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ABSTRACT

The Chinese Anti-Monopoly Law (AML) has attracted much attention in recent years. There have been accusations of protectionism and of the AML being used to target foreign companies. Against this backdrop, the investigation by the National Development and Reform Commission (NDRC) against Qualcomm over the latter’s licensing practices was especially controversial. This was particularly so because China has long complained about the high licensing fees its domestic manufacturers have to pay to foreign patentees. And Qualcomm is a major licensor of communications technologies and earns a very considerable amount of licensing revenue in China. Qualcomm was eventually slapped the largest fine in the history of Chinese AML enforcement and subject to a number of behavioural remedies. The question arises as to whether the NDRC decision was a poorly reasoned protectionist venture or was in fact consistent with sound competition law principles. This article attempts to answer this question by critically evaluating the reasoning of the decision. It finds that even though the NDRC reached the correct conclusion on some of the claims, the analysis and the reasoning leave much to be desired.

KEYWORDS: China, Qualcomm, patents, no-challenge clauses, package licenses, royalty-free grantbacks

JEL CLASSIFICATIONS: K21

1. INTRODUCTION

Since the passage of the Anti-Monopoly Law (AML) in China in 2007, there has been considerable attention on the treatment of intellectual property rights under the AML. Article 55 of the AML indicates that the lawful exercise of intellectual property rights will be respected by the AML whereas abuse of such rights will be prohibited. The notion of abuse is of course not self-explanatory and its explication must await enforcement by the enforcement authorities and court decisions. In the

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initial few years of AML enforcement, there was a relative lack of enforcement action and cases involving the exercise of intellectual property rights. The first prominent AML case involving intellectual property rights was probably *Huawei v Interdigital*, a case which began in the Shenzhen Intermediate People’s Court and was eventually appealed to the Guangdong High People’s Court. The case concerned Interdigital’s alleged violation of its FRAND obligations pertaining to the licensing of its patents over telecommunications technology. Even though this case did attract considerable attention at the time, the most prominent AML case involving intellectual property rights thus far is no doubt the investigation by the National Development and Reform Commission (NDRC) against the US technology giant Qualcomm.

This article critically evaluates the NDRC decision. It will do so in light of both established Chinese competition law principles, as gleaned from the various laws, regulations, and guidelines, and where appropriate, case law, and economic arguments. Economic arguments are especially important for analysing patent licensing practices in the current Chinese context. Given the bare-bone nature of many of the issued regulations and guidelines and the dearth of case law given the relatively short history of enforcement, existing Chinese competition law jurisprudence does not offer much guidance on patent licensing practices. Many of the issues decided by the NDRC in this case are sui generis under Chinese law. Therefore, economic arguments will provide an important yardstick for judging the soundness of the NDRC’s decision.

II. MARKET DEFINITION AND ASSESSMENT OF MARKET POWER
The NDRC began its investigation of Qualcomm’s licensing practices in November 2013. The announcement immediately garnered much attention as this was the first investigation by a PRC enforcement authority against a foreign technology company, and a very prominent at that. The investigation proceeded throughout 2014, with multiple rounds of negotiation between Qualcomm and the NDRC. The NDRC finally handed down its decision on 9 February 2015, imposing a fine of RMB6.088 billion (approximately USD975 million) and a host of behavioural remedies.

1. *Huawei Technology v Interdigital Technology*, Judicial Opinions of China, 7 March 2014 (Shenzhen Intermediate People’s Ct, 9 January 2014) (hereinafter ‘Huawei Shenzhen’).
7. Qualcomm Decision (n 4) s 3(2).
Market definition

The NDRC decision alleges that Qualcomm abused its market dominance in a number of technology-related markets, including the licensing of CDMA, WCDMA, and LTE wireless communications standard-essential patents (hereinafter ‘wireless SEPs’) and the sale of CDMA, WCDMA, and LTE wireless communications terminal baseband chips (hereinafter ‘baseband chips’). The NDRC defines the relevant markets as those for the licensing of CDMA, WCDMA, and LTE SEPs and the sale of CDMA, WCDMA, and LTE baseband chips. The NDRC substantiates its market definition regarding SEP licensing on the following grounds. First, the NDRC argues that there is little scope for substitution between different technologies. There are very high costs for substitution between different wireless communications technology standards for telecom network operators, wireless communications terminal manufacturers, and baseband chip producers. They need to make substantial investments to construct networks or develop products that are compliant with the specific wireless communications technology standards. Therefore, the switching costs for the network operators and the baseband chip producers are very high. Meanwhile, the technical need for substitution is low as different wireless communications technologies essentially perform the same functions. Moreover, there is significant lock-in effect for network operators. When a telecom network operator upgrades its infrastructure to a new generation of a particular technology standard, there is a general requirement that the wireless communication terminals support previous generations of the same technology standard. This is to ensure that customers who have not switched to the latest generation of the technology standard can continue to use the services provided by the network operator. Therefore, substitution between different technology standards in reality is highly unlikely.

Having established the lack of substitutability between different technology standards, the NDRC proceeds to illustrate the importance of SEPs in the implementation of a particular technology standard. The NDRC defines a separate relevant product market for each wireless SEP license. Once a patent has been incorporated into a standard, it becomes unique and non-substitutable. Wireless communications terminal manufacturers must obtain a license to every patent incorporated in a standard in order to produce products that would be compliant with the relevant technology standard. The NDRC argues that there is little demand side substitution because each wireless SEP is indispensable to the production of specific wireless communications terminals. The absence of any wireless SEP would render the terminal non-compliant with the technology standard and useless in the eyes of the customers. The NDRC also argues that there is little scope for supply-side substitution because after incorporation into a technology standard, each wireless SEP is unique and irreplaceable. Lastly, the NDRC concludes that due to Qualcomm’s licensing practices, the relevant geographic market is an aggregate of countries or regional markets for those wireless SEPs held by Qualcomm.

8 ibid s 1(1) and (2).
9 ibid s 1(1).
10 ibid.
The NDRC further defines a relevant product market for CDMA baseband chips, WCDMA baseband chips, and LTE baseband chips, respectively.\textsuperscript{11} Because different wireless communications technology standards rely on different wireless SEPs, baseband chips compliant with different technology standards have different characteristics and functions. There is little demand-side substitution because a terminal manufacturer producing terminals for a particular technology standard must use baseband chips that are compliant with that standard. The manufacturer will not switch to chips for a different standard simply because the price for chips for the first standard has risen. Supply-side substitution is weak due to high technical barriers. The production of baseband chips is highly technical in nature and requires substantial R&D.\textsuperscript{12} Baseband chip producers would not switch its production to chips for a different technology standard in response to a change in demand and price. The lack of substitutability between chips for different technology standards means that they constitute different markets. Lastly, the relevant geographic markets for all three kinds of baseband chips are found to be global.

The NDRC’s market definition is largely consistent with established Chinese principles on market definition. The most authoritative statement on market definition provided by the Chinese authorities thus far is the \textit{Guidelines on the Definition of the Relevant Market by the Anti-Monopoly Commission of the State Council}.\textsuperscript{13} The \textit{Guidelines} are fairly brief, only consisting of 11 articles. Much of the \textit{Guidelines} remain quite general and do not go into specifics, except for its discussion of the application of the SSNIP test, which the NDRC did not apply in this case. However, the NDRC’s market definition follows the general principles laid down in the \textit{Guidelines}, defining the market along both product and geographic dimensions and focusing on demand and supply substitutability. As mentioned earlier, the NDRC argues that there is a low degree of demand substitution for mobile communication technologies in light of the high switching costs, low technical needs for switching, and the lock-in effect of operators. It further establishes that there is no demand and supply substitution for SEPs due to their indispensable nature and difficulty in inventing around them. Market definition involving intellectual property is specifically addressed in the \textit{Regulation by the Administration for Industry and Commerce on the Prohibition of Conduct Eliminating or Restricting Competition by Abusing Intellectual Property Rights} (hereinafter the ‘SAIC IP-AML Regulations’) issued by the NDRC’s sister agency, the State Administration for Industry and Commerce (SAIC).\textsuperscript{14} These Regulations were issued by the SAIC and do not bind the NDRC. The three PRC enforcement agencies are reportedly in the process of drafting an inter-agency set of IP-competition guidelines under the auspices of the Anti-Monopoly Commission. However, before

\begin{footnotesize}
\textsuperscript{11} ibid s 1(2).
\textsuperscript{12} However, it is worth pointing out that the entry barriers are higher for integrated design and manufacturing as opposed to what is known as ‘fabless design’. The construction of foundries suitable for the manufacturing of integrated circuit is hugely costly and presents a very substantial entry barrier. However, if a new entry merely targets the design segment of the market, entry will be substantially easier as there is no need to invest in the construction of foundries.
\textsuperscript{13} H Stephen Harris, Jr and others, \textit{Anti-Monopoly Law and Practice in China} (Oxford University Press 2011) 398–410.
\end{footnotesize}
these inter-agency guidelines are issued, the SAIC IP-AML Regulations are the most authoritative statement made by a PRC enforcement authority on IP-competition issues thus far. These Regulations affirm that the relevant product market can be defined both as a technology market and as a product market incorporating the technology at issue. This is precisely what the NDRC did with the CDMA, WCDMA, and LTE technology licensing markets and the markets for CDMA, WCDMA, and LTE wireless communications terminal baseband chips. Lastly, it is worth mentioning that the NDRC’s approach is consistent with the approach to market definition taken by the courts in the Huawei v Interdigital case, which also involves licensing of SEPs.15 In that case, the Shenzhen Intermediate People’s Court took the same approach as the NDRC and defined a relevant market for each SEP.16 The Guangdong High People’s Court’s approach on appeal is also consistent with the NDRC’s. Like the NDRC, the Guangdong concluded that there is no demand substitutability for SEPs because they are essential for the deployment of a standard. There is also no supply substitutability as no potential entrants can enter the market and produce a substitute for an SEP.17

From an economic perspective, the NDRC’s market definition is relatively uncontroversial. Giving the distinctness of each technology standard and the essential nature of each SEP, it is defensible to define a relevant product market for each wireless SEP. However, a quick review of a number of US Federal Trade Commission (FTC) cases suggests that the FTC tends to define the relevant market by the technology at issue instead of by patent. For example, in the Motorola Mobility case, the FTC defined the relevant market as consisting of the technology covered by any Google-owned SEP and all substitutes for that technology.18 In the Rambus case, the FTC defined the four relevant markets as markets for latency, burst length, data acceleration, and clock synchronization technologies.19 Based on this approach, the NDRC would have defined the relevant markets as those for the licensing of CDMA, WCDMA, and LTE technologies. However, the different approaches to market definition do not affect the outcome of the analysis. Under either set of definitions, Qualcomm would be dominant. Meanwhile, market definition based on the type of baseband chips is straightforward. There is little substitutability between the baseband chips for each technology standard. Once a terminal manufacturer has decided to produce a terminal for a certain technology standard, it has no choice but to use baseband chips designed for that standard. The scope for substitution is very low.
Assessment of market power

The NDRC finds that Qualcomm is dominant in all the relevant markets. The NDRC attributes dominance to Qualcomm in the market for the licensing of CDMA, WCDMA, and LTE wireless SEPs for the following reasons. First, the necessary consequence of defining the relevant product market as consisting of each wireless SEP is that Qualcomm holds 100 per cent market share in each of them.\(^{20}\) The NDRC further alludes to the fact that the SEPs have superimposing features and thus form a portfolio of wireless SEPs, and asserts that Qualcomm holds 100 per cent market share in the market for that distinct portfolio of wireless SEPs.\(^{21}\) It is not entirely clear what the NDRC means by superimposing features. Presumably what is meant is that these patents are complementary in nature and access to all of them is required to implement the technology standard. It is also not clear whether the NDRC intends to suggest another relevant market consisting of Qualcomm’s unique portfolio of SEPs and what the relevance of this market definition would be. If these SEPs are truly non-substitutable and cannot be invented around, it would seem that ownership of one of these patents would already be sufficient to confer upon Qualcomm substantial market power. If the size of Qualcomm’s portfolio would have a bearing upon the possibility of inventing around and Qualcomm’s ability to block terminal manufacturers’ access to the underlying technology standard, then it would be helpful to know the proportion of the SEPs in a particular standard accounted for by Qualcomm’s portfolio. A simple assertion of the existence of a unique portfolio of SEPs does not seem to add much to the analysis.

Second, the NDRC determines that Qualcomm had the ability to control the market for the licensing of wireless SEPs.\(^{22}\) Due to Qualcomm’s market share, terminal manufacturers desiring to produce terminals incorporating the CDMA, WCDMA, and LTE technology standards had no choice but to license Qualcomm’s wireless SEPs. The NDRC further notes that Qualcomm unilaterally determined the licensing terms and the licensees did not have any ability to constrain Qualcomm’s market power.\(^{23}\) The ability to exercise market power in an unconstrained manner would certainly indicate dominance.\(^{24}\)

Third, the NDRC notes that the terminal manufacturers heavily relied on Qualcomm for access to the relevant technology standards.\(^{25}\) In particular, the NDRC remarks that since each of the wireless SEPs covers a unique aspect of the relevant technology standard, each wireless SEP is indispensable for the terminal manufacturers. Absence of any wireless SEP might result in the terminal’s inability to connect to the network, and failure to meet customer demand and to obtain regulatory approval. This is but another way to describe the essentiality of an SEP and the

\(^{20}\) ibid s 1(1)1.
\(^{21}\) ibid.
\(^{22}\) ibid s 1(1)2.
\(^{23}\) However, it has been alleged that this is not true at least with respect to the major manufacturers such as Huawei and ZTE, which have strong patent portfolios of their own to counter-balance Qualcomm’s bargaining power, or Xiaomi and Lenovo, which have significant enough shipment volumes to exercise scale-based bargaining power.
\(^{25}\) Qualcomm Decision (n 4) s 1(1)3.
fact that each patent occupies its own relevant market for the access to the relevant technology standard.

Lastly, the NDRC reiterates a point that is raised in the market definition exercise, which is that there is little supply substitutability due to high barriers to entry. Once a patented technology has been incorporated into a technology standard and the standard has been implemented, the network operators and the terminal manufacturers will have to incur unbearable costs in order to incorporate a different technology. Therefore, competition only takes place when the standard is being formulated. Once the standard has been decided and applied, further market entry is practically completely foreclosed.

The assessment of market power for the various baseband chip markets, especially for WCDMA baseband chip market, is slightly more complicated. The NDRC concludes that Qualcomm was dominant in all three baseband chip markets on a number of grounds. First, Qualcomm had a more than 50 per cent market share in all three baseband chip markets, which under Article 19 of the AML creates a presumption of dominance. Calculated according to sales amount, Qualcomm’s market share in the CDMA baseband chip market, the WCDMA baseband chip market, and the LTE baseband chip market were 93.1 per cent, 53.9 per cent, and 96 per cent, respectively. Second, Qualcomm had the ability to control the market and had market shares that were substantially larger than those of its competitors in the three relevant markets. For example, Qualcomm only faced one competitor in the CDMA baseband chip market, Via Telecom, which only had a market share of 7 per cent. In the LTE baseband chip market, the second largest manufacturer Samsung only had 2 per cent of the market. Competition in the WCDMA baseband chip market was more keen. There were three fairly sizable rivals for Qualcomm in that market, namely MediaTek, Intel, and Broadcom, and their market shares were 15.5 per cent, 11.8 per cent, and 9.3 per cent, respectively. Despite the larger size of its rivals in the WCDMA baseband chip market, the NDRC notes that MediaTek, Qualcomm’s closest competitor, mainly focused on the mid-to-low-end market. Moreover, it historically launched chipsets of the same specification much later than Qualcomm, indicating that there is a significant technology gap between Qualcomm and MediaTek.

Third, again the NDRC notes that the terminal manufacturers were heavily reliant on Qualcomm for the supply of chips. The number of chip manufacturers was very small and therefore the terminal manufacturers did not have many options. The substitutability of competing brands was further weakened by the fact that Qualcomm had significant advantages in terms of technology, functions, and branding. These advantages mean that terminal manufacturers were more inclined to choose

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26 ibid s 1(1)4.
29 Qualcomm Decision (n 4) s 1(2)1.
30 ibid s 1(2)2.
31 ibid s 1(2)3.
Qualcomm chips. Finally, the NDRC comments on the high barriers to entry to the baseband chip markets. The NDRC notes that the industry is highly technology intensive and entry barriers could arise from R&D, system support, testing, regulatory requirements, export control, and the long lead time between R&D and market launch.

Qualcomm only contests the NDRC’s finding of dominance in the WCDMA baseband chip market. Qualcomm argues that it was not dominant in that market because its share in that market by sales volume was less than 50 per cent. The NDRC rejects this argument, stating that market share should be calculated based on sales amount rather than sales volume. The NDRC further argues that the discrepancy in market share calculated based on sales volume and sales amount suggests that Qualcomm’s products commanded higher prices, which further indicates Qualcomm’s dominance in that market. The NDRC does not offer any reason why it considered sales amount to be a more appropriate basis for the calculation of market share than sales volume. The NDRC’s preference for revenue is consistent with the approach of the two US agencies. In the 2010 Horizontal Merger Guidelines, the Agencies state that ‘[r]evenues in the relevant market tend to be the best measure of attractiveness to customers, since they reflect the real-world ability of firms to surmount all of the obstacles necessary to offer products on terms and conditions that are attractive to customers’. However, the Guidelines proceed to state that ‘[i]n cases where one unit of a low-priced product can substitute for one unit of a higher-priced product, unit sales may measure competitive significance better than revenues’. There is some discussion in the decision that suggests that Media Tek’s low-priced product can substitute for one unit of Qualcomm’s higher priced product. The decision is unclear as to the competitive relationship between Intel’s and Broadcom’s products on the one hand and Qualcomm’s on the other hand. So one cannot confidently conclude whether measurement by unit sales or volume would have been called for. Given that Qualcomm’s market share varies significantly depending on whether market shares are measured by revenue or volume, the NDRC should have better substantiated its decision to use revenue. This is not to say that Qualcomm would immediately be absolved if its market share falls below 50 per cent. The 50 per cent threshold merely creates a presumption of dominance. Nowhere in the AML is it stated that firms with less than 50 per cent market share cannot be dominant.

More troubling is the NDRC’s assertion that market power can be inferred from the higher price points of Qualcomm’s products. It would be valid to infer market power from Qualcomm’s higher price points alone if Qualcomm’s products were otherwise similar to its competitors. However, different price points may merely indicate that different firms target different segments of the market and reflect the disparate quality of the products.

32 ibid s 1(2)4.
33 ibid.
35 ibid.
One noteworthy feature in the NDRC’s assessment of market power is that the NDRC did not utilize the presumption of dominance provided for in Article 19 of the AML. Article 19 stipulates that a business operator is presumed to be dominant if it accounts for 50 per cent or more of a relevant market. Based on the NDRC’s market definition, Qualcomm easily meets this threshold for the CDMA, WCDMA, and LTE technology licensing markets, and for the CDMA and LTE baseband chips markets. Although the author is not aware of any agency decisions or court that have illustrated how this presumption works in practice, presumably the NDRC could have furnished evidence of market share and concluded that the presumption is established and shifted the burden to Qualcomm to rebut the presumption. However, the NDRC did not do that, and instead proceeded with the analysis as if there was no presumption of dominance. It remains to be seen whether this statutory presumption will be relied on more heavily by the enforcement authorities in the future.

It is also worth noting that the NDRC’s treatment of patents in the assessment of market power is consistent with the approach set out in the SAIC IP-AML Regulations. Article 6 of the Regulations states that ownership of an intellectual property may constitute one of the factors for consideration. However, such ownership does not create a presumption of dominance. The NDRC does not presume dominance in light of the ownership of patents, even though these are standard-essential, and instead proceeds with a full analysis of the competitive factors in the market. The NDRC’s assessment of Qualcomm’s market power is also consistent with the approach taken by the courts in the Huawei v Interdigital case. Both the Shenzhen Intermediate People’s Court and the Guangdong High People’s Court conclude that due to the standard-essential nature of the patents, the patentee holds a 100 per cent market share in the relevant markets and every manufacturer must license from Interdigital. One notable difference between Huawei and the Qualcomm case is that Interdigital is a non-practicing entity and the courts note that in light of that fact Huawei loses any leverage it may have on Interdigital due to the latter’s lack of need for Huawei’s own patents. This factor is absent in the Qualcomm case as Qualcomm does manufacture products that require patents from others.

III. ABUSE
Unsurprisingly, the most controversial part of the decision is the determination of abuse. Qualcomm was accused of a range of conduct arising from its licensing practices. These include charging license fees for expired wireless SEPs, compelling royalty-free grantback of licenses from licensees, tying of licenses for wireless SEPs with licenses for non-wireless SEPs, and imposing unreasonable conditions on the sales of baseband chips. The remainder of the article will explain the NDRC’s
reasoning regarding each of the alleged abuses and evaluate whether the NDRC reaches the correct conclusion.

Charging license fees for expired wireless SEPs

The crux of this charge pertains to Qualcomm’s package licensing practice, under which Qualcomm did not provide an itemized list of patents that are licensed out, and charged a flat fee for all the SEPs in its portfolio.41 As patents expired over time, new patents were added to replenish the package.42 In particular, Qualcomm maintained the same license fee without providing evidence that the new patents added to the portfolio were of equivalent value to the expired patents.43 Qualcomm did not provide an itemized list of patents which it licensed, and licensees were not given the opportunity to negotiate to avoid paying royalty for expired patents.44 From the decision, it can be gleaned that the NDRC particularly objects to Qualcomm’s failure to provide an itemized list of licensed patents, to assess and indicate whether the newly added patents were needed or valuable to the licensees, and to compare the change in value of the expired patents against newly added patents.

There are perhaps two ways to analyse the theory of harm pursued by the NDRC. The first and simpler, and perhaps over-simplified, one is that Qualcomm charged royalty for expired patents. Even though the NDRC places quite a lot of emphasis on Qualcomm’s failure to provide an itemized list of licensed patents, the NDRC’s real objection must be that licensees were forced to pay for expired patents. If Qualcomm had allowed the licensees to verify and compare the value of newly added patents against that of expired patents and the latter was found to exceed the former, the NDRC presumably would have had no objection to that. The opportunity to verify and compare is merely a means for licensees to avoid being charged for expired patents.

None of the existing Chinese cases touch on this issue, as far as this author is aware. Most of the patent licensing cases that have been decided by or are pending in the Chinese courts thus far have been concerned with refusal to license on FRAND terms by a holder of an SEP. Meanwhile, one provision of the SAIC IP-AML Regulations is relevant. Article 10(4) forbids a dominant IP owner to continue to exercise the intellectual property rights post-expiration. Whether this provision prohibits the collection of post-expiration royalty depends on whether collection of royalty is deemed to be an exercise of the patent right or merely an exercise of a contractual right that was agreed upon when the patent was in effect. One may argue that the patent right is exercised when the patentee enters into the licensing agreement with a licensee. The collection of royalty is merely an exercise of a contractual right which is created under the patentee’s patent right. The right of a patentee is the right to exclude. The right to collect royalty is merely a contractual right created under a waiver to exercise the patent right by way of a licensing agreement. On what

41 This is by no means an unusual practice. Many technology standards, such as MPEG and DVD-ROM, are licensed in package licenses. See Richard J Gilbert, ‘Antitrust for Patent Pools: A Century of Policy Evolution’ (2004) 8 Stan Tech L Rev 3.
42 Qualcomm Decision (n 4) s 2(1)1.
43 ibid.
44 ibid.
constitutes an exercise of patent right the PRC Patent Law is silent. Therefore, which of these interpretations hold will probably have to await further explication by the SAIC. Under the latter interpretation, Article 10(4) would not prohibit the collection of post-expiration royalty. And the NDRC’s conclusion would not be supported by the SAIC IP-AML Regulations.

Given that whether the NDRC’s decision is consistent with the SAIC IP-AML Regulations is an open issue, it would be helpful to consult the jurisprudence in other jurisdictions and economic principles to evaluate the NDRC’s conclusion on this issue. US case law is quite clear that charging post-expiration royalty is a patent misuse (although not necessarily an antitrust violation). This was first decided in *Brulotte v Thys Co*, and was affirmed very recently by the US Supreme Court in *Kimbel v Marvel Entertainment LLC*. Although the rationale for *Brulotte* has been repeatedly questioned and the US Supreme Court practically acknowledged the unsoundness of its reasoning in *Kimbel*, the recent affirmation of *Brulotte* reinforces the notion that charging of post-expiration royalty is impermissible under US patent law. However, commentators have long argued that prohibition of post-expiration royalty is inefficient as it will merely force the patentee to front load all the royalty payments. In fact, it has been pointed out that such a prohibition would only render licensing more difficult for cash-strapped licensees, which may prefer to spread out the royalty payments as long as possible, perhaps beyond the term of the patent. In this sense, the NDRC’s prohibition of Qualcomm’s practice on this theory of harm is counter-productive and may actually make life more difficult for the domestic licenses that it purportedly wants to protect.

Therefore, if it is shown that the value of expired patents exceeds that of newly added patents, Qualcomm would be effectively charging post-expiration royalty and the NDRC’s decision would effectively be penalizing Qualcomm for doing so. Such a decision is probably economically unsound.

The second, and more sophisticated, way to characterize Qualcomm’s conduct is it charged a fixed fee for the right to use a pool of patents that changed over time and that allowed the licensee to practice the technology. Another way to characterize it is that Qualcomm offered a package license, the content of which changed constantly over time.

Existing Chinese regulations, guidelines, and case law are silent on the legality of such a package licensing practice. Nothing in the SAIC IP-AML Regulations addresses package licensing. Nor have the courts faced the issue. Therefore, it would be helpful to turn to US jurisprudence for reference. US case law, albeit all pertaining to patent


49 ibid.
misuse and not decided under the antitrust laws, has consistently upheld Qualcomm’s practice. However, the lynchpin for legality is voluntariness or the lack of coercion.\textsuperscript{50} Coercion is said to exist when ‘the licensor refuses to license its intellectual property rights except in bundles or packages, or when the licensor’s royalty structure is such that the price of licensing the bundle or package is significantly lower than the price of separate licensing and the difference cannot be justified by the lower cost of package licensing’.\textsuperscript{51} The NDRC decision does not specifically address whether Qualcomm offered only the package license or whether it was possible to license a subset of the licenses or individual licenses. However, based on the tenor of the decision, it would seem that the package license was the only option available from Qualcomm, which renders the package license mandatory or coerced. However, this is not the end of the inquiry. A package license could be saved if it could be shown that there are significant cost savings from package licensing, implying that the package license is a single product rather than consisting of tying and tied products.\textsuperscript{52} The decision is not clear on the number of patents involved in the package license. However, it is likely to be significant in number, probably in the hundreds at least. If a package consists of multiple patents, perhaps in the hundreds, it would be extremely costly for the patentee to value each patent individually and offer the patents on an individual or smaller package basis. This would be especially the case, as it seems to be in the Qualcomm case, that the patents in the package were complementary in the sense that access to all of them was necessary for a licensee to implement the technology standard.\textsuperscript{53} In that case, the licensees would require access to all of them anyway in order to implement the technology. The transaction cost savings and the complementary nature of the patents involved presents a strong case for considering the package license to constitute a single product as opposed to a tying arrangement.

There is a conceivable scenario in which Qualcomm’s practice creates competitive harm.\textsuperscript{54} And the plausibility of this scenario crucially depends on the existence of alternatives to Qualcomm’s SEPs in the market or the possibility of inventing around

\textsuperscript{50} Beckman Instruments, Inc v Technical Development Corp, 433 F2d 55, 61 (7th Cir 1970) (‘We are in agreement with the Tenth Circuit that a package license agreement, voluntarily entered into, which requires the payment of royalties beyond the expiration of some, but not all, of the licensed patents is valid.’); Sunrise Medical HHG v Airsep Corp, 95 F Supp2d 348, 458 (WDPa 2000) (‘There is also subsequent authority, however, that the royalty rate need not diminish as patents included in a package license expire, as long as the licensee is not coerced.’); AC Aukerman Co v RL Chaides Construction Co, 1993 WL 379548 1, 6 (NDCal 1993) (‘Brounlette has been held inapplicable to package licensing agreements containing expired patents if the licensee was not coerced to enter the arrangement. . . Whether the agreement was the product of unfair patent leverage exerted by the patentee rather than the mutual convenience of the parties is a question of fact.’).


\textsuperscript{53} Carl Shapiro, ‘Navigating the Patent Thicket: Cross Licenses, Patent Pools and Standard Setting’ \textit{Innovation Policy and the Economy} 1Adam Jaffe, Joshua Lerner and Scott Sterns (eds) (National Bureau of Economic Research 2001) (arguing that when patents are complementary, having one patentee set the royalty would result in lower royalty).

\textsuperscript{54} Daniel L Rubinfeld and Robert Maness, ‘The Strategic Use of Patents: Implications for Antitrust’ in François Lévéque and Howard Shelanski (eds) \textit{Antitrust, Patents and Copyright: EU and US Perspectives} (Edward Elgar Publishing 2005).
these SEPs. If the standard setting body merely describes the functions that the standard must be able to perform without specifying precisely how the functions are to be performed, and there exists alternative ways to perform certain functions while remaining compatible with the rest of the standard, it is conceivable that a licensee can obtain alternatives to an SEP by licensing other technologies or investing in inventing around the SEP itself. A putative licensee may be able to find alternatives or invent around one, or a handful of, patents. If the licensee thinks that it has a reasonable likelihood of successfully finding alternatives or inventing around, then its willingness to pay would be reduced. But if the licensee must still pay the same package license fee to Qualcomm even if it manages to find substitutes for a portion of Qualcomm’s portfolio, then the licensee will not have the incentive to seek substitutes.

The plausibility of this theory of harm, however, will depend on whether substitute technologies existed in the market or the possibility of inventing around. From the NDRC’s description of the technology licensing markets, it sounds like Qualcomm’s patents were the only means to implement the standard. If that is indeed the case, then this theory of harm based on foreclosure of rival technologies and loss of innovation incentives would not stand. It also has to be acknowledged that one logical implication of this theory of harm would be that licensees should be allowed to license only the patents they need. Otherwise, they would only invest in efforts to seek alternatives or invent around if they can bypass Qualcomm’s entire portfolio. Given the alleged considerable size of Qualcomm’s portfolio, this is unlikely to succeed. However, whether this is advisable needs to be balanced against the transaction costs which Qualcomm must bear to offer licenses that are calibrated to the needs of each licensee. There may be many accounting and enforcement reasons why Qualcomm would be unwilling to do that, and the law must be cognizant of them.

**Royalty-free grantback of licenses**

The NDRC alleges that Qualcomm compelled its licensees to grant royalty-free licenses to the licensees’ non-wireless SEPs as part of the consideration for Qualcomm’s licenses. Non-wireless SEPs pertained to cases, screens, cameras, microphones, amplifiers, batteries, internal storage, and operating systems of wireless communications terminals. The NDRC objects to this behaviour because Qualcomm did not consider and assess the value of the licensees’ patents and refused to pay reasonable consideration for the patents licensed back by the licensees. In

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56 ibid 9 (noting that there are three different modes of data transmission in the 802.11 standard announced by IEEE in 1997).


58 ibid.

59 Qualcomm Decision (n 4) s 2(1)2.

60 ibid.
response, Qualcomm offers three defences: (1) the license grantbacks were necessary to protect Qualcomm’s own business and its baseband chip customers from patent infringement concerns, (2) Qualcomm’s request for royalty-free grantbacks was part of the consideration in Qualcomm’s licensing agreements with the licensees, and (3) many licensees in China did not own patent portfolios of sufficient value for exchange with Qualcomm.61

Two of the three defences can be quickly dismissed. First, Qualcomm licensed wireless SEPs, whereas the grantbacks pertained to non-wireless SEPs. If any infringement concerns arise from its customers’ use of Qualcomm’s products, it is not related to the implementation of Qualcomm’s core wireless technology. Qualcomm’s desire to clear its customers of infringement concerns should not extend so far as to cover technologies that are unrelated to its core wireless technology. Second, if Qualcomm genuinely believed that its Chinese licensees did not possess patents of value, why did it request for a royalty-free grantback for them?62 In any case, the NDRC objects to Qualcomm’s characterization of the patents of the Chinese licensees and insists that some licensees in China also hold patent portfolios of significant value. Qualcomm’s second defence, however, deserves greater attention and a more thorough analysis.

The NDRC specifically responds to Qualcomm’s second defence, arguing that Qualcomm should have respected the licensees’ achievements in innovation and should have considered the value of those patents licensed back.63 In particular, the NDRC takes exception to Qualcomm’s claim that the Chinese licensees lacked patents of value. It insists that some licensees in China also held patent portfolios of significant value. Moreover, the NDRC notes that the claim that the royalty-free grantbacks were part of the total value exchange with licensees lacked evidentiary support.64 The NDRC believes that Qualcomm did not show evidence that the value of the licensees’ patents had been ascertained and taken into account. Qualcomm failed to provide evidence that it had paid corresponding consideration for the patents licensed back by the licensees.

It is first worth drawing an important distinction between these grantbacks and the grantbacks usually demanded by patentees. These grantbacks did not cover future improvements over the licensed patents.65 They concerned unrelated patents, or at least patents which had no bearing on the implementation of Qualcomm’s wireless SEPs. Therefore, one of the usual justifications in support of patentee demand of

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61 ibid.
62 It has been argued that Qualcomm’s request for cross-licensing may have been motivated by a desire to build an ‘umbrella’ under which its customers may operate without fear of infringement suits. Even if these patents are not of high value, they can still be used to seek an injunction which can create obstacles to, or at least inconvenience for, the operation of Qualcomm’s customers. While such an umbrella is no doubt valuable to its customers, and enhances the value of a license from Qualcomm, one also has to question how far Qualcomm should be allowed to go to create such an umbrella. The anticompetitive effects and precompetitive benefits of such an umbrella will need to be carefully balanced.
63 ibid.
64 ibid.
65 Hovenkamp and others (n 51) s 25–21 (defining grantback as ‘a provision in a patent license obligating the licensee to “grant back” to the licensor a license to any patented improvements that the licensee makes on the invention’).
grantbacks from licensees, which is to protect the patentee from being excluded in its own market, is missing. Meanwhile, the fact that the grantbacks are non-exclusive renders them less objectionable. Article 10 of the SAIC IP-AML Regulations expressly prohibits patentees demanding exclusive grantbacks.

The arrangement between Qualcomm and its licensees was effectively a reciprocal licensing agreement. Existing Chinese regulations, guidelines, and case law are silent on the legality of reciprocal licensing. One way to characterize the reciprocal licensing is to think of it as part of the consideration for the license to Qualcomm’s patents. While the NDRC seems willing to accept this argument in theory, it is troubled by the fact that there was no evidence that suggested that Qualcomm had ascertained the value of the licensees’ patents and given these licensees credit for their patents in calculating their license fees for Qualcomm’s patents. One wonders what the NDRC would have wanted Qualcomm to have done. Presumably one way to satisfy the NDRC’s concern would be for Qualcomm to offer one royalty rate with the compulsory grantback and one without, with the latter being higher than the former. And assuming that Qualcomm had already taken into account the value of the grantbacks in setting the current royalty rate, the NDRC’s requirement would have simply resulted in Qualcomm providing a higher royalty rate without grantback. So long as Qualcomm accurately assesses the value of the licensees’ patents (or its assessment coincides with the licensees’ assessment), the licensees presumably would be indifferent between these two rates. The licensees’ welfare is not improved by the NDRC’s enforcement in this instance.

There is one scenario in which Qualcomm’s practice could be problematic, that is if Qualcomm was subject to a FRAND obligation and the obligation somehow only governed the royalty rate itself and not the other licensing conditions. In that case, Qualcomm could conceivably circumvent the FRAND obligation by demanding these extra grantbacks that rendered the aggregate royalty in excess of what would be allowed under the FRAND obligation. However, the decision does not provide sufficient information to determine whether this is the case. First, there is no mention of any FRAND obligation to which Qualcomm is subject. Nonetheless, given that Qualcomm’s patents were standard-essential, it is highly likely that they would be subject to some sort of FRAND obligation. Second, there is no information as to whether if such a FRAND obligation exists, it would cover grantbacks or only the

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66 ibid s 25.2; Richard Schmalbeck, ‘The Validity of Grant-Back Clauses in Patent Licensing Agreements’ (1975) 42 U Chi L Rev 733, 735.
68 SAIC IP-Competition Regulations (n 14) art 10.
monetary royalty rate. However, one may legitimately question whether competition law intervention is warranted if the opportunity for circumvention merely arises due to less than meticulous drafting of the FRAND obligation by standard setting organizations when there is no demonstrable consumer harm.\(^7^{1}\) Competition law probably should not be deployed to supplement private contracts. All in all, the NDRC’s condemnation of the royalty-free grantbacks imposed on the licensees was probably misguided.

**Tying of wireless and non-wireless SEPs**

The NDRC also accuses Qualcomm of tying the licensing of wireless SEPs with the licensing of non-wireless SEPs.\(^7^{2}\) A related accusation is that Qualcomm charged unfairly high license fees by including non-wireless SEPs in its license package and by calculating the fees based on the net wholesale prices of the wireless communications terminals.\(^7^{3}\) There are two components to this charge. The first is that the license fees were artificially inflated through the inclusion of the non-wireless SEPs. That is in fact another way to characterize the tying claim, which will be addressed below. The second is an objection to the basis for the calculation of the license fees. This was one of the issues addressed in *Automatic Radio* by the US Supreme Court.\(^7^{4}\) In that case, the Court affirmed that it is permissible to calculate royalty according to an agreed percentage of the licensee’s sales, as this may be the most convenient way to determine royalty. There are transaction cost-based and efficiency reasons why a patentee may prefer to calculate royalty based on the sales amount.\(^7^{5}\)

In response to the tying claim, Qualcomm offers three defences. First, Qualcomm argues that it had in fact offered licensees the option of licensing only wireless SEPs, but most licensees nonetheless chose the bundle.\(^7^{6}\) Qualcomm effectively argues that there was no tie and that it was possible for licensees to obtain the wireless and the non-wireless SEPs separately. Obviously, this does not rule out all competitive concerns. It is possible that Qualcomm may have offered the two sets of SEPs separately at such unattractive prices that it amounted to mixed bundling.\(^7^{7}\) The decision does not provide any information in that regard. In any case, the NDRC rejects this defence on the grounds that it is not borne out by the factual record. There is evidence that some licensees were forced to license the non-wireless SEPs together with the wireless SEPs. Second, Qualcomm argues that it was difficult to distinguish between wireless SEPs and non-wireless SEPs, and the licensees would be exposed to litigation risks if they only licensed the wireless SEPs.\(^7^{8}\) This amounts to an

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72 Qualcomm Decision (n 4) s 2(2).

73 ibid.


75 Hovenkamp and others (n 26) s 23.3b.

76 Qualcomm Decision (n 4) s 2(2).

77 Sullivan and Grimes (n 24) 390–91.

78 Qualcomm Decision (n 4) s 2(2).
argument that wireless SEPs and non-wireless SEPs constitute one product on transactional costs grounds.\textsuperscript{79} Third, Qualcomm asserts that the tie-in did not in fact restrict competition and the licensees could still choose alternative technologies.\textsuperscript{80} In other words, the tie did not have foreclosure effect on the market for the licensing of non-wireless SEPs.

The NDRC does not formally establish the different elements of a tying claim and proceeds straight to a competitive effects analysis. The NDRC has issued the \textit{Anti-Price Monopoly Regulations}, which sets out its general approach to anticompetitive conduct.\textsuperscript{81} However, these \textit{Regulations} do not cover tying, probably because tying is not considered to be price-related conduct. Meanwhile, both the SAIC IP-AML \textit{Regulations} and the SAIC Rules on the Prohibition of Abuse of Dominant Position address tying.\textsuperscript{82} In particular, the Article 9 of the SAIC IP-AML \textit{Regulations} states that it would be illegal for a dominant business operator to force bundled or package sales of different products against transaction customs, consumer habits, or product functionalities if such sales would allow the business operator to extend its dominant position from the tying product market into the tied product market. This provision parallels the four-element framework for tying laid down in the US Supreme Court case \textit{Jefferson Parish Hospital District No 2 v Hyde}.\textsuperscript{83} According to that case, there are four elements to a tying claim: (1) there must be two distinct products, (2) buyers must be subject to coercion to take the tying and the tied products together, (3) the seller must wield market power in the tying product market, and (4) not insubstantial foreclosure effect in the tied product market.\textsuperscript{84} Article 9 similarly requires there be (1) two separate products, (2) a forced bundled sale, which suggests coercion to accept the tie, (3) market power on the part of tying seller (the SAIC requires dominance, which goes beyond that required under \textit{Jefferson Parish}), and (4) foreclosure effect in the tied product market. In fact, the language of Article 9 can be interpreted as suggesting that the foreclosure effect must amount to dominance, which would render Article 9 more stringent than existing US jurisprudence. One main difference between Article 9 and \textit{Jefferson Parish} is that Article 9 seems to permit justifications on the grounds of transaction customs, consumer habits, or product functionalities.

The first issue to be addressed is whether there were clearly defined tying and tied products. In a typical tying case, the tying product is the product which the customers want while the tied product is the product which the customers are forced to take together with the tying product.\textsuperscript{85} The identification of the tying and the tied products is usually fairly straightforward. However, in a package licensing case, where patents are licensed in a bundle, it may not be necessarily straightforward to identify which patents the customers want and which patents they are forced to take.\textsuperscript{86} This

\textsuperscript{79} Hovenkamp and others (n 26) s 22.3a1.
\textsuperscript{80} ibid.
\textsuperscript{81} Harris and others (n 13) 450–60.
\textsuperscript{82} ibid 495–504.
\textsuperscript{83} 446 US 2 (1984).
\textsuperscript{84} Sullivan and Grimes (n 11) 414.
\textsuperscript{85} ibid 387.
\textsuperscript{86} Hovenkamp and others (n 26) s 22.3b.
may vary with individual licensees. Some licensees may want some patents while the other licensees may want some other patents. In the Qualcomm case, however, the identification issue does not seem to pose particular obstacles as it seems to be acknowledged that wireless and non-wireless SEPs were distinct groups of patents capable of clear delineation. Yet even if it is possible to identify two distinct groups of patents, it does not necessarily mean that the two groups constitute separate products. The competitive market practice test has been proposed to help delineate product boundary. The test states that patents that are never or rarely licensed individually in what appears to be a competitive market would constitute one product. In other words, if the wireless and the non-wireless SEPs were rarely licensed separately, they should be deemed to constitute one product. The problem here is that because the patents at issue were standard-essential, they all had a great deal of market power in their relevant markets. Therefore, there was probably no competitive market for the licensing of these patents. Earlier in the decision, the NDRC suggests that there were no alternatives for Qualcomm’s wireless SEPs, while in the discussion about tying the NDRC alludes to the existence of competitive alternatives for non-wireless SEPs. Therefore, if it was the wireless SEPs which the licensees wanted, it would seem that there is no competitive market for the licensing of the wireless SEPs. The competitive market practice test would have limited application to this case.

There is another ground on which two seemingly distinct products should be treated as one product for tying analysis. This is based on the economies of joint production. According to the leading treatise on the IP-antitrust interface, there may be a single product when (1) two items can be produced or marketed more cheaply together than separately; but (2) much of the advantage of joint production would be lost if the seller were obliged to offer the products separately to a subset of consumers. In the instant case, at issue is not the creation of the technology at issue but the patent licensing practice. Therefore, if the patents at issue can be licensed more cheaply together than separately and much of the advantage of joint licensing would be lost if the seller were obliged to offer separate licenses, then it is justified to consider the package license as one product. The advantage of joint licensing could exist by way of the fact that the patentee can avoid the need to scrutinize the licensees’ products in minute detail to determine which patents have been deployed by the licensees and which have not and vary the royalty accordingly. Such scrutiny may be highly inefficient or outright impractical from a transaction cost perspective. This rationale for package licensing has been affirmed by the US Supreme Court in Automatic Radio. In that case, the patents were closely related and when the patented circuits and other components were fastened together, their individual boundaries were difficult to draw. It would have been difficult without minute inspection to determine which of the patents was incorporated, and that a package

87 ibid.
88 ibid s 22.3b1.
89 ibid.
90 ibid s 22.3b2.
91 Automatic Radio (n 74) 897–98.
92 Hovenkamp and others (n 26) s 22.3b2.
license would obviate these enforcement problems and save transaction costs. This reasoning, however, seems inapposite in this case because wireless SEPs and non-wireless SEPs seemed to be clearly distinguishable and it would be difficult to argue that patents pertaining to wireless communications technology are hard to differentiate from patents pertaining to cameras or microphones. Therefore, it would seem justified to treat the two sets of SEPs as distinct products for the purpose of tying analysis. The tying product would be the wireless SEPs and the tied product the non-wireless SEPs.

Due to the standard-essential nature of the wireless SEPs, it would seem obvious that they possess the requisite market power for concern under a tying analysis. As to whether there was indeed a tie or whether the licensees were subject to coercion to accept the tie, despite Qualcomm’s protestations to the contrary, the NDRC concludes that evidence suggests that at least some licensees were forced to license the non-wireless SEPs in order to obtain licenses to the wireless SEPs. Therefore, there was a tie between wireless SEPs and non-wireless SEPs and licensees were coerced to accept the tie.

The final element to be discussed is whether there was foreclosure in the tied product market. An observation is in order. If the licensee does not want the technology covered by a tied product patent, then no rival patentees have been foreclosed and there is no foreclosure effect from the tie. Absent the tie, the licensee still would not have licensed from other patentees. This would be the case if some of the licensees already had patents covering the technologies which Qualcomm were now forcing the licensees to license. If Qualcomm sought to compel these licensees to license a technology they already possessed, the licensees would be forced to pay for something they did not want, but no one was foreclosed from the market. This is perhaps one place where the tying claim and the NDRC’s objection to unfairly high license fee diverge. Under a tying claim, the fact that the licensee does not want the tied product patent means that the tie is not anticompetitive. However, under the NDRC’s excessive royalty claim, the fact that the licensee does not want the tied product patent precisely shows that the license fee is excessive. In that instance, the royalty may be excessive in some sense, but it is certainly not exclusionary.

If the licensee does want access to the technology covered by a tied product patent, or a competing technology, then it would seem that there could be foreclosure effect. The package license effectively raises the costs of using competing technologies. Under the package license, the incremental costs of using Qualcomm’s non-wireless SEPs were zero, whereas the incremental costs of using competitors’ patents would be more than zero. As the NDRC notes, rational licensees would not incur additional costs to design around or seek substitute technologies, which may lose the opportunity to compete with Qualcomm’s non-wireless SEPs. This conclusion effectively refutes the third defence offered by Qualcomm.

What if one were to argue that Qualcomm was essentially giving the non-wireless SEPs away for free? Qualcomm effectively only charged for the wireless SEPs in the package license and gave away the non-wireless SEPs for free. In *US Philips Corp v International Trade Commission*, the US Court of Appeals for the Federal Circuit held...
that so long as the licensees are not forced to deploy the free patents, a package license in which some of the non-essential patents are added on for free does not constitute per se illegal patent misuse. In that case, the Federal Circuit distinguished the package license at issue from the block booking practices in the US Supreme Court cases of *US v Paramount Pictures* and *US v Loew’s* on the grounds that in the block booking cases, the theatres were compelled to exhibit the movies they were forced to license, whereas in the *Philips* case, the licensees were free to choose whether to implement any of the patents in the package. To the Federal Circuit, the decision by Philips to add the non-essential licenses to the package for free is economically no different from Philips unilaterally declaring that it will waive its rights under the non-essential patents and will no longer seek to enforce them. No one can object to such a unilateral decision by Philips. Qualcomm did not offer this argument as a defence, and the decision does not provide any facts as to whether Qualcomm in fact gave away the non-wireless SEPs for free in the package license. There are at least two ways in which this could be verified. First, if Qualcomm offered a package license covering only the wireless SEPs and a package license covering both the wireless and the non-wireless SEPs, and the latter was more costly than the former, then the non-wireless SEPs were clearly not given away for free. Second, if Qualcomm licensed the non-wireless SEPs for a fee, then it is highly implausible to think that the non-wireless SEPs were added to the package license for free. Unfortunately, the decision does not mention either fact. Nonetheless, in light of the fact that these are standard-essential patents, albeit of a non-wireless nature, it is unlikely that Qualcomm would give them away for free. In that case, the tie is likely to have foreclosure effect on rival technologies and the NDRC’s objection to it is not unsound.

**Imposing unreasonable conditions on the sale of baseband chips**

The unreasonable conditions referred to by the NDRC essentially pertain to restrictions on the licensees’ ability to challenge the validity of the licensing agreement. Qualcomm allegedly required licensees to undertake not to challenge the validity of the agreement before it would supply baseband chips to the licensees. If a dispute arose between Qualcomm and a licensee over the licensing agreement and litigation ensued, Qualcomm would cease the supply of baseband chips. Although the decision refers to the validity of the licensing agreement, it presumably refers to the validity of the underlying patents. Qualcomm admits to the imposition of these so-called no-contest clauses or no-challenge clauses in the licensing agreements, but argues that its conduct is justified. The NDRC does not detail what the justifications are but dismisses them as insufficient. According to the NDRC, it is within the licensees’

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95 334 US 131 (1948).
97 *Philips Corp*, 424 F3d, 1187–89.
98 ibid 1189.
99 Qualcomm Decision (n 4) s 2(3).
100 ibid.
101 ibid.
right to challenge or institute litigation with respect to the licensing agreements. However, Qualcomm’s imposition of the no-challenge clauses restricted if not outright deprived the licensees of this right. Moreover, the NDRC argues that competition was restricted when potential licensees which were unwilling to accept the no-challenge clauses were excluded from the market. There are two problems with the NDRC’s characterization of restriction of competition. First, the NDRC does not provide any evidence that potential licensees were refused licenses for their refusal to accede to the no-challenge clause. If no such licensees exist, as could be the case, the NDRC’s theory would fail. Second, and more importantly, restriction of competition cannot be established simply on the grounds that Qualcomm offers some licensing terms which are unacceptable to some licensees. The corollary of this argument would be that Qualcomm would be expected to accept whatever terms its licensees are willing to offer. This certainly cannot be the case. What stops a potential licensee from arguing that competition is restricted when it fails to obtain a license because the licensee is unwilling to pay the licensee fee Qualcomm demands? Whether there is restriction of competition crucially depends on whether the licensing term demanded by Qualcomm is itself anticompetitive, which is what needs to be established in the analysis. The NDRC merely states that the clause denies the licensees their right to challenge the validity of the licensing agreements. Such a right-based argument fails to consider the competitive effects of the clause. The NDRC’s analysis is thus found wanting.

The position taken by the NDRC against no-challenge clauses, however, is consistent with the position taken in the *SAIC IP-AML Regulations*. Article 10 of the Regulations explicitly prohibits no-challenge clauses. One may argue that as a developing country, China has a particular development-based justification for taking a relatively pro-licensee stance against no-challenge clauses. At the current state of technological development, Mainland Chinese companies are more often than not licensees rather than licensors. It would be imperative for the Chinese government to ensure that royalties are paid only when they are truly due and not when the underlying patent is invalid. This may justify the hardline approach taken by the NDRC in the Qualcomm case and the SAIC in the *IP-AML Regulations*.

The state of the law in other jurisdictions is mixed. In the USA, no-challenge clauses do not seem to have been held as an antitrust violation. Under US patent law, the issue has largely been framed as one of enforceability. And the

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102 SAIC IP-Competition Regulations (n 14) art 10.
103 ibid art 10.
106 Reference can be made to the *FTC v Actavis case* (2013) 570 US 756. There are some similarities between reverse payments and no-challenge clauses in that both types of agreement prevent a third party from challenging the validity of the patent. There are, however, crucial differences between them which render the law on reverse payments not directly applicable to no-challenge clauses. One of these
enforceability of no-challenge clauses depends on the type of agreement they are incorporated in and varies by the Court of Appeals. The US Supreme Court has not definitively ruled on the enforceability of no-challenge clauses, although one can argue that if one pushes the reasoning of Lear, Inc v Adkins to its logical conclusion, no-challenge clauses should be by and large unenforceable. Under EU law, the European Commission has taken a fairly hardline against no-challenge clauses. The current position under the 2014 Technology Transfer Block Exemption Regulation is that all no-challenge clauses, including termination-upon-challenge clauses, fall within what are known as excluded restrictions. What that means is that, apart from a limited number of exceptions, these clauses will not benefit from the block exemption and will need to be justified under Article 101(3) of the TFEU in order to be lawful under EU competition law. For all intents and purposes, most parties avoid clauses that are excluded restrictions in their licensing agreements, partly because justification under Article 101(3) is generally perceived to be difficult. In other words, commercial parties practically treat no-challenge clauses as illegal.

In light of the divergent positions on no-challenge clauses in the three jurisdictions, it is worthwhile to examine the issue of their legality afresh. Should these clauses be held illegal under the facts of the Qualcomm case? Development-based justifications aside, the consumer harm done by a no-challenge clause is that it helps to uphold an otherwise invalid patent by preventing it from being challenged. As a consequence, consumers needlessly pay the supra-competitive prices that a patentee may be able to charge with his patent. However, this would only be the case if the patent at issue possesses market power. Otherwise, the patentee would not be able to charge supra-competitive prices to begin with and there would be no consumer harm. Therefore, one prerequisite for finding no-challenge clauses illegal is that the underlying patent holds market power. This is established in the Qualcomm case. Moreover, supra-competitive prices would only be needlessly paid if the patent were invalid. If the patent is valid, patent law gives a patentee the right to charge supra-competitive prices by giving the patentee the right to exclude. All that the no-challenge clauses do is to avoid unnecessary litigation expenses. Therefore, no-challenge clauses should only be illegal if the patentee does not have an objective basis for believing that its patent is valid. The NDRC made no finding on the validity of the SEPs in Qualcomm’s portfolio.

107 ibid.
111 Cheng (n 105).
112 ibid.
Before the analysis proceeds to patent validity, however, it is important to emphasize one key distinction between the Qualcomm case and the usual no-challenge clause case. The usual case only concerns one underlying patent, while the Qualcomm case involved a portfolio of patents. If a licensee needs access to the entire portfolio of patents in order to manufacture its product, the fact that some of the SEPs in the portfolio may be invalid would not prevent the patentee from charging supra-competitive prices.\(^\text{113}\) So long as some of the SEPs in the portfolio are valid, the licensee would still need to pay the supra-competitive royalty. And therefore, in general, the fact that challenges to potentially invalid SEPs in the portfolio are precluded by the no-challenge clause would not result in consumer harm. There could be an exception to the general rule. It is possible that a no-challenge clause applicable to a portfolio of SEPs could harm consumers. That would be the case if within the portfolio, some of the SEPs are more important and the rest of the SEPs can be invented around or replaced by substitutes.\(^\text{114}\) If it turns out that these more important SEPs are of questionable validity and the no-challenge clause prevents challenges to them, the no-challenge clause would result in consumer harm and thus should be illegal. Given the NDRC’s lack of factual findings on the composition of Qualcomm’s patent portfolio, however, it is clear that the NDRC did not have sufficient factual basis to demonstrate that the no-challenge clause in the case created consumer harm.

IV. REMEDIES

The part of the decision that is the most susceptible to a charge of protectionism is probably the remedies part. While most of the behavioural remedies were tailored to the violations alleged, as part of the settlement of the investigation, Qualcomm also undertook to revise its royalty license rates by reference to a base of 65 per cent of the net wholesale price of the relevant devices, as opposed to the original 100 per cent.\(^\text{115}\) This means that Qualcomm effectively reduced its royalty rate by a third. The NDRC notes in passing that it is unfair for Qualcomm to use the net wholesale price of the entire device as the basis for calculating royalty. The decision is somewhat ambiguous as to whether the NDRC objects to an excessive level of royalty or the use of the net wholesale price of the entire device as the basis for royalty calculation, or both. While there are allusions to excessive royalty throughout the decision, the NDRC arguably never formally establishes that the royalty was excessive independent of other violations such as charging royalty for expired patents and tying of wireless and non-wireless SEPs. If the objection is the basis for royalty calculation, it is unclear what difference it would make to the royalty level if Qualcomm was required to use a different basis for royalty calculation but could raise the royalty rate

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114 Cheng (n 105).
to maintain the same level of royalty. The NDRC no doubt is aware of this and therefore seems to have required Qualcomm to maintain the royalty rate. Therefore, what the NDRC ultimately objects to must not be the basis for royalty calculation but the royalty level itself. One is thus left with the impression that the motivation for objecting to the basis for royalty calculation is a desire by the Chinese government to lower licensing fees for its domestic manufacturers, most of whom must license Qualcomm’s patents.

V. CONCLUSION

Competition law enforcement in the PRC has been criticized as being motivated by industrial policy concerns and protectionism. There is heightening concern that foreign companies have been singled out for competition law enforcement. The NDRC’s case against Qualcomm, which is the first high-profile abuse of dominance case against a foreign company, inevitably would attract the same criticism. The question then is whether the NDRC’s conclusions in the decision were well substantiated and supported by sound competition law principles. The analysis in this article suggests that the NDRC probably reached an erroneous conclusion regarding the royalty for expired patents, royalty-free grantbacks, and no-challenge clause claims, but was probably justified in its conclusion regarding the tying claim. However, even if the NDRC may have reached the correct conclusions on some of these claims, its analysis still left much room for improvement. For instance, regarding the tying claim, there was no effort to distinguish between the tying product and the tied product, and the attempt to establish foreclosure effect was cursory at best. The NDRC was also not sufficiently clear on the existence of substitute technologies or the possibility of inventing around regarding wireless SEPs and non-wireless SEPs. The NDRC seems to take the position that substitution is impossible for wireless SEPs, while it is possible for non-wireless SEPs. Given that both are standard essential patents, some explanation is probably necessary for why substitution is possible for one category of SEPs and not for the other. Regarding the no-challenge clause, the NDRC eschews a thorough analysis of the economic effects of these clauses and adopts a simplistic view that these clauses are illegal because they restrict the right of licensees’ to challenge the patents. Competition law is not in the business of protecting rights. If the infringement of a right does not result in adverse effect on competition or consumer harm, the infringement is of no moment to competition law.