

5. IP, ANTI-MONOPOLY LAW, AND SUSTAINABLE DEVELOPMENT IN CHINA

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ABSTRACT

This paper explores whether and how China's anti-monopoly law can be leveraged to improve access to sustainable technologies and therefore, foster sustainable development in China. As the world's second-largest economy and a top greenhouse gas emitter, China must promote sustainable development. Accordingly, it has announced ambitious goals for tackling climate change and building sustainable development by investing heavily in sustainable technologies. Meanwhile, it has also been building up its intellectual property (IP) regime in both IP registrations and enforcements and is on its way to becoming an IP powerhouse. In addition, China promulgated its first Anti-Monopoly Law (AML) in 2008. The law has expansive objectives which go beyond the conventional goals for competition law. It explicitly recognizes refusal to deal and excessive pricing without justified reasons as actionable causes. Furthermore, in November 2020, China published the Provisions on Prohibition of Abuse of IP Rights to Eliminate and Restrict Competition which recognizes IP rights as essential facilities. China's approach seems quite different from that of the two leading competition law jurisdictions: the United States (US) and the European Union (EU). While the US antitrust law regime has walked away from considering IP rights as essential facilities, the EU competition law regime is open to do so only in exceptional circumstances. Therefore, the Chinese AML

regime may have a higher tendency to find restriction of access to IP-protected technologies as actionable under its anti-monopoly laws and regulations. As a large developing country, China's approach may be considered by other developing countries which need access to essential technologies but experience several challenges such as failing to get a license or facing unreasonably high prices.

Keywords: *intellectual property, Competition Law and Policy, refusal to license, essential facilities, excessive pricing, sustainable technology, sustainable development, climate change.*

1. INTRODUCTION: SUSTAINABLE DEVELOPMENT INITIATIVES GLOBALLY AND IN CHINA

Sustainable development is development balanced with economic, ecological, and social considerations so that we may meet our present material needs while ensuring that future generations retain the ability to do the same.¹ The concept of sustainable development started in the 1986 United Nations Declaration on the Right to Development. Its latest manifestation is the United Nations Agenda 2030 (Agenda 2030), a voluntary agreement calling for the global community to fulfil seventeen sustainable development goals (SDGs) by 2030.² Sustainable development is becoming an integral part of national development. According to a 2019 study, over 70% of the Organisation for Economic Co-operation and Development's (OECD) 90 partner countries have incorporated the Agenda 2030 indicators for sustainable development into their national strategies. Most of the remaining countries are likely to do so when they move into their next national development planning cycle.³

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¹ 'Report of the World Commission on Environment and Development: Our Common Future' (1987) UN Doc A/42/427 (The report was and is commonly called the 'Brundtland Report' in recognition of former Norwegian Prime Minister Gro Harlem Brundtland's role as Chair of the World Commission on Environment and Development).

² UNGA 'Transforming our world: the 2030 Agenda for Sustainable Development' (2015) UN Doc A/RES/70/1.

³ OECD, 'Sustainable Results in Development: Using the SDGs for Shared Results and Impact' (2019) <<https://doi.org/10.1787/368cf8b4-en>> accessed 15 July 2021.

As the world's second-largest economy and currently, a top greenhouse gas emitter, China must promote sustainable development. In 2014, it became the world's largest overall energy consumer followed by the US, EU and India.⁴ In 2019, it led the primary energy consumption, consuming nearly 50% more than the next runner-up, the US.⁵ China has announced ambitious goals for curbing greenhouse gas emissions and building sustainable development. It regards sustainable development as a basic national policy and has promised to achieve the SDGs by 2030.⁶ In its innovation-driven national development strategy announced in 2016, China placed the research and development (R&D) of sustainable technologies such as smart and clean manufacturing, agriculture, energy, and information communication technologies, in prominent roles.⁷ According to an Elsevier report, by 2020, China ranked among the top 10 nations that produced the most research publications for 15 SDG-related fields.⁸

Meanwhile, China has been building up its intellectual property (IP) regime, both in IP registrations and enforcements. According to the World Intellectual Property Organization (WIPO), the Chinese patent office received 43.4% of worldwide patent applications in 2019.⁹ In October 2020, China issued the fourth amendment to its patent law, which included several changes that are friendly to patent owners. For example,

the new patent law quintuples the maximum statutory damages for patent infringement (from USD 150,000 to USD 750,000). It also establishes punitive damages which can increase damages awards to five times upon finding wilful infringement.¹⁰ Such evidence indicates that China is becoming an IP powerhouse and the country may experience a boom in IP licensing activities.

In addition, China established its first competition law, the Anti-Monopoly Law (AML), in 2008. The AML aims to uphold consumer and public interests, besides protecting fair market competition and enhancing economic efficiency which are conventional objectives for competition laws.¹¹ Moreover, the Provisions on Prohibition of Abuse of IP Rights to Eliminate and Restrict Competition (Provisions on IP Abuses), which was published in November 2020, reveals China's openness to consider IP rights as essential facilities.¹² In contrast, the US antitrust law regime currently refuses to recognize or adopt the 'essential facilities' doctrine. The EU competition law regime limits the use of the doctrine to exceptional circumstances. In comparison, the Chinese AML regime is likely to have a higher tendency to scrutinize conducts such as refusal to license, refusal access to essential facilities, or excessive pricing. Hence, this paper explores whether and how we may leverage China's AML regime to address unreasonable restrictions in accessing (IP-protected) sustainable technologies to facilitate China's sustainable development.¹³

⁴ 'Total Energy Consumption' (*EnerData*, 2019) <<https://yearbook.enerdata.net/>> accessed 15 July 2021; 'Greenhouse Gas Emissions for Major Economies, 1990–2030' (*Center for Climate and Energy Solutions*, 26 June 2021) <<https://www.c2es.org/content/international-emissions/>> accessed 15 July 2021.

⁵ 'Leading countries in primary energy consumption worldwide in 2019' (*Statista*, 2020) <<https://www.statista.com/statistics/263455/primary-energy-consumption-of-selected-countries/>> accessed 15 July 2021 ('China is the largest consumer of primary energy in the world, using some 141.7 exajoules in 2019. The majority of primary energy fuels are derived from fossil fuels. China's primary energy mix has shifted from a dominant use of coal to an increase of natural gas and renewable sources.').

⁶ 'China makes a country presentation at the United Nations: Sustainable development is China's basic national policy' (*United Nations*, 20 July 2016) <<https://news.un.org/zh/story/2016/07/260472>> accessed 15 July 2021.

⁷ Wang J, 'The Central Committee of the Communist Party of China and the State Council issued the "Outline of the National Innovation-Driven Development Strategy"' (*Xinhua News Agency*, 19 May 2016) <http://www.xinhuanet.com/politics/2016-05/19/c_1118898033.htm>

accessed 15 July 2021. English translation: <<https://cset.georgetown.edu/publication/outline-of-the-national-innovation-driven-development-strategy/>>.

⁸ Shemm Y, 'Report: mapping research to advance the SDGs' (*Elsevier*, 22 September 2020) <<https://www.elsevier.com/connect/sdg-report>> accessed 15 July 2021.

⁹ WIPO, *IP Facts and Figures 2020* (WIPO 2021).

¹⁰ 'Decision of the Standing Committee of the National People's Congress on Amending the Patent Law of the People's Republic of China' (*The National People's Congress of the People's Republic of China*, 17 October 2020) <<http://www.npc.gov.cn/englishnpc/c23934/202109/63b3c7cb2db342fdadacdc4a09ac8364.shtml>> accessed 1 March 2022.

¹¹ Anti-monopoly Law of People's Republic of China 2008 (AML).

¹² Provisions on Prohibition of Abuse of IP Rights to Eliminate and Restrict Competition (Provisions on IP Abuses), Article 3.

¹³ The discussion here was inspired from OECD, 'Sustainability and Competition' (2020) OECD Competition Committee Discussion Paper <<http://www.oecd.org/daf/competition/sustainability-and-competition-2020.pdf>> accessed 15 July 2021.

Meanwhile, some developing countries have been complaining that IP rights function as a significant barrier for them to access sustainable technologies that are needed to address ozone-layer leaks and mitigate or adapt to climate change. For instance, developing countries are said to face an oligopoly structure in the photo-voltaic industry.¹⁴ A small group of multinational companies that own the sustainable technologies needed by developing countries, were criticized for using the technologies to control production, thereby limiting the transfer of these technologies.¹⁵ Local firms in India indicated that the patent owners of ozone reduction technologies refused to license these technologies for fear of increased competition.¹⁶

These alleged conducts in restricting access to sustainable technologies – typically via refusal to license or excessive pricing by technology owners – can be addressed by the abuse of dominant position provision in competition laws if deemed as anti-competitive. Therefore, the other motivation of this paper is to see whether developing countries could learn from China's AML set-up for improving their access to the desired sustainable technologies to facilitate their sustainable development which, in turn, would benefit the entire global community.

2. WHETHER CHINA MAY LEVERAGE ITS ANTI-MONOPOLY LAW TO IMPROVE ACCESS TO SUSTAINABLE TECHNOLOGIES

The answer to the above is in the affirmative. Such a conclusion results from examining the design of the AML, including China's objectives for the AML and the law's positions on sustainable development as well as

controversial topics such as the interplay between competition law and IP. Many sustainable technologies in China would be under IP protection, given China's heavy investments in sustainable technologies and efforts to strengthen its IP regime.

A. AML DEVELOPMENT

China promulgated the AML in 2008. It was China's first competition law, resulting from efforts ongoing since 1987. China developed the AML by consulting several multilateral organizations such as the World Trade Organisation (WTO), the OECD, and the United Nations Conference on Trade and Development (UNCTAD), leading competition law jurisdictions such as the EU and US, and neighbouring jurisdictions in the Asia-Pacific region.

It is worth noting that the EU's competition law regime had much influence during China's preparation of the AML. The EU provided systematic technical assistance to China for developing the AML. The EU-China Competition Dialogue initiated in 2004 directly impacted the AML's development.¹⁷ The EU competition law's civil law influence and its reliance on public administrative enforcement are elements that are more compatible with China's legal system and its market regulatory framework.¹⁸

B. EXPANSIVE PURPOSES

Nonetheless, China's formulation of the AML also incorporated domestic considerations reflecting China's economic, social, and political contexts. For example, China expanded its purposes for the AML beyond what is conventional. The AML aims to prevent and curb

¹⁴ Intergovernmental Panel on Climate Change (IPCC), 'Methodological and Technological Issues in Technology Transfer' (IPCC 2000) <<https://www.ipcc.ch/report/methodological-and-technological-issues-in-technology-transfer/>> accessed 15 July 2021.

¹⁵ 'Emerging Asia Contribution on Issues of Technology for Copenhagen' (India Environmental Portal, 1 September 2009) <http://www.indiaenvironmentportal.org.in/files/Paper_AEI.pdf> accessed 15 July 2021.

¹⁶ Watal J, *Intellectual Property Rights in the WTO and Developing Countries* (Wolters Kluwer 2001) 389.

¹⁷ Snyder F, *The European Union and China: 1949-2008: Basic Documents and Commentary* (Hart Publishing 2010) 807.

¹⁸ Wu QL, *Competition Laws, Globalization and Legal Pluralism – China Experience* (Hart Publishing 2013) 129.

monopolistic conduct, protect fair market competition, and enhance economic efficiency.¹⁹ These are conventional objectives for competition law. However, China has further declared that the AML will also maintain consumer and public interests and promote the healthy development of the socialist market economy.²⁰ It is the second set of objectives in the AML that induced the author to explore whether the AML could be leveraged to facilitate access to sustainable technologies and hence promote sustainable development in China.

In the AML's 13-year enforcement period, limited cases²¹ have interpreted what consumer interests mean and there are even fewer cases on the meaning of public interests.

In reviewing merger and acquisition proposals, Chinese AML administration agencies have repeatedly added restrictive conditions over the proposals to prevent the intended mergers and acquisitions from damaging consumer interests. The usual concern is that a merger and acquisition may give the resultant business operator a dominant position in the relevant market, thereby restricting competition in such market and consequently, damaging consumer interests.²² In these cases, the Chinese AML administration agencies interpreted consumer interests as consumers' right to fair transactions. Damages to such a right can come from price increases (including increasing industry costs and indirectly raising commodity prices) or deterioration of quality of goods or services at the same prices. Consumer interests may further include consumers' right to choose

freely damages to which can come from restricting the range of brands and commodities that consumers can access.

For example, the State Administration for Market Regulation (SAMR) – China's current governmental authority covering the administrative enforcement of the AML – ruled in April 2021 that the e-commerce giant Alibaba's anticompetitive practice in its online retail platform since 2015 abused its dominance and harmed consumer interests.²³ The SAMR found harm to consumer interests in this case on three fronts. First, Alibaba's practice in preventing its merchants from using other online e-commerce platforms restricted consumers' right to choose freely by reducing the brands and products that consumers could access and select on other competitive platforms. Second, Alibaba's behaviour denied consumers' right to fair transactions. Consumers could only passively accept Alibaba's transaction conditions and not enjoy the more competitive prices and services of other platforms.

The SAMR's third reason in the Alibaba case is particularly relevant to the discussion of this paper. Consumer interests may also include consumers' expectation of benefits, the hindrance to which may come from impairing or inhibiting either technological innovation or the optimization and development of an industry. In the Alibaba case, the SAMR considered that Alibaba's behaviour restricted the continuous optimization and development of online retail platform services through full competition which would, thus, damage the overall

¹⁹ AML, Article 1.

²⁰ AML, Article 1.

²¹ Similar to the Chinese IP regime, the Chinese AML regime has two enforcement tracks: 1) administrative via governmental agencies, and 2) civil litigations via the judicial system. Between 2008-2018, China had three government agencies overseeing AML administrative enforcement concurrently, though with different focuses. In 2018, it merged the AML administration functions of the three agencies to one agency, i.e., the State Administration for Market Regulation (SAMR). To simplify, the article will name all the former AML government agencies as the AML administrative system and refer to AML administration agencies when all four agencies have or could have contributed to the issue in discussion.

²² Ministry of Commerce review of major merger and acquisition notices: 1) Google's acquisition of Motorola Mobile (2012) <<http://www.mofcom.gov.cn/article/b/c/201205/20120508134325.ht>

ml> accessed 15 July 2021; 2) Microsoft's acquisition of Nokia's devices and services business (2014) <<http://www.mofcom.gov.cn/article/b/g/201407/20140700652295.shtm>> accessed 15 July 2021; and 3) Nokia's acquisition of Alcatel Lucent's Shares (2015) <<http://www.mofcom.gov.cn/article/b/c/201510/20151001139748.shtm>> accessed 15 July 2021.

²³ Monopoly Case of Alibaba ("Alibaba Monopoly Case") (SAMR, 21 April 2021) <<https://law.wkinfo.com.cn/administrative-punishment/detail/MkUwMjg4NjUwNDc%3D?searchId=77dc6aa1f28944b8b717b5a5ca1fc290&index=36&q=%E5%9E%84%E6%96%AD%20&module=>>> accessed 15 July 2021; Wang C, 'China slaps Alibaba with USD 2.8 billion fine in antimonopoly probe' (CNBC, 9 April 2021) <<https://www.cnbc.com/2021/04/09/china-fines-alibaba-in-antimonopoly-probe.html>> accessed 2 June 2021.

level of social welfare in the long run. The SAMR foresaw that the effect of such damage would reach consumers, harming both consumers' actual interests as well as expected interests.²⁴

Similarly, in the case against Qualcomm in 2015, the AML administrative system ruled that Qualcomm charged unfair and high-priced patent license fees.²⁵ Such unfair high pricing practices increased the costs of the wireless communication terminal manufacturers, which were eventually transmitted to the consumers and therefore, harmed consumer interests. The AML administrative system also concluded that Qualcomm's behaviour forced alternative technologies that competed with Qualcomm's technologies to lose the opportunity and possibility to participate in the competition. The AML administrative system deemed that such an outcome severely eliminated and restricted competition in the relevant market and hindered and inhibited technological innovation, ultimately harming consumer interests.²⁶

In interpreting AML violations that may harm public interest, the SAMR has deemed that such harm may come from increasing the cost of social expenditures, such as the harm caused by the increase in national medical insurance expenditures due to rising drug prices.²⁷ Such harm may also include, as exemplified by Alibaba's anticompetitive practice in online retail platforms, impairing the development of an industry, such as the ability to optimize and develop the industry.²⁸

Given the benefits of sustainable development to the society as a whole as well as individual wellbeing, improving access to sustainable technologies should be under the coverage of the AML. Improving access to

sustainable technologies is likely to benefit public interests and consumer welfare as well as lead to the healthy development of the socialist market economy. Article 15 of the AML explicitly exempts monopoly agreements serving public interests in energy conservation and environmental protection from prohibition, if such agreements do not substantially restrict competition and enable consumers to share the resultant benefits.²⁹ This exemption thus indicates that the Chinese AML regime recognizes public interests in sustainable development efforts such as energy conservation and environmental protection and considers such efforts beneficial to consumers.

C. THE INTERFACE WITH IP

Meanwhile, with China's investments in the R&D of sustainable technologies and its strengthening of the IP regime, many sustainable technologies would be under IP protection. How the AML engages with IP rights is another angle for exploring whether the AML could be employed to improve access to sustainable technologies.

The relationship between IP and competition laws is debatable. Some opine that the two regimes supplement each other as both encourage innovation. Others, however, view them to be in conflict as IP laws provide legal monopolies that may reduce competition. Through the Guidelines on Intellectual Property Rights published by the SAMR in September 2020 (AML-IPR Guidelines), China deems that its AML regime and its IP regime share the same goal. Both regimes protect competition, encourage innovation, improve economic efficiency and safeguard consumer and public interests.³⁰

²⁴ Ibid (Alibaba Monopoly Case).

²⁵ Monopoly Case Concerning Qualcomm Inc. (National Development and Reform Commission, 9 February 2015) <[²⁶ Ibid.](https://law.wkinfo.com.cn/administrative-punishment/detail/MkUxMDAwMDAyNTY%3D?searchId=86d8b9deff474a5daf8a75e59744fc73&index=66&q=%E5%9E%84%E6%96%AD%20&module=> accessed 20 May 2021.</p>
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²⁷ Yangtze River Pharmaceutical Group Co., Ltd. Fixed and Limited Price Monopoly Case (SAMR, 15 April 2021)

<[²⁸ Alibaba Monopoly Case \(n 23\).](https://law.wkinfo.com.cn/administrative-punishment/detail/MkUxMDAwMTYyODg%3D?searchId=efb7737b922d4d4092087321bafb5989&index=22&q=%E5%9E%84%E6%96%AD%20&module=> accessed 7 July 2021.</p>
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²⁹ AML, Article 15(4).

³⁰ Guidelines of the Antimonopoly Commission of the State Council on Intellectual Property Rights 2020 (AML-IPR Guidelines), Article 1.

Meanwhile, China will not apply the AML to IP practices consistent with the relevant IP laws and administrative regulations. It will be applicable to IP right abuses deemed to exclude or restrict competition.³¹ Such IP right abuses include using IP, a monopoly agreement, and a dominant position in the relevant market in a way that violates the AML.³²

In deciding whether a business operator abuses IP rights to exclude or restrict competition, authorities will consider the effect that the behavior in issue has on market competition and innovation and efficiencies.³³ In analyzing the effect that the behavior in issue has on market competition, they will consider the current market competition conditions and the particular behavior in issue. And in analyzing whether the behavior in issue has a positive effect on innovation and efficiencies, they will consider whether the behavior promotes the technology's diffusion and deployment as well as improves efficiency in resource utilization.

Article 6 of the AML-IPR Guidelines enumerates the factors that the behavior in issue must meet to be deemed pro-competitive. These factors include:

- (i) The behavior has a causal relationship with promoting innovation and improving efficiency;
- (ii) Compared with other behaviours that promote innovation and improve efficiency, within the scope of reasonable commercial choices of the business operators, the behavior has less impact on the elimination and restriction of market competition;
- (iii) The behavior will not exclude or severely restrict market competition;
- (iv) The behavior will not seriously hinder the innovation of other business operators; and
- (v) Consumers can share the benefits of the behaviour's effect on promoting innovation and improving efficiency.³⁴

Therefore, China's AML regime may find anti-competitive conduct in enforcing IPR as violating the AML. Hence, China may leverage the AML to address anti-competitive IP licensing behaviours concerning sustainable technologies to facilitate sustainable development.

3. HOW CHINA MAY LEVERAGE ITS ANTI-MONOPOLY LAW TO IMPROVE ACCESS TO SUSTAINABLE TECHNOLOGIES

At the implementation level, China may leverage the AML to improve access to sustainable technologies through the abuse of dominant position theory. The notion covers the two situations IP users have most frequently complained about in accessing desired technologies – refusal to license and excessive pricing. The paper next discusses how the AML defines abuse of a dominant market position, the approaches in adjudicating issues relating to refusal to license and excessive pricing and the corresponding remedies. In addition, as China is open to leverage the 'essential facilities' doctrine in the refusal to license inquiry, China may improve access to sustainable technologies or associated resources when they are deemed crucial for sustainable development.

A. ABUSE OF A DOMINANT MARKET POSITION

China's anti-monopoly law scrutinizes four types of monopoly behaviours: forming a monopoly agreement, abusing a dominant market position, concentrating business operators, and abusing administrative power to exclude and restrict competition. Among them, the abuse of market dominance scrutiny is most relevant for access to technologies.

In the AML regime, a business operator is in a dominant market position when the business operator can control the prices or quantities of commodities or other transaction terms in a relevant market or prevent or exert an influence on other business operators' access to the

³¹ AML, Article 55.

³² Provisions on IP Abuses, Article 3.

³³ AML-IPR Guidelines, Article 3.

³⁴ AML-IPR Guidelines, Article 6.

relevant market.³⁵ Article 18 of the AML enumerates certain factors for determining whether a business operator is in a dominant market position:

- 1) its share in a relevant market and the competitiveness in the market;
- 2) its ability to control the sales market or the purchasing market for raw and semi-finished materials;
- 3) its financial strength and technical conditions;
- 4) the extent to which other business operators depend on it in transactions;
- 5) the difficulty that other undertakings find in entering a relevant market; and
- 6) other factors related to the determination of the dominant market position held by an undertaking.³⁶

Meanwhile, Article 19 of the AML provides an analytical framework for deducing a dominant market position from specific circumstances:

- 1) the market shares of one undertaking account for half of the total in a relevant market;
- 2) the joint market shares of two undertakings account for two-thirds of the total, in a relevant market; or
- 3) the joint market shares of three undertakings account for three-fourths of the total in a relevant market.
- 4) Under the circumstances specified in the preceding paragraphs 2) or 3), if the market share of one of the undertakings is less than one-tenth of the total, the undertakings shall not be considered to have a dominant market position.³⁷

Article 19 allows a business operator, that is alleged to hold a dominant market position, to provide evidence to

the contrary. If it succeeds in doing so, it would not be considered to hold a dominant market position.³⁸

In determining whether a business operator has a dominant market position, we need to first identify the relevant market. The AML considers the relevant market for a dominant market position determination to cover 'the range of the products for which, and the regions where, business operators compete with each other during a given period for specific products or services.'³⁹ Further, in considering AML enforcement against monopolies involving IP licensing, the AML regime considers the relevant product market as the technology market or the product market containing the particular IP right, and the relevant technology market as the market formed by competition between the technologies involved in the exercise of the IP right and the existing interchangeable technologies of the same kind.⁴⁰

Upon defining the relevant market and finding a business operator that has a dominant market position, the AML may find the following conducts as abuse of dominant position: excessive pricing, predatory pricing, refusal to deal, exclusive dealing, tying, unfair trading conditions, discrimination, and others.⁴¹ Relevant to the paper's discussion, the AML explicitly prohibits business operators with dominant market positions from engaging in refusing to deal without a valid reason or selling at unfairly high prices.⁴²

Meanwhile, the AML will not infer a dominant market position just because a business operator owns IP.⁴³ IP ownership is one factor for determining market dominance, but not the only factor.⁴⁴ Article 14 of the AML-IPR Guidelines enumerates factors that may be

³⁵ AML, Article 17.

³⁶ AML, Article 18.

³⁷ AML, Article 19.

³⁸ AML, Article 19.

³⁹ AML, Article 12.

⁴⁰ Provisions on IP Abuses, Article 3(2).

⁴¹ AML, Article 17.

⁴² AML, Article 17; China's approach here is similar to the EU in identifying conducts that may be considered abusive. The US antitrust law provides a general prohibition of abuse of dominant position i.e. anti-competitive ways to conspire for, establish, or maintain monopolization (The Sherman Act (15 U.S.C. § 1, 2)).

⁴³ AML-IPR Guidelines, Article 2.

⁴⁴ Provisions on IP Abuses, Article 6.

considered for determining dominance when IP is involved. They include:

- 1) the possibility and switching cost of the transaction counterparties turning to substitute technology or commodity;
- 2) the dependence of the downstream market on the goods provided by the use of the IP right at issue; and
- 3) the ability of the transaction counterparties to negotiate with the business operator.⁴⁵

The paper will next examine the AML's approach in adjudicating refusal to license and excessive pricing, two conducts prohibited under the abuse of a dominant market position scrutiny and complained most by developing countries in accessing technologies.

a) Refusal to License

The general attitude in competition law toward a refusal to license is that a resource owner, especially an IP owner, is free to choose whether to license the resource or not. China, however, explicitly states that refusal to deal without justifiable reasons by a business operator in a dominant market position is actionable under the AML.⁴⁶ It considers the following factors in determining whether a refusal to license an IP is actionable under the AML:

- 1) Whether the business operator made a promise for the license;
- 2) Whether other business operators must have the license to enter the relevant market;
- 3) Whether and to what extent the refusal to license will have an impact on market competition and whether the potential licensee has the ability to innovate;

- 4) Whether the refused party lacks the ability or willingness to pay for a reasonable license fee;
- 5) Whether the business operator made a reasonable offer to the refused party; and
- 6) Whether the refusal to license the IP will harm consumer welfare or public interests.⁴⁷

It has been established in Part I.B. that the Chinese AML explicitly recognizes public interests and consumer welfare in sustainable development efforts relating to energy conservation and environmental protection. Hence, a refusal to license IP for sustainable technologies may be deemed to harm consumer welfare or public interests in sustainable development and therefore would be actionable. China's approach here may be a distant cousin of the EU approach, which scrutinizes refusals to license, for example, when they restrict innovation.⁴⁸ Innovation may enhance public interest and consumer welfare. China's approach for refusal to license, hence, is more distanced from that of the US which considers refusal to license as an IP owner's right and something that needs to be upheld to promote investments in innovation.

In addition, China deems that a business operator's refusal to license could be explicit or implicit. Implicit refusal to license can include substantially reducing the volume of existing transactions with the counterparty, delaying or interrupting existing transactions with the third parties, or refusing new transactions with the third parties. It may also include setting restrictive conditions (such as excessive pricing) to make it difficult for third parties to transact with them or refusing to allow third parties to use their essential facilities in production and business operations under reasonable conditions.⁴⁹ Here, China counts denying access to facilities essential for production and business operations as an implicit

⁴⁵ AML-IPR Guidelines, Article 14.

⁴⁶ AML-IPR Guidelines, Article 16.

⁴⁷ *ibid.*

⁴⁸ Maggolino M, Zoboli L, 'The Intersection Between Intellectual Property and Antitrust law' in Calboli I, Montagnani ML, (eds) *Handbook on Intellectual Property Research* (OUP 2021).

⁴⁹ The Interim Provisions on Prohibiting Abuse of Dominant Market Position, Article 16.

form of refusal to license, recognizing the controversial ‘essential facilities’ doctrine.

b) Essential Facilities Doctrine

The essential facilities doctrine is an exception to the general approach that a resource owner, especially an IP owner, is free to choose whether to license the resource or not. When a good, service or technology developed by a private-sector or public-sector entity is widely adopted, access to it becomes necessary for others to conduct business in the relevant market.⁵⁰ A facility is essential if a competitor of the facility owner needs access to the facility to compete.⁵¹ The lack of viable alternatives is a crucial characteristic of an essential facility. Hence, IP rarely is an essential facility as multiple design-arounds may be available as substitutes of an IP-protected technology. The US antitrust law regime does not favor the ‘essential facilities’ doctrine. On the other hand, the EU competition law regime uses it only in exceptional circumstances.

The Interim Provisions on Prohibiting Abuse of a Dominant Market Position amended in 2020 enumerates factors that Chinese authorities will consider when third parties are refused use of essential facilities. Such factors include the feasibility of separately building the facilities with reasonable investment, the degree of dependence of the third parties on said facilities for effectively carrying out production and business operation activities, the possibility of the business operator for providing said facilities and the resultant impact on its production and business operation activities.⁵²

As stated, China explicitly acknowledges that IP can be essential facilities in the Provisions on IP Abuses. The IP in issue needs to satisfy three criteria to be deemed essential facilities. First, the IP should have no reasonable substitute, and must be indispensable for other operators to compete in the relevant market. Second, refusing to license the IP should negatively impact competition and innovation in the relevant market and be detrimental to consumer welfare or public interest. Thirdly, licensing the IP should not cause the IP rights owner unreasonable harm.⁵³ When an IP is deemed as an essential facility for production and operation activities, the owner (who is thus considered to be in a dominant position) shall not refuse other business operators, without justifiable reasons, to use the IP under reasonable conditions.⁵⁴

Here, certain key issues are yet to be disputed and interpreted. For example, would a business operator holding an essential facility necessarily be in a dominant market position and therefore be subjected to scrutiny when refusing to license the essential facility? Further, what would be considered as a ‘reasonable substitute’ of the IP in issue, a ‘relevant market’ for the IP, and a ‘justifiable reason’ for refusal to license the IP? In addition, what would be the ‘reasonable conditions’ for the grant of license, and what would be deemed as causing the IP rights owner no ‘unreasonable harm’?

In April 2021, China issued a first-instance judgment in **the first case that utilized the Chinese AML regime’s stance on recognizing IP as essential facilities. The plaintiffs in the case had requested the Ningbo Intermediate People’s Court to license non-standard essential patents (non-SEP) based on the ‘essential facilities’ doctrine.**⁵⁵ The plaintiffs argued that the

⁵⁰ United Nations Environment Programme (UNEP), ‘Using Antitrust law to Promote Access to Health Technologies – a Guidebook for Low- and Middle-Income Countries’ (2014) 78; In the technology area, this phenomenon is sometimes referred to as the ‘network effect’ – the more widely adopted a technology becomes, the more important it is for doing business.

⁵¹ Hovenkamp H, et al., *IP and Antitrust, An Analysis of Antitrust Principles Applied to Intellectual Property Law* (Wolters Kluwer 2019) 13-15.

⁵² The Interim Provisions on Prohibiting Abuse of Dominant Market Position (n 49).

⁵³ Provisions on IP Abuses, Article 7.

⁵⁴ Ibid.

⁵⁵ Huang H, ‘Hitachi Metals: Chinese Court Enforces Mandatory Licensing for “Essential Facility” Patents in Antitrust Case’ (*MarketScreener*, 22 June 2021) <<https://www.marketscreener.com/quote/stock/HITACHI-METALS-LTD-6492030/news/Hitachi-Metals-Chinese-Court-Enforces-Mandatory-Licensing-For-Essential-Facility-Patents-In-Anti-35664380/>> accessed 5 July 2021; Bush N, Xu R, ‘Framing patents as essential facilities in Chinese antitrust: Ningbo Ketian Magnet Co., Ltd. v. Hitachi Metals’ (*DLA Piper*, 2 July 2021) <<https://www.dlapiper.com/en/us/insights/publications/2021/09/antitr>

defendant Hitachi Metals' patent portfolio on neodymium-iron-boron ('NdFeB') magnets should be an essential facility for the industry because the patent portfolio cannot be substituted or avoided. The court determined that Hitachi Metals had a dominant position in the relevant technology market.⁵⁶ It concluded that Hitachi Metals' patent portfolio of NdFeB magnets was an essential facility for the industry based on the following reasons:

- (1) the facilities were essential for other undertakings to participate in the competition;
- (2) the defendant, as the holder of the IP rights, controlled the facilities in dispute;
- (3) other competitors could not duplicate the same facilities within a reasonable scope;
- (4) the defendant refused to let a competitor use the facilities when the plaintiff had expressly requested a license and was willing to pay reasonable royalties; and
- (5) it was possible for the defendant to grant the patent license to the plaintiff, and there was no justifiable reason for the defendant's refusal. The court, therefore, held that Hitachi Metals' relevant conduct constituted a refusal to license under the AML.⁵⁷ The case thus declared that non SEPs can be deemed as essential facilities, indicating and raising alarm about the distance the Chinese AML regime may go in treating IP as essential facilities.

Therefore, there is a need to observe, with alertness, the effect of China's approach in being opened to treating IP as essential facilities. Some scholars argue that forced IP sharing or price caps for IP would impair incentive to

invest in IP and innovation. Hence, the process needs to be carefully administered and the doctrine must be used with extreme care.⁵⁸

c) Excessive Pricing

Excessive pricing occurs when the commodity's price is so high that it has no reasonable connection with the cost of developing and making the product – for example, a good, service or technology.⁵⁹ As mentioned above, excessive pricing can be regarded as implicit refusal to license, which can be deemed anti-competitive and hence, actionable, if unjustified. Such a pricing conduct alone may constitute an abuse of dominant position if the consumers have no viable alternative. IP-related excessive pricing as an actionable abuse of dominant position needs to meet two criteria: the IP right owner has a dominant position in the market, and the price is objectively excessive.⁶⁰

China explicitly declares an unfair high price charged against a product or service as abuse of dominant market position.⁶¹ In judging whether there is abusive pricing (unfairly high, unfairly low) in general, China considers the following factors:

- 1) requiring the counterparty to grant back exclusively the technologies improved;
- 2) prohibiting the counterparty from challenging the validity of its IP rights;
- 3) restricting the counterparty from using competing products or technologies without infringing upon any IP rights after the licensing agreement expires;

ust-matters-september-2021/framing-patents-as-essential-facilities-in-chinese-antitrust/> accessed 5 July 2021.

⁵⁶ The court considered the following factors: (1) Hitachi Metals had the ability to control the price and other trading conditions in the relevant upstream market; (2) Hitachi Metals had the ability to exclude others from entering the relevant upstream market; (3) Hitachi Metals had obvious control over unauthorized producers; and (4) Hitachi Metals had a strong influence on the downstream market through the agreement relationship formed through the patent license.

⁵⁷ This case is China's first case involving non-SEP holders abusing their dominant market position. However, the first instance judgment may not

be the final judgement as Hitachi Metals has appealed against the ruling before the top court in China – the Supreme People's Court.

⁵⁸ Huang Y, *et al.*, 'Essential Facilities Doctrine and Its Application in Intellectual Property Space Under China's Anti-Monopoly Law' (2015) *Geo. Mason L. Review* 1103, 1113.

⁵⁹ UNEP (n 50).

⁶⁰ Nguyen TT, *Competition Law, Technology Transfer and the TRIPS Agreement* (Edward Elgar 2010) 299.

⁶¹ AML, Article 17 ('Undertakings with a dominant market position are prohibited from engaging in the following activities by abusing their dominant market position: (1) Selling products at unfairly high prices or buying products at unfairly low prices...').

- 4) continuing to exercise any IP rights with an expired term of protection or determined as invalid;
- 5) prohibiting the counterparty from trading with any third party; or
- 6) requiring the counterparty to attach any other unreasonable restriction.⁶²

In analysing whether the licensing of IP is at an unfairly high price, China considers the following factors:

- 1) The method for calculating the license fee and the contribution of the IP to the relevant product's value;
- 2) The business operator's prior promise concerning the IP license (e.g., commitments made in a standard-setting process);
- 3) The license history of the IP or standard of licensee fee of comparable references;
- 4) The license condition(s) that causes unfairly high price, including demanding license fee outside the IP's geographical area or product area; and
- 5) Whether wholesale license was used to demand license fee on expired or invalid IP.⁶³

China also analyses whether a business operator licenses SEP at unfair high prices with considerations such as the overall license fees borne by the commodities that meet the relevant standards and their impact on the normal development of related industries.⁶⁴

China only published the Provisions on IP Abuses and the AML-IPR Guidelines in late 2020. Since drafts of these regulations were in circulation earlier, decisions made by the Chinese jurisdiction have reflected the essence of these regulations. For example, in its judgment for one of the two *Huawei Technologies v InterDigital* cases, the

Guangdong High Court of China held that the US-based company InterDigital (IDC) abused its dominant market position by refusing to license SEP for 3G wireless communication devices on fair, reasonable and non-discriminatory (FRAND) terms. The High Court not only affirmed the lower court's finding that IDC set a discriminatory and unreasonably high royalty rate for its Chinese SEP and non-SEP but also supported the lower court's order that IDC cease such conduct and that a USD 3.1 million in damages be awarded to Huawei.⁶⁵ Here, the High Court deemed the royalties charged by IDC to be 'unfairly high' in part because they were 'significantly higher' than those offered by IDC to other licensees such as Apple, Samsung, and RIM.⁶⁶ In the corresponding administrative proceeding, the Chinese AML administration agency eventually suspended its investigation into whether IDC abused its dominant position by seeking discriminatorily high royalties on SEP, upon receiving IDC's compliance commitments.⁶⁷

Further, the Interim Regulations on National Standards Involving Patents requires that patents included in national standards be licensed on FRAND terms. It also requires that the relevant government authorities negotiate with a patent holder on divesting the patent if the patent is essential for a mandatory national standard and the patent holder does not agree to license on FRAND terms.⁶⁸

Similarly, in the 2015 decision against Qualcomm, a Chinese AML administrative agency found that Qualcomm charged unfairly high royalties for its wireless SEP. The finding was based on several facts, such as: (1) the base for calculation of royalties was the wholesale price of wireless terminal devices, which contained many parts not related to the licensed wireless SEP; (2) the

⁶² Interim Provisions on Prohibiting Abuse of Dominant Market Position, Article 14.2.

⁶³ AML-IPR Guidelines, Article 15.

⁶⁴ Ibid.

⁶⁵ Han M, Li K, 'Huawei v. InterDigital: China at the Crossroads of Antitrust and Intellectual Property, Competition and Innovation' (*Competition Policy International*, 3 December 2013) <[https://www.competitionpolicyinternational.com/huawei-v-](https://www.competitionpolicyinternational.com/huawei-v-interdigital-china-at-the-crossroads-of-antitrust-and-intellectual-property-competition-and-innovation/)

[interdigital-china-at-the-crossroads-of-antitrust-and-intellectual-property-competition-and-innovation/](https://www.competitionpolicyinternational.com/huawei-v-interdigital-china-at-the-crossroads-of-antitrust-and-intellectual-property-competition-and-innovation/)> accessed 5 March 2022.

⁶⁶ Ibid.

⁶⁷ National Development and Reform Commission (NDRC) Press Briefing (NDRC, 19 February 2014) <http://www.ndrc.gov.cn/xwfb/t20140219_579522.htm> accessed 15 July 2021.

⁶⁸ Administrative Regulation on National Standards Involving Patents-Interim (Interim Regulations) 2014.

licensed patents included expired patents; and (3) Qualcomm required its licensees to provide free grant backs, and also did not consider the value of its licensees' own patents cross-licensed to Qualcomm.⁶⁹

B. REMEDIES

The AML prescribes the remedies available for abuse of dominant market position. They include ordering the business operator to cease illegal activities, confiscating illegal gains and imposing a fine between 1% and 10% of the relevant sales in the previous year.⁷⁰ At the judicial front, when a court finds that a defendant has conducted monopolistic activities and caused losses to the plaintiff, the court may order the defendant to bear civil liabilities such as cessation of the infringement and compensation for losses based on the plaintiff's litigation request and the facts ascertained.⁷¹

Courts may also deny a business operator's request for injunctive relief against the alleged infringer. The AML-IP Guidelines, for example, state that a court needs to balance several considerations when receiving an injunctive relief request from a SEP holder who forces a licensee to accept an unfairly high license fee or other unreasonable license conditions.⁷² Such considerations include:

- 1) The behaviour of the two parties in the negotiation process and their real wishes;
- 2) The relevant commitments of the necessary patents of the applicable standards;
- 3) License conditions proposed by both parties in the negotiation process;
- 4) The impact of requesting the court or relevant department to make or issue a judgment, ruling or decision prohibiting the use of the relevant IP right in license negotiation;

- 5) Request the court or relevant department to make or issue judgments, rulings or decisions prohibiting the use of the relevant IP right and the impact of the same on downstream market competition and consumer interests.⁷³

In summary, China's scrutiny for abuse of dominant market position is explicit in prohibiting anti-competitive refusal to license and unfair high pricing. China is also open to considering the 'essential facilities' doctrine in dealing with refusal to license and is open to treating IP as essential facilities. These approaches may enable China to address anti-competitive barriers against access to sustainable technologies effectively.

4. CONCLUSION: COMPETITION LAW, IP, SUSTAINABLE DEVELOPMENT, AND THE CHINA APPROACH

Sustainable development is vital because it enables us to have a sustainable future. Meanwhile, we need to develop and deploy sustainable technologies to realize sustainable development. Both IP and competition laws can encourage innovation in sustainable technologies and improve access to sustainable technologies. IP laws may incentivize investment in the R&D for sustainable technologies, and the attraction of patent protection, in particular, may enhance the disclosure of the resultant inventions. Competition laws, on the other hand, can enhance competition and thereby, innovation in the relevant markets. In addition, competition laws addressing IP right abuses such as unjustified refusal to license or excessive pricing may improve access to sustainable technologies. Judiciously employing the 'essential facilities' doctrine may enhance access to sustainable technologies that are deemed as crucial or essential infrastructures necessary for the development and deployment of sustainable technology development.

⁶⁹ Monopoly Case Concerning Qualcomm Inc. (n 25).

⁷⁰ AML, Article 47.

⁷¹ The Provisions of the Supreme People's Court on Several Issues Concerning the Application of Law in the Trial of Civil Disputes Caused by Monopoly Acts (the Supreme People's Court, 2020), Article 14.

⁷² AML-IPR Guidelines, Article 27.

⁷³ *Ibid.*

China's design of its AML regime may facilitate access to necessary sustainable technologies and hence, empower its drive for sustainable development. It includes expansive objectives for its AML which aims not only to facilitate market competition and economic efficiencies, but also consumer welfare and public interests as well as the healthy development of the socialist market economy. The AML recognizes public and consumer interests in sustainable development efforts such as energy conservation and environmental protection. The AML also explicitly prescribes that refusal to license without justifiable reasons and excessive pricing be considered as actionable causes. The AML regulation on IP right abuses also establishes that IP may be considered as essential facilities. Hence, unjustified refusal to access such IP would be actionable. These features in the Chinese AML regime may offer one example to countries (especially developing countries) in leveraging competition law to improve access to sustainable technologies that are essential for facilitating national sustainable development.

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