

18-14 China's Social Credit System: A Mark of Progress or a Threat to Privacy?

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The power of data and algorithms has transformed global communications, social relations, and commerce. Technologies often associated with terms like machine learning and artificial intelligence now determine what information we see online, where we live, where we work, and even how we vote. Governments often lag behind technology capabilities of the private sector, but several are now combining previously fragmented public and private data to make critical decisions, from where to assign police officers to who is eligible for government benefits.

No government has a more ambitious and far-reaching plan to harness the power of data to change the way it governs than the Chinese government. Its Social Credit System (SCS), laid out in a plan released in 2014 and still under construction, aims to extend financial credit scoring systems—commonly used by financial institutions in the United States—to other areas of government regulation, from contract enforcement to food safety, corruption, and environmental protection. Years of Ponzi schemes, environmental disasters, and food safety scares in China have eroded trust in the integrity of government actions among the Chinese people. While in the West a government effort

to collect personal data might stir anxiety among citizens, Chinese leaders see SCS as an effort to shore up trust in the government and regulate business and private conduct by assuring them that decisions are being made based on data and not arbitrary whims. The plan is to link public and private data on financial and social behavior across China, use the data to evaluate behavior of individuals and organizations, and punish or reward them according to certain agreed upon standards of appropriate conduct.

The SCS is a herculean effort that will take many years to succeed. Several barriers, from technical challenges to political resistance, stand in the way. If successful, the SCS will fundamentally change the relationship between the state and the economy, the state and its citizens, and the way the state itself functions, with implications not only in China but also in other nations governed by leaders seeking to control and monitor private behavior.

This Policy Brief seeks to clarify many misunderstandings about the 2014 plan for the SCS, as well as its context and the motivations behind it. It traces the plan's origins and evolution from a narrow financial credit concept to the seemingly all-encompassing governance tool of the 2014 plan, while assessing its effects so far and challenges to its implementation. A well-governed SCS could bring transparency, oversee those in power, regulate the economy with less direct government intervention, and encourage people to treat each other more fairly, as the government maintains. But based on China's record of regulating political speech and other activities, there is no doubt that it could also be abused for social control, prying into every aspect of Chinese citizens' lives and automatically punishing those who don't toe the party line. As in the West, which is awakening to uses and abuses of privately collected data, China's experiment raises moral and economic questions about collection and use of data, which are at the core of the most promising innovations and critical governance challenges worldwide.

2014 SOCIAL CREDIT PLAN

When Confucius was asked 2,500 years ago what a ruler needed to govern a country, he said 信 credit, faith, or sincerity; food 食; and an army 兵. But if he could only have one, it would be the first 信. The Chinese character we translate as "credit" has thus long been a core concept of Chinese governance.

The fundamental premise of the 2014 SCS plan is that current governance tools and methods are insufficient to solve China's greatest challenges. Much of the press coverage of the plan and its implementation so far has been negative, for example, calling it a "terrifying...surveillance system."¹ But the plan has many parts, which, if properly implemented, could help China increase growth, improve its international reputation, and govern more transparently. These include "broadening channels for public participation in government policymaking," raising transparency, and even "strengthening social supervision over and constraints on the use of power" (State Council 2014).

At first glance, the official goal of the SCS appears to have little to do with financial credit. It is "construction of sincerity in government affairs, commercial sincerity, social sincerity, and judicial credibility" (State Council 2014), which is more a call to embrace traditional Confucian moral virtues than a vision for high-tech governance. The plan document cites a laundry list of social ills that stem from the lack of trust and trustworthiness at all levels of a fragmented Chinese society. These include tax evasion, factory accidents, food and drug safety scares, fraud, academic dishonesty, and rampant counterfeiting of goods.

The document then describes the broader transition China is undertaking and the role social credit will play. It states that a "modern market economy is a credit economy," describing the SCS as a tool to reduce transaction costs and the government's bureaucratic interventions in the economy. It will help further globalize China's economy, form new areas of competitive advantage, and develop the global reputation of Chinese brands.

The SCS has two main components. The first is what may become the world's largest dataset, integrating currently disconnected data held by government and nongovernmental entities across China and expanding data collection efforts. The plan calls for "interconnection and interactivity of...credit information systems and...networks that cover all information subjects, all credit information categories, and all regions nationwide" (State Council 2014). Much of the document is an exhaustive listing of the areas in which this "sincerity" or "credit" information must be gathered and included in the SCS, from e-commerce to sports and transportation. The system will comprise data on both individuals (including government officials and businesspeople) and legal entities like nongovernmental organizations, businesses, and government departments. Local governments have to create systems that link data in their jurisdictions,

and government departments have to do so in their areas of competence, like transportation or financial credit. But data is only half of the story.

The second component is a system of carrots and sticks to make people and organizations more "sincere" or "trustworthy." There is no evidence in the plan or in the last four years that officials outside the local level aim to combine the various evaluations across domains to give individuals an overall social credit score. Press reports have used terms like "rating," but it does not exist in the plan.² An overall score, however, could be generated once the various data collection systems are interconnected. Evaluations affect nearly all economic interactions of an individual. Enterprises and government offices are supposed to check social credit files when granting government procurement contracts and licenses for businesses, hiring or promoting employees, and even when deciding whether an individual should be allowed to use the internet. Those who have transgressed, such as failing to comply with a court judgment or violating traffic laws, face penalties that stay on their records, which in turn block them from receiving various services, even booking airplane tickets. Those with a positive evaluation reap benefits of being on the right side of the system. The aim is to shape the behavior of government officials, businesses, and individuals via "marketized constraint and punishment," incentives generated by an automated system of law enforcement and economic regulation.

The SCS is akin to the combined credit report and criminal background check that exist in the United States but with far more information. It appears to be a digital reincarnation of the *dang'an* 档案, dossiers created in the Mao era and still in existence, with in-depth information on individual work performance recorded by work units and local police but spun for a new age and renamed "credit." Unlike the *dang'an* system, where information is available only to bosses and authorized government officials, the SCS aims to make data public, similar to the Obama administration's 2013 Open Government Initiative.³ Some of these public datasets in China are blacklists to warn the public against dealing with trust violators and using public pressure to change their behavior. Other initiatives hold up those who follow through on their obligations as positive examples for emulation. Some of the most difficult tradeoffs lie in this public aspect of the

1. Melissa Locker, "China's terrifying 'social credit' surveillance system is expanding," *Fast Company*, April 24, 2018, www.fastcompany.com/40563225/chinas-terrifying-social-credit-surveillance-system-is-expanding (accessed on May 4, 2018).

2. See Mark Hodge, "Real Black Mirror," *The Sun*, March 5, 2018, www.thesun.co.uk/news/5730910/china-social-credit-rating-blacklists-citizens/ (accessed on May 4, 2018) for one example. The confusion primarily results from conflating the non-existent social credit score with the Sesame Credit score operated by Alibaba affiliate Ant Financial.

3. The results of that initiative are available at www.data.gov/open-gov/.

SCS, as the plan also explicitly calls for the protection of commercial secrets, state secrets, and individual privacy.

EVOLUTION OF SOCIAL CREDIT IN CHINA

China used credit systems of other countries as a model before building its own, which it had to do from scratch because credit was virtually nonexistent until the reform era of the 1990s (Chorzempa 2018). Radical economic reforms required banks to move beyond lending to the state and state-owned enterprises. They needed to be able to evaluate individuals seeking mortgages for the new housing market and private entrepreneurs looking to borrow for new businesses. Fraud and excess borrowing were rampant, because like in many emerging-market and developing countries but unlike in the United States, lack of data sharing between lenders made it impossible to know if someone already borrowed from other banks or had defaulted. The first pilot for sharing these data, similar to a credit bureau or registry common in most advanced economies, began in Shanghai in 1999.

“Social Credit” Appears

Discussion of “social credit” appeared in Chinese media soon after, reaching the highest levels of government in 2003. In October that year, the Report of the Third Plenum of the 16th Central Committee declared: “We must strengthen society’s credit awareness and constitute a social credit system with morality as its support, property rights as its foundation, and law as its guarantor.”⁴ At that point the concept of social credit appeared to be indistinguishable from credit systems in other countries. “Social credit” then may simply have been classic Chinese political semantics to build essentially capitalist market infrastructure but make it sound like it fits within China’s “socialist market economy.” The official explanation in November 2003 on the plenum’s statements lent further support to this hypothesis, referring to China’s accession to the World Trade Organization to argue that the system should be constructed according to international rules.⁵ Much of the government’s justification for social credit lay in economic efficiency and “increasing

the development potential and competitiveness of domestic financial institutions.” At least at the beginning, the social credit concept was not intended to become a gigantic governance panopticon. In short, 2003’s plans for a “social credit system” share little with that of 2014.

Meanwhile, from 2003 to 2007, local pilots for financial credit registries throughout China developed and combined to form a public credit registry, the nationwide Credit Reference Center of the People’s Bank of China. Lenders report credit data to the system, which produces credit reports that help lenders evaluate individuals’ creditworthiness. Tencent launched the Q-Coin as a payment tool in 2002 and Alibaba’s payment service Alipay emerged in 2004–05, marking internet firms’ foray into finance.

The 2014 plan considerably expanded the social credit concept, shaping behavior beyond what most countries consider “credit,” partially as a result of increased online fraud and persistent governance challenges.

A 2007 State Council notice defined social credit as an “important institutional component of a market economy” focused on “credit records, tax payments, and contract performance” (State Council 2007). This vision was limited compared with the vision set out in the 2014 plan. Contemporary posts by Chinese internet users also focused on the plan’s commercial nature.⁶ The scope of the data for collection under social credit schemes has likewise expanded with the rise of data-rich internet companies. However, China’s legal framework for data privacy and data protection has also extended its reach, complicating the collection and sharing of personal data that fuel credit systems.

Over the next few years, from 2007 to 2013, internet platforms, online payment systems, and other data sources began to form a sufficient basis to rate financial creditworthiness based on data beyond traditional credit histories, at least for the growing urban middle class. Rural populations are less represented within payment and credit histories, making it difficult to assess their creditworthiness. Half of China’s population is not online at all, leaving them out of many data gathering efforts (China Internet Network Information Center 2017). In this period, the central bank issued rules

4. China Internet News Center, “中国共产党第十六届中央委员会第三次全体会议公报（全文）” [Full Report of the Third Plenum of the 16th Central Committee of the Chinese Communist Party], *china.com.cn*, October 14, 2003, www.china.com.cn/chinese/zhuanti/sljzsqh/421625.htm (accessed on May 2, 2018).

5. China Internet News Center, “如何理解建立健全社会信用体系是完善社会主义市场经济体制的重要内容” [Understanding the establishment of a robust social credit system is important content for perfecting the mechanisms of a socialist market economy], *china.com.cn*, November 25, 2003, www.china.com.cn/chinese/zhuanti/sljzsqh/448786.htm (accessed on June 6, 2018).

6. Shanli Ren, 山里人, “社会信用体系的基本概念、基本构架和基本功能” [The Fundamental Concept, Framework, and Function of the Social Credit System], Sina Blog, March 8, 2008, http://blog.sina.com.cn/s/blog_49151ade01008byxq.html (accessed on June 6, 2018).

governing nonbanks like Alipay that operate electronic payments systems and firms like Sesame Credit that evaluate the creditworthiness of individuals.

The 2014 plan described above considerably expanded the social credit concept, shaping behavior beyond what most countries consider “credit,” partially as a result of increased online fraud and persistent governance challenges. SCS therefore extends the economic concept of “creditworthiness” beyond the ability and willingness to repay loans. The goal is to establish by 2020 a system of laws and standards to support the integration of credit information and the system of rewards and punishments.

Current State of the Social Credit System

Though implementation has only begun, numerous pilots give a sense of what social credit is on track to become. A few provinces (notably Shanghai in 2016⁷) have outlined their own local SCS rules, and individual sectors of the economy are also building pilots. So far, these programs have had limited effects.

Two early SCS components—the court judgment blacklist and the social credit in transportation—have received the most attention because of their steep, visible penalties. These records share only negative information, functioning more like criminal records in the United States. The court judgement blacklist was created when China’s court system launched an online platform in 2013, which publicly names those who refuse to comply with court judgments and subjects them to “credit punishments.”⁸ The extent of noncompliance with court judgments shows why a system like social credit is needed. Inability to enforce judgments eroded the credibility of courts and the law, as defaulted debtors or convicted swindlers continued to open new businesses, get loans, and use assets they by law should have forfeited. But because China lacks an independent judiciary and the system has been rolled out hastily, this system can also harm individuals.

The court blacklist integrated with databases at the securities regulator, central bank, and company registry to block blacklisted individuals from issuing securities or borrowing money, incentivizing them to comply with the court and get off the blacklist.⁹ The court also worked with banks to facili-

tate asset freezes and fund deductions from bank accounts (Leung 2014). Its effect was to create a system similar to that of the United States, where courts and law enforcement officers can seize assets or skim off wages to force compliance with a civil judgment. But soon after, the punishment mechanism was expanded to include a controversial ban on air and high speed rail travel or stays in luxury hotels, which had hit 6.7 million people by early 2017.¹⁰ While travel restrictions may be draconian measures for defaults, they are not unique to China. Millions of Americans have also had their driver’s licenses revoked due to unpaid traffic fines (Salas and Ciolfi 2017). China’s pilot has shown both positive examples of individuals settling long outstanding debts and crackdowns on firms that take advantage of vulnerable workers by not paying wages (Dai 2018) and worrying examples of judgments hitting journalists and defense lawyers.¹¹

Social credit punishments in transportation came online on May 1, 2018. Though the initiative is nominally part of the SCS, it appears to simply keep track of those who break rules on trains, from minor violations to serious ones like blocking doors and putting others in danger. Those guilty of these more serious violations can be banned from traveling by trains for six months (National Development and Reform Commission 2018), and those involved in fights or assaults on airline staff can be banned from flying for a year.¹² The SCS in effect steps up law enforcement in a crucial area, as the fines in place before were ineffective in curbing such behavior. It is unclear if it will involve more surveillance or “scoring.” While China’s blacklist system is based on committed offenses, the United States is further along in algorithmic governance. It admitted to using algorithmic “predictive assessments” to generate its no-fly list, which blocks potential security risks from traveling.¹³ Already a

monitor.com/2014/12/20/supreme-peoples-court-csrc-saic-and-pboc-tighten-the-regulatory-net/ (accessed on May 2, 2018).

10. Yuan Yang, “China penalizes 6.7m debtors with travel ban,” *Financial Times*, February 15, 2017, on www.ft.com/content/ceb2a7f0-f350-11e6-8758-6876151821a6 (accessed on May 2, 2018).

11. Maya Wang, “China’s Chilling ‘Social Credit’ Blacklist,” Human Rights Watch, December 12, 2017, www.hrw.org/news/2017/12/12/chinas-chilling-social-credit-blacklist (accessed on May 2, 2017).

12. Orange Wang, “Tougher penalties for unruly passengers on China’s planes and high-speed trains,” *South China Morning Post*, May 1, 2018, www.scmp.com/news/china/society/article/2144230/tougher-penalties-unruly-passengers-chinas-planes-and-high-speed (accessed on May 2, 2018).

13. Spencer Ackerman, “No-fly list uses ‘predictive assessments’ instead of hard evidence, US admits,” *Guardian*, August 10, 2015, www.theguardian.com/us-news/2015/aug/10/us-no-fly-list-predictive-assessments (accessed on June 14, 2018).

7. Shanghai’s plan was announced in September 2016 and is available at www.shanghai.gov.cn/nw2/nw2314/nw2319/nw12344/u26aw50043.html.

8. “Chinese courts to blacklist judgment defaulters,” *China Daily*, July 19, 2013, on www.chinadaily.com.cn/china/2013-07/19/content_16803133.htm (accessed on May 2, 2018).

9. Susan Finder, “Supreme People’s Court, CSRC, SAIC, and PBOC tighten the regulatory net,” *Supreme People’s Court Monitor*, December 20, 2014, <https://supremepeoplescourt->

robust system for circumventing China's travel blacklist has sprung up, with brokers offering to obtain train and air tickets for blacklisted people, using alternative credentials. Because there are few linked systems, it is difficult for authorities to detect these workarounds.¹⁴

The local systems of cities and provinces have had varied effects. Qingzhen, a city in Guizhou, uses 1,000 indicators to assign a point value to its citizens, which in practice is cobbled together without “coherent logic” (Dai 2018). It also includes peer evaluations and community monitoring, drawing uncomfortable parallels with the “Nosedive” episode of the television show *Black Mirror*. Other local governments have more worryingly used their SCS pilots to “strengthen restrictions on certain liberty and autonomy interests of individuals, including those related to online speech and public demonstrations” (Dai 2018). By contrast, more advanced systems in places like Shanghai include elements seemingly inspired by European data privacy legislation or the US Fair Credit Reporting Act, such as the right to be forgotten, ways to restore one's credit, and standards that limit officials' rights to access sensitive data (Dai 2018).

Beijing's SCS pilot law went into effect in May 2018 and is aimed primarily at enterprises committing fraud. The measures establish a municipal joint credit reward and punishment mechanism and hint at a regional cooperation mechanism that may eventually include the Hebei and Tianjin areas. *Beijing Magazine* reported on the launch of a campaign to “rectify” over 10,000 dishonest financial enterprises.¹⁵ In addition, Beijing's 44 departments adopted 18 types of punishment for 326,000 entities, including restrictions on government procurement, obtaining government provided land, and job qualifications. Individual punishments were linked to enterprise violations, and 156 legal representatives of enterprises were barred from leaving the country. Another 145,000 individuals were blacklisted for dishonesty and faced travel restrictions.¹⁶

Another facet of SCS is a continuation of earlier efforts to build a financial credit system but enlisting private enterprises to do so. Major Chinese internet companies, including Alibaba affiliate and payments juggernaut Ant Financial and social media and payments giant Tencent, received permission in 2015 to set up their own credit evaluation businesses—including Ant's much-discussed Sesame Credit. This temporary permission has expired, and none of these private systems have been more permanently licensed by financial credit authorities. Several continue to operate in a regulatory

gray area, but the Internet Finance Association set up by the central bank is the only company with a license to launch a credit scoring business. Payments data has also become increasingly centralized as Alipay and WeChat Pay are forced to run through a system operated by the central bank.¹⁷

The People's Bank of China rejected issuing licenses to the seven pilot financial credit programs, citing concerns about the bias introduced by companies and their data, which are derived largely from customer transactions on the companies' platforms.¹⁸ The central bank has stated that credit scores could be used to drive mobile platform adoption and that each company's data do not give a complete picture of individual creditworthiness to create dependable ratings for large-scale lending. The central bank's assessment calls into question one of the key pillars of the SCS: the ability to

One area of concern is the Social Credit System's implications for freedom of speech...

obtain reliable, unbiased data on citizens' creditworthiness. If the pilot programs are indeed a failure, then what can replace them as a proxy for creditworthiness under the SCS? As of this writing, the answer to this question is unclear.

One area of concern is the social credit system's implications for freedom of speech, for example, if a critical comment about the government would lower one's social credit score (if such a score indeed becomes part of the SCS). In fact, internet sites with commentary features are supposed to keep blacklists of those making “illegal” statements on their websites, which could be integrated into the SCS (Cyberspace Administration of China 2017). However, this concern goes beyond social credit. Even without it, the Communist Party has a wide array of tools to restrict speech, from automated censorship to arrests simply for irreverence on sensitive historical topics even in private group chats.¹⁹ The risk of SCS use to repress speech must be taken seri-

14. Author interviews in Beijing and Shanghai.

15. “Beijing Accelerating Construction of Social Credit System,” *Beijing Magazine*, issue 20, 2018.

16. Ibid.

17. Martin, Chorzempa, “Beijing's Grip on Internet Finance is Tightening,” *China Economic Watch*, January 9, 2018, Peterson Institute for International Economics, <https://piie.com/blogs/china-economic-watch/beijings-grip-internet-finance-tightening> (accessed on June 6, 2018).

18. Cunzhi Wan, “万存知：为什么八家机构两年多还没拿到个人征信牌照” [Why eight organizations have not received credit investigation licenses after more than two years], Institute of Digital Finance at Peking University Viewpoints, May 31, 2017, <http://idf.pku.edu.cn/index/point/2017/0531/29490.html> (accessed on June 14, 2018).

19. Kenrick Davis, “More Nanjing Massacre Miscreants Detained by Police,” *Sixth Tone*, March 12, 2018, www.sixthtone.com/news/1001901/more-nanjing-massacre-miscreants-detained-by-police (accessed on June 14, 2018).

Table 1 Comparison of credit systems

Item	Sesame Credit	People's Bank of China Credit Reference Center	Social Credit System	Credit bureaus in the United States
Goal	Expand consumer credit, drive users to Alibaba products	Expand access to finance and lower lending risk	Use "creditworthiness to strengthen trust and order in government, throughout life in China	Collect and leverage data to price loans effectively and evaluate credit
Type	Private	Public	Public	Private
Operated by	Alibaba Affiliate Ant Financial, regulated by the People's Bank of China	People's Bank of China	National Development and Reform Commission as lead, other government departments for areas of jurisdiction	Equifax/Experian TransUnion and FICO
Legal status	Temporary permission indefinitely extended, no full license	Institution under the People's Bank of China	Official government plan and policy, expanded by local and sectoral regulations	Regulated by Fair Credit Reporting Act and other laws, which guarantee right to dispute errors and request explanation for credit denial.
Who is rated/scored?	Individual Alipay users must opt-in; companies can be rated but on a different point scale	Automatic inclusion of ~900 million records on individuals but no scores; company information also collected	No individual choice; data automatically collected; and strict user consent, processing, and sharing provisions may be imposed	Anyone the credit bureau can get data on. No opt-out. Bureaus collect data and produce reports. Joint ventures by credit bureaus called VantageScore and FICO's Score are main scores
Data sources	Mostly Alibaba data: shopping, payments, other sources users share	Financial institutions regulated by the People's Bank of China; some online lenders like Ant Financial	Government data from departments at all levels, trains, courts, etc.; some from private firms	Public records and lenders participating in the reporting system
Output	Single score designed to estimate the likelihood of loan default	Credit report	Laws, databases, systems for data exchange, punishments and incentives; scores possible in future	Credit report and single score designed to estimate likelihood of loan default
Consequences of low or bad credit	More expensive credit from Ant Financial, down payment not waived for some rentals, less access to Alibaba services	Financial institution rejects credit application, requires collateral, or charges higher loan interest	Expanding "rewards" and "punishments"; including lost access to government subsidies, inability to purchase plane/train tickets	Inability to borrow or open a credit card, rent an apartment, get hired for many jobs, and more

Sources: Chorzempa (2018); State Council (2014); CFPB (2015); author interviews with company executives and government officials.

ously, but social credit would only be one tool in this larger domestic security apparatus. These issues are beyond the scope of this Policy Brief but are critical to what the social credit system will become.

Table 1 highlights key dimensions of three credit systems in China and that of the United States. In a conversation with one of the authors, an official from the People's Bank of China referred to commercial systems like Alibaba-affiliated Sesame Credit as "market" systems and the SCS as the "planned" system, which helps elucidate their starkly different logic.

Private sector credit-scoring companies like Sesame Credit together with the central bank credit registry function like the fully private system in the United States but with more noncredit data, somewhat different uses, and an overarching government plan. Social credit adds functions not considered "credit" elsewhere, which in the United States instead fall under law enforcement, courts, and a multitude of disconnected local initiatives.

HOW DATA GOVERNANCE WILL SHAPE THE FUTURE OF THE SOCIAL CREDIT SYSTEM

If the SCS becomes as comprehensive as is envisaged, it will be one of the largest-scale, complex projects undertaken by any government in history. At the same time, we should not take at face value claims that such ambitious plans will be achieved on time or at all. The task requires extraordinary coordination between parties inside and outside government, parties that have conflicting objectives, protect access to their own data, and do not trust each other. For all the hype around data generation and tracking through facial recognition and the use of blockchain to create secure, transparent decentralized databases, fundamental governance challenges remain. Challenges around data privacy and security center on three distinct but overlapping categories: personal information, cross-border data flows, and data management/governance.

Data governance—from rules on user data to the politics of sharing data and digital identification—is a central factor shaping the SCS. These dynamics are different in China

today than they were in 2014 when the plan was released and will complicate efforts to build comprehensive cross-sector datasets that generate an evaluation of an individual's "social creditworthiness," a fundamental element of the SCS.

So far, the SCS rollout has been limited to blacklists consisting of data that would in the United States often be included in background checks (defaults, failure to comply with court orders). The SCS has not used its data to create sophisticated, algorithmically generated credit scores. Sources in Beijing give conflicting reports on how much company data is feeding into the SCS at this stage.²⁰ With the rise of technologies like facial recognition and artificial intelligence, there is a growing risk that the system will draw in personal data that feed into a broader algorithmic governance model and statistical analysis of individuals. But China is not there yet, and several factors that have emerged since 2014 will make it difficult to carry out a more dystopian SCS.

Growing Public Demands for Data Privacy

Companies now face more checks on how they collect and employ user data. An SCS with insufficient limits on how personal information is collected and used may be viewed as illegitimate by the Chinese public. Over the past year public demands for protections against abuse and misappropriation of user data by Chinese companies have strengthened. For example, a Chinese government-backed consumer protection organization is suing leading search engine Baidu for collecting personal information such as location, messages, and contacts without user consent. The case follows Ant Financial's apology after an Alipay default option allowed its credit scoring system to access user data. So far, public debate on social credit has been mostly positive or neutral, framing privacy, data security, and other issues as solvable through technology. A recent review of social media discussions found that "citizens have yet to grasp what the [SCS] is and what its implications in their daily lives may be" (Ahmed and Lang 2017). But the debate will intensify as SCS expands. In a sign of the government's seriousness about increasing protection of personally identifiable information (PII) widely sold by online scammers, four government agencies launched a joint privacy policy audit of ten Chinese internet services (including WeChat and Alipay) in August 2017.²¹

20. One exception is an agreement between Sesame Credit and Hangzhou's government, in which enterprises deemed "high risk" are subject to increased scrutiny by law enforcement (Dai 2018).

21. "中央网信办等四部门联合开展隐私条款专项工作" [Central Cyberspace Affairs Commission and Three Other Departments Jointly Launch Dedicated Privacy Policy Work], Xinhua News, June 27, 2017, www.xinhuanet.com/politics/2017-07/27/c_1121391284.htm (accessed on June 6, 2018).

New Regulatory Limits on What Companies Can Do

Regulators are beginning to act on growing public concerns over data protection. In 2017, the Standardization Administration of China issued the final version of a "specification" on protecting personal information, which takes effect May 1, 2018.²² It is a significant attempt to check the ability of companies to collect, process, and share individuals' personal data. It contains detailed provisions for user consent, including requirements to de-identify data if users have not consented to data sharing. Data in a broad category deemed "sensitive personal information" require explicit, not implied, consent by users before companies can process them. The specification also imposes strict limits on "secondary uses" of data beyond the original purpose.

It is still too early to know how the new standard will be implemented, but the level of detail of the new requirements makes clear that the days of a "free for all" on data are over. Strict data regulations will complicate efforts by central authorities to create a large pool of regularly updated SCS data that can be correlated for transmission in bulk or extracted without oversight.

Global Expansion of Chinese Companies

Chinese companies key to parts of the SCS are expanding globally and have concerns about meeting data privacy and protection requirements of other markets, such as the European Union. In the lead-up to the first day of enforcement of Europe's General Data Protection Regulation (GDPR) on May 25, Chinese companies were increasingly concerned about complying with the sweeping new privacy legislation.²³ GDPR is a regulatory regime covering "controllers" and "processors" of personal data on people in the European Union aimed to improve privacy and data protection.²⁴ Violators can face large fines, even if they are not based in the European Union. Companies such as Alibaba, Tencent, and Baidu have been part of developing and implementing China's own data regime given their global aspirations and reluctance to be seen as tools of a Chinese state intent on collecting massive amounts of data on its citizens.

22. China National Standards Management Commission, "Information security technology—Personal information security specification," May 1, 2018, www.gb688.cn/bzgk/gb/newGblInfo?hcno=4FFAA51D63BA21B9EE40C51DD3CC40BE (accessed on June 6, 2018).

23. Authors' discussions with various company officials.

24. For more on the GDPR, see Jan Philipp Albrecht, "General Data Protection Regulation: Practical Guidelines are Available," European Parliament Legislative Train, May 20, 2018, www.europarl.europa.eu/legislative-train/theme-area-of-justice-and-fundamental-rights/file-general-data-protection-regulation (accessed on June 14, 2018).

Chinese internet companies already provide payment services to Chinese tourists in Europe, which are likely to fall under European rules. Both Alibaba and Tencent have pledged that they will meet GDPR requirements, but EU regulators have yet to determine whether either China or individual Chinese companies can meet GDPR “adequacy” requirements. As the GDPR becomes a de facto global standard for data privacy and protection and Chinese internet companies push into more foreign markets, these concerns will become increasingly important.

Politics of Data Sharing and Coordination

There is still no central government repository for receiving, standardizing, managing, coordinating, and analyzing the vast volumes of data from industry and government. Companies also have fewer incentives to share their data entirely with government, due to the tremendous commercial and competitive value. The Ministry of Public Security, National Development and Reform Commission, People’s Bank of China, and others involved in handling datasets have only fragments of the data pie. Government ministries at the central and local levels often resist sharing data, because control over data comes with precious political power and influence. The lack of even basic data sharing is one of the most overlooked roadblocks to constructing the social credit system.

It is telling that China’s 13th Five Year Plan for National Informatization released in 2017 says that the country should create a “national data resource system” responsible for forming connections between ministries and promoting interdepartmental information sharing (State Council 2016). Without it, the SCS will not work. The 2014 SCS document calls for “advancing the exchange and sharing of credit information” by setting up “interconnection” throughout the credit information system, but to date progress has been limited. Chinese media reports often refer to major disputes and problems over data formatting, standardization, and interoperability between systems. In addition, there is no clear single algorithm or approach to scoring credit, social or otherwise, that private and government organizations agree on.

Fragmented Digital ID Systems

The SCS will also not work without a single solution in which an individual’s data footprint (i.e., social media, financial transactions, etc.) is linked to a unique identifier. Currently, the physical national ID card is still required for activities such as reserving hotels, booking train tickets, and opening bank accounts. Although the national ID card is increasingly tied to individual digital activity through real-name cell phone number and app registration, it is an old

system that was never designed to meet the massive new requirements of the digital age. Identity data are held in different systems, and physical IDs still must be scanned for many activities. The physical ID will not be replaced anytime soon, though the private sector is developing a number of solutions, and the Ministry of Public Security is weighing two competing models. Experts involved in the process advocate for a layered solution that allows for user verification without requiring disclosure of personal information linked to the national ID.

A pilot in Guangzhou illustrates how one digital ID solution works. The system allows residents to link their national IDs to WeChat, and media reports claim that this system will eventually expand to become the national digital ID system. We are skeptical of these claims because national authorities will not allow a commercial entity to have so much influence over a national ID system and how it is used. WeChat and similar payment platforms are viewed as commercial solutions that are not suitable proxies for a national government system.

In short, people are likely to have multiple digital IDs, across different regions and cities and for an array of businesses and products, which will allow them to identify themselves without disclosing too much personal information. By contrast, far more progress has been made on unique identifiers for organizations to be used across government systems as part of the SCS, called social credit codes. Digital identity issues further fragment China’s data landscape, compounding the difficulty of creating a unified system as envisioned in the 2014 outline.

CONCLUSION

“Social” credit grew out of Chinese efforts in the 1990s to build a financial credit reference system familiar to anyone in the United States. But it has evolved into a system with a unique law enforcement dimension, which so far has manifested itself through blacklists rather than algorithms or a “score.” While many of the SCS goals are laudable, the scale and potential impact pose serious risks to individuals and organizations that could result in the opposite of the promised effects. The rapid development of the SCS could risk outrunning development of accurate, secure data gathering and sharing capacity.

The system will lose legitimacy and fail if it has immense consequences for those evaluated yet is insecure and error prone. Connecting databases that contain sensitive information and providing access to more parties will make the system vulnerable to hacking, putting over a billion Chinese at risk of identity theft. Breaches will occur no matter how many cybersecurity measures are in place. Premature buildout of a centralized social credit database would create a honeypot

for hackers, and the Chinese government has a history of being lax about securing data.²⁵ Dispute and error resolution are also critically important. In a country where so many people share the same names, errors are bound to occur as the system grows, as will disputes over the fairness and veracity of information in the system. If individuals and organizations cannot access their records and request the right to a timely, fair review of these data, the incentive mechanisms will not work as intended and frustrations will build.

Enthusiasm for enforcing SCS blacklists has already led to excessive punishments.²⁶ So far, individuals and entities have not been given a composite “social credit score.” Past attempts to give scores have been resisted by the local population, including an attempt in Suining in 2010, which even the official Xinhua news agency likened to the “Good Citizen Cards” given out by Japanese authorities who occupied China in World War II (Creemers 2018). Unlike financial credit scoring, in which the outcome (default on

loans) is measurable, there is no objective way to measure an individual’s or entity’s trustworthiness. Creating a single score could result in what a Chinese expert on social credit has called “vacuous propaganda projects” (Dai 2018). But it also could make the SCS an excessively powerful tool that would be impossible to govern effectively and prone to abuse by its managers. Governance is therefore key, as excessive concentration of power could result in a few individuals or a single government department controlling the criteria for evaluation or accessing and manipulating the data fed into the system.

There is still time to shape the SCS to become an effective tool to deal with some of China’s most intractable domestic problems and at the same time minimize the odds of it becoming an Orwellian system of social control.

If China’s social credit plan is successful, other authoritarian regimes could be inspired to emulate its model. Most of these regimes are less technologically savvy, but the rapid rise of smartphone use for communications and financial transactions, including in developing countries, makes surveillance and government influence possible at an unprecedented scale and low cost worldwide. In fact many of the key components of social credit, from blacklists to widespread surveillance and use of credit scores far beyond borrowing money, already exist in democracies like the United States. A look at social credit in China should prompt more public debate on aspects of concern in our own systems.

25. Netease Tech, “社保信息门户大开：政府网站安全堪忧” [Social Security Information Portal Is Wide Open: Government Website Security Is Worrying], May 4, 2018, <http://tech.163.com/15/0504/09/AO0TLV4Q000915BF.html> (accessed on June 20, 2018); cited in Dai (2018).

26. Jeremy Daum, “The redlists are coming! The blacklists are coming!” China Law Translate, March 30, 2018, www.chinalawtranslate.com/the-redlists-are-coming-the-blacklists-are-coming/?lang=en (accessed on June 14, 2018).

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APPENDIX A GLOSSARY OF KEY TERMS

English	Chinese	Description
Social credit	社会信用 <i>shèhuì xinyòng</i>	This is a very difficult term to render accurately into English because 信用 (<i>xinyòng</i>) has a much wider meaning than the term “credit” in English, which typically does not come with a value judgment. <i>Xinyòng</i> can also mean honor, trust, and confidence, so in general has a sense of “worthiness.” Social credit in this sense points to worthiness in a society, as opposed to an individual being simply “creditworthy” in a financial sense.
Social integrity	社会诚信 <i>shèhuì chéngxìn</i>	Though this term is sometimes translated as “credit,” and has been used seemingly interchangeably with 社会信用, it is a much broader term derived from ancient sources that covers the creation in society of honest and trustworthy behavior in a wide range of activities and fields and can also be translated as “moral courage.” It seems to now be used less in the specific context of a social credit system but is more akin to a “top level design” concept for which the social credit system then becomes the “platform.” One classic Chinese text notes that, “Throughout the ages, integrity has always been the lofty pursuit of the Chinese nation.” Chinese sources refer to social integrity as a social atmosphere of being honest and trustworthy gradually formed within the entire social life of a society. The formation of social integrity includes not only personal integrity but also the widely accepted morals and rules of social life. It focuses on such areas as health care and family planning, food and drug safety, social security, labor and employment, education and scientific research, culture and sports tourism, intellectual property rights, environmental protection, and energy conservation. An associated term is integrity of government affairs or administrative integrity 政务诚信 (<i>zhèngwù chéngxìn</i>).
Social Credit System	社会信用体系 <i>shèhuì xinyòng tǐxì</i>	The Social Credit System is also called the national credit management system or national credit system. Chinese sources claim that the establishment and perfection of a social credit system is one of the important signs that the socialist market economy of China is continuing to mature. There is some sense that the term “social” here is used to distinguish the system’s “socialist market economy” features from those of a capitalist economy version. Chinese sources say that the aim of the social credit system is “to establish a market environment suitable for the development of credit transactions.”
Social credit code	社会信用代码 <i>shèhuì xinyòng dàimǎ</i>	The social credit code serves as an identifier, currently used mostly for companies, which should allow one to look up their record in the social credit system. These records are already visible for some firms upon purchase from Alibaba platforms.
Sesame Credit score	芝麻信用评分 <i>zhīma xinyòng píngfēn</i>	This score is generated by Sesame Credit, described as an “independent third-party agency” affiliated with Ant Financial, the payments affiliate of Alibaba. It is China’s first system to incorporate online and offline data to generate actual credit scores that are akin to Western credit scoring systems. Here the term 信用 actually refers to credit more in the Western sense, i.e., creditworthiness, without some of the baggage that “social credit” carries.

Sources: Chorzempa (2018); State Council (2014); CFPB (2015); author interviews with company executives and government officials.