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China's Anti-Monopoly Law and the role of economics in its enforcement

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Abstract

China has made significant achievements in enforcing its 2008 Anti-Monopoly Law (AML) during the past twelve years. We review the application of economics by the China's competition law enforcers and courts in dealing with antitrust cases. We discuss selected cases to illustrate the application of the relevant theories of competition harms. While the use of economics in its AML enforcement is consistent with international best practice, China can benefit from further raising the deterrence effect of the AML, increasing enforcement resources, and enhancing its cost-effectiveness of its Fair Competition Review system.

Keywords: China's Anti-Monopoly Law, theories of harms, administrative monopolies. *JEL classification:* K21, L1.

1. Introduction

China has become the third largest antitrust jurisdiction globally, after the United States and the European Union (EU), since its Anti-Monopoly Law (AML) came into force 12 years ago in 2008. As a new member of the international antitrust community, and the second largest economy in the world, China's competition policy developments have received worldwide attention. Over the past twelve years, it has made great progress in enforcing the AML, in all areas covered by the law, including monopoly agreements, abuse of dominant position, mergers, and administrative monopolies (which is a special feature of China's competition law). We provide a review of the efforts by Chinese competition law enforcers and its courts in dealing with antitrust cases. Our focus is to demonstrate the ac-

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The Anti-Monopoly Law, China, 2008; an English version is available at http://english.mofcom.gov.cn/article/policyrelease/Businessregulations/201303/20130300045909.shtml

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ceptance and applications of modern theories of competition harms. We also provide a brief assessment of China's experiences in using economics in antitrust and discuss the possible improvements that can be made in the future in order to further enhance the effectiveness of its AML enforcement.

2. Major provisions of China's Anti-Monopoly Law

China's AML was enacted on 30 August 30, 2007 and came into effect on August 1st, 2008. The law was enacted to prevent and restrain monopolistic conduct, protect fair competition in the market, enhance economic efficiency, safeguard the interests of consumers and social public interest, and promote the healthy development of the socialist market economy (AML, Ch. 1). The AML covers four principal areas: monopoly agreements, abuse of market dominance, anticompetitive mergers, and administrative monopolies. Specifically, Article 13 of the AML provides that competing undertakings are prohibited from making agreements on price fixing, output restriction, market sharing, restrictions on products or technology developments, boycotts, and any other horizontal monopoly agreements as determined by the enforcement agencies. Two types of vertical agreements are also prohibited, namely fixing resale prices and setting minimum resale prices (Article 14).

Article 6 of the AML prohibits undertaking(s) with a dominant market position from abusing that position to eliminate, restrict competition. Six kinds of abusive conduct are particularly prohibited. They are unfair pricing (selling or purchasing at unfairly high or low prices), below-cost pricing, refusals to deal, exclusive or designated dealing, tying or imposing other unreasonable transactional terms, and discriminatory dealing.

Mergers and acquisitions are required to undertake competition clearance, through a general regime, before completion. Article 20 of the AML states that concentrations of undertakings refer to the following situations: (1) the merger of undertakings, (2) the acquisitions of control of other undertakings by purchase of shares or assets, and (3) acquisitions by contact or any other means of control of other undertakings, or of the ability to exercise decisive influence on other undertakings. Article 31 also refers to a possible national security review for concentrations involving foreign parties.

Article 8 of the AML prohibits the public authorities (including government agencies and organizations empowered by laws or regulations for public affairs administration) from abusing their administrative powers to eliminate or restrict competition, a conduct on the part of the government referred to as "administrative monopolies."

2.1. Sanctions

The following penalties for monopoly agreements and abuse of a dominant market position are available under the AML: fines of up to 10% of the total turnover in the preceding year; confiscation of illegal gains; and the invalidation of agreements concluded in violation of the law, and cease-and-desist orders in respect of abuse of dominant position. There are no punitive damages or criminal penalties under China's AML.

2.2. Enforcement

Prior to 2018, China's AML was enforced by three authorities: the Price Supervision and Anti-Monopoly Bureau of the National Development and Reform Commission (NDRC) was responsible for enforcement provisions on cartels involving pricing and price-related abuse of a dominant position (such as predatory pricing, price discrimination, and unfair pricing), the Anti-Monopoly and Unfair Competition Enforcement Bureau of the-then State Administration for Industry and Commerce (SAIC) was in charge of enforcement with respect to non-price-related abuse of a dominant position and monopoly agreements involving non-price coordination, and the Anti-Monopoly Bureau of the Ministry of Commerce (MOFCOM) for merger control. The three-pillar enforcement structure ended in 2018 when the three enforcement agencies were combined to form the Anti-Monopoly Bureau of the State Administration for Market Regulation (SAMR) which has been the sole AML enforcement agency of China since. The AML also set up China's Anti-Monopoly Commission which promulgates guidelines, coordinates AML enforcement activities, and reports directly to the State Council.

In January 2019, SAMR delegated part of its enforcement power on monopoly agreements and abuse of market dominance to provincial Administration for Market Regulation. Prior to that, a provincial AML agency must obtain authorization from the AML enforcers at the national level before it started investigation of a suspect case.

By the end of July, 2019, eleven years after the AML took effect in 2008, AML enforcement agencies had completed 179 cases involving monopoly agreements and 61 cases involving abusing a dominant position, with fines totaling more than 12 billion yuan (approx. \$1.7 billion) imposed. Punishments also were given out in 229 cases involving abuse of administrative power to eliminate or limit competition.²

Under the AML, private parties harmed directly or indirectly by anti-competitive conducts have the standing to sue. Both stand-alone and follow-on cases are allowed.³ The Intellectual Property Division of the Chinese courts is responsible for handling private litigation in the area of antitrust.⁴

3. Administrative monopolies and Fair Competition Review

A special feature of China's AML is its prohibition of the so-called administration monopolies which refer to the abuse of administrative powers by governmental bodies and organizations to exclude or restrict competition. Six types of administrative monopolies are identified and banned in the AML (Articles 32–37): (i) designated transactions; (ii) obstruction of commerce; (iii) discrimination in tenders; (iv) exclusion of non-local undertakings or investors; (v) the use of public authority to compel monopolistic conduct; and (vi) setting up provisions

² See, e.g., "Antimonopoly Law enforcement gets boost," China Daily, August 31, 2019. http://www.chinadaily.com.cn/a/201908/31/WS5d69b568a310cf3e35568eb1.html

³ According to the Judicial Interpretation on the Application of Laws to Anti-Monopoly Private Actions (Judicial Interpretation) issued by the People's Supreme Court of China on May 8, 2012.

⁴ The Supreme People's Court of China designated its IP Divisions the responsibility because Chinese courts generally have not developed expertise in complex economic analysis.

that eliminate or restrict competition. Both the AML agency and the courts can deal with alleged administrative monopoly cases.⁵

A landmark development of China's effort to combat administrative monopolies is the establishment of its Fair Competition Review (FCR) System. In 2016, China set up its FCR System whereby policy proposals and existing regulations by government agencies must be reviewed so as to identify regulations that restrict competition. The State Council issued its *Opinions on Establishing a Fair Competition Review System in the Market System*⁶ and its *Implementation Rules for the Fair Competition Review System (Interim Regulation)*. Under the FCR, any existing or new laws, regulations, and policies introduced by any government or organization below the State Council level must undergo a competition review conducted by the policy-making body and/or a third party. The criteria for assessing the competition impacts of a regulation or policy cover four aspects: market entry and exit; free flow of factors of production across regions; impacts on the costs of undertakings; and impacts on the behaviors of undertakings. A more detailed "18 Don'ts" are specified. Regulations/policies that violate any of the "18 Don'ts" must be modified and relevant anti-competitive provisions removed.

A recent FCR case in Anhui Province is a good illustration of China's effort in tackling administrative monopolies. In November 2019, the Anhui Provincial Administration for Market Regulation started a formal investigation of a policy that had been jointly introduced by seven government departments of Haozhou City in May 2018. The policy mandated that all firms in the "high-risk" sectors of the city must purchase production safety insurance and that designated two insurance companies in the city as service providers. The policy further specified a common terms of coverage and fixed rate. These seven government agencies, including City Production Safety Supervision Bureau, City Transportation Bureau, City Housing and Urban Development Commission, and so on, were deemed to have violated Article 32 and Article 37 of China's AML by jointly issuing the above policy document. In 2020, these government agencies terminated their original contracts with the two designated service providers and issued a revised policy allowing individual firms to choose their own insurance service providers at market prices.⁸

During 2017 and 2018, a total of 430,000 new policy proposals have been reviewed, of which more than 2,300 have been revised and improved. In 2017, 120,000 policy proposals were reviewed in various regions and sectors, of which more than 660 documents were revised and improved. In 2018, 310,000 new proposals were reviewed in various regions and sectors, of which more than 1,700 documents were revised and improved.⁹

Similar provisions against administrative monopolies are contained in Russian Federal Law on Protection of Competition (Articles 15 and 16) which was enacted in 2006; See http://en.fas.gov.ru/upload/documents/Federal%20Law%20On%20Protection%20of%20Competition%20(as%20amended%20in%202015).pdf

⁶ The Opinions state that "establishing a Fair Competition Review System and preventing an improper intervention by the governments help secure resources allocation to follow the rules of the market, the price system, and market competition to achieve maximum returns and optimization of efficiency." State Order No. 34, 2016. Available at http://www.gov.cn/zhengce/content/2016-06/14/content_5082066.htm (in Chinese).

A Chinese version of the *Implementation Rules* can be found at http://www.gov.cn/xinwen/201710/5234731.html

⁸ See official website of Anhui Provincial Administration for Market Regulation.

⁹ SAMR, Focusing on shortcomings, measures to be implemented to optimize the Fair Competition Review System. http://www.samr.gov.cn/jjj/sjdt/tpxw/201904/t20190410 292707.html (in Chinese).

China's Fair Competition Review System has undoubtedly contributed to the promotion of competition and development of a market economy in China. According to the World Bank Doing Business Survey, China ranked 46th in 2018, up from 78 in 2017. It further moved to 31th in 2019. We believe that these drastic changes, exactly during the time period where China started and was implementing its FCR can be seen as an indication of the impacts on creating a level-playing field for businesses of China's FCR System and its effort in combating administrative monopolies.

It is well worth pointing out that China's FCR criteria as mentioned above, "the 18 Don'ts" in particular, have a strong flavor of a *per se* rule: Any government regulation or policy containing provisions that violate any of the "18 Don'ts" will fail the FCR and must be modified accordingly. In other words, there is not much room for the use of economics in the routine work of FCR, except for the case of "exclusion" where one would need to consider alternative means of achieving the same policy goals which may require some quantitative economics. To the best of our knowledge, there has not been any use of economics in China's FCR so far.

4. The role of economics in antitrust in China

In the section, we combine a discussion of economic principles and their applications in several government cases to illustrate the use of economic analysis in the AML enforcement. Competition economics is widely seen in the areas of: (i) defining relevant antitrust market, (ii) monopoly agreements; (iii) abuses of dominance market position; and (iv) merger control.

In investigating all the three types of business conducts, defining the relevant markets is an important and almost a necessary step for all given cases. Horizontal agreements are treated as hard-core violations of the law and this is a clear consensus among law enforcers and academia. However, in China, RPM's practices have drawn obviously different treatments by the governmental agencies and the courts. We will point out the difference in this section and illustrate further with a follow-on case in the next section. Abuses and merger cases are usually the areas heavily relying on economic analysis. In this section, we will review a couple of government cases on abuses to show how economics helped the agency works, and summarize a handful of recent merger cases to illustrate how the agency encompasses economics knowledge.

4.1. Definition of relevant market

China's Anti-Monopoly Commission announced its Guidelines Concerning the Definition of Relevant Markets in 2019. The Guidelines recognize that "any competitive behavior (including any behavior that has resulted in, or is likely to result in, eliminating or restricting competition) occurs within a particular market scope. Market definition is to delineate the market boundary within which

World Bank, Doing Business Reports: 2020. https://openknowledge.worldbank.org/bitstream/handle/10986/32436/9781464814402.pdf; 2019, https://www.doingbusiness.org/content/dam/doingBusiness/media/Annual-Reports/English/DB2019-report_web-version.pdf; 2018. https://www.doingbusiness.org/content/dam/doingBusiness/media/Annual-Reports/English/DB2018-Full-Report.pdf

¹¹ See http://www.gov.cn/zwhd/2009-07/07/content_1355288.htm (in Chinese).

the business operators compete with each other (Article 2)." The Guidelines further state that defining the relevant market "plays an important role in key issues such as recognizing competitors and potential competitors, determining the market share of the business operators and the degree of market concentration, deciding the market position of the business operators, analyzing the impact of the business operators' behaviors on market competition, judging whether such behaviors are illegal or not and determining the legal liabilities they need to bear if their behaviors are illegal." As a result, relevant market delineation is usually the starting point of competition analysis and a necessary component in anti-monopoly law enforcements (Article 2).

In line with international standards, the Guidelines require the relevant products and geographical markets based on mainly demand substitution. When supply substitution factors rise as a source of competitive constraints, they would also be taken into account. The Guidelines also emphasize the use of the hypothetical monopolist test or the so-called SSNIP test in delineating the market boundaries. Defining relevant markets has become routine in China's AML enforcement, as can be seen in the public announcements of the cases dealt by both the government agencies and the courts. Standard economic concepts and techniques (SSNIP test, critical loss analysis, etc.) have been widely used in various types of the AML cases. Both factual evidence and statistical/econometric techniques have been increasingly practiced by the AML enforcement agencies and the courts when defining antitrust markets throughout the past 12 years, covering cases in monopoly agreements, abuses of market dominance, and merger reviews.

4.2. Use of economics in prohibiting monopoly agreements

The Chinese agency has investigated and imposed fines on a number of monopoly agreement violations of the AML during recent years, including auto-parts cartels among eight Japanese manufacturers, and vertical retail price maintenance cases in infant milk formula market and Chinese liquor market, respectively. As is well understood, the economics of overt cartel agreements such as price-fixing, bid rigging, market allocation, and output/sales quota is simple. Such horizontal agreements are always welfare-reducing and hence should be *per se* illegal without any need for assessing the competitive effects of such agreements. Agency's investigation over horizontal monopoly agreement is in line with the above well-accepted understanding, while the evidence is particularly focused on the overt communications among the key managers of relevant firms.

Of course, some forms of agreements even among competitors may be procompetitive, such as those for collaborative R&D, setting industry standards, or raising product quality or environmental protection. China's AML provides that such agreements may be allowed only if the participants can present evidence justifying the efficiency of their agreements. If and when such a defense is made, economic analysis will surely play an important role in verifying the procompetitive effects of such agreements and trading off those effects with the anticompetitive effects. So far, there has yet to be a report and/or announcement of formal cases of such non-core cartel agreements in China's AML enforcement.

However, there have been important controversies with regard to the competitive effects of vertical monopoly agreements under China's AML. As stated

above, two types of vertical agreements are prohibited under China's AML, namely fixing resale prices and limiting resale prices by setting minimum levels. Economic theories have shown that retail price maintenance (RPM) can have both pro-competitive benefits and anti-competitive harms. ¹² In theory, the debates should be resolved by evaluating whether an RPM provision would result in an overall adverse effect on competition and consumer harm. In practice, however, jurisdictions including the EU and the United Kingdom (although not the United States) still consider RPM to be a kind of *per se* violation of competition law. That is also widely regarded as the approach taken by the Chinese administrative agency in handling relevant cases.

In the landmark Johnson & Johnson judgement¹³ which is presented in the next section, the Shanghai Higher People's Court expressed the view that, in order to show that such an agreement constitutes a vertical monopoly agreement, a necessary proof is that the RPM agreement has caused significant adverse competition effects in the relevant market. However, as the *prima facie* concern, the Court alleged that Johnson & Johnson was dominant in the relevant market, and the adoption of RPM provision reduced the ability of its distributors to set resale prices freely.¹⁴ Since then, the Court system mainly adopts a rule-of-reason approach in judging the private litigations involving RPM. To render a judgement, the court tends to rely on an evaluation of the competition forces surrounding the litigants, followed by an analysis whether the alleged RPM is able to undermine the competition in the relevant market.

4.3. Role of economics in abuse of market dominance cases

The general provisions of Article 17 of the AML are supplemented by the Regulation on Anti-Price Monopoly and the Regulation on Prohibiting the Abuse of a Market Dominant Position, issued by NDRC and SAIC, respectively, in December 2010. 15 These two regulations (NDRC APM Regulation, and SAIC AMD Regulation, respectively) provide more specific guidance on the economic reasoning to be adopted by NDRC and SACI in determining market dominance as well as in assessing various types of abuse of market dominance conduct. 16

In 2019, three supporting regulations to the AML were issued and implemented, i.e. the Interim Provisions for Prohibiting Eliminating and Restricting Competition by Abuse of Administrative Power, the Interim Provisions for Prohibiting Monopolistic Agreements, and the Interim Provisions for Prohibiting Abuse of Market Dominance. These legal documents supersede the early regulations issued by NDRC and SAIC and provide unified and consistent guidelines towards monopoly agreements, abuse of dominance, and administrative monopo-

¹² See for example Mathewson and Winter (1984) and Winter (1993) on RPM's welfare-improving reason, and Rey and Tirole (1986) and Jullien and Rey (2007) on its anti-competitive effects. Rey and Stiglitz (1995) studied the competition effect of territorial restraints. Asker and Bar-Isaac (2014) explored the exclusionary effect of vertical restraints.

¹³ See http://www.competitionlaw.cn/info/1062/22226.htm (in Chinese).

¹⁴ See, e.g., Yu (2013).

¹⁵ The regulations are available (in Chinese) at http://www.gov.cn/fifg/2011-01/04/content_1777969.htm and http://www.gov.cn/fifg/2011-01/07/content_1779980.htm, respectively.

¹⁶ For an earlier review of China's treatment of abuse of market dominance, see Lin and Ohashi (2014).

lies, respectively. These three regulations reflect the accumulated experiences gained by the AML agencies in prohibiting monopoly agreements, abuse of dominance, and administrative monopolies over the years prior to the establishment of a single enforcement agency, namely SAMR in 2018. They will help unify the procedures and standards for AML enforcement.¹⁷

Next, we discuss how the Chinese agencies assess two types of abusive conducts, charging "unfair" prices, as specified in the above regulations. Then we present a review of three recent, high-profile cases, the Qualcomm case decided by NRDC in 2015, the Tetra Pak case by SAIC in 2016, and the Eastman case by Shanghai Administrations for Market Regulation in 2019. The Qualcomm case involves both unfairly high selling prices and tie-in sales. The Tetra Pak case concerns conditional discounts as well as tie-in sales. The Eastman case is mainly on minimum sales requirements with "take-or-pay" clause and "most favored nation" (MFN) clause, resulting in the effect of exclusive dealing.

4.3.1. The Qualcomm case (2015)

On February 10, 2015, NDRC fined Qualcomm CNY 6.08 billion (approx. \$975 million) for abusive patent licensing practices, the most severe competition fine ever given in China. 18

Qualcomm is a leading semi-conductor chip maker and holds a significant number of Standard Essential Patents (SEP) in wireless communication technology. The NDRC found that Qualcomm held dominant positions in a number of relevant markets, namely the license of SEPs for the CDMA, WCDMA and LTE wireless standards, and the supply of baseband chips. Qualcomm was found to have abused its dominant positions in three ways: excessive pricing, bundling, and unfair trading terms.

The NDRC found that Chinese mobile device manufacturers were charged unfairly high royalties by Qualcomm, constituting a violation of the AML. This finding is supported by the following evidence. First, Qualcomm refused to provide customers with a list of all patents included in its comprehensive licensing package, resulting in customers being charged for patents that had already expired. Second, Qualcomm imposed unfair cross-licensing conditions. The conditions forced customers to grant their own patents to Qualcomm for free, while on the other hand, Qualcomm refused to lower the royalties to compensate the value of the patents licensed to it. Third, the royalty rate was unfairly high and was applied to the wholesale prices of the mobile devices concerned.

The NDRC also found that, while licensing its SEPs, Qualcomm bundled its non-essential patents (for which Qualcomm held no dominant position) and forced customers to accept them together. Finally, the NDRC found that, in the sales of baseband chips, Qualcomm imposed unreasonable conditions, a non-challenge clause which forced Chinese customers not to challenge the validity of Qualcomm's patents.

¹⁷ See "CPI Talks with Mr. Zhenguo Wu", CPI Antitrust Chronicle, March 10, 2020.

¹⁸ The Chinese version of NDRC's decision can be found at http://www.ndrc.gov.cn/xzcf/201503/t20150302 754177.html (in Chinese).

4.3.2. The Tetra Pak case (2016)

Tetra Pak is a multinational food packaging and processing company, the leader in the industry. On November 16, 2016, after a thorough investigation lasting more than four years, the SAIC announced its penalty decision against the company, with a fine of \$97 million. The agency found that the company had abused its dominant market position in the liquid food aseptic carton packaging industry between 2009 and 2013, constituting an Article 17 violation.¹⁹

One of the key issues in this case concerns Tetra Pak's loyalty discount scheme in the sales of packing materials. SAIC conducted economic analysis on two main components of its discount scheme, namely (i) retroactive loyalty discounts, and (ii) customized volume-target discounts. Retroactive loyalty discounts refer to the discounts offered retroactively if, within a certain period of time (e.g., one year), a customer's cumulative purchase reaches a certain pre-determined threshold. In practice, Tetra Pak designed the threshold ladders and discounts based on customers' features. Further, Tetra Pak offered additional discounts based on a customer's purchase of two or more types of packaging materials.

Tetra Pak also applied volume discounts that were subject to individual volume targets. Those discounts usually applied to a given customer when its volume purchase during a given period reached or exceeded a fixed volume target which was set individually based on the characteristics of the given customer.

The economic reasoning adopted in the SAIC findings is based on the leverage theory that the EU adopted in its investigation on Intel. In its analysis, the SAIC considered that Tetra Pak's retroactive discount scheme resulted in a foreclosure of its competitors by inducing customers to stay loyal to Tetra Pak. Compared to other common types of volume discounts, the retroactive discounts had two distinct features, "retroactivity" and "cumulativeness" in volumes. Under this incentive scheme, to arrive at the thresholds and take the benefits of higher discounts, the customers were inclined to put most if not all demands to Tetra Pak's products. The SAIC also viewed that Tetra Pak's targeted discounts had the effect of "locking in" a customer's demand by setting the percentage or volume targets of purchases, thereby having an exclusionary effect on its competitor. The SAIC found that the market foreclosure effect was evident under both the retroactive discounts and volume targeted discounts, since those competitors could not utilize their production capacities to a sufficient extent.

The SAIC acknowledged that discounting is a common business practice. However, in the long run under Tetra Pak's dominant market position and its discount schemes, those loyalty discounts restricted the sales and capacity utilization rates of other packaging materials manufacturers. Their viability in the market was adversely affected, so were the market competition and the interests of customers.

4.3.3. Provincial AML enforcers and the Eastman case (2019)

As mentioned earlier, SAMR delegated a part of its enforcement power (in areas of monopoly agreement, abuse of market dominant position, and adminis-

¹⁹ See in Chinese, Tetra Pack Administrative Penalty Decision. http://www.competitionlaw.cn/info/1025/23864. htm. For a detailed description and discussion of the economic reasoning used in the case, see Fu and Tan (2019).

trative monopolies) to some 30 provincial AMR all across China in early 2019. Within that year, seven administrative cases on abusive conduct were made public by provincial AMRs, whereas four cases were penalized and the investigations of the other three cases were terminated. Among them, the Eastman case²⁰ investigated by the Shanghai AMR relied heavily on economic analysis throughout in defining the market, evaluating market dominance and assessing the competition effects of the alleged business conduct.

Eastman Chemical (China) Company is the subsidiary of Eastman Chemical Company, a multinational corporation headquartered in the State of Tennessee, U.S.A. In April 2019, Shanghai AMR made its penalty decision on Eastman (China) for its abusing market dominance in the sales of CS-12 coalescent, an additive input for the production of latex paints, in the period of 2013–2015.

Before 2013, Eastman was almost the only supplier of CS-12 in China. While two other Chinese firms started to enter the market and compete, Eastman altered its sales terms with its seven key clients. With six clients, the new terms specified minimum order quantity for each client each year, with a take-or-pay obligation. That obligation required a client to pay the full amount of minimum quantity at each year-end, even if the actual order amount did not meet the minimum requirement. With the last client, the new term also specified a yearly minimum order quantity; but conditional on meeting the quantity requirement, the client could enjoy Eastman's "most favored nation" treatment, mainly in terms of the selling price and the supply priority. Each contract had a length of two or three years.

As indicated in the public decision of the case, there were at least three challenges to the agency in evaluating the competition effects of Eastman's conducts. First, facing the competition of new entrants, Eastman's market shares gradually dropped by a large scale. Merely judging from the changes in market shares, it appeared that competition was real and intense, so exclusionary effect might not exist. Second, the key clients entered the new contract terms willingly instead of being forced to.²¹ Third, there were hundreds to thousands of other clients, not under the restrictions of Eastman's long-term contracts of any kind, albeit they were of much smaller size than those key ones. The latter two challenges are typical in abuses' cases, and are essential to understanding the causes and externalities of those long-term contracts.

To fully and reasonably evaluate Eastman's selling strategy, the agency adopted economic reasoning, particularly a game-theoretical view coupled with empirical supports. The incentives and benefits of all closely-related parties were evaluated in the case, including Eastman, its competitors, those key clients and all the other buyers.

CS-12 demand was unevenly distributed among downstream buyers. Those seven key clients of Eastman were the largest buyers in the market. In 2015 alone, they jointly contributed more than 20% of total CS-12 sales in China. And their purchases were stable and predictable. On the other hand, there were thousands of

²⁰ One of the authors of this paper provided expert service to the Shanghai AMR in this case. The view expressed here is purely our own, not reflecting the agency's view. The public decision can be found at http://www.samr.gov.cn/fldj/tzgg/xzcf/201904/t20190429_293241.html (in Chinese).

²¹ This view also appeared in Zhang and Gong (2020). The two authors assisted Eastman in the case investigation.

small buyers in the market, widely dispersed across the large geographic market. Their demands were volatile and tiny compared to key clients. This is the starting point to understanding the mechanism of Eastman's strategy.

Under the above unique demand feature among its buyers, the two kinds of long-term contracts (minimum quantity requirement plus take-or-pay obligation, and minimum quantity requirement plus MFN clause) helped Eastman lock-in those key clients once they agreed to sign. Particularly, they would be unwilling to switch to any of Eastman's competitors, because take-or-pay obligations were high or the MFN benefit was attractive. This left the competitors able to only sell to those small buyers, and compete against Eastman in that market segment.

The smaller buyers were volatile, in the sense that their (individual) demands were more driven by non-price factors and were less sensitive to CS-12 prices than those key clients. That would reduce the incentives of all CS-12 suppliers to engage in a price competition, because a price reduction would not lead to a sufficient increase in sales. The actual transaction prices did show that the average prices paid by smaller buyers were significantly higher than those key clients supplied by Eastman. Hence, a price differential emerged in the CS-12 market. Each key client could enjoy a better price if it chose to enter a long-term contract with Eastman, and each of them did.

The business logic and competition effect of Eastman strategy coming from those two routes worked simultaneously. By locking-in key clients, the competition only stayed within the portion of the market of smaller buyers. A higher price for uncontracted buyers induced the key clients willingly to be locked-in by Eastman.

Interestingly, Eastman unilaterally removed take-or-pay obligations to all of its buyers in January 2017, before the agency's official investigation. The market quickly observed reduced margins of all the three suppliers. This could be seen as a counterfactual evidence, namely what would have happened if there had been no such purchase obligations from Eastman, to prove the anti-competitive effect of the sales term.²²

The agency considered the justifications provided by Eastman: the long-term contracts could help ease the production plans, reduce the risks in a volatile market and non-necessary transaction costs (such as re-negotiations) for both buyers and seller. However, in balancing the pro- and anti-competitive effects, the agency found that the demand lock-in effect of both take-or-pay clause and MFN clause is overly strong, resulting in tremendous switching costs to those key clients. The justifications could not outweigh the damages to competition, the agency concluded. Eastman was ordered to cease the illegal conduct and fined 5% of its turnover in 2016 in the relevant market, approximately \$3.5 million.

This Eastman case was a recognized work by local AMR. Prior to that, a provincial AMR could not initiate an AML investigation until it obtained an authorization from the SAMR. The delegation of enforcement power by SAMR in 2019 is a milestone for China's AML enforcement. It can be said, and as the above dealing of the Eastman case by Shanghai AMR demonstrates, the dele-

²² This line of reasoning is in accordance with the economic literature started by Aghion and Bolton (1987) which is to identify the external effects of selling contracts. Rasmussen et al. (1991), and Segal and Whinston (2000) are two influential papers analyzing the external effects at the buyer side. More recent works include Calzolari and Denicol (2015). Bernheim and Heeb (2014) provided a good summary on the implications of this literature for antitrust enforcement.

gation of enforcement power has greatly enhanced the effectiveness of China's AML enforcement, as the local officials have a greater autonomy and are more active in enforcing the law and promoting market efficiency in their jurisdiction. It can even be expected that the Eastman case will create a "demonstration effect" to other local AMRs in terms of initiating AML investigations as well as using economics in their investigations and decisions.

4.4. The role of economic analysis in merger review

The economic principles underpinning the merger control policy in China are the same as in many other jurisdictions. Mergers are generally assessed centered on whether negative effects of a merger outweigh its beneficial effects to society, thus leading to adverse effects on competition. The economic reasoning adopted in China's merger control regime can be found in the Interim Regulation on the Assessment of the Competition Effects of Concentrations of Undertakings under the Anti-Monopoly Law.²³ Negative effects of a merger usually take the form of rising prices, reduced services, and/or slower rate of innovation. The Interim Regulation specifically recognizes the efficiency gains associated with a merger stemmed from economies of scale/scope (Article 9).²⁴ Although not explicitly stated, it is widely understood that the restriction on competition from a merger needs to be substantial to justify a prohibition under the AML, which again is consistent with the general practice in other jurisdictions.

4.4.1. Economic theories for competition review of horizontal mergers in China

The substantive test adopted by the merger review agency (MOFCOM prior to 2018 and SAMR afterwards) is whether a transaction will, or will likely, eliminate or restrict competition in the relevant market. Two types of competition harms in horizontal mergers are particularly looked at by the agency. A "unilateral effect" refers to the tendency that a merger may enhance the market power of merging parties, since the merger can remove the competitive constraints between them, thereby raising the ability and incentive of the new entity to increase price, decrease output, reduce innovation, or compromise product quality. A "coordinated effect" is also at issue. Mergers alter market structure and hence may facilitate collusion among competitors in the relevant market. These two theories of harms also appear in the EU 2004 Horizontal Merger Guidelines and the US 2010 Horizontal Merger Guidelines. For vertical mergers, the standard theory of foreclosure is often used in merger review.²⁵

The earliest published decisions regarding horizontal mergers did not explicitly mention specific theories of harms by MOFCOM. However, as experience accumulated, it started to formally apply the established theories of harms in evaluating competition matters. The review of *Novartis and Alcon merger* (August 2010) was one of such endeavors. In it, the agency based its decision on coordinated effect theory of harm to conditionally approve the merger. Prior to the merger,

²³ See http://www.gov.cn/zwgk/2011-09/02/content_1939083.htm (in Chinese).

²⁴ Efficiency considerations, however, are often not mentioned in the published decisions of MOFCOM/SAMR.

²⁵ For a review of China's merger control regime, see Lin and Zhao (2012).

Novartis and Alcon combined a global market share of 55% in ophthalmologic and anti-inflammatory and anti-infection products, and the share in China was 60%. The merger could also let the parties control over 20% in contact lens care products in China, ranked as the second-largest supplier in the market, after a Taiwanese firm Ginko International Co. MOFCOM found out that Ginko and a Novartis' wholly-owned subsidiary in Shanghai had in place a sales agreement. It held that the merger "would likely lead the merged firm to coordinate its actions with Ginko when setting prices, quantities, and supplying various geographical markets, thereby likely having the effect of eliminating or restricting competition." Based on the findings, MOFCOM approved the merger with a condition that Novartis and Ginko must terminate their sales agreement.

In another case, in *Baxter/Gambro (2013)*, MOFCOM concluded that the parties competed horizontally in the markets for the supply of CRRT and related products. Both Global CRRT market and Chinese CRRT market were highly concentrated already. In the Chinese CRRT market, NIPRO, Gambro and Baxter had market shares of 26%, 19% and 3%, respectively. Before merger, NIPRO was the contract manufacturer for Baxter. After merger, the new entity and NIPRO would be the two main suppliers in the market, with a combined market share of up to 48%. The manufacturing contract between NIPRO and Baxter contained information about production costs and quantities, which implied NIPRO and the new entity would have incentives and the ability to coordinate with each other to reduce competition post-merger. Further, entry barriers to CRRT market were high due to large investment costs, long required to build sales network, and licenses of patents. The merger was approved by MOFCOM with the condition of divestiture of Baxter's global CRRT production line.²⁷

The unilateral effect theory was first explicitly utilized in the *United Technologies/Goodrich case* (2012). In its review, MOFCOM analysis showed that the merged entity had a market share of 84% post-merger in the global AC generator market, and HHI would increase from 7158 to 8886. MOFCOM then concluded that, due to a lack of comparable competitors, the merger would enhance the dominant position of parties. As a result of merger, downstream customers would have fewer options left. Parties had incentives to raise prices post-merger.

4.4.2. Economic framework for assessing non-horizontal mergers in China

As in other jurisdictions, SAMR has not hesitated to raise foreclosure concerns in many cases, particularly when one or both parties have a relatively strong market power in their respective markets. Generally speaking, two types of foreclosure concerns may arise from a vertical merger. (1) Input foreclosure arises when post-merger, the merged firm is able to restrict the access of downstream rivals to its upstream products that it would have supplied in the absence of the merger. Such restriction to access could raise downstream rivals' costs and reduce competition in the downstream market. The lessening of competition could potentially

²⁶ See Notice of the Ministry of Commerce of the People's Republic of China, No. 53, 2010. http://fldj.mofcom.gov.cn/aarticle/ztxx/201008/20100807080639.html (in Chinese).

²⁷ See http://www.mofcom.gov.cn/article/b/e/201308/20130800244249.shtml (in Chinese).

have adverse effects on end consumers. (2) Customer foreclosure arises when an upstream firm vertically integrates with an important downstream customer. Such integration may enable the merged firms to restrict its upstream rivals' access to this important customer. If this customer is sufficiently large, such restriction could reduce upstream rivals' ability to compete by taking away a significant part of their revenue and increasing their average costs of supply. That in turn could raise downstream rivals' costs and allow the merged firms to profitably increase prices in the downstream market.

The main theory of harm underlying conglomerate effects is that the merging parties will leverage their (strong) position in one of the markets in question in order to foreclose rivals in the other market. In terms of the actual way in which this could be achieved, competition authorities typically consider the tying or bundling of products, or in some circumstances the "portfolio effect".

Table 1 summarizes SAMRs decisions of the five conditionally approved cases in 2019. The five cases range from the concentration of businesses in the horizontal, vertical aspects of the merging parties to mixed mergers. ²⁸ As can be seen from Table 1, SAMR applied standard theories of harm to these cases. In particular, its decisions were based on concerns over possible unilateral effect in cases 2, 4, and 5, and on coordinated effect in case 3. For the vertical aspects of cases 1 and 4, SAMR applied the theory of input foreclosure and customer foreclosure, respectively. The remedies imposed in these cases were based on applications of these standard economic theories of competition harm by SAMR.

It is worth pointing out that in its conditional approval decision of the *II-VI's* acquisition of Finisar case, SAMR stated explicitly its concern over the possible coordinated effect that would be caused by the proposed merger:²⁹

"post-merger... the number of competitors would be reduced from 3 to 2, with main competitors of similar size. The transaction would enhance the symmetry of the two remaining competitors, thereby raising their incentive to collude and avoid price competition. Furthermore, since the purchases by downstream customers are often made via auctions, the competitive bidding strategy of each of the two suppliers can be easily inferred by other supplier from the bidding outcome. This would increase the likelihood of coordination."

As can be seen, not only did SAMR state explicitly that it was concerned over the coordinated effect of this merger, it also spelled out the channels in which it believed the coordinated effect would take place, namely the size symmetry between the merged party and the other main (non-merging) competitor in the market, as well as the nature of competition in the market. This is perhaps the first case where the Chinese AML enforcer had explicitly stated its reasoning of the channels of coordination effect in a horizontal merger since the law launched. This case can be viewed as another clear indicator of the confidence and level of competence of the merger control staff in SAMR.

²⁸ See website of SAMR (in Chinese): http://gkml.samr.gov.cn/nsjg/xwxcs/201902/t20190220_290940.html; http://gkml.samr.gov.cn/nsjg/fldj/201907/t20190712_303430.html; http://gkml.samr.gov.cn/nsjg/fldj/201909/t20190924_307000.html; http://gkml.samr.gov.cn/nsjg/fldj/201910/t20191018_307458.html; http://www.samr.gov.cn/fldj/tzgg/ftjpz/201912/t20191220_309365.html

²⁹ See http://gkml.samr.gov.cn/nsjg/fldj/201909/t20190924 307000.html

Table 1

Conditional approval merger cases by State Administration for Market Regulation (SAMR) in 2019.

No.	. Case name	Approval date	Industry and relationships between undertakings	Theory of harms	Remedies imposed
_	KLA-Tencor's acquisition of Orbotech	Feb. 13, 2019	Semiconductor; Vertical & conglomerate	Input foreclosure	Merged parties shall (1) continue to supply downstream Chinese manufacturers on fair, reasonable and non-discriminatory ("FRAND") terms for five years; (2) not impose tying or additional unreasonable transaction terms; and (3) not obtain competitively sensitive information about downstream Chinese manufacturers.
2	Cargotec's acquisition of business of TTS Gruppen	Jul. 5, 2019	Marine equipment; horizontal	Unilateral effect	Shall hold their businesses separate in China for two years, shall not increase price unfairly, refuse to deal, and maliciously delay delivery, etc.
3	II-VI's acquisition of Finisar	Sept. 18, 2019	Optical communication; horizontal, vertical, conglomerate	Coordinated effect; input foreclosure	A hold-separate remedy for three years, as well as setting up firewalls to prevent exchanging competitively sensitive information; shall continue supplying WSS on FRAND terms.
4	JV between Garden Biochemical and Royal DSM	Oct. 16, 2019	Pharmaceutical; horizontal & vertical	Unilateral effect; customer foreclosure	Shall keep their vitamin D3 businesses completely independent for five years; shall not reach agreements that Royal DSM must purchase all cholesterol needed to produce vitamin D3 from the Garden Biochemical.
5	Novelis's acquisition of Aleris	Dec. 20, 2019	Aluminum products; horizontal	Unilateral effect	Divesture of interior & exterior sheet businesses in the European Area;
	-				

Source: Compiled by the authors.

5. Private actions and acceptance of economic evidence in courts

AML private litigation in China is another area which started to attract increasing attention from international observers, and it is the one that has, to some extent, significantly influenced the competition policy debates in China. Compared to most of the decisions publicized by the administrative agencies, court judgments often contain the parties' claims and arguments, the evidence considered and the reasoning behind the court's rulings in details.

The AML allows for both stand-alone and follow-on private actions. Parties subject to AML litigation are allowed to submit an expert economist's opinion to the court in the form of written reports, and to provide oral testimony at the hearings.

5.1. Stand-alone cases

Among many, two landmark stand-alone AML cases in China are *Rainbow v. Johnson & Johnson*, which related to RPM issues, and *Qihoo 360 v. Tencent*, which disputed abusive conduct. In both cases, courts made notable attempts to adopt economic arguments and reasoning in their rulings. As with many other landmark decisions around the world, the two judgments attracted further debates on the applications of economics and their soundness in court rooms.

Rainbow v. Johnson & Johnson was the first AML private action on vertical agreement. In its judgment made in August 2013, the Shanghai Higher People's Court ruled that a necessary component to prove that RPM constitutes an AML violation is to demonstrate its significant adverse effect on competition. Based on the delineation of relevant market and the evaluation of the market positions of litigants, the court found that the defendant enjoyed the dominance in the case's market. Thus, the court essentially considered that the reduction of intra-brand competition (e.g. competition between distributors of the same brand) would be sufficient to meet this effects-based test. On the other hand, given the fact that in that case there was no strong evidence suggesting that the RPM had affected competition in the overall markets (i.e., inter-brand competition between upstream suppliers), the judgement opened up debates not only concerning the competition analysis of RPM, but also the applicability of economics in legal disputes.

Qihoo 360 v. Tencent was the first AML case judged by the Supreme People's Court (SPC) of China. Both sides of the case were attended by international economists to testify. This SPC judgment marks the application of economics in AML private cases, and provides significant insights into the SPC's largely effects-based approach to assessing alleged abusive conduct. The case showed the ability of the SPC judges to engage in complex economic issues and to handle the economic reasoning /evidence made by both parties. Moreover, the case and the judgement encouraged private litigants in subsequent cases to blend in third-party economists in their pursuits, in particular on matters involving standard essential patents (SEPs), for example, the Samsung/Huawei case, the Hitachi Metals dominance case in 2015 and many others.

³⁰ See the SPC ruling on Qihoo 360 v. Tencent (in Chinese). https://cgc.law.stanford.edu/zh-hans/judgments/spc-2013-min-san-zhongzi-4-civil-judgment/

It is worth noting that, in most private cases, the two sides of litigants are usually dramatically different in their sizes, financial capabilities and knowledge of competition laws. A majority of plaintiffs failed to credibly convince the courts of their definitions of relevant markets, so those cases were ended without assessment of competition. One exception is Yingding v. SINOPEC ruled by Yunnan People's Higher Court in 2017. The court eventually accepted the small market definition argued by the plaintiff but eventually dismissed the anti-monopoly claims based on an evaluation of efficiency justifications provided by the defendant.

5.2. Follow-on cases and further discussion on RPM

Following AML enforcement agencies' penalty decisions, several private action cases were brought to the courts in China. Among them, debates surrounding RPM issues are exemplified. In this part, we use the Hankook cases to further illustrate the divergence between *per se* and rule-of-reason approaches to RPM.

The Hankook Tire case is acutely interesting to highlight the disparity in legal approaches toward RPM. Hankook is a major tire supplier for all types of automobile vehicles (including passenger cars, trucks, buses, racing cars, etc.) in China, largely through its authorized local dealers.

In April 2016, Shanghai Price Bureau³¹ issued a penalty decision, amounting to 1% of Hankook's sales revenue in the relevant market, for its violation of AML Article 14(2). The supporting evidence, as shown in the published decision, mainly included (1) the stylized Agreement for Authorized Dealer in 2012 and 2013 explicitly indicated the responsibility of the signing parties to maintain different resell price floors set for the distributors, resellers and consumers; and (2) Hankook enforced the price discipline among its dealers via various business arrangements, such as issuing different price menus of tire products for resellers and consumers and fining the dealers who violated the RPM requirements. Based on the evidence, the Bureau concluded that the RPM practice by Hankook was factual, and it restricted, or eliminated competition, and caused damage to both consumers and public interest.

Following the administrative decision, Bright Company, a Hankook's dealer in Wuhan city between 2012 and 2016, sued Hankook for a violation of AML's clauses on RPM and abuses of market dominance to the Shanghai Intellectual Property Court, and claimed a compensation of damages for about RMB 31 million (approximately \$4.4 million). Hankook defended that the RPM requirement had been removed in Dealer Agreements since 2014, and it was never a dominant player in either China or global market, so there was no basis for abuse. In July 2018, the Shanghai Intellectual Property Court rendered its judgement in which all the plaintiff's claims were dismissed.³²

The judgement re-emphasized the ruling principle in Johnson & Johnson's RPM case as mentioned above: whether or not a RPM agreement constitutes a monopoly agreement must be based on its competition effects in the relevant market. The effects can be analyzed through (1) whether the relevant markets are

³¹ Shanghai Price Bureau was the enforcer of price-fixing and RPM cases at the time of the decision in Shanghai municipality.

³² See, e.g., http://news.sina.com.cn/o/2018-07-27/doc-ihfvkitx5948340.shtml (in Chinese).

sufficiently competitive; (2) whether the defendant has strong market position and power; (3) whether the defendant has economic incentive in implementing RPM; and (4) what are the likely intra- and inter-brand competition effects due to the RPM. In essence, to the contrary of the approach adopted by the AML administrative enforcer, the Court paid special attention to inter-brand competition in this case, by considering whether the other tire brands exerted significant competition forces restricting the market power of the defendant.

In the Hankook's private case, the Court defined three relevant markets, namely "Tire market for passenger cars", "Replacement-tire market for passenger cars" and "Replacement-tire wholesale market for passenger cars", to evaluate the likely effects of alleged conduct. Among them, the replacement-tire market is believed to be the most affected one, in terms of consumer benefit. The Court found that competition in this market was sufficient because there were tens to hundreds of tire brands in each of the low-, mid- and high-ends of replacement-tire sub-markets. The defendant's products belong to a mid-end sub-market in which inter-brand competition was intense. The sales volumes increased and RPM prices dropped over the years. The Court further indicated that there was no evidence to show competition elimination or restriction by Hankook's RPM conduct. Henceforth, Hankook was found to have no market dominance and the alleged RPM, as well as other resell restrictions, did not constitute anti-competitive effects.

The Hankook case, along with the Johnson & Johnson case mentioned earlier, highlights the divergent treatment of RPM by the AML enforcement agency and the courts in China. In essence, we think, this divergence of approach stems from the different understanding of the economics regarding the potential competition effects of RPM. This divergence is likely to continue to be present for years to come, perhaps until the AML is revised as China has started doing.

In its landmark ruling on the appeal of an RPM case regarding Yutai in June 2019, the Supreme People's Court of China (SPC) acknowledged and reaffirmed the obviously different review criteria adopted by the AML enforcement agency and the courts with respect to the legality of RPM. The SPC further ruled that it is not improper for courts to employ a rule-of-reason approach to determine if a vertical agreement eliminates or restricts competition. But the AML enforcement agency by contrast should treat vertical agreements including RPM as monopoly agreements and *per se* AML violations without the burden of proof for anticompetitive effects. The SPC stated that RPM agreements often have a double-edged effect that both limits and promotes competition. However, because market conditions in the Chinese economy at present are relatively weak, AML enforcement agency should emphasize prevention of the anti-competitive effects of RPM.³³

6. Challenges and concluding remarks

China has made significant achievements in its AML enforcement during the past twelve years. As reviewed and discussed in this paper, China has been active in tackling anti-competitive agreements, abuse of market dominance and

³³ See China's People's Supreme Court, Administrative ruling, No. 4675, 2018 (in Chinese). https://www.iphouse.cn/cases/detail/1qdgw5827okrj39wk42j0y39ex4zvpnm.html?keyword=%E6%B5%B7%E5%8D%97%E8%A3%95%E6%B3%B0

anti-competitive mergers and acquisitions, as well as in fighting the so-called administrative monopolies. In terms of enforcement structure, China had established a single national competition authority, SAMR, by combining the previous three-pillar AML agencies. There has been an increasing number of private action cases brought to and considered by Chinese courts which supplement the public enforcement of the AML. In all these areas, economic theories and reasoning have been applied to AML enforcement in a way consistent with modern competition economics and international best practice.

As the second largest economy in the world, and with a fast-growing Internet and digital sector, China faces new challenges in the years to come in its competition policy developments. In January, 2020, SAMR released the "Draft revision of the Anti-Monopoly Law of China", for public consultation. The Draft contains changes in a number of areas, including incorporating specific consideration of the Internet sector into the law. Specifically, the Draft AML Revision provides some new tools for the AML authorities to designate internet companies as "market dominant". Factors that the AML authorities can now consider include network externalities, economies of scale, lock-in effect, and capability of collecting and processing data. This change reflects the significant role that internet companies now play in China's economy and the influence that they exercise over consumers.

While the above factors reflecting fundamental features of the new economy will undoubtedly become more and more important in future for China's economy and its AML enforcement, it may be debatable that a specific sector, namely the Internet sector, should be explicitly stated in a country's competition law. An alternative is to incorporate such key features of the new economy as network effect, consumer lock-in and essentiality of data in the revised law, without limiting their applications to just the Internet sector. That would enable the new law to embrace not only the Internet sector, but also all other sectors that exhibit some or all of these key features, those related to but not belonging to the Internet sector. In any case, it can be expected that increasing use of economic theories with respect to network effect, multi-sided market, and data-related anti-competitive conduct, and so on, will be observed in China's AML enforcement in the years to come.

Another area in which we think improvements are needed is the individual liability in the AML. Currently, there is no individual punishment for any anticompetitive behavior under the AML; only a fine of 1% to 10% of the sales revenue of the undertaking in the previous year can be imposed. Including some forms of individual liability, such as disqualification of directors which are available under competition laws of many jurisdictions including Hong Kong, would certainly further enhance the deterrence effect of China's AML.

Thirdly, China's AML enforcement would benefit greatly from an increase in enforcement resource and capacity building. Currently, SAMR has around forty staff members responsible for AML enforcement. While provincial AML enforcer (about 30 of them) can tackle conduct for reaching and implementing monopoly agreements and abuse of market dominance that take place within a given province, SAMR still needs to monitor and deal with cross-regional and national anti-competition behavior, as well as review of all merger notifications it receives. The size of staff in the SAMR is no comparison with its counterpart competition enforcement agencies in developed countries which usually house several hundred staff members. One can reasonably expect that AML enforcement in China will

require even more sophisticated analysis during the next decade. It is therefore imperative for China to expand its AML enforcement manpower and resources. At the provincial level, continuous staff training and capacity building will undoubtedly further increase the competence of local AML enforcement personnel.

Lastly, as discussed in the paper, prohibition of administrative monopolies is a special feature of China's Anti-Monopoly Law which is believed to have constrained China's effort in developing a unified market economy. Given the geographic sizes and rapid changes of each of the provincial economies, there remain many government regulations (new or existing) that require fair competition review. While by now most, if not all, of the provinces/cities/counties in China have set up the FCR joint-meetings, and over half a million policy proposals and existing regulations have been reviewed since China introduced its FCR System in 2016, it will be a challenge for the country to carry out its planned nation-wide FCR in a cost-effective way.

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