift" and

the delivery of the bribe-induced favourable treatment, thereby concealing the actual intention behind the exchange. Building trust with targeted officials takes months, if not years (Li 2018, 638f; Luo 2020, 30). It is this long-term orientation that “*neutralizes the immorality of corruption by transplanting it to a social setting, where exchange of gifts and favours is not only permitted but even expected*” (Li 2018, 638).

Since maintaining *guanxi* relations involves considerable time and effort, professional *guanxi* brokers or middlemen have emerged in China, who specialize in building and maintaining connections with clerks, judges and other officials. Over the last decades, “*the brokering activities of such professionals have catalysed corruption in Chinese courts*” (Li 2018, 641). Capitalizing on such connections in order to broker deals for clients evidently goes beyond the original concept of *guanxi*. However, this development clearly shows how prone *guanxi* networks are to corruptive behaviour. Therefore, despite credible anticorruption measures, the PRC still suffers from flawed social practices that continue to produce ample opportunities for corruption through interpersonal exchange. Since *guanxi* is such a deeply rooted phenomenon in Chinese society, there is still a long way to go before permissible social interaction is clearly separated from undue influence on civil servants and judges. Until then, the Chinese system will continue to struggle with corruption, to the detriment of all those IP holders who are denied access to these social relationships.

Just as in China, network relations play a decisive role in Japanese social, economic and political life, too. “*The relationship between the government and the private sector is no exception, [a]lthough the degree of intensity and intimacy has changed over time [...]*” (Choi 2007, 932). A unique Japanese phenomenon that creates a strong link between bureaucracy and businesses is “*amakudari*”, literally meaning “descent from heaven”. It describes the practice of high-ranking civil servants moving to prestigious positions in the private or quasi-public section after their retirement. In doing so, the former bureaucrats take with them invaluable insider knowledge about a ministry’s policies and procedures, as well as the contacts and personal relationships developed during their careers, which henceforth benefit the new employer in maintaining smooth relations with the administration (Choi 2007, 930).

“*This reemployment of high-level officials in the firms and industries they once regulated generates pervasive amakudari networks and alliances among numerous elements of Japanese business, politics, and the bureaucracy.*” (Luo 2020, 2). Incumbent bureaucrats may thus feel beholden towards their former colleagues, providing them with confidential information or privileges (Choi 2007, 934). Indeed, “*as demonstrated by the frequent occurrences of "kansei*

dango" (i.e. bureaucracy-sanctioned bid rigging), bureaucrats may take questionable actions to protect the interests of commercial companies employing *amakudari* officials" (Mishima 2017, 1108). In the same vein, non-profit organizations enjoying *amakudari* links regularly receive large financial aids from ministries without reasonable justification (Mishima 2017, 1108). Without doubt, *amakudari* provides a good breeding ground for corrupt behaviour, even if the people involved may not be aware of it.

Another important cultural aspect fostering corruption in Japan is the deeply ingrained custom of relationship-based gift giving. Although most gifts do not violate the law, the intrinsic nature of gift giving is aimed at building and reinforcing interpersonal relations, thereby generating a reciprocal relationship between the giver and the receiver. By creating social indebtedness, the gift giver can thus more easily extract inappropriate preferential treatment from bureaucrats and politicians (Choi 2007, 933). Such practices as *amakudari* and frequent gift giving likely result in corruption being "*systematically perpetrated, legitimately sustained, and structurally embedded at a high level of administration*" (Choi 2007, 930). The Japanese legislature, being aware of this problem, has substantially enhanced *amakudari*-related regulations in recent reforms. De jure, ministries are now prohibited from arranging post-retirement employment for their officials in any form. Nonetheless, commentators argue that *amakudari* is likely to remain, since loopholes in the regulations are eagerly sought and exploited. For instance, senior officials are now being "seconded" to non-profit organizations and commercial enterprises without losing their civil servant status (Mishima 2017, 1110ff). This clearly shows that the problem is structurally embedded in Nippon's administration and warrants a more comprehensive approach than just a simple ban on arranging post-retirement employment.

A comparison of the two countries demonstrates that due to the importance placed on interpersonal relationships and networks in their societies, there is also a propensity of civil servants towards corrupt behaviour. In one case it is *guanxi* networks, in the other it is the practice of *amakudari* – both have in common that they generate social obligations and indebtedness, which are further strengthened by the custom of frequent gift-giving. It comes as no surprise that the officials involved may feel compelled to reciprocate with favourable treatment and other benefits. Consequently, the boundaries between social interaction and corruption become blurred. Judging from the performance according to the Corruption Perception Index, in the PRC, the level and degree of corruption is far more evident than in Japan. Nevertheless, there is also a structural problem in Nippon, which should be comprehensively addressed by the Japanese legislature.

7.3.3.2. Predictable Enforcement

Turning to the criterion “predictable enforcement”, the PRC scores even worse with no points received under the Analytical Framework, whereas Japan performs very well suggesting that the principle of rule of law is fully developed. The reasons for China’s poor performance are likely manifold and thus cannot be comprehensively presented in this master’s thesis. With a view to IP, a few critical aspects may be singled out, though. At the same time, also in Japan, there are issues encountered in reality that are, however, not adequately reflected in the underlying index used to gauge this criterion. One of those is the widespread practice of administrative guidance in Japan. In the following, therefore, only some of the main issues will be addressed in order to give an idea of why there might be a lack of predictable enforcement in the respective legal system.

In China, one fundamental problem is that there are significant differences in the standards of administrative authorities across various provinces and cities. This inconsistent implementation of IP laws at different levels and in different regions is highly problematic in terms of legal consistency and certainty as well as equal treatment of affected parties. In general, in major cities like Beijing, Shenzhen or Shanghai administrative performance is satisfactory and expected to improve further in the future. By contrast, serious problems remain in the less developed provinces of China. There, stakeholders report that the lack of expertise and resources in the administrative bodies as well as local protectionism hamper enforcement. The competent authorities of rural areas reportedly remain inefficient and often unresponsive to right holders’ complaints, giving large-scale organized crime groups that are involved in counterfeiting free rein (EU Commission 2021, 21f). Consequently, depending on the province in which the IP owner approaches the authorities, justice may or may not be done to him, which is clearly inconsistent with predictable law enforcement.

Another frequently raised accusation relates to the PRC’s alleged objective to absorb foreign technology and make it Chinese, particularly in key technological areas defined by the government. Induced or forced technology transfer therefore continues to be a systemic problem in China. These practices directed against foreign companies take different forms: For example, they are forced to license their technology, often at below market rates, as a pre-condition to access and operation on certain markets. Further, Chinese authorities are reported to often impose heavy fines on foreign holders of standard essential patents or to use “informal” investigations to influence business-to-business negotiations (EU Commission 2021, 19f). In addition, studies have demonstrated that the Chinese patent system is used as a means of technology protectionism. “[F]oreign applicants in strategic technology areas are significantly more likely

than Chinese applicants to have their patent applications refused. When their applications are granted, they also obtain narrower patents than Chinese applicants.” (de Rassenfosse and Raiteri 2022, 36). All these practices become possible in the opaque and fragmented regulatory and administrative environment of the PRC, which leaves ample room for manoeuvre of the competent authorities. In order to achieve predictable law enforcement in China, the administrative authorities’ leeway must therefore be restricted and uniform standards implemented across the country.

Turning to Japan, there are no such striking regional differences in the quality of administration. Still, Japanese authorities, too, enjoy broad discretion to the detriment of predictable law enforcement. In Nippon, officials prefer administrative guidance to achieve their policy goals, which is estimated to amount to as much as 80% of administrative activity (Goodman 2017, 429). “Administrative guidance⁴⁸ is typically not an act but a process wherein an administrative body attempts, through negotiation, cajoling and consultation, to effect change in conduct by a company, industry or individual in order to carry out a policy objective of the agency.” (Goodman 2017, 428). The substantive law emphasizes that such guidance may not exceed the duties and functions of the administrative body and requires that the desired effect can only be achieved by voluntary action. De jure, therefore, failure to follow administrative guidance cannot be penalised (Goodman 2017, 429f).

Nevertheless, the widespread practice of providing guidance to companies is problematic, in terms of predictable enforcement and respect for the rule of law, at least for two reasons: Firstly, in reality, while administrative guidance seeks voluntary compliance, it is very likely “imposed” by government officials. In the Japanese society, which upholds values of social harmony, there might be the risk that the recipient of administrative guidance does not want to acquiesce but feels compelled by (perceived) social or other constraints to do so. Refusing to act as the authority asks for may simply not be a viable option, considering the great respect given to bureaucrats and the social pressures to follow guidance. Secondly, administrative guidance must fall within the scope of the agency’s duties or functions – but not necessarily within its specific program delegation. At first glance, this distinction appears to be a mere quibble. However, “the agency may have “functions” [...] that are broader than its specified duties. For example,

⁴⁸ The Administrative Procedure Act contains the first statutory definition of administrative guidance in its Chapter IV, listing the following defining aspects: “(i) guidance cannot be a disposition, i.e. it cannot determine and adversely affect legal rights; (ii) it must fall within the scope of the agency’s duties or functions (but not necessarily within specific program delegation); (iii) it must be non-compulsory and seek voluntary compliance; (iv) it must have as its objective obtaining a result furthering an agency’s goal.” (Goodman 2017, 429). An English translation of the Act can be found here: https://www.japaneselawtranslation.go.jp/en/laws/view/2874/en#je_ch4at1 (last accessed 22 August 2022).

the Ministry of Finance may have duties in regulating financial matters, but it has the general function of dealing with banks.” (Goodman 2017, 432). Moreover, Japanese law generally leaves much leeway to the bureaucracy and is often fuzzy as to the authority’s functions and duties. Therefore, administrative bodies have broad discretion, which is not adequately defined by their authorizing statute. As a consequence, “[i]t is not uncommon to see an agency giving guidance in areas that are outside the strict legal definitions of its authorization” (Goodman 2017, 432). It goes without saying that administrative guidance, as it is practiced in Japan, clearly contradicts the rule-of-law principle, which aims at restricting arbitrary exercise of state power by subordinating it to well-defined and established laws.

In both the PRC and Japan, therefore, the current situation may mean that for those affected the enforcement of the law becomes unpredictable, perhaps even arbitrary. For China, the urgent need for improvements has already been demonstrated under the Analytical Framework, but also for Nippon, even though it scores well in this category, there is room for improvement.

7.3.3.3. Government Effectiveness

Also with regard to the criterion “government effectiveness”, the PRC performs poorly under the Analytical Framework, receiving no points in this category. By contrast, Japan again has achieved the full score, which indicates a high level of performance. Again, being a highly complex topic, a variety of aspects come into play, some of which I can only touch upon briefly due to the limited scope of this master’s thesis. Concerning China’s IP system, the unique “dual-track system” warrants closer scrutiny. At the same time, also in Japan, there are shortcomings to note in terms of government effectiveness. In particular, malfunctioning of the Japanese government has often been attributed to Nippon’s bureaucratic structures. Yet, given its high performance under the Analytical Framework, I will only briefly address some of the problems in the Japanese governmental system below.

As already explained, under the Chinese “dual-track system”, IP owners have the choice between filing a civil suit and requesting a local administrative authority to take action against alleged infringers. However, this bifurcated approach causes some ineffectiveness. Although administrative proceedings regularly offer cheaper and speedier enforcement, as the authorities are bound by strict deadlines, these may lack independence and impartiality compared to court procedures. Further, IP holders cannot claim damages, because administrative authorities only have the competence to mediate in this matter after infringement has been established, but not to award damages (Ganea 2021a, 20; Tang 2019, 181). “Another disadvantage is that once the

local administration has commenced action, the complainant is largely deprived of opportunities to control further proceedings, e.g., by withdrawing his request upon settlement with the opponent, as in contrast to civil litigation, administrative proceedings are focused on safeguarding the market order against piracy.” (Ganea 2021a, 20).

Finally and more importantly, the dual-track system may lead to concurrent proceedings and irreconcilable judgments if the IP holder seeks redress through both civil and administrative paths simultaneously. Since decisions are made by officials in one case and by judges in the other, it is likely that diverse standards apply, which lead to contrasting results. In order to reconcile the conflict between the civil and administrative redress, Chinese courts are encouraged to adopt a “two-in-one” model. Such a model permits a court to combine civil and administrative matters in one trial. However, in the absence of a standardized two-in-one procedure, courts follow different approaches causing confusion and legal uncertainty (Tang 2019, 182). *“For example, some courts assign both civil and administrative judges to form a temporary tribunal to hear both issues together; other courts establish specialized and permanent IP divisions to adjudicate over all IP disputes, be they civil or administrative. [Yet, such two-in-one approaches are] incompatible with the current procedural law, which does not, in any way, support the combination of civil and administrative divisions of a court.”* (Tang 2019, 182). To remedy the problems arising from the bifurcated approach, Chinese courts therefore try out different procedural set-ups, but without any statutory basis under Chinese law. Besides ineffectiveness in enforcing IP rights, the dual-track system thus also causes serious legal issues in terms of legal certainty and the right of due process. Without doubt, intervention by the Chinese legislature is urgently needed.

In Japan, on the other hand, as far as can be determined, there are no such issues with regard to the efficiency of administrative IP procedures in particular. However, deficiencies in the governmental system in general can be identified, which are partly due to the bureaucratic structures in Nippon. Indeed, the bureaucracy has traditionally enjoyed a very strong position in the Japanese governance. However, in-group bias and group-think have allegedly caused mismanagement of new issues and present-day challenges (Mishima 2017, 1103f). *“The Japanese civil service is a prototype of the closed career system, in which individuals can be hired only at the entry level, and senior positions are filled through internal promotion.”* (Mishima 2013, 707f). Typically, aspirants take a recruitment examination just after graduating from a high school or university. In Japan, being a meritocratic society, academic credentials are a major determinant of social prestige. Accordingly, the top levels of Japanese administration have commonly been occupied by graduates of prestigious universities, especially the University of Tokyo. Having

graduated from the same university strengthens the social cohesion and solidarity among civil servants, but may also bias choices in recruitment, selection, and promotion (Mishima 2017, 1105; Zulkarnain and Prasajo, 2020, 13f). This, in turn, reinforces the closed system and prevents diversity in the ranks of decision-makers, which is arguably necessary to adequately deal with today's problems.

Those persons designated for the highest ranks are called “*kyaria*” officials and recruited through the Level I Examination. They are clearly distinguished from those recruited through other examinations in that they are put on a fast track for promotion. “*As a result of this elitist promotion policy, kyaria bureaucrats monopolize senior- and upper-middle positions and dominate organizational decision making.*” (Mishima 2017, 1106). New recruits are assigned to an entry-level position and promoted to higher positions based on seniority and performance. They continue to work for the same ministry throughout their career. The ministry conducts on-the-job training continuously and assigns employees to another position every two years in order to enhance their knowledge and experience. As a result, this on-the-job training creates generalist officials, which lack any detailed expertise. Consequently, teamwork and organizational collectiveness, rather than individual performance, are emphasized (Mishima, 2013, 705f).

Still, for a long time, the *kyaria* system was regarded as an excellent mechanism that could bring able individuals to the civil service (Mishima 2013, 707f; Mishima 2017, 1106; Zulkarnain and Prasajo, 2020, 11). In the last two decades, however, in light of successive revelation of policy failures, the bureaucracy's professional abilities have come to be doubted. Firstly, the *kyaria* officials' generalist orientation is criticized as making them dependent on external specialists who can provide the knowledge and expertise needed to deal with complex issues. Secondly, the *kyaria*-first promotion policy is increasingly disapproved as stopping able non-*kyaria* officials from receiving important assignments and thus resulting in suboptimal use of human resources (Mishima 2017, 1107).

Consequently, reform measures have been introduced to eliminate the *kyaria* system. All ministries are now legally mandated to run a formal career development program, including off-the-job-training and secondments to local governments and international organizations, to produce future generations of senior officials equipped with the required skills to tackle contemporary problems. These programs seek to meet two key objectives: “*First, the program is made open to non-kyaria officials to halt the kyaria's monopoly of senior management. Second, it wants to replace traditional seniority-based promotion with performance-based promotion.*

The participants' performance will be regularly evaluated, and those who are found as under-performing must leave the program." (Mishima 2017, 1109f). Despite these promising approaches, commentators remain sceptical as to whether these will bear fruit in the future. In particular, since the detailed design and implementation of the program is left to the bureaucracy, there is a great risk that the *kyaria* system will be effectively preserved or just slightly modified (Mishima 2017, 1111). It remains to be seen whether the reforms will have the desired effect. In any case, even if the Japanese administrative IP procedures are well developed, the general structure and orientation of the bureaucracy naturally influences the administration of IP rights, too. Therefore, also from the point of view of IP owners, it is necessary to make the Japanese bureaucracy fit for the challenges of the 21st century.

7.3.4. Enforceability

7.3.4.1. Rule of Law

With regard to the enforceability of IP rights, the Chinese system shows clear weaknesses, which is why it has only achieved 1 out of 3 points under the Analytical Framework. Japan, in turn, performs far better with a score of 2.5 out of 3 points. For the criterion "rule of law", the PRC has received 0.5 points suggesting that compliance with the law is not fully observed for various reasons, while Japan has been awarded the full score. Still, cultural and sociological underpinnings influence the application of law and might lead to some drawbacks in the Japanese judicial system that are worth mentioning. In particular, it has been suggested that there is less litigation in Japan for socio-cultural reasons – that Japanese people are even "reluctant" to litigate. As before, I will only highlight the main issues in both countries, as no conclusive analysis of the deficiencies can be given in this master's thesis.

In the PRC, for two reasons in particular, the concept of rule of law cannot fully develop: On the one hand, under the CCP's regime, judicial decision making has to be consistent with a particular state's or the party's policy. Judges are thus likely influenced by such policies when applying IP laws (Zhang and Lee 2018, 61f). On the other hand, there is a strong tendency for judicial local protectionism. This lack of independence and impartiality has its roots in the institutional set-up of Chinese courts. Fiscal decentralization has led to financial and personnel dependence of local courts on the local governments and legislatures. Local governments' performance is largely evaluated by the success of the respective local economy. Thus, when a conflict exists between justice and economic achievement, they often impose pressure upon the courts in their territory, which results in judicial local protectionism. In addition, the promotion criteria for local officials and the traditional bureaucratic characteristic of courts contribute to the favouring of local interests (Tang 2019, 193f). Indeed, it has been argued that "*courts are*

implicitly expected to serve local development rather than justice. The courts may rule in favour of local litigants, especially when these litigants contribute significantly to local tax revenues”, or when strategic sectors or companies, in particular state-owned enterprises, are concerned (Zhang and Lee 2018, 62). As a result, various commentators have noted the strong presence of local protectionism in China and the discrimination of foreign right holders in comparison with local right holders in adjudication in general and in IP enforcement in particular (EU Commission 2021, 18).

The CCP has realized the necessity to foster the rule of law in China in order to consolidate its leadership and legitimacy (Feng 2017, 104). In this respect, recent judicial reforms and the introduction of the new IP litigation system represent a significant improvement: Firstly, the Chinese central government has increased funding for the judiciary, which will be fully raised by the central government and the respective provincial government. Secondly, the organizational establishment and personnel of courts will be administered in a unified way by authorities at the provincial level in coordination with the high people’s courts (Feng 2017, 96ff). Thirdly, the establishment of specialized IP courts has further delocalized IP litigation, as some IP courts and tribunals have cross-territorial jurisdiction that goes beyond the administrative territory of the local government (Tang 2019, 193f). All these measures are aimed at curtailing the control of local governments over courts.

However, there are concerns whether the funding from provincial governments will suffice. In the past, courts have often turned to local governments for additional funding if the allocated budget did not suffice (Feng 2017, 99). Further, these measures may likely not bring significant differences to cross-border IP litigation. On the one hand, the basic courts, which are most susceptible to local protectionism, have no jurisdiction to hear cross-border IP cases. On the other hand, most foreign IP holders will select economically-developed regions to bring litigation, which tend to have less local government intervention in the first place (Tang 2019, 193f). Therefore, *“the potential concern of a foreign IP holder is whether the Chinese courts, as a whole, may [...] make decisions in protection of national interests to the detriment of foreign IP holders”* (Tang 2019, 194).

Furthermore, the (albeit little) discretion of courts has led to divergent application of IP law. As the level of economic development in different regions of China varies greatly, each region has different preferences regarding the protection of IP rights. To this end, the higher courts have issued “guiding” cases and model rulings, which are often divergent and mutually contradictory, to inform lower courts in their territories on key issues (Zhang and Lee 2018, 61f). These

significant differences in the application of the law undoubtedly hamper legal consistency and certainty. To tackle this problem, the Beijing IP Court has begun to cite prior cases in its rulings while the IP courts are also now publishing their decisions on a database for the public. These measures are intended to create more transparency and consistency as well as guidance for judges deciding new cases (Hurtado 2018, 456f; Tang 2019, 179f). However, the above discussion clearly shows that there is still a long way to go until the rule-of-law principle will be firmly established in China.

In Japan, too, judges may not only be committed to applying the law, but may also be guided by other considerations, thereby undermining the rule of law. As a Japanese peculiarity, civil disputes are taken to court with less frequency than in most comparably developed countries. Culturalist arguments⁴⁹ have traditionally centred on the claim that Japanese people possess an aversion to confrontational dispute resolution so significant that they are willing to avoid confrontation even if they thereby forgo something to which they are legally entitled. This attitude is said to be caused by strongly held cultural values of “harmony”, “love” and “benevolence” (Cole 2007, 52). Another explanation sees the answer to Japan’s low litigation rate in the fact that the parties tend to know what to expect from the law. As they “*can reasonably determine in advance the result of legal proceedings*”, parties “*have no need to actually litigate but can settle disputes in the shadow of the litigation result*” (Goodman 2017, 315). Indeed, Japan has long emphasized non-confrontational alternatives to Western-style litigation. Even today, it may be said that the current legal system and substantive law perpetuate traditional values of social harmony, and thus result in less litigation, greater compromise and more frequent settlement. This is consistent with views that the legal system lacks strong sanctioning mechanisms, which is why enforcement through formal means is only weak and rarely sought (Cole 2007, 84; Goodman 2017, 314ff).

Rather than ensuring that justice is done to one party, in Nippon, the purpose of a legal dispute may therefore be a different one: Once litigation has begun the role of the judge, lawyers and parties is to find a “live and let live” solution. Consequently, judges will “encourage” the parties to find a mutually agreeable solution, in order to restore social peace. In any case, the aim is to avoid an outcome that makes one party more uncomfortable than necessary. It therefore comes

⁴⁹ An explanation for the low litigation rates in Japan has been the subject of heated debates between the culturalist and institutionalist school for decades. As the name suggests, institutionalist scholars reject any form of appeal to Japanese culture as an explanation. Rather, they generally highlight certain institutional aspects of the Japanese court system that they argue make litigation in Japan an unattractive option (see e.g. Ginsburg and Hoetker (2006), also with further references).

as no surprise that conciliation plays a major role as part of adversary litigation. If no party requests conciliation during the course of a trial, the court on its own may initiate the procedure and form a conciliation committee. So long as conciliation procedures are conducted, litigation is placed on hold (Goodman 2017, 317). The committee enjoys wide-ranging procedural powers: *“it will hear the parties’ positions, may investigate on its own, call witnesses, ask to see documents, and can maintain the status quo until resolution.”* (Goodman 2017, 317). If the committee cannot bring about amicable resolution, it will consult with the judge and present its view of the matter. The judge may thereupon issue a tentative decision, which the parties may accept or file objection against within two weeks. Even if this decision is only tentative, the parties can already foresee what judgment awaits them if they wish to continue the court proceedings. However, even in the absence of conciliation procedures, the judge will usually recommend a settlement and will suggest “appropriate” settlement terms that set the scene within which the parties will negotiate (Goodman 2017, 317f). All these practices, however, unduly restrict the parties’ room for manoeuvre and their choices. The parties should be free to amicably settle their dispute or to insist on a judgment of the court. It runs counter to a fair trial if parties are pressured into a settlement that they do not want and which likely leaves them worse off compared to their legal position. Giving full effect to the rule-of-law principle means applying the law regardless of the social context, even if this produces clear-cut winners and losers. A judicial system whose ultimate goal is to restore social harmony can arguably only offer unsatisfactory solutions to the parties.

Concerning the criterion “rule of law”, in both countries, judges seem to be influenced in their decision making by further considerations than just helping the law to prevail. In China, these are predominantly political and economic in nature, which is largely due to the PRC’s political system with its focus on economic success. Without doubt, denying a party its right because of economic reasons runs counter to the rule-of-law principle. In Japan, too, judges often seem to pursue other reasons, which are of social not of economic nature, though. While some representatives of the culturalist argument may have over-stated the role of “innate” Japanese characteristics, it nevertheless seems that the Japanese judicial system is characterized by a different understanding of the purpose of the law. In both countries, therefore, a change in attitude is needed.

7.3.4.2. Judicial Independence

In both the PRC and Japan, judges' independence is a facet of the judicial system that is in dire need of improvement. For this criterion, the PRC has scored no points, while Japan has only received 0.5 points under the Analytical Framework. The current Chinese (constitutional) laws demand only a limited respect for the principle of judicial independence. In particular, Art. 126 of the Chinese Constitution only states that adjudication shall not be interfered with by administrative organs, public organizations, and individuals. It is silent on whether other bodies, such as the CCP, legislative organs, higher courts, or the procuracy, may influence judicial decision making (Feng 2017, 86f). Likewise, although constitutionally guaranteed, there are considerable limitations to the independence that Japanese judges enjoy. The main reasons for both countries' poor performance will be discussed in the following.

De jure and de facto, “[c]ourts in China are not as independent as they are in other jurisdictions although, in theory, Article 126 of the PRC Constitution stipulates so. Fundamentally, the PRC court system is not based on the theory of separation of powers.” (Clark 2021, 492). Since China is a country with a people's democratic dictatorship controlled by the Communist Party, the judicial system may operate only under the leadership of the CCP. Indeed, it is the CCP that first discusses and decides personnel, while the People's Congresses at the various state levels just rubber-stamp the “proposals”. Usually a court president is also the Communist Party Secretary of the court, with the majority of the judges being Party members. Accordingly, Chinese judges are expected to serve the national strategy and the Party (Clark 2021, 492; Tang 2019, 194f). In addition, the CCP is entitled to supervise and inspect judicial decisions in selected individual cases of significant impact through the Political-Legal Committee. Although “*the CCP's influence in normal civil and administrative cases is rare, which includes most IP cases*”, the risk of influence still exists; all the more so if “*the case were politically sensitive, socio-economically important, or crucial to the state's interest, security and fundamental economic policy*” (Tang 2019, 196).

Apart from this external interference, judges should ideally also be independent vis-à-vis their judicial colleagues in the decision-making process. However, Chinese courts operate under administrative hierarchy. Within a court, not all judges are equal in deciding a case. One frequently raised criticism of the Chinese judiciary is that the judges who hear the case do not decide, whereas those who decide do not hear the case. Indeed, a judgment can only be issued after obtaining approval from the chief judge of a particular division and the president or vice-president in charge, and may also need to be discussed at the “adjudication committee”. These committees, which are made up of senior judges who are generally, if not invariably, CCP

members, oversee and may overrule the decisions made by judges. Their task is therefore to ensure that judges decide “correctly” – legally but also in line with party policies and objectives (Clark 2021, 494f; Zhang and Lee 2018, 61f). *“The adjudication committee is the highest authority in the internal court organization. Litigants cannot know or challenge this mode of deciding a case, because it officially only concerns internal affairs of the court and no files are accessible to lawyers of the parties.”* (Clark 2021, 495). Yet, the SPC has made an effort to promote internal independence by releasing a code of conduct for the judiciary. Moreover, some specific reforms have been implemented, such as the selection of presiding judges on merit through a competitive process and that the adjudicative committee hears directly major or difficult cases or those with general applicability (Clark 2021, 493, Feng 2017, 92ff).

With regard to the other aspects of judicial independence, such as judicial tenure, selection and removal procedure as well as salary insulation, under the Judges Law,⁵⁰ some provisions aim at protecting the personal independence of judges. Art. 7 states that judges *“shall be protected by law, and brook no interference from administrative bodies, social groups or individuals when performing their duties in accordance with the law”*. Moreover, Art. 11 sets out the rights of Chinese judges, including: *“(i) to have the power and working conditions essential to the performance of their duties; (ii) not to be transferred, removed, demoted, dismissed, or sanctioned without legally recognized causes or without going through statutory procedures; and (iii) to enjoy professional guarantee, welfare and benefits from the performance of duties.”* Hence, with the adoption of the Judges Law in 2019, personal independence of Chinese judges has increased (Feng 2017, 88).

Further improvements concerning appointment and promotion have been achieved under the latest judicial reforms. In particular, the process has become more merit-based with professional selection committees having been established at provincial level. Still, the criteria for becoming a judge and for being promoted should be made public and the selection and promotion process be made either transparent or subject to public monitoring (Feng 2017, 89). However, there are still *“no clear requirements for appointment as presidents or vice-presidents of courts at all levels. As a result, people who have never received formal legal training have been appointed as presidents and/or vice-presidents of people’s courts, including the SPC.”* (Feng 2017, 92). It goes without saying that this remains a serious flaw in the existing legal system. In addition,

⁵⁰ The Judges Law of the People’s Republic of China was adopted on 23 April 2019 and came into force on 1 October 2019. An English translation is available here: <http://www.npc.gov.cn/englishnpc/c23934/202012/9c82d5dbefbc4ffa98f3dd815af62dfb.shtml> (last accessed 22 August 2022).

a separate salary system has been established for judges in order to de-link them from the administrative ranks. Some pilot plans intend to increase the salary level of judges by a relatively large percentage, i.e. up to 50 per cent. In reality, though, the actual increase of salary may turn out to be less than 10 per cent depending on the province. It remains doubtful whether such a small pay rise will be attractive enough to keep good judges within the judiciary (Feng 2017, 90f).

Even more problematic is the fact that each judge's performance is assessed annually, affecting the year-end bonus as well as promotion. One of the assessment criteria is the percentage of cases that have been overruled by the higher-level court. *"In order to reduce such percentage, judges at lower levels often request advice either formally or informally from courts at higher levels."* (Feng 2017, 95f). Such practice, however, makes litigants' right to appeal meaningless. The above discussion demonstrates that in the PRC judicial independence exists only on paper and even there only very limited. Despite recent reforms aimed at increasing the independence of judges, strong mechanisms remain in place that clearly inhibit independent decision making.

Turning to Japan, a closer look at the situation of judges reveals equally clear deficiencies in their protection. Unlike in the PRC, however, the ruling party exercises no controlling influence over the judiciary. *"The Constitution, in its aspiration to secure the independence of the judiciary against other branches of government, empowered the Supreme Court to function as the highest judicial administrative organ of the judiciary."* (Matsui 2017, 221). This has served to fend off political interference on the judiciary as a whole. Yet, at the same time, it restrains the independence of individual judges, since the Supreme Court may exercise internal control. Such means of control include the use of power in terms of appointment and reappointment, as well as assignment and promotion (Matsui 2017, 221f).

The Constitution grants the executive branch the power to select judges (Art. 79 and 80). The Chief Judge is appointed by the Emperor based upon nomination by the Cabinet, and all other judges are appointed by the Cabinet from a list of persons nominated by the Supreme Court. Once they are appointed, the Constitution guarantees the judicial independence of judges, as stated previously. Further regulations can be found in the Judiciary Act,⁵¹ which provides that *"[a] judge is not to be removed, transferred, or suspended from performing the judge's job, [...] against the judge's will, except in cases in accordance with the provisions of laws concerning public impeachment or national referendums, or cases where the judge is declared*

⁵¹ Act No. 59 of 16 April 1947; an English translation is available here: <https://www.japaneselawtranslation.go.jp/en/laws/view/3900/en> (last accessed 22 August 2022).

mentally or physically incompetent to perform duties pursuant to the separate provisions of laws” (Art. 48).

However, all judges “*shall hold office for a term of ten (10) years with privilege of reappointment, provided that they shall be retired upon the attainment of the age as fixed by law*” (Art. 80 of the Japanese Constitution). Judges, therefore, are constitutionally protected over their terms of office, but need to be reappointed every ten years in order to continue serving as judges (Matsui 2017, 212f). Similar to new appointments, they need to be nominated by the Supreme Court to be appointed by the Cabinet. Hence, although most of the lower court judges are career judicial bureaucrats, there is no guarantee that they will actually be reappointed. In the course of their career, judges therefore repeatedly face reappointment. Concerned with the continuation of their career, they will likely refrain from making decisions that are contrary to the perspective of the Supreme Court or disrupt the harmony of the judiciary (Matsui 2017, 221f).

Moreover, lower court judges, once appointed, are assigned to the respective post by the Supreme Court and they are expected to rotate to different courts every three years. This is to allow judges to experience both urban and rural courts, since the Supreme Court takes the view that those handle different kinds of cases. Unsurprisingly, large cities are regularly more popular than rural areas. In theory, judges are free to refuse this reassignment. In reality, however, no judge would dare to oppose a transfer to another court, as such rotations are closely related to promotions. Consequently, judges who refuse reassignment would find their future promotion seriously impeded. In deciding on the transfers, the Supreme Court enjoys enormous personnel power, which it may use to confine judges who are regarded as “troublesome” to less significant rural courts, or refuse to promote them to a higher rank (Matsui 2017, 223f; Tsuji 2020, 94).

Overall, when it comes to judicial independence, Nippon provides a mixed picture. The Japanese judiciary is constitutionally secured against the political and administrative branch. Further, pursuant to the Judiciary Act, they shall be protected against unjustified dismissal and transfer. In reality, however, individual judges are not truly independent and autonomous within the judiciary. Because of the Supreme Court’s power of reappointment and reassignment of judges, the internal control over individual judges is much stronger than in other countries (Matsui 2017, 227). “*There is evidence to show that judges who ignore the precedents of the Supreme Court and rule against the government can be adversely treated in reappointment, assignment and promotion, and salary, even if no judge is “dismissed”.*” (Matsui 2017, 227). It is obvious

that such control mechanisms are clearly misplaced in a developed legal system, flouting the principle of individual judicial independence.

The above discussion shows that, both in the PRC and Japan, judges are subject to supervisory and control mechanisms that run counter to the idea of judicial independence. In the case of China, unsurprisingly, the CCP exercises such control concerning the appointment and promotion of judges, whose members also occupy the higher ranks of the courts. When it comes to overriding interests of the party or the state, even direct intervention in individual cases may occur. The efforts made so far to improve judicial independence clearly fall short of what is needed. In Japan, on the other hand, the problem is rooted in the powerful position of the Supreme Court. The short tenure of judges as foreseen by the Japanese Constitution makes them dependent on the Supreme Court's favour if they wish to continue in office, while the frequent practice of judges rotating to different courts further strengthens its influence on judicial decisions. Thus, also for Japan, it is high time to grant more independence to individual judges within the judiciary, not just on paper but in reality.

7.3.4.3. Intellectual Property Protection

Lastly, as regards intellectual property protection in general, both countries under scrutiny have decided to create specialized IP courts. However, while the empirical findings have shown that there is still room for improvement in the PRC, Nippon has been awarded the full score under the Analytical Framework. Still, both in China and in Japan, the establishment of specialized IP courts and tribunals has been widely regarded as a significant step in enhancing quality and efficiency in the judicial enforcement of IP rights (European Commission 2021, 17; Tang 2019, 179f; Tokunaga 2011, 59; Uemura and Kato 2011, 75).

In China, as has been mentioned above, judges are generally required to report their cases to their superiors, as their decisions need the latter's approval. Judges of the IP courts, however, have been granted more power and independence than their colleagues in ordinary courts, in that the IP courts abolish such reporting and approval requirements. Generally, only judges *“who have taken part in the hearing are entitled to make decisions independently. The power of the adjudication committee is restricted to making a decision only on the application of the law. Where a case has a great social impact or is of complex nature, the members of the adjudication committee will form a collegial panel to directly hear the case. Additionally, a system of technology experts has been introduced to help resolve complex technological issues in IP*

cases.” (Zhang and Lee 2018, 65). All these mechanisms are expected to strengthen the independence of judges, improve the efficiency of IP adjudication and provide uniform IP protection.

Yet, the current specialized IP litigation system – although a step in the right direction – is far from perfect. Presently, being in the trial phase, the IP courts’ jurisdiction does not cover the whole of China but only Beijing, Shanghai and Guangzhou. With the exception of Guangzhou, which has cross-regional jurisdiction in the whole Guangdong Province, general courts will still hear the IP disputes in the area outside of these territories (Zhang and Lee 2018, 64f). Furthermore, IP courts do not have jurisdiction over all IP-related issues in their territories. Instead, their jurisdiction depends on the subject matter, or the “type” of IP rights in dispute. Broadly speaking, they only have jurisdiction over civil and administrative cases that deal with “complex”, technology-related IP matters (such as patents, plant varieties, integrated circuit layout and design, technical know-how and computer software), or concern an administrative decision of a government body at or above the county level regarding copyright, trademark or unfair competition, and over civil cases concerning the determination of well-known trademarks (Tang 2019, 180f).

This definition of jurisdiction offers grounds for criticism: Firstly, the Chinese legislature artificially classifies IP cases into “complex” – i.e. technology-related – cases, such as software and patent, and non-technology related cases, such as ordinary copyrights and trademarks. It is true that, generally, copyright and trademark disputes do not require a technological understanding. They are, however, equally complicated from a legal perspective and thus require specialized knowledge and qualifications. Hence, this *“design is inconsistent with China’s domestic policy and international obligations to achieve professionalism, judicial consistency, transparency and impartiality for all [IP rights], including “non-technology related” [ones]”* (Tang 2019, 180).

Secondly, since the specialized IP courts and tribunals are novel to the existing Chinese judicial system, they confuse the current hierarchical and territorial jurisdictions. Generally, in the PRC, hierarchical jurisdiction is determined according to the value of the claim, with the intermediate courts being competent for claims below RMB 100 million, while the higher courts would hear all cases over RMB 100 million (Tang 2019, 180f). *“In theory, IP courts and tribunals are at the intermediate level, but it is unclear whether their jurisdiction is also limited by the value of the claim, i.e. whether all, or only smaller value, technology-based IP disputes would be heard*

by IP courts and tribunals.” (Tang 2019, 181). This lack of clarity requires swift action to remedy the situation, so that the specialized IP jurisdiction can fully develop in the PRC.

In the case of Nippon, on the other hand, by creating the IP High Court an exclusive subject-matter jurisdiction has been given to a Japanese court for the first time, in contrast to the traditional geographic jurisdiction of the other courts (Tokunaga 2011, 58). “[T]he IP High Court deals with any and all IP cases, including certain IP cases being subject to the exclusive jurisdiction of the Tokyo High Court [...] as well as cases concerning the infringement of copyright or business interests by acts of unfair competition.” (Shinohara 2005, 134). Further, the IP High Court exclusively handles appeals from the Appeal/Trial Board of the Japan Patent Office. To minimise any potential discrepancies and to promote the harmonisation of these two different tracks of validity and infringement, the same judicial panel will typically hear both (Tilt 2021, 4f; Tokunaga 2011, 59). This broad and comprehensive competence is very beneficial in that it guarantees equal treatment of IP rights and uniform application of the law.

In designing the IP High Court, the Japanese legislature also introduced some new mechanisms, such as the Grand Panel and the Expert Commissioner system. Generally, three judges are appointed in ordinary cases. The IP High Court, however, is also supposed to provide guidelines on how to apply or interpret the IP laws in the absence of relevant precedents by the Supreme Court or in case of questions of general relevance. To fulfil this task, the Chief Judge of the IP High Court together with four other judges will form the Grand Panel temporarily and will issue unified opinions on the application of the law (Shinohara 2005, 146; Tokunaga 2011, 59).

The Expert Commissioner system, on the other hand, allows the IP High Court to rely on experts to provide technical support for trials on patent or utility model cases that involve technically difficult points in disputes and require special knowledge. These technical advisors are appointed by the Supreme Court as part-time court officials for a two-year term from among university professors, researchers at public research institutes or private corporations, patent attorneys and so on (Uemura and Kato 2011, 75). The extensive use of technical experts in the Japanese system is a positive feature that further enhances the quality of the rulings and promotes harmonisation. Their task is to advise the judge on the technology under discussion, and not to advocate on behalf of a party, thereby allowing the judge to concentrate on the legal issues at hand (Tilt 2021, 4f). The introduction of the specialised IP litigation system has therefore brought about a great improvement in terms of quality and accuracy of the trial proceedings.

When it comes to improving judicial enforcement of IP rights, there are striking parallels as to the measures taken in the PRC and Japan. Indeed, in both countries the creation of specialised IP courts has enhanced the competent judges' expertise in IP cases, ensuring proper decision making in a foreseeable and timely manner. Japan took this step as early as 2005, while China has only been pursuing corresponding reforms since 2014. Accordingly, much of the present ambiguities of the Chinese specialized IP system might be due to the fact that it is still in an early, experimental stage. It remains to be hoped that the experience from their operation helps to solve these initial problems in order to create a top-notch, countrywide IP litigation system in the future. Japan has already demonstrated how such a concept can work in practice.

8. Conclusion

Today's economy is a globalized one with competition transcending national borders. Success or failure in business often depends on whether companies are able to be innovative and creative. Consequently, their creations must be legally protected, otherwise inventors and authors would likely be deprived of enjoying the fruits of their labour. For any country, in order to be attractive as a business location and to strengthen its own economy, it is therefore of central importance to be able to offer a robust and well-functioning legal regime that comprehensively protects IP rights.

At the international level, the importance of an adequate IP protection was recognized early on and steps were taken to harmonize the legal landscape across countries. In this respect, the most important treaty is the TRIPS Agreement, which stipulates a minimum standard of IP protection to be implemented in its member states. Yet, despite these efforts to align the level of IP protection on a global scale, significant differences remain in the strength of national IP regimes around the world.

As a result, a large number of economic, legal, and management scholars have attempted to measure the level of IP protection in order to compare different countries. To this end, various IP indices have been created, the most well-known and widely used one being the IP index by Ginarte and Park. However, scholarly discussions have mainly focused on the law on the books; less attention has been paid to how IP rights are administered and enforced by authorities and courts in practice.

Building upon previous approaches in the relevant literature, this master's thesis has explored the IP regime's strength in the PRC and Japan, analysing shortcomings in the legal situation as well as in its practical application. Both countries have recognized the importance of IP rights in today's business world and thus pursue a policy of strengthening those, albeit for different reasons: China is in the process of transforming from a labour- to a knowledge-intensive economy. Accordingly, the 14th five-year plan has made innovation one of the PRC's strategic objectives, which requires deepening reform in IP laws and strengthening judicial protection of IP rights (Tang 2019, 195).

Japan, by contrast, suffered a long-term recession along with a loss of global competitiveness after the burst of its bubble economy in the early 1990s. Fighting its way back to the top, Nippon has embarked on the new policy of an "Intellectual Property Based Nation", where emphasis is to be placed on the creation, protection and exploitation of IP. Since the early 2000s, the Japanese government has therefore annually issued the "Intellectual Property Strategic Program" to

proactively promote IP policies (Tokunaga 2011, 57f; Uemura and Kato 2011, 67f). Accordingly, both countries have an interest in gauging their current level of IP protection and detecting any deficiencies in their legal system.

My findings have shown that the IP protection pursuant to the law on the books is largely comparable in both countries. Indeed, both China and Japan have, more or less, duly implemented in their legal landscape the international obligations mandated by the TRIPS Agreement and further multilateral IP treaties. In this respect, however, it is noticeable that in both countries there are still strong working requirements, which make the IP regime less attractive from a (foreign) IP owner's point of view.

Yet, when it comes to IP protection in practice, the PRC and Japan are worlds apart: Even though IP rights can be obtained comparatively cheaply in both countries, they are worth many times less in China due to inadequate enforcement options. Because an IP owner gains no benefit from a right that only exists on paper, the biggest challenge these days is how to enforce those IP rights. Without doubt, China suffers from serious weaknesses in its legal system, in general and in terms of IP enforcement. My findings thus call for immediate action at the policy level in order to eliminate those shortcomings of the administrative and judicial system. The Chinese legislature has made considerable headway in enhancing the legal framework and ensuring better enforcement of IP rights, but substantial deficiencies remain.

Although Nippon performs very well under the Analytical Framework in this respect, a closer look at the situation in Japan also reveals some weaknesses in practice. The Japanese example therefore shows that any analysis based on indices has its limitations, as they cannot adequately reflect all relevant circumstances. Consequently, this master's thesis has highlighted some of the shortcomings in the Japanese legal system that should be addressed by the Japanese legislature in order to even further improve the level of IP protection.

The aim of this master's thesis is to measure the "strength" of, and to show existing deficiencies in, the IP regime, both *de jure* and *de facto*, of the countries under scrutiny. Accordingly, I have not undertaken a comprehensive analysis of the reasons for the existing weaknesses, which I leave for future research.

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Abstract (English)

In today's economy, innovation, creativity and branding have become a key issue for many business activities, with firms continuously investing in intangible capital to stay ahead of their competitors. To encourage business entities and individuals to develop new innovations that will benefit society as a whole, national legislatures grant creators the right to prevent others from using their inventions, designs or other creations — thereby giving them control over how their intellectual property (*IP*) is used.

Despite international harmonisation and the conclusion of multilateral treaties, such as the TRIPS Agreement, the extent of protection and enforcement of IP rights still varies widely around the world with different levels of protection granted even among the TRIPS member states. This is partly due to the fact that the TRIPS Agreement mainly aims at aligning the written IP laws while aspects of administration and enforcement are largely left to the national legislature.

Against this background, the present master's thesis seeks to identify shortcomings of the IP protection regimes implemented in the People's Republic of China (*PRC*) and Japan from an IP owner's point of view, considering the legal situation as well as practical aspects. Knowing the answer to this research question would allow policy makers in both the PRC and Japan to take necessary measures for further enhancing their country's attractiveness to foreign companies and investment and for developing national indigenous technological capacity.

Building upon previous approaches in the relevant literature, this master's thesis develops an analytical framework that takes into account the minimum standard of IP protection stipulated by the TRIPS Agreement as well as practical aspects in terms of cost, quality of administration and enforceability. The findings show that the IP protection pursuant to the law on the books is largely comparable in both countries. When it comes to IP protection in practice, though, the PRC and Japan are worlds apart. The Chinese legislature has made considerable headway in enhancing the legal framework and ensuring better enforcement of IP rights, but substantial deficiencies remain. Yet, even though Nippon performs very well under the analytical framework, a closer look at the situation in Japan also reveals some weaknesses in practice.

Abstract (German)

In der heutigen Wirtschaftswelt sind Innovation, Kreativität und Markenbildung zu einem Schlüsselthema geworden, wobei Unternehmen kontinuierlich in immaterielles Kapital investieren, um ihren Mitbewerbern voraus zu sein. Um diese und Einzelpersonen zu ermutigen, neue Innovationen zu entwickeln, die der Gesellschaft als Ganzes zugutekommen, räumen nationale Gesetzgeber den Schöpfern das Recht ein, andere von der Nutzung ihrer Erfindungen, Entwicklungen oder sonstigen Schöpfungen auszuschließen, und geben ihnen somit die Kontrolle über die Nutzung ihres geistigen Eigentums (*IP*).

Trotz internationaler Harmonisierung und des Abschlusses multilateraler Verträge wie des TRIPS-Übereinkommens ist das Schutzniveau und die Durchsetzung von IP-Rechten weltweit sehr unterschiedlich ausgestaltet, selbst unter den TRIPS-Mitgliedstaaten. Dies ist zum Teil darauf zurückzuführen, dass das TRIPS-Übereinkommen in erster Linie darauf abzielt, das geschriebene Recht zum Schutz des geistigen Eigentums anzugleichen, während Aspekte der Administration und Durchsetzung weitgehend dem nationalen Gesetzgeber überlassen bleiben.

Vor diesem Hintergrund zielt die vorliegende Masterarbeit darauf ab, die Defizite der in der Volksrepublik China und Japan implementierten IP-Regelungen aus Sicht der Inhaber solcher Rechte zu identifizieren, wobei sowohl die rechtliche Situation als auch praktische Aspekte berücksichtigt werden. Die Kenntnis der Antwort auf diese Forschungsfrage würde es den politischen Entscheidungsträgern sowohl in der VR China als auch in Japan ermöglichen, die notwendigen Maßnahmen zu ergreifen, um die Attraktivität ihres Landes für ausländische Unternehmen und Investitionen weiter zu steigern und einheimische Technologie-Kompetenz zu fördern.

Aufbauend auf früheren Ansätzen in der einschlägigen Literatur wird in dieser Masterarbeit ein analytischer Rahmen entwickelt, der sowohl den im TRIPS-Abkommen festgelegten Mindeststandard für den Schutz geistigen Eigentums als auch praktische Aspekte betreffend Kosten, Qualität der Administration und Durchsetzbarkeit berücksichtigt. Die Ergebnisse zeigen, dass der IP-Schutz nach geschriebenem Recht in beiden Ländern weitgehend vergleichbar ist. Wenn es jedoch um den Schutz des geistigen Eigentums in der Praxis geht, liegen Welten zwischen der VR China und Japan. Der chinesische Gesetzgeber hat beträchtliche Fortschritte bei der Verbesserung des Rechtsrahmens und der besseren Durchsetzung von IP-Rechten gemacht, trotzdem bestehen weiterhin erhebliche Defizite. Auch wenn Nippon gemäß dem analytischen Rahmen eine sehr gute Leistung erzielt, zeigt ein genauerer Blick auf die Situation in Japan dennoch Schwächen in der IP-Praxis.