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China's Social Credit System
A Chimera with Real Claws

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Executive Summary

Since the State Council published a "Planning Outline for the Construction of a Social Credit System (2014-2020)", all administrations and localities in China have been busy figuring out ways to develop social credit systems relevant to their own jurisdiction, while a few corporations have also been experimenting with private social credit ratings, more akin to loyalty schemes, in conjunction with the policy.

From this hotchpotch of experimentation, two distinct instruments are taking shape in the so-called public system: first, personal credit ratings managed by localities, and secondly, blacklists of individuals and companies managed by sectorial administrations (the Supreme People's Court, the Tax Department, Department of Agriculture, etc). Arrangements across administrations and corporate partners enable the implementation of rewards and punishments attached to the blacklists, while personal ratings carry only perks.

The overall goal of the system is to strengthen law enforcement, in a context where the judicial system fails to properly deal with misdemeanors and where people can get away with repeated infractions. Ratings and blacklists are meant to create additional leverage to encourage and coerce citizens into complying with laws and regulations.

This analysis describes the different features of the often-misunderstood Social Credit System, and uses the metaphor of a chimera to discuss some of its problematic aspects. The chimera, in ancient Greek mythology, is a fantastic, monstrous creature with limbs from different animals, and it has come to symbolize a mismatched assemblage of various parts of a different nature.

Comparing the Social Credit System to a chimera emphasizes its patchwork, decentralized and bureaucratic character. Thus far, the system is an assemblage of heterogeneous indicators and enforcement mechanisms, which differ according to the geographical location individuals finds themselves in, and the kind of personal or professional activities they are involved in. Secondly, the data collection and management is mostly done at the local level or within specific administrations. Contrary to widespread misunderstanding, the system uses data already collected by administrations in their ordinary activities, and not directly data from the surveillance apparatus. It is generally quite low-tech, as such simple lists do

not need big data or AI-style processing. Moreover, only the blacklists, rather than the raw data, are channeled onto national platforms for integration and publication, often on a monthly basis and certainly not in real time.

Another angle that the chimera metaphor highlights is that the very idea that all dimensions of one person's interactions with laws and regulations at various levels can be rounded up into a single indicator is a fantasy. This is the case of personal points systems at the level of municipalities, but even more of the initiatives by private companies that propose credit ratings as a commercial service, based on a vast and heterogeneous range of data. It is these points systems that have most excited the imagination of foreign commentators. Commercial credit ratings use big data and AI technology, and private companies are likely to develop increasingly sophisticated tools for the visualization of public blacklists. The lack of transparency and high risk of algorithmic bias mean that more high-tech does not make these constructions any less chimeric. However, the implications for reputation and risks in terms of misuse of personal data are real.

With blacklisting, on the other hand, more and more individuals and company representatives find themselves confronted with punishments that restrict their mobility, their ability to take loans, or to access certain kinds of jobs, for instance. This coercive mechanism purposely challenges notions of data privacy and proportionality of sanctions, and bears the risk of enforcing extralegal norms at the local level. However, the Social Credit System only amplifies previously existing shortcomings of the rule of law in China, such as excessive data collection or vague norms that can be instrumentalized for commercial or political purposes. This political and regulatory background makes the Social Credit System stand out from global trends, as using points systems (for driving licenses, for example) and blacklists (criminal records) are increasingly common governance instruments around the world.

The Social Credit System has real-life consequences, for individuals as well as for businesses with a foot in China. One has to be wary of myths and yet prepared to pay attention to the concrete impacts of these ratings and blacklists, by looking at the localized, specific measures and countermeasures that involve a variety of actors pulling and pushing the levers of a complex administrative machine.

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Introduction: the Chinese Social Credit System as a chimera

In April 2019, a Chinese high school teacher was put on a "social credit blacklist" by Wulian County's Education Bureau in the Chinese province of Shandong because he had used corporal punishment on students who had skipped school.[1] The blacklisting came in addition to, and because of, other administrative measures taken by the school and the Education Bureau, such as loss of salary and bonuses, forced apologies to the students, and eventually the termination of his work contract. As a consequence of the public blacklisting, the teacher would not be eligible for any service awards for five years, and the stain on his reputation would make it difficult for him to find jobs in the future. This decision sparked great controversy because of the tough, long-lasting consequences of the punishment. The outcry eventually led to the withdrawal of the blacklisting by the Education Bureau.

The case also generated more general criticism about the implementation of the Social Credit System, a massive governance project that has received much attention in recent months. Since the State Council published a "Planning Outline for the Construction of a Social Credit System (2014-2020)", all administrations and localities in China have been busy figuring out ways to develop social credit systems relevant to their own jurisdiction, while a few corporations have also been experimenting with private social credit ratings in conjunction with the policy. From this hotchpotch of experimentation, a patchwork of overlapping points systems and blacklists is emerging, together with arrangements across administrations to implement rewards and punishments. The plan applies to individuals as well as companies and their representatives.

The Social Credit System is intended to solve a wide range of social issues in four fields: governmental affairs, trade, society and the judicial system. The Planning Outline provides a shopping list of problems to solve

The author thanks the staff of Ifri and an anonymous reviewer for their valuable remarks and suggestions.

1. 徐笛, "山东五莲回应"教师体罚被纳入信用黑名单": 未进入全国系统," *The Paper*, July 11, 2019, https://www.thepaper.cn.

in each of these fields, from rigged procurement procedures and food safety issues to the mismanagement of dangerous chemicals and the manipulation of drug prices, for instance. But the most prominent issue seems to be that of the "deadbeat borrowers" (*laolai*) who never repay their debts. The overall challenge is that of law enforcement, in a context where the judicial system fails to properly deal with misdemeanors and where people can get away with repeated infractions.[2] The goal of the ratings and blacklists is thus to create additional leverage to encourage and coerce citizens into complying with laws and regulations. However, the vast ambition of the project, its reliance on data to achieve governance objectives, and a lack of clarity about the exact scope and technical features of the system, have provoked widespread numerous criticism in China, and even more so abroad.

The following analysis describes the main features of the Social Credit System as it appears today, with a view to clarifying how different public and private institutions are involved in the project, and how they sometimes interact and share data. In doing so, it is useful to use the metaphor of a chimera. The chimera, in ancient Greek mythology, is a fantastic, monstrous creature with limbs from different animals, and it has come to symbolize a mismatched assemblage of various parts of a different nature.

Comparing the Social Credit System to a chimera highlights its patchwork, decentralized character. First, the personal social credit system set up by localities is quite different from the points systems and blacklists devised by sectoral administrations, and even more different from commercial initiatives, although they are all developed under the umbrella of the Social Credit System. Thus far, the system is an assemblage of indicators and enforcement mechanisms that differ according to the geographical location individuals find themselves in, and to the kind of personal or professional activities they are involved in. Secondly, while the blacklists are channeled onto national platforms for publication,[3] the data collection and processing is mostly done at the local level or within specific administrations, and the challenges of achieving further coordination and data-sharing between operators are overwhelming.

The decentralized character of the Social Credit System means that localities, administrations and businesses set up new arrangements by trial-and-error, using their own interpretation of national plans. In Wulian, the controversy emerged despite the fact that the district had been awarded the title of "Demonstration city for the building of the Social Credit System in

2. A reform of the judicial system in 2014 was also intended to solve some of these issues. See A. H. F. Li, "Centralisation of Power in the Pursuit of Law-based Governance: Legal Reform in China under the Xi Administration," *China Perspectives*, Vol. 2016/2, pp. 63-68.
3. More information at: www.creditchina.gov.cn.

Shandong province" in December 2018.[4] The Education Bureau also clarified that the local blacklist was not connected to blacklists at the national level. This problem is hardly an isolated case. Indeed, the National Development and Reform Commission (NDRC), which is responsible for the planning of the Social Credit System at the national level, announced in July 2019 that the system needed improvements in terms of the legal basis for punishments and interpretation of the definition of social credit.[5]

Another angle that the chimera image highlights is that the very idea that all dimensions of one person's interactions with laws and regulations at various levels can be rounded up into a single indicator is a fantasy. This is the case for personal points systems at the level of municipalities, where such things as citizens' traffic offenses, failure to pay electricity bills, or lack of care for their elderly are rounded up in an aggregated score; but it applies even more to the initiatives by private companies that propose credit ratings as a commercial service, based on a vast and heterogeneous range of data. Indicators purporting to condense the polysemic "creditworthiness" concept into one figure, or even into a binary blacklisting system, are artificial constructions with little relationship to the complicated realities of life. It is these points systems that have most excited the imagination of foreign commentators, sometimes leading to erroneous dystopian interpretations,[6] although they usually provide rewards and no punishments.[7]

With blacklistings, on the other hand, more and more individuals and company representatives find themselves confronted with punishments that restrict their mobility, their ability to take out loans, or to access certain kinds of jobs, for instance. This is done in a way that is intentionally disproportionate, as expressed in an oft-cited phrase of the Planning Outline: "Use credit information exchanges and sharing to bring about linked credit rewards and punishments that cross multiple departments and regions, making it so that the trustworthy benefit at every turn and the untrustworthy can't move an inch."[8] In fact, one of the more articulated criticisms in the Shandong teacher's case is the idea that such a flagging

4. "我市五莲县荣获首批"山东省社会信用体系建设示范城市"称号," *Credit China*, December 12, 2018, http://credit.rizhao.gov.cn.

5. "China to Improve, Prevent Abuse of Social Credit System," *Global Times*, August 18, 2019, www.globaltimes.cn.

6. J. Daum, "China through a Glass, Darkly," *China Law Translate* (blog), December 24, 2017, www.chinalawtranslate.com.

7. D. Lewis, "All Carrots and No Sticks: A Case Study on Social Credit Scores in Xiamen and Fuzhou," *Medium*, October 8, 2019, https://medium.com; "代睿, "国家发改委副主任：不能以低信用分为由限制自然人基本公共服务权," *Tengxunwang*, July 18, 2019, https://new.qq.com.

8. State Council, "Planning Outline for the Establishment of a Social Credit System (2014-2020)," translated by Jeremy Daum, *China Law Translate*, April 27, 2015, www.chinalawtranslate.com.

system should not be used beyond the financial realm, in sectors where it is inappropriate and disproportionate.[9]

The chimera metaphor is thus an invitation to observe the Social Credit System with a critical eye. One should not understand the system as a uniform device or believe too much in its ability to achieve its intended goals. However, in its concrete implementations at the local and national level, the Social Credit System has real-life consequences, for individuals as well as for businesses with a foot in China, and for governance in general. One has to be prepared to pay attention to the concrete impacts of these ratings and blacklists, not by listening to the promises (or dystopia) associated with the fantasy of a catch-all rating system, but by looking at the localized, specific measures and countermeasures that involve a variety of actors pulling and pushing the levers of a complex administrative machine.

9. 高路, "信用黑名单，不能啥都往里装," *Qianjiang Wanbao* via *Renmin Wang,* July 30, 2019, http://opinion.people.com.cn.

The public Social Credit Systems, an assemblage of different mechanisms

Personal credit and sectorial blacklists as distinct instruments

The Social Credit System has been long in the making. Since the end of the 1990s and early 2000s, researchers have explored the possibilities of developing financial credit history mechanisms, with some gradually expanding the notion beyond the financial realm into other aspects of social life.[10] Meanwhile, several pilot projects were launched at the municipal level in the early 2000s, whereby citizens were subject to point systems, as one would do with a driving license.[11] This gradual development was encouraged in a 2002 speech by then-outgoing president Jiang Zemin to "develop a social credit system in a modern market economy". It was then concretized in the Eleventh Five-Year Plan in 2006, followed in 2007 by the establishment of an inter-ministerial conference in charge of developing the idea.

The 2014 Planning Outline set off a national effort to emulate the local experiments. Since then, dozens of localities and administrations have published their own "plans", "measures" and "regulations"[12] with more or less concrete implementation strategies.

Many localities have adopted a points system to assess citizens' "creditworthiness". The data comes from government departments and work units during their normal public management activities, such as courts, tax departments, social welfare bureaus, and utilities providers, for instance. Whenever someone violates a regulation, the relevant department notifies the social credit bureau, which then deducts points according to a predefined scale. For example, Xiamen's Bailu score includes about 750 data elements, grouped into five broad, and rather vague, categories: "Basic

10. P. Sel, "Vers un autoritarisme 2.0 ? Analyse du 'système de crédit social' en Chine (1990-2020)", (Unpublished thesis, Sciences Po, 2019).
11. R. Creemers, "China's Social Credit System: An Evolving Practice of Control," SSRN Scholarly Paper, May 9, 2018, https://papers.ssrn.com.
12. An inventory and translations by Jeremy Daum can be found at: www.chinalawtranslate.com

information, keeping promises, credit repayment, and dishonest contract breaking".[13] Citizens can access their rating via an app. In Shandong province, Rongcheng city is famous for its pioneer scheme, where someone can also lose points for failing to respect the law, or earn points for doing good deeds like volunteering.[14] This does not have to be high-tech. In Rongcheng, some of the data is collected on paper forms. Municipalities offer subsidies and extra services to citizens who have retained all their points, but punishments are rare.

Government departments have also developed their own systems, covering a vast range of sectors. For example, the National Energy Administration, the Administration of Sports, Department of Agriculture and Department of Transportation, to name a few, have all published their own guidelines. These can concern individuals (airline passengers, for example), as well as companies and their representatives (for environmental protection or customs, for instance). Concrete sanctions are attached. For example, the State Administration of Taxation deducts points for late payment of taxes or failure to report income. There are thresholds depending on the amounts at stake, with the most severe cases being downgraded to the lowest category (on a scale of A to D). Taxpayers in the A category benefit from green channels where paperwork and reporting is facilitated, whereas those in the D category will be inspected more frequently and will have to provide more documentation for any procedure. Blacklisted taxpayers may be forbidden from bidding in public procurement, accessing certain professions, or obtaining credit.

Public shaming on a national publication platform

As reputation is considered to be the main lever to get citizens to behave better, all these systems involve the publication of the names of blacklisted individuals and companies. Various local initiatives have been experimented with, such as posting the names of the blacklisted individuals on the streets or on websites for a limited period of time. A few localities have set up more offbeat initiatives, such as using ringtones on debt defaulters' phones to let their interlocutor know of their misbehavior, or developing apps to geo-localize defaulters in a certain neighborhood.

13. "快查查你的白鹭分！厦门市民个人信用发布！积分越高，生活越便捷,' July 8, 2018, http://www.sohu.com; D. Lewis, "All Carrots and No Sticks," *op. cit.*
14. S. Mistreanu, "Life inside China's Social Credit Laboratory, *Foreign Policy* (blog), April 3, 2018, https://foreignpolicy.com.

However, the central element is the publication of these blacklists in a national database, the National Credit Information Sharing Platform. Although it is difficult to know the exact technical details of this data transfer, it seems that the quantity of data that each administrative entity actually shares with the national platform is rather limited, mostly consisting of the names of individuals or companies, an ID number (truncated for public view), the name of the government department that issued the blacklisting, and a general reason for it. Contrary to many accounts that compare the system to a kind of "Black Mirror" scenario, this system is apparently not equipped to centralize and share the raw information that each department holds about citizens. It takes many steps to go from data collection on the ground (like non-payment of a fine or failure to stop polluting practices) to the decision to remove points or to blacklist. It includes, most of the time, human intervention, for verification, negotiation, and application of a sanction. Although further digitization of public governance at all levels is definitely encouraged, a more realistic, short-term objective is to merge existing blacklists and credit evaluation reports at the national level in a timely, efficient manner.[15] A notice published by the NDRC announces that the merged national data will then be pushed down to the provincial-level social credit administrations, so that they can take into account the larger picture of a company's behavior nationally. This data will not replace the more in-depth evaluation conducted at the local level, but merely complement it.[16] Hence, the sharing mechanism is not meant, or even able to, produce sanctions on a real-time basis, but it is a reputation mechanism, generally updated monthly, for anyone to check the records of the individuals or companies they are involved with.

Indeed, some of the data shared on the national platform is made public on a website called Credit China.[17] It is searchable by name or ID, enabling any prospective customer, employer or trading partner to check an

15. Recent instructions by the State Council indicate frustration with the speed of implementation of data-sharing agreements: "Accelerate construction of systems for joint disciplinary action for untrustworthiness that cross regions, industries, and sectors, to get to the root in resolving the problems of repeated untrustworthy conduct and occurrences in untrustworthy conduct in different places. Establish a list of joint disciplinary action measures in accordance with laws and regulations, dynamically update it and release it to the public, form multi-pronged administrative, market, and industry punishment measures, and an overall structure for joint disciplinary action against untrustworthiness in which social forces participate." State Council, "关于加快推进社会信用体系建设构建以信用为基础的新型监管机制的指导意见" (Guiding Opinion on Accelerating the Advancement of the Establishment of the Social Credit System with New Forms of Credit-Based Regulatory Mechanisms), translated by Jeremy Daum, *China Law Translate*, July 17, 2019, www.chinalawtranslate.com.

16. NDRC, "推送并应用市场主体公共信用综合评价结果," *Sina*, September 16 2019, http://finance.sina.com.cn.

17. More information at: www.creditchina.gov.cn.

individual's current status. This platform is a central piece of the system, intended to remove some of the information asymmetry that allegedly undermines trust between trading partners, holding back the emergence of a domestic market in China. However, this raises enormous concerns regarding the updating, storage, and possible misuse of such data, which may continue to circulate well beyond any update on the original platform. It seems easy for any third party to scrape this data and reuse it for other purposes, be it marketing or otherwise, without much control.

Joint punishment as coercive arm

The more coercive arm of these blacklists consists in the "Joint credit reward and punishment mechanisms", which are enabled through the signature of memorandums of understanding (MOUs) between different government departments and private companies. All partners of an MOU agree to enforce sanctions on individuals who appear on a given blacklist. There are already several dozens of such MOUs, and counting, with an average of thirty partner organizations. One of the first, and best-known, MOUs is the MOU on Joint Incentives and Discipline for Judgment Defaulters, which imposes restrictions on people blacklisted by the Supreme People's Court. People who have failed to comply with a court injunction, in most cases to pay debts or fines, or to cease illegal behavior, are blacklisted and find themselves restricted from a vast number of activities, such as working for public institutions. Some of the items in the MOU have attracted global attention, such as restrictions on lavish spending, including travelling on planes, staying at four-star hotels, or playing golf.

Challenges to the rule of law in a decentralized system

Lack of legal protection of personal data

The Social Credit System has already generated much commentary and criticism across the board. The first to react have been legal scholars, pointing out challenges to the rule of law.

The legal framework for such large-scale collection, processing and publication of data is complex and deficient, in particular as China has yet to adopt a personal data-protection law. Specific measures can be found in the Cybersecurity Law (2017), the Personal Information Security Specification (2018), and the Regulation on the Administration of Credit Investigation Industry, among others.[18] Further clarification is often left to regulation established at the local level, and can differ geographically. Several localities have prohibited the collection of sensitive personal information, such as genetic, medical or religious data.[19] As noted by Anne Cheung and Yongxi Chen, administrations are not bound by constraints of consent or notification of persons subject to data collection, or by a limitation of the scope of data collection relative to intended use. Besides, the need for a clearer, more independent system of appeal is recognized by mainstream voices in China[20] and incorporated in legal documents issued by the authorities.[21]

Challenges to the clarity and proportionality of norms

As in the case of the Shandong teacher, an important question is the proportionality of sanctions relative to offenses, which is an intended feature

18. R. Bird, "Where Are We Now with Data Protection Law in China?," *Lexology* , September 13, 2018, https://www.lexology.com.
19. Y. Chen and A. S. Y. Cheung, "The Transparent Self under Big Data Profiling: Privacy and Chinese Legislation on the Social Credit System," University of Hong Kong Faculty of Law Research Paper, June 26, 2017, p. 16, https://papers.ssrn.com.
20. 张海英, "法制日报：信用立法须把握三个关键," 法制日报 via 人民网, November 6, 2016, http://opinion.people.com.cn.
21. National Development and Reform Commission, "关于加强和规范守信联合激励和失信联合惩戒对象名单管理工作的指导意见(发改财金规〔2017〕1798号)," NDRC, November 2017, paragr. 9 (22), www.ndrc.gov.cn.

of the system. The joint punishment mechanism adds sanctions on top of other legal sanctions, and it is triggered by them in the first place. Jeremy Daum highlighted that blacklisting can occur for minor or major offenses alike, such as traffic violations, failure to pay a fine, or heavy polluting,[22] but whatever the case it may have long-lasting consequences on one's career and reputation. Also, some of the measures may affect other, innocent individuals, like the subject's children.

The Social Credit System has been heavily criticized for upholding vague norms. In fact, most of the points systems and blacklistings are based on existing legal and regulatory documents, but these may already be vague in the first place. For example, "picking quarrels and provoking trouble" has always been a convenient reason to arrest protesters, and this could now lead to additional inconveniences with the loss of social credit points. A Supreme People's Court interpretation from 2013, criminalizing the online spread of rumors, is a similar case of a vague norm that could result in punishing free speech. But these problems are inherent to the Chinese judicial and political system and predate the Social Credit System, which only takes them one step further.

Incorporation of extra-legal norms fueled by local bureaucratic logics

In the same fashion, professional and commercial organizations have been encouraged to establish their own scoring systems, which would make voluntary norms in the business sector more enforceable. Once again, this has always been a grey zone where the party-state uses professional associations to enforce norms via "voluntary" best practices, rather than establishing regulation[23]

There are cases of incorporation of extra-legal norms in some of the local systems' scoring scales. Although the framing documents published by the NDRC all insist that the Social Credit System should be based on existing laws and regulations, the use of the term "credit" (*xinyong)* and several variations (*chengxin*, integrity; *shouxin*, trustworthy) across propaganda documents may lead to loose interpretations at various levels of the

22. "It treats all court judgments as equal and I think that say a judgment for me to give a formal apology to somebody or to visit my mom more often on the holidays is very different than an environmental polluter's judgment to clean up an eco-disaster." In E. Lynch, "What's the T on China's Social Credit System? – Jeremy Daum Explains – Part 1 of 2," *China Law & Policy* (blog), https://chinalawandpolicy.com.

23. M. M. Pearson, "The Janus Face of Business Associations in China: Socialist Corporatism in Foreign Enterprises," *The Australian Journal of Chinese Affairs* 31 (January 1st, 1994), pp. 25-46; J. Unger and A. Chan, "State Corporatism and Business Associations in China," *International Journal of Emerging Markets*, April 20, 2015.

administrative system. Rogier Creemers notes that this may be a heritage of the Chinese Communist Party's historical claim to be a moral leader for the nation.[24] For example, in Qingzhen village, Guizhou province, a 2010 rural social credit program included "peer evaluation" to enforce "village norms".[25] Such evaluations would lead to attribution of subsidies and loans to peasants. Xin Dai analyses this as a case of rural communities reviving old governance procedures, incorporating both legal and moral norms, like "harmony within the family", "good neighborliness" and "diligent work ethics". One can easily imagine how such a scheme can generate tensions and exacerbate power relationships among community members. However, such deviations are in the minority, and do not seem to be encouraged at the national level.[26] We might see more standardization around legal and regulatory norms, as best practices are shared among localities, as clumsy practices attract negative feedback (as in the case of the Shandong professor), and as the central government publishes more framing documents. Meanwhile, there are disparities between local versions of the Social Credit System, which poses a problem of equality before the law.

Xin Dai also underlines that this decentralized system means bureaucratic logics play a big role in how the system unfolds. The particular configuration of a local system will depend on such factors as local cadres' propensity to adopt new technical solutions, data collectors' zealousness (some of them being volunteers), available material and technological means on the ground, and on lobbying by private subcontractors. This is a patchwork of measures pushed and pulled from many directions, a policy comparable to a chimera in that it is made of mismatched bureaucratic pieces.

24. R. Creemers, "China's Social Credit System," *op. cit.*, p. 6.
25. X. Dai, "Toward a Reputation State: The Social Credit System Project of China," SSRN Scholarly Paper, June 10, 2018, p. 31, https://papers.ssrn.com.
26. P. Luo, "社会信用体系不是道德档案-中国社会科学网," CASS, June 3, 2016, http://ex.cssn.cn.

Private social credit systems: chimeric construction of measurable personas

Wild experiments in financial credit assessment

In addition to the "public" Social Credit System, the 2014 planning document also encourages the creation of a social credit "market". Financial institutions have been uniquely placed to take up the opportunity, as they have been involved in decades-old efforts to develop financial credit assessment mechanisms, but the scope now extends beyond the financial realm. The idea is to provide innovative solutions to harness financial data together with other sources of data, into new indicators and visualization services. This is another, mismatched part of the chimera, as financial credit is very different from the mechanisms of the public credit system.

The People's Bank of China established a Credit Reference Centre in 2006, with the intention of improving available data on credit defaulters, and enabling the growth of an underdeveloped lending sector. Although the new center could collect data from the courts, administrations, and utilities companies, turf battles between administrations and the large size of the Chinese informal economy meant that its data could only partially reflect the financial health of the population.[27]

Around the same time, online financial services, like Alipay, emerged to fill the unmet demand for payment and credit among individuals and small enterprises. Soon hundreds of peer-to-peer lending services flourished online (to the dismay of regulatory authorities). These companies hold valuable data about their customers, their ability to repay small amounts, their consumption habits, and other practices. It became clear that such data could be used to create credit indicators, including, more recently, by using big data and artificial intelligence to look for patterns and niche markets.

The State Council and the PBOC stepped up the regulation of the credit sector with, respectively, a Regulation on the Administration of Credit

27. M. Chorzempa, "China Needs Better Credit Data to Help Consumers," Policy Brief, Peterson Institute for International Economics, January 2018, pp. 2-4.

Investigation Industry in 2012 and Measures for the Administration of Credit Rating Agencies in 2014.[28] A wave of new credit rating companies were created around that time, with business models focused on the acquisition of vast ranges of data (big data) from online sources, and its processing using artificial intelligence to detect unthought-of correlations.

One example is 100Credit, a company that started as a recommendation algorithm for websites. According to an article co-written by two employees of the company,[29] 100Credit installs APIs on its clients' websites, through which it collects data about the site's visitors, and in return provides personalized recommendations. To do this, the company builds a profiles database by collecting customers' navigation habits, purchase history, clicks, and travel information, not only on this particular site but across other customers' websites and public data, notably social credit blacklists. Real-name identification is not always necessary, as a user can often be recognized through the computer or mobile phone's unique identifiers. Beyond this first business, this rich database is then put to use for financial credit evaluation, for example to evaluate default risks, as well as fraud detection. The article mentions that the algorithm unveiled correlations between spending on videogames and default rates.

At first glance, this kind of innovation is not very different from a global trend in banking, where more and more diversified sources of data are fed into algorithms to detect niche markets. In fact, such practice is what prompted the adoption of the Fair Credit Reporting Act in the US as early as 1970. It may be subject to the same biases and discrimination in China as it is elsewhere.[30] A Chinese specificity, once again, lies in the relative lack of a comprehensive and enforceable data protection framework, which enabled, for years, a gold rush for data. It is to be expected that some of the data may be of poor quality, erroneous, outdated, or outright fake (users routinely input random information in online forms), whereas some of the data may have been acquired without users' consent. But, because both the dataset and the algorithms are considered business secrets, access and verification are problematic. The regulation effort undertaken by the Chinese authorities concerning the protection of personal data might bring some improvement in the mid-term, especially if the long-announced data privacy legislation

28. Y.-J. Chen, C.-F. Lin, et H.-W.Liu, "'Rule of Trust': The Power and Perils of China's Social Credit Megaproject," SSRN Scholarly Paper, April 30, 2018, https://papers.ssrn.com.
29. S. Zhang *et al.*, "Value of Big Data to Finance: Observations on an Internet Credit Service Company in China," *Financial Innovation* 1, December 24, 2015. Two of the four authors of this article are employees of the company.
30. C. O'Neil, *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*, New York: Broadway Books, 2017, chap. 8.

finally comes to light. Its effectiveness will depend on how much emphasis is put on proper enforcement.[31]

Fidelity schemes in lieu of social credit

In 2015, the People's Bank of China (PBOC) authorized eight companies to elaborate pilot programs to create new credit rating indicators (including Alibaba's Ant Financial, Tencent Credit, and Ping An Bank). However these pilots did not eventually obtain a permanent license from the PBOC, probably because of frictions between these companies and the PBOC around data-sharing, concerns over potential conflicts of interest (as they offer banking services as well as credit rating), and more generally some unease over extending credit rating beyond the financial realm.[32] In 2018, the government announced the creation of a national credit evaluation bureau, called Baihang, with the China National Internet Finance Association as a main shareholder, and the above-mentioned companies as minority shareholders.

Despite not becoming a licensed credit-rating agency, the services thus developed are listed on the Credit China platform as part of the general social credit scheme.[33] Alibaba's service Sesame Credit (*Zhima Xinyong*) attracted enormous attention from the public, both domestically and internationally, as one of the first large-scale implementations of a commercial credit-rating service, with applications for the larger public that go far beyond lending. Sesame Credit is often mistaken for the government-run social credit, but it is a voluntary, commercial service, which distributes perks such as waiving deposits for hotels, better lending rates and facilitated visa procedures. Sesame Credit rates its users on a scale between 350 and 950 points, based on data collected by Alibaba's e-commerce companies, such as Taobao and Alipay. It also incorporates other sources of data, notably some of the public blacklists.

Sesame Credit's rating is also a form of chimera, incorporating very diverse types of data into one single figure. The company only communicates on general categories that compose the rating: credit history, behavior and preferences, fulfillment capacity, personal characteristics, and interpersonal relationships (with the latter accounting for only 5% of the rating). One of the reasons usually put forward to justify the secrecy of algorithms is that it prevents users from tricking them and therefore guarantees their objectivity. However, the idea that the rating would be a faithful representation of the

31. E. Xie, "China Working on Data Privacy Law but Stumbling over Enforcement," *South China Morning Post,* May 5, 2019, www.scmp.com.
32. M. Chorzempa, *op. cit.* 2018, p. 5.
33. More information at: www.creditchina.gov.cn.

users is a fiction in the first place. First, it represents an individual's compliance with certain data collection patterns (too little data risks producing an unbalanced rating), and, secondly, their conformity with certain unspecified social norms (early communication by staff members suggested that purchases of items such as nappies would increase the score, creating a strong backlash). Here, trustworthiness is confused with participation in a fidelity scheme. Despite the discourse on objectivity, users are exchanging tips on how to enhance one's rating, constructing personas through the data they provide about themselves (diplomas, etc) and the traces of their online engagement (e-commerce). Far from being fair and objective representations of users, such ratings are artificial constructions, produced through the conscious strategies and unconscious traces left by individuals through their interactions with the platform.

Public-private cooperation: proliferation of ratings with little transparency

Subcontracting data management, hosting, and visualization

The public and commercial social credit systems are very different things, managed by organizations with different purposes, implemented with different technologies, and producing ratings that are ultimately of a different nature. However, there are occasional interactions between the two categories. We have noted that private credit-rating systems often incorporate public blacklists into their ratings. Notably because it is one of the partners enforcing the ban on luxury purchases, Sesame Credit signed partnerships with local governments for better transmission of some of these blacklists. Besides, governments often subcontract technical aspects of the public social credit management to private companies. For instance, Baidu hosts and maintains the online platform creditchina.gov.cn. In several cases, local governments contracted the development of user-friendly applications to private companies, in order to propose better visualization of the points and access to some of the benefits attached. For example, the flagship app in Shanghai, called Honest Shanghai (*Xinyong Shanghai*), was developed by a private company, apparently with a lot of leeway in terms of collecting data from different sources and determining an algorithm.[34] According to an interview with NPR, the contractor uses data from local administrations, as well as third parties, including social networks (but which data is unclear). This application is voluntary. Citizens input their ID number or scan their faces for identification; 24 hours later, they receive a report with their rating. The app also enables the visualization of data on a map, such as infringement of hygiene regulations by local restaurants.

Another example is an app called Unictown, developed for the Communist Youth League by a company called China Youth Credit

34. "What's Your 'Public Credit Score'? The Shanghai Government Can Tell You," *NPR.org*, January 3rd, 2017, www.npr.org.

Management, a subsidiary of the state-owned Tsinghua Group.[35] According to public announcements, this app creates a social credit score for all Chinese between 18 and 45 years old. The score ranges between 350 and 800 points, based on six categories of data: personal profile, volunteering, social network, credit history, consumption history and honored contracts. There are no sanctions, only rewards such as discounts for training programs or hiring preference.

Wild proliferation of ratings

All this is creating a landscape where a social credit market is developing, based on a mix of public and commercial data. Different, redundant ratings coexist. A young Shanghai resident, for example, will be able to compare their scores on Unictown, Honest Shanghai and Sesame Credit, and pick which one they want to highlight in their resumé, or to rent an apartment. Most of these applications insist on the convenient, even playful aspect of ratings (like personality tests), and their role in establishing one's reputation. Although some apps provide arguably useful services in narrow areas, such as identifying potentially unhygienic restaurants, when it comes to providing more general ratings there is no transparency as to the sources and computing methods for the data, leaving a lot of room for unchecked biases. This could come from training algorithms on biased data in the first place, or by including discriminatory, prejudiced criteria in the rating, thus incorporating discrimination against the poor, minorities or any kind of deviant behavior from mainstream norms. In a competitive society like China, although there are no sanctions attached, such indicators could give an extra edge to the more privileged categories of society, through the advantages granted to the highly rated.

In any case, the fabrication process of any rating is one that inherently removes elements of reality from the indicator. It reduces any particular aspect of an individual's personality or behavior to a simplified figure, then aggregates it with other reductions, thus adding apples to oranges. The resulting rating is not a straightforward representation of the individual. It is an abstraction, a chimera that only has a remote relationship with the reality of the individual and the context of their actions.

35. J. Meng, "This Small Team Is Building a Social Credit System App for China's Youth to Determine Who's Naughty or Nice," *South China Morning Post*, March 25, 2019, www.scmp.com.

Incorporating global trends, with a distinctive use of shaming

In its attempt to leverage blacklisting, ratings and shaming to enforce laws and regulations, China is in fact building on a number of already existing global trends.

Industry-specific points systems generalize a governance mechanism that is familiar to most of us, for example with driving licenses. Blacklisting, like the judgment defaulters blacklist or industry-specific blacklists, also echo blacklisting mechanisms around the world (filing bankruptcy, in some countries, will result in a mark in credit ratings and inability to secure loans for some time; people with a criminal record may be unable to get certain government jobs). The US is even considering generating blacklists of no-fly individuals based on algorithmic predictions, which would be much beyond what is proposed with the public Social Credit System.[36]

In China, these systems raise a number of issues in terms of the rule of law, such as inequality of citizens before the law, proportionality of offenses and penalties, and, in some places, extralegal measures. But by and large, some of the more serious problems arise from the vagueness of already existing legal norms, and the lack of checks and balances to guarantee that recourse mechanisms will actually work.

Countries with a strong data-protection regulation regime would stop short of putting blacklisting information on open websites, considering the serious risks of exposing personal information, whereas China is betting on the coercive power of naming and shaming, and on reducing information asymmetries on the market. In addition, the publication of blacklists is part and parcel of a propaganda campaign designed to educate the public about norms and compliance.

On the other side, personal scoring that consists of collecting data from very different sources and aggregating it on a scale is of a different nature. Because these scores aggregate data from different sources and stripped of contextual information, they consolidate personas that are somewhat

36. S. Biddle, "Homeland Security Will Let Computers Predict Who Might Be a Terrorist on Your Plane — Just Don't Ask How It Works," *The Intercept* (blog), December 3rd, 2018, https://theintercept.com.

removed from the real individual, or chimeras of sorts. It makes it hard to think of relevant applications for such general indicators in terms of public policy, without risking overgeneralizations and unfair treatment of most individual cases. Indeed, these schemes usually do not come with any sanctions, but only provide rewards, like subsidies and facilitated procedures, to citizens who can retain all their points or gain more through volunteering work, for instance.

The gradual extension of financial credit reporting to more diverse sources of data, including public information gleaned online or social media information, or from data brokers, is also a global trend. Its "collateral damage"[37] is huge, only curbed in some countries by more stringent data-protection regulation. As noted, in the case of China data protection is still sparse and incomplete, but the indicators produced in this way still appeal to a range of actors, despite their lack of scientific basis, because they fulfill an acute demand of financial credit evaluation and more general transparency.

37. C. O'Neil, *Weapons of Math Destruction, op. cit.* 2017, chapter 8.

Conclusion: a chimera, with real claws

The Social Credit System can be compared to a chimera not only because individual credit assessments only remotely reflect the reality of each individual's situation, but also because the whole system is highly decentralized and produces a great number of different social credit evaluation scales and blacklists in a patchwork fashion. In fact, decentralization means that each local or sectorial framework makes more sense than a national aggregate would; for example, to reflect a company's past interactions with the tax administration, or an individual's records with a municipality's services. It also means that building a ubiquitous system with data synchronized at the national level is an uphill battle, one that goes contrary to all bureaucratic logics. All in all, as Chorzampa and colleagues underlined, "we should not take at face value claims that such ambitious plans will be achieved on time or at all".[38]

Public reception might play a role in the system's final success too, but it is difficult to assess it. Surveys conducted so far primarily show that users are not aware of the system, do not understand it and frequently confuse programs run by private companies with public social credit scores and blacklists.[39] This questions the validity of answers to questionnaires about their views concerning social credit in general. But backlashes such as in the case of the Shandong teacher, mentioned earlier, show that, when they experience it in real life, citizens might have strong views as to how fair the system is, and could engage in collective action. For such action to be reported in the news and bear fruit, it would also require dissenting views within the system, to support and publicize claims through the propaganda filters. This suggests that, if the principle of social credit is not much debated, the particulars are still far from gaining a stabilized consensus.

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38. M. Chorzempa, P. Triolo and S. Sacks, "China's Social Credit System: A Mark of Progress or a Threat to Privacy?", Policy Brief, Peterson Institute for International Economics, June 2018, p. 6, https://ideas.repec.org. They see five challenges to the overall project: growing public demand for data privacy; more and more constraining regulation; the global expansion of Chinese companies (which poses the question of compliance with the European Union's General Data Protection Regulation – GDPR); difficulties in data-sharing between actors, and fragmented digital identification systems.

39. G. Kostka and L. Antoine, "Fostering Model Citizenship: Behavioral Responses to China's Emerging Social Credit Systems," *Policy & Internet*, July 28, 2019.

Meanwhile, a lot of data is exchanged in different directions, with numerous public and private actors, in more or less official ways, creating enormous challenges regarding the reliability and safety of the data and possible abusive uses of it. It may be a chimera, but it has got real-world impacts on the citizens, through the diverse applications made of that data.

Because of these real impacts, any company with a foot in China needs to pay attention. Any subsidiary of a foreign company in China is subject to social credit ratings like Chinese companies, and the company representatives are often personally liable for any wrongdoings when it comes to social credit. Compliance with laws and regulations should always have been an important focus, as well as some understanding of the actual functioning of the legal system and its pitfalls. The Social Credit System is meant to make it an even more important priority. Companies ought to conduct regular monitoring of the local and sectorial social credit systems they are subject to, in order to identify clearly the norms upheld in each social credit scale, which procedures should be followed in case of contestations or errors, and who are the main contact points. In many cases, individuals and corporations are not aware of their own blacklisting until a particular event, like trying to book a plane ticket, brings it to their attention. It is therefore important to regularly check one's status on the available public platforms or directly with the local social credit administrations, in order to avoid erroneous blacklisting, correct any wrongdoings before sanctions are taken, and limit potential reputation costs.

One might also want to make use of the system as it is intended, to collect basic background information about prospective partners and customers, for example. Some of the sectorial indicators might prove useful when they are specific enough. However, many of the aggregated ratings pose problems of relevance, biases or ethics, and it is best to take any rating with a grain of salt.

In other words, individuals and organizations should take the Social Credit System seriously as a governance mechanism with potentially serious consequences, but should not give too much credit, so to speak, to the ratings produced by the system.

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