Social Credit And Digital Governance

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Summary

Since its launch in 2014, China's social credit system has been the subject of many scary reports that it is an instrument of totalitarian social control in which data about every aspect of a person's life is fed into a computer, generating a score that determines what they may and may not do. The reality is far more prosaic. Social credit is a fairly low-tech system whose main purpose is to increase compliance with existing laws and regulations. It relies almost entirely on government databases and uses no information scraped from social-media, e-commerce or other online interactions.

Social credit is an effort to make traditional Chinese concepts of moral virtue function in a modern, market-driven, technocratic state. The core ideas were developed in the early 2000s, when China's rapidly growing economy was rife with corruption, scams and a general lack of trust. Beginning as a way to make the market economy work better, it evolved into a methodology for making governance more effective.

It is thus part of a broader attempt by the Chinese Communist Party to use modern technologies to solve governance problems. The other key elements of this technology-enabled governance strategy are digital service provision and pervasive surveillance, with which social credit is often confused. The overarching aim is not to restore Maoist totalitarianism but to impose more social order while still leaving space for the individual initiative that is required for a dynamic economy. In this survey of social credit and other digital governance mechanisms, our key conclusions are:

- Social credit and other digital governance tools are not just about repression and control, but also about making government work better.
- Social credit does not involve the use of machine learning to generate scores that control people's lives. Instead it aggregates information from government databases, which can then be used to enforce punishments on companies and individuals through targeted blacklists, and incentivize good behavior, through "redlists."
- The system is designed to improve the enforcement of preexisting court judgments and administrative sanctions. It does not have the ability to create new offenses and punish people for them.
- A forthcoming Social Credit Law is likely to eliminate over-reach in local-government systems, limit blacklists to serious offenses, and make it easier for people to get off blacklists. It will also make the system more centralized. This centralization, along with the expansion of the surveillance state prompted by the Covid-19 epidemic, increase the capacity of China's digital governance system for pervasive and intrusive social control.

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1. China's digital governance strategy

China's social credit system is often erroneously portrayed as a centralized system which constrains key aspects of life

A common narrative about China's social credit system in Western media is that it is a totalitarian system of control, bringing to life the dystopian fantasies of George Orwell or *Black Mirror*. In this imagining, a centralized computer system analyzes data collected from China's 900mn internet users about their movements, purchases, financial transactions and social-media interactions—much of it scraped from apps run by private firms such as Alibaba and Tencent. Using government-constructed algorithms, the social credit machine then spits out a three-digit score for each citizen, which constrains every key aspect of her life: how much money she can borrow, what job she can get, whether she is eligible to buy a house, and even whether she can travel on a train or airplane.

For instance, in a February 2020 speech at Harvard, former American ambassador to the UN Samantha Power alleged that China:

> ...is developing this social credit system using artificial intelligence to process a mix of information about every Chinese citizen's movements, purchases, social media postings, religion, as well as the records of their family members and friends. The government...plans to continually update this score to be able to classify its citizens as untrustworthy. And that can determine everything from their access to jobs and social services to whether they should be picked up for preemptive questioning or allowed to travel.

The system does not use private-sector data or machine learning, nor is there any national scoring for individuals

This story is largely wrong, both in concept and in detail. Social credit is a system for aggregating information about companies and people, identifying whether they have broken laws or regulations, compelling them to pay the penalties for these infractions, and creating incentives for law-abiding behavior. But it does not use private-sector data such as online shopping or social media records; it does not involve artificial intelligence; it does not rate people by the actions of friends or family members; and at the national level there is no scoring for individuals. Moreover, it is not a single integrated system, but rather a fragmented ecosystem loosely held together by a common methodology. The bigger misunderstanding about social credit is how it fits in to China's overall digital governance strategy, which is rarely described fully or accurately. To understand social credit, we first need to get this big picture right.

Over the past quarter century, the CCP has used digital technology to enhance both governance and social control

Very early in the 1990s, the Chinese Communist Party leadership grasped the use of the internet, and digital systems more generally, as tools of governance, control and surveillance (see **The Internet Master Plan** and **E-China**). At a time when much of the Western tech world was celebrating the internet's democratizing potential, the CCP was busy figuring out how to make it an instrument of more effective and resilient authoritarian governance. Over the past quarter of a century it has developed a series of initiatives and mechanisms for using digital technologies to improve its governance. These efforts fall into three distinct but related areas: digital service delivery, surveillance and social credit. These areas, often conflated, must be understood separately, because each has its own set of goals, policies and mechanisms.

Digital service delivery comprises the digitization of bureaucracy, from issuing licenses to paying taxes

Digital service delivery comprises a wide range of activity including online systems for issuance of licenses, permits, customs clearances and other government documents; collection of taxes and traffic fines; improvement of land and resource use; and provision of information on government health, education, agricultural extension and other services. It is enabled by a massive information technology infrastructure (including both the internet and more specialized government and commercial networks), built under the slogan of "informatization" (*xinxihua*). The informatization drive was launched in 1993 with three projects: the "Golden Bridge" backbone network, the "Golden Card" bank card system, and the "Golden Gate" network for speeding up import/export services. By the end of the 1990s more than a dozen other "Golden" IT projects had been launched, running the gamut of central government agencies.

Surveillance has always been important to the CCP, but making it effective in a vast country of more than a billion people overseen by a fragmented bureaucracy has always been a challenge. Systematic technological effort to boost the government's surveillance capacity began with the Golden Shield project, which was made public by the Ministry of Public Security in 2000. This comprised several programs for monitoring online activity and enabling public security officials more easily to access information from security cameras. This was followed in 2003 by the Safe Cities initiative (which aimed to enhance both police work and disaster preparation and response), and in 2005 by Skynet (not the creepy self-aware neural network of the Terminator films but a plan to blanket China's cities with surveillance cameras).

While China's surveillance system still falls short of an all-seeing panopticon, the direction of travel is clear

The latest iteration of surveillance technology policy is Sharp Eyes, launched by the National Development and Reform Commission and eight other CCP and government agencies in May 2015. Its aim was to increase video surveillance coverage to 100% of "key public areas" by 2020, with an emphasis on rural areas that had been given short shrift in earlier programs. Whether or not this vague goal has been achieved, Sharp Eyes prompted massive investments by local governments in cameras and other security equipment, so that by one credible estimate China now has 500mn surveillance cameras, or one for every 2.8 citizens—a far higher density than any other major country. While most analysts conclude that China's surveillance system is still fragmented and falls well short of an all-seeing panopticon, the direction of travel—towards more, better, and more coordinated surveillance—is clear.

The core purposes of social credit are to increase legal enforcement and incentivize better behavior

Social credit is a relatively late addition to China's digital governance lexicon, with a first-phase plan published in 2014. As will be explained in more detail below, the core purposes of social credit are to a) increase the state's ability to enforce laws and regulations, b) hold individuals and organizations accountable for their actions, and c) create incentives for better behavior.

The crucial point about the interlocking initiatives of service delivery, surveillance and social credit is that they represent a strategy for governance, not just repression and control. The style of governance is undoubtedly far more authoritarian and paternalistic than most people in Western democracies find comfortable. But many of the CCP's governance objectives are the same as those in other countries: more efficient provision of government services, more consistent and predictable enforcement of rules, and more effective use of national resources.

A satisfied populace that can turn to the government for the solution to its problems is less likely to turn to protest

The digital governance strategy is a technocratic response to the messy problems of administering an ever more fluid, mobile and dynamic society with a bureaucracy that is notionally centralized but in fact severely fragmented both geographically and across policy areas. In the view of CCP technocrats, society is a complex machine that can be engineered to function better. Informatization is the basic engineering technique. If it improves the quality and consistency of public services, a satisfied populace that can turn to government for the solution to its problems is less likely to turn to protest or subversion.

Social credit's role in this governance strategy is complementary to, but distinct from, surveillance. Surveillance is about collecting new information in order to identify, manage and if necessary punish persons of interest. Social credit is about integrating information that the government already has, using it to sort individuals and organizations by merit, sanctioning them for rule violations, and encouraging them to behave better.

The philosophy of social credit reflects not just CCP ideas, but also a core strand of Chinese political tradition

The philosophy of social credit reflects not just CCP ideas of social control, but also a core strand of Chinese political tradition in which moral virtue is the key to social order. According to the 2014 plan, social credit pursues sincerity (*chengxin*) and punishes untrustworthiness (*shixin*). A novel feature of social credit—as opposed to previous moral classification attempts such as the class-based sorting imposed by Mao Zedong in the 1950s—is that it allows individuals and organizations to have some control over how they are categorized: better behavior leads to an improved score. The aim is to increase social control while avoiding Maoist totalitarianism, thereby preserving some room for the individual initiative required for a vibrant economy.

2. A short history of social credit

In the early 2000s, leaders feared that a lack of social trust would stunt economic development

The origins of the social credit system lie in the early 2000s. After years of "socialist market economy" reforms, China's leadership found many ills, ranging from non-payment of debt and non-compliance with judicial decisions to the sale of counterfeit and illegal goods. Leaders feared that the resulting lack of trust would stunt economic development. In response, the Jiang Zemin administration adopted ideas proposed by sociologist Lin Junyue, who Chinese media often call the "Father of Social Credit."

Lin called for the creation of information platforms to centralize data on individuals and businesses, and issue rewards and punishments for conduct. This idea of fostering trustworthy behavior in the marketplace still forms the core of social credit. However, after Jiang first mentioned social credit in a 2002 speech, it would take five years until concrete steps were taken to turn it into reality at the national level. In 2007, the State Council published initial guidelines for a social credit system and established an inter-ministerial joint conference led by NDRC to oversee its construction.

Local governments were quicker off the mark: Hangzhou instituted its own social credit initiative in 2002, involving 69 government departments. This was in full swing by the time the national guidelines emerged, and went further. Among other things, the Hangzhou system went beyond the mainly economic functions envisaged by the 2007 State Council document, including things like civil-servant performance ratings.

The CCP issued a decision calling for the construction of a social credit system in 2011

The next several years saw renewed political focus on spiritual and moral affairs, fueled in part by social media outrage over burgeoning corruption. In response, a plenary meeting of the CCP in October 2011 issued a decision calling for the construction of a credit system to foster sincerity in society, not only in commercial affairs, but also in matters of social and political morality. In 2013, the Supreme People's Court issued its first regulations on publishing name lists of "untrustworthy" individuals who had not fulfilled the terms of a valid judgment against them. This presaged the blacklists which have become a key feature of the social credit system.

Financial credit reports were available to some citizens by 2012, but the quality of the reports was uncertain

At the same time, the financial sector was grappling with credit questions of its own. Traditionally, Chinese financial institutions focused on large, often state-owned, enterprises and development projects. A dearth of consistent financial information made it hard for them to take on the riskier task of lending to individuals and small businesses who lacked collateral or state guarantees. The People's Bank of China established a "Credit Reference Center" in 2006 to provide credit scores, and by 2012 credit reports of some kind were available for 280mn citizens. But the quality of these reports was uncertain, and there was still a gaping need for more complete and reliable financial credit scoring.

The 2014 Social Credit Plan

The convergence of concerns over increasing marketplace trust, filling the need for financial credit scoring, and regulating social behavior more generally, led to the drafting of a "Planning Outline for the Construction of

The convergence of these concerns led to plans for a "social credit system" in 2014, setting 2020 as the first phase deadline

a Social Credit System", which was published in 2014 and set 2020 as the deadline for the completion of the system's first phase. The lead agency was NDRC, but plenty of other cooks crowded the kitchen.

In addition to the economically oriented agencies in the original inter-ministerial conference, several key national-level Party bodies were brought in. These included the Central Discipline Inspection Committee (the internal anti-corruption watchdog), the Political and Legal Affairs Commission (which oversees internal security), the Propaganda Department, and the Leading Group for Spiritual Civilization Construction. The Supreme People's Court and Supreme People's Procuratorate were also added. These expansions signaled that social credit had evolved from a narrowly-defined mechanism for enhancing trust in the marketplace, to an all-encompassing system for improving regulatory compliance in virtually every sphere.

The 2014 Plan set five major objectives for the six-year first phase:

- Creating a legal and regulatory framework for the social credit system
- Building credit investigation systems
- Building credit-based governmental supervision and management mechanisms
- Fostering a flourishing market built on credit services
- Completing incentive and punishment mechanisms

The plan specified four domains for social credit: government admin, the market economy, social services, and the courts

The Plan specified four priority domains for social credit: government administration, the market economy (notably but not exclusively finance and online shopping), social services (especially health care), and the courts. In each domain the focus was on increasing the trustworthiness and "sincerity" of the major actors. It also set out parameters for the system's information infrastructure, outlining standardized means to record credit-related information in different sections of the administration, databases to store this information at the central and local levels, the establishment of credit reporting mechanisms to enable public access to the information, and information-sharing procedures to prevent data from being segregated in different bureaucratic stovepipes.

The plan also outlined a system of rewards and punishments based on "blacklists" of bad actors and "redlists" of good ones

Finally, the plan specified that the main program to be supported by this infrastructure would be a system of rewards and punishments based on blacklists of bad actors and redlists of good ones. These incentives would be implemented not just by government agencies, but by unspecified "market mechanisms" and self-regulation regimes in various sectors. Essentially, this was an invitation to organizations outside the central government to adopt the blacklist/redlist method for regulating social behavior of all kinds.

As is often the case in Chinese policymaking, the 2014 Plan was not so much a master top-down edict but an effort to reconcile and centralize a welter of local initiatives that were already underway. The rest of this report will describe in detail what actually got built over the past six years. Databases have indeed been constructed, blacklists have been established, and the rudiments of a financial credit-scoring system have emerged. But progress has been uneven, and—quite unsurprisingly—the area with the least progress is oversight of government administration.

3. How social credit works

The system is divided into databases to organize information and mechanisms to deliver rewards and punishments

The social credit system comprises two main elements: databases that organize information, and the mechanisms that deliver rewards and punishments.

The databases

The foundational task of the social credit system is to collect, integrate and apply information on businesses and individuals that is already held by government databases at the national and local levels. This includes things like records of tax payments, traffic violations or legal judgments. As noted in the first section of this report, social credit is about the integration of already-existing information, not the accumulation of new data, which is the job of the surveillance system. And it only includes government-held data. Despite press reports about data sharing by private digital businesses, the social credit system does not collect or use commercial data.

The system does not directly incorporate reports by individuals or other private parties without government verification

In other words, beliefs such as that excessive computer gaming would result in a negative social credit score are unfounded. Similarly, the system does not directly incorporate reports by individuals or other private parties. Any such reports must be verified by a government department before having social credit consequences. China's social credit system thus is not a peer-to-peer rating system.

Centralization reduces the risk of information being marooned on "data islands"

The system's main innovation is its effort to solve the long-standing problem of government-held data being marooned on "data islands" in different departments that do not communicate with one another. Different departments might have incriminating information about the same company, or a convicted criminal might move from one province to another, rendering enforcement difficult. The response was to create a single database where all government-held information is centralized, and linked to a single unique identifier: a "social credit code" for businesses, and an ID number for individuals.

A 2016 catalog lists around 400 categories of information that can factor into a social credit score

This database, the National Credit Information Sharing Platform, is publicly available through the Credit China website, run jointly run by NDRC and PBOC. The site contains policy and research documents on the social credit system, and links to local-government social credit sites. More important, it contains a searchable database of social credit records for both individuals and businesses. A 2016 catalog issued by NDRC lists around 400 categories of information that can be included. About 80% of these categories relate to businesses. The information is to be supplied by more than 40 sector-specific regulators as well as institutions such as the Supreme People's Court.

Negative information lists records of regulatory violations, often down to a very granular level

The catalog divides information into three categories: basic, negative and positive. Basic information is neutral identification data such as name, contact details, business licenses and permits, date of incorporation and so on. Negative information lists records of regulatory violations, often down to a very granular level. The Ministry of Culture, for instance, supplies information about late returns of books to public libraries. Positive information includes things like honorary titles, awards and recognitions. Not all data is visible to everyone: the three privacy classifications are "limited sharing," "open to government" and "open to the public." The database does not contain explicitly political information, such as the presence of a Party cell or the number of Party members in a business, or Party membership for individuals.

Each province and city publishes its own credit information catalog

The NCISP contains information from both central and local government departments. Since many local social-credit initiatives preceded the national one, there is great variance in approaches and methods. Each province and city publishes its own credit information catalog. These have the same basic structure as the national catalog—with basic, positive and negative information, and similar privacy settings—but they vary wildly in detail.

Shenzhen, for instance, uses facial recognition cameras to detect jaywalkers, who are punished after five repeated offensives. Rongcheng, in Shandong province, collects information from human informers, ranging from neighborhood volunteers in residential areas to designated individuals in particular economic sectors, such as taxi driving. At the local level, information collection can be minute: the 2019 data catalog for Yuhang district, in Hangzhou, is 22 pages long. On the whole, the principle is that information is collected by the administrative level having jurisdiction over the particular act, and any rewards or punishments are also meted out at that level.

The variations in formatting mean that central and local databases are not fully inter-operable

The variations in formatting mean that the central and local databases are not fully inter-operable. Hence information-sharing either horizontally (between localities) or vertically (between higher and lower levels of government) is still hard to achieve consistently.

Punishment and reward

The basic enforcement mechanism of the social credit system is simple: the blacklist. Once sufficient infractions are logged in the social credit database, the offending individual or business is deprived of certain privileges until the offender does what is needed to get off the list. The force of the blacklist comes both from the direct penalties it prompts, and from the reputational damage it can cause. The less frequently used counterpart is the redlist, which confers benefits on those deemed especially meritorious.

Blacklists are subject to a few misconceptions. First, no artificial-intelligence driven decisions are involved. Inclusion on a blacklist follows from a specific infraction or court judgment, and exacerbating circumstances may also be needed. Social-credit blacklisting can only occur as the result of a prior judicial or administrative decision; the system cannot by itself create grounds for blacklisting. One can get off the blacklist by correcting or making reparation for the infraction that led to one's inclusion.

There is no straightforward connection between social credit "scores" and getting on a blacklist

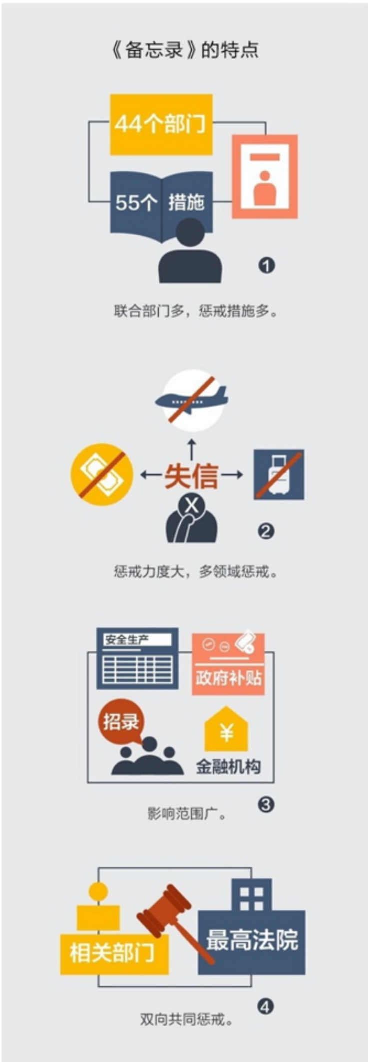
Second, there is no straightforward connection between social credit "scores" and getting on a blacklist. At the national level, individuals are not given social credit scores. For businesses, a "Comprehensive Public Credit Rating" was introduced in 2019 and covers 33mn enterprises. This divides businesses into four classes: excellent, good, medium and poor. Medium-ranking businesses are given briefings and training sessions; poor-ranking businesses are put under special scrutiny by local governments. This general ranking is explicitly subordinate to industry-or location-specific ranking systems or other measures. Local governments do sometimes have more intricate scoring systems for individuals and businesses, and these are discussed in more detail below.

Social credit blacklists are mainly an amplifier of existing rules and regulations

Finally, social credit blacklists are in the main an amplifier of existing rules and regulations. They extend the reach (and, in the government's hopes, the effectiveness) of enforcement, by adding new penalties. In short they raise the cost of violations. But they do not create new categories of violation.

National enforcement

At the national level, several dozen blacklists are already in operation, covering a wide range of areas including court judgments, conduct on trains and airplanes, tax fraud and improper handling of pollutants. Blacklists are created by the government departments responsible for each particular activity, in consultation with NDRC which has overall responsibility for the social credit system. The most elaborate blacklist is the "joint punishment mechanism for untrustworthy persons subject to enforcement", which aims to sanction individuals or businesses that avoid complying with court verdicts. It is run by the Supreme People's Court, in collaboration with more than 40 other agencies which either supply information or mete out punishments.



Social credit, illustrated

Government website explanation of the main national social credit blacklist.

44 government agencies are responsible for meting out 55 types of disciplinary actions against "untrustworthy" (*shixin*) persons.

The sanctions include restrictions on airline travel and financial activities.

Social credit assessment covers a wide range of sectors throughout the economy.

The punishment system is jointly supervised by the Supreme People's Court and various government agencies.

Source: Ministry of Transport

Blacklists vary in the type and severity of punishments they impose. The SPC blacklist is the broadest. On the principle that "those untrustworthy in one area will face constraints everywhere", this list bars people from certain jobs, makes it hard for them to take out loans, and prohibits many big-ticket purchases such as air and high-speed rail travel and stays in high-end hotels. This is unusually far-reaching but most other national blacklists work in a similar way, with a single list involving penalties enforced by several different agencies. Punishments for businesses include stricter inspections, and prohibitions on obtaining permits, winning government contracts, or receiving subsidies and awards.

The private sector must cooperate in enforcing blacklists

The private sector must cooperate in enforcing blacklists. If individuals are banned from luxury hotels, for instance, the hotels need to have a list of those ineligible to stay. Similarly, based on government blacklists, e-commerce platforms such as Alibaba disallow listed individuals from making high-end purchases.

It is not clear to what extent foreign individuals are subject to the system

It is not clear to what extent foreign individuals residing in or visiting China are subject to the social credit system, but the local subsidiaries of foreign businesses are included without distinction of the nationality of their parent companies. It is worth noting that sanctions on companies can also extend to senior management: if a firm winds up on a blacklist, executives deemed responsible for the company's actions could also wind up blacklisted themselves.

Local enforcement

The social credit picture is quite varied at the local level

The picture is far more varied at the local level. Some localities run targeted blacklist/redlist systems similar to the national ones. Others have developed more complicated scoring systems. Credit scores are usually generated by assigning points based on how well an individual or business complies with regulations. Zhejiang province, for instance, is developing a system for five types of entities (individuals, companies, utilities, social organizations and government departments), in which one can obtain up to 1,000 points based on fulfillment of various regulatory or social obligations. Individuals are also scored on a 1,000-point scale and then classified into five broad groups. Those with high scores are eligible for various cash benefits, including subsidized contributions to pensions and healthcare schemes, or subsidized loans. Those with lower scores are subject to sanctions ranging from warnings to losses of benefits, restrictions on employment opportunities, and public censure.

The Rongcheng social credit catalog lists 150 ways to gain credit, and 570 to lose it

Another common approach is to assign each individual or business a starting number of points, and then deduct or add points for bad or meritorious actions. (There are usually far more ways to lose points than to gain them.) In the Shandong city of Rongcheng, individuals and companies are given a starting score of 1,000 or 100 points respectively. Its social credit catalog lists 150 ways to gain positive credit, and 570 for negative credit. These are quite granular, and include abusing one's dog (-10), gambling (-20), failing to pay the fine after giving birth to an unauthorized child (-50), and burying someone in a grave exceeding permitted square footage (-100). This score results in classification in broad categories, five for individuals and three for businesses.

The Zhejiang corporate social credit score-card

Main indicators and components	Points available
Basic information	**100**
Offenses by branch offices or senior executives	50
Timeliness of annual report filing	50
Finance and taxation	**160**
Tax compliance	80
Compliance with financial judgments	80
Governance capacity	**140**
Product quality	20
Production safety	60
Environmental protection	60
Obeying discipline/complying with law	**420**
Public utility fee arrears	20
Credit commitment	30
Administrative compliance	120
Compliance with court judgments	120
On any blacklists	130
Social responsibility	**180**
Social security payments	40
Philanthropic contributions	30
Administrative awards or titles	50
On any redlists	60
Total possible points	**1,000**

Source: Zhejiang government

Local corporate social credit schemes are often industry-specific

Local corporate social credit schemes are often industry-specific. Zhengzhou in Henan has a blacklist for construction waste clearance companies while Hainan province has one for waterway construction enterprises. Punishments vary widely and again can be very specific based on local circumstances. In Jiangsu province, for instance, blacklisted enterprises face higher electricity costs through a collaboration between the environmental authorities and the State Grid.

Not surprisingly, development of positive-incentive "redlists" has been spottier. At the national level, the only redlist systems are those of the State Taxation Administration and the General Administration of Customs for "A-Grade Taxpayers" and "Customs-Certified High-Level Businesses" respectively. Benefits of the Customs redlist include lower-frequency inspections, fast-tracking of bureaucratic procedures and priority clearance.

Redlisted businesses also get beneficial treatment from government agencies

Redlisted businesses also get beneficial treatment from other agencies, including preferential consideration for government procurement (Ministry of Finance), preferential access to land (Ministry of Natural Resources) and easier access to credit (People's Bank of China). At the local level, the Zhejiang and Rongcheng examples suggest how individual Chinese citizens may benefit from getting high social credit scores.

The Zhejiang individual social credit score-card

Main indicators and components	Points available
Identity	**150**
Work-related infractions	100
Revocation of professional qualifications	50
Agreement-fulfilling capacity	**150**
Tax compliance	100
Compliance with credit commitments	50
Obeying discipline and complying with law	**400**
Administrative infractions	120
Court judgments	140
On any blacklists	140
Economic activity	**180**
Judgments related to loans	90
Public utility fee arrears	90
Social morality	120
Public welfare and philanthropy	40
Administrative rewards	40
Redlists	40
Total possible points	**1,000**

Source: Zhejiang government

Businesses reported as untrustworthy are entered into a "Big Data Warning List" and targeted for more stringent inspections

Beyond the obvious punishments and rewards, two other aspects of social credit's impact are worth noting. First, government can better manage its governance tasks, notably through the prioritization of law enforcement efforts. Businesses reported as untrustworthy by three different sources are entered automatically into a "Big Data Warning List", identifying them as targets for more stringent inspection efforts. The blacklists can also help clean up government procurement, by weeding out untrustworthy vendors.

The system can also enhance the ability to conduct due diligence on potential vendors and customers

Second, the system can enhance the ability of businesses and individuals to conduct due diligence on potential vendors and customers. (Equally, this means that businesses need to monitor the data on them in the NCISP, so they are not unfairly blackballed.)

One example of the due-diligence function is a collaboration between cybersecurity company Qihoo 360 and Beijing's Chaoyang District. Anyone with the Qihoo app installed on their smartphone will receive a notification if an incoming call is from someone on the district court's blacklist. Another is the Shanghai government's app, "Honest Shanghai," which enables users to consult their own social credit information, and to check restaurant hygiene scores. The Jianggan District Court in Hangzhou has launched a WeChat mini-app offering rewards for the recovery of debts owed by blacklisted individuals.

Individual social credit classifications in Zhejiang

Classification	Examples of benefits/penalties
AA / AAA	Subsidies for medical /social security premiums Public transport subsidies Free health checks Interest-free micro-loans Interest-rate reductions on regular loans
A	Priority access to subsidy schemes Preferential access to school enrollments and other social services Exemption from routine inspections Priority access to government training or procurement schemes Interest-rate reductions on regular loans
B	Credit education and reminders Selective provision of A-class benefits when improvement is seen
C	More frequent inspections Suspension of social welfare payments Suspension of social welfare payments Ineligible for government awards Prohibition on public employment
D	Put on blacklist Cancellation of government benefits and subsidies Revocation of awards Restrictions on borrowing Disciplinary procedures and punishments

Source: Zhejiang government

4. Social credit and the financial system

As we noted above, one of the original motivations for the social credit system was to create credit rating that would make it easier for households and small business to get access to finance. As social credit developed, broader governance objectives came to dominate. But the social credit system continues to interact in interesting ways with efforts to build a robust financial credit rating infrastructure.

Social credit is an almost exclusively government project, while private firms have taken the lead with financial credit

There are two key differences between the social credit system and the nascent financial credit rating industry. First, social credit is essentially an enforcement technology: it aims to improve compliance with existing laws and regulations. Financial credit rating is about enabling financial institutions to better manage risk, which in turn will enable them to broaden access to credit. Second, social credit is almost exclusively a government project, whereas in financial credit rating, private companies have taken the lead. This may now be changing, as financial regulators seek to extend their authority over credit-rating.

A major impetus for the development of financial credit rating was the explosive growth of the digital economy. In the West and advanced East Asian markets like Japan, South Korea and Taiwan, online shopping and other digital services were enabled by a robust credit-card payment system. In the early 2000s, Chinese regulators hamstrung the development of credit cards, so China's online giants, notably Alibaba and Tencent, established their own online payment mechanisms, Alipay and WeChat Pay. The roaring success of these payment apps enabled both Alibaba's financial affiliate Ant Group and Tencent to collect vast amounts of standardized consumer payment data. As Ant, Tencent and others started to move beyond digital payments to building their own credit businesses, this data trove became the basis of a consumer credit scoring system. There was a huge incentive for Ant and its competitors to build reliable consumer credit ratings, given the potentially lucrative returns from consumer lending.

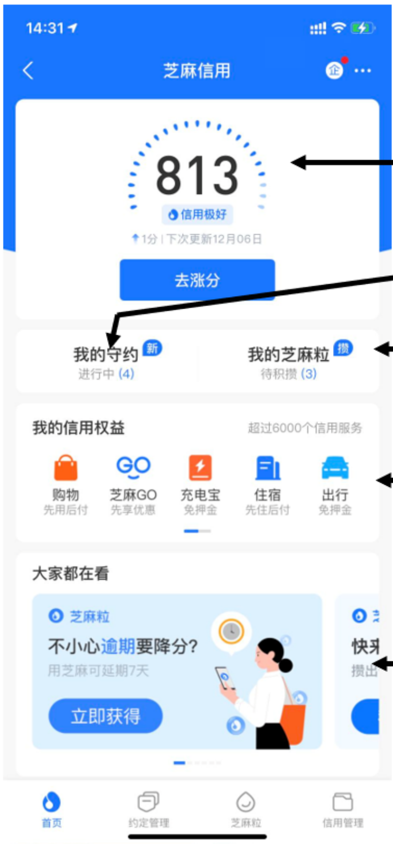
In 2015, the PBOC gave an official go-ahead, issuing rules that permitted eight companies, including Ant Group and the finance arm of Tencent, to develop credit rating mechanisms. Of these eight, by far the most successful and best known was Sesame Credit, an add-on to Ant's Alipay payment app.

Sesame Credit does use machine learning to calculate individual credit scores between 350 and 950

In contrast to the government's social credit system, Sesame Credit does use machine learning to calculate individual credit ratings of between 350 and 950. The algorithms remain proprietary, but the Sesame score is based on five types of data: completeness and accuracy of a user's identity information, the number of friends they have with high score, their behavioral record on the platform, the amount of money they spend on Alibaba, and the extent to which they use the payment system in other areas.

Sesame Credit is not a pure financial scoring tool, like FICO in the United States; instead it is a sort of combined credit rating service and loyalty scheme. Someone with reliable identity information and a large number of equally reputable contacts is less likely to be a fraudulent bot; but one can also generate a higher rating simply by spending more on Alibaba's platform. A low rating brings no explicit punishment, but higher-rated members earn a range of perks, including easier access to loans or installment schemes, deposit waivers in hospitals, hotels and transport rentals, and even streamlined visa procedures for countries with which Alibaba reached an agreement. The system seems to have become fairly popular with its users, some of whom even display their scores on Alibaba's online dating platform.

The system has become popular with users, some of whom display their scores on their online dating profiles



A Sesame Credit home page

Credit score (ranges from 350 to 950).

Link to service programs in which the user is enrolled, e.g. buy-now-pay-later plans or buyers' clubs.

Link to "Sesame Grain" loyalty points, earned for meeting payment obligations.

Links to individual benefit programs, including delayed payment for shopping and hotels, zero-deposit car rentals, and Sesame GO, a discount coupon program.

Links to promoted programs. The one here enables one to use Sesame Grains to extend rental periods for rented equipment such as cellphones, computers, projectors and drones.

Image credit: Gavekal Dragonomics

In foreign media coverage, Ant's Sesame Credit was often conflated with the government-run social credit system, even though the two had nothing to do with each other. Sesame's use of reputational inputs, its generation of scores through machine learning, and the kaleidoscopic array of financial and non-financial benefits it showered on high-scoring users, gave rise to the false impression that the government's social credit system did the same things, and that Sesame was simply a subset of an all-encompassing government plan to algorithmically track and regulate every aspect of its citizens' lives.

Financial regulators concluded that Sesame Credit would not work as a neutral, portable credit rating

The Chinese government view was quite different. PBOC financial regulators, who were interested in credit rating not as a means of social control but as a way to expand access to finance, concluded that neither Sesame Credit nor its seven counterparts in the pilot scheme would work as a neutral, portable credit score because there were too many conflicts of interest. Basically, Ant and its competitors each wanted to keep their credit rating data proprietary, in order to give an edge to their own lending businesses. None of the eight companies was granted a permanent credit rating license.

A centralized financial credit rating system is proving difficult as firms are unwilling to share their data

Instead, in 2018 PBOC led the creation of Baihang, a credit rating company in which each of the eight pilot-scheme firms held an 8% stake, and the PBOC effectively owned the remaining 36% via an industry association that it controlled, the National Internet Finance Association of China. The theory was that each firm would contribute its data, and the resulting credit ratings would be available to all lenders. But this effort has so far been stymied, thanks to the refusal of Ant and Tencent to share their data.

This may change, thanks to a draft regulation published jointly in November 2020 by PBOC and the bank system regulator. This would require Ant and other online finance companies to share their data either with Baihang or with the PBOC's Credit Reference Center, which already collects loan data from state-owned banks. In theory, once this data is stored at PBOC or in Baihang, it could feed into the social credit database.

Financial credit rating and social credit are likely to remain fairly distinct

In practice, though, financial credit ratings and social credit are likely to remain fairly distinct. There will be occasional overlap, for instance through the credit-access restrictions placed on people and companies that wind up on NCISP blacklists. But the aims and mechanisms of the two systems differ fundamentally. Social credit is a government-run system whose purpose is to achieve stronger compliance with laws and regulations. Financial credit rating is an effort to broaden access to finance, and its success will depend on collaboration between government regulators and private-sector financial firms that control much of the critical data.

5. Digital governance responses to Covid-19

The digital governance system in which social credit plays a part was put to the test over the past year with the outbreak of Covid-19, which began in Wuhan in late 2019 and then spread around the world. The epidemic prompted a whole-of-government response to suppress the virus which proved remarkably successful. Despite being ground zero of the pandemic and suffering a deadly outbreak in Wuhan, China eliminated community spread within three months of imposing a draconian social lockdown in late January. By November 2020 its death toll from Covid stood at just 3 per million population, compared to per-million rates of 100 to 1,348 in major European countries and 776 in the United States.

Covid-19 proved an informative stress-test for Chinese digital governance

Much of this success stemmed from decidedly pre-modern techniques such as the quarantining of a vast swathe of central China, and strictly enforced stay-at-home orders in the rest of the country. But digital techniques also played a role, and the epidemic proved an informative stress-test for Chinese digital governance.

Chinese authorities deployed a variety of technological tools to combat the disease. Drones were sent out to verify whether individuals were violating lockdown orders or wearing masks, and "thermoguns" were used to remotely scan body temperatures. Artificial intelligence algorithms scoured social media to identify potential outbreaks. Robots and autonomous vehicles were used for tasks such as food and medicine delivery, reducing the chances of human-to-human transmission. Alibaba developed AI image recognition tools for diagnosis of Covid cases, and Baidu supplied algorithms to help predict mutations of the virus.

A Chinese software firm developed new facial recognition systems that could handle face masks

Initially, the state's surveillance capacities were overwhelmed during the early stages of the outbreak. Systems designed to target relatively small numbers of criminals and dissidents creaked under the weight of monitoring an entire population. Facial recognition technologies could not handle the sudden and widespread introduction of face masks. Partly, these problems were solved by the addition of human enforcement, such as checkpoints at building entrances. A Chinese software firm, Hanwang, developed new facial recognition systems that could handle face masks, and immediately found a major client in the Ministry of Public Security.

Social credit concepts figured heavily in the innovation of the health-code mobile phone app, now used in over 100 cities

The main specific epidemic response of the social credit system *per se* was that some localities expanded their systems to encompass violations of quarantine and social distancing. But social credit concepts figured heavily in the most important Covid-inspired innovation, the health-code mobile phone app. These apps began development at Ant Group and Tencent in February 2020 under direction from the State Council. They are now used in over 100 cities; some local governments developed their own similar tools.

The principle of the health-code app is simple: users are asked a number of detailed questions about potential symptoms, their body temperature, travel history and personal information. The app combines this information with government-sourced data to generate a green, red or yellow code, indicating the risk that the user had been exposed to Covid. Individuals with a yellow or red code need to maintain quarantine for seven or 14 days respectively;

holders of green codes can move about freely. These codes have been used by municipalities to limit access to residential compounds, schools, public transport and industrial parks. Individual shops, restaurants and companies also use them to restrict access.

The app combines user-provided information with government-sourced data to generate a colored code

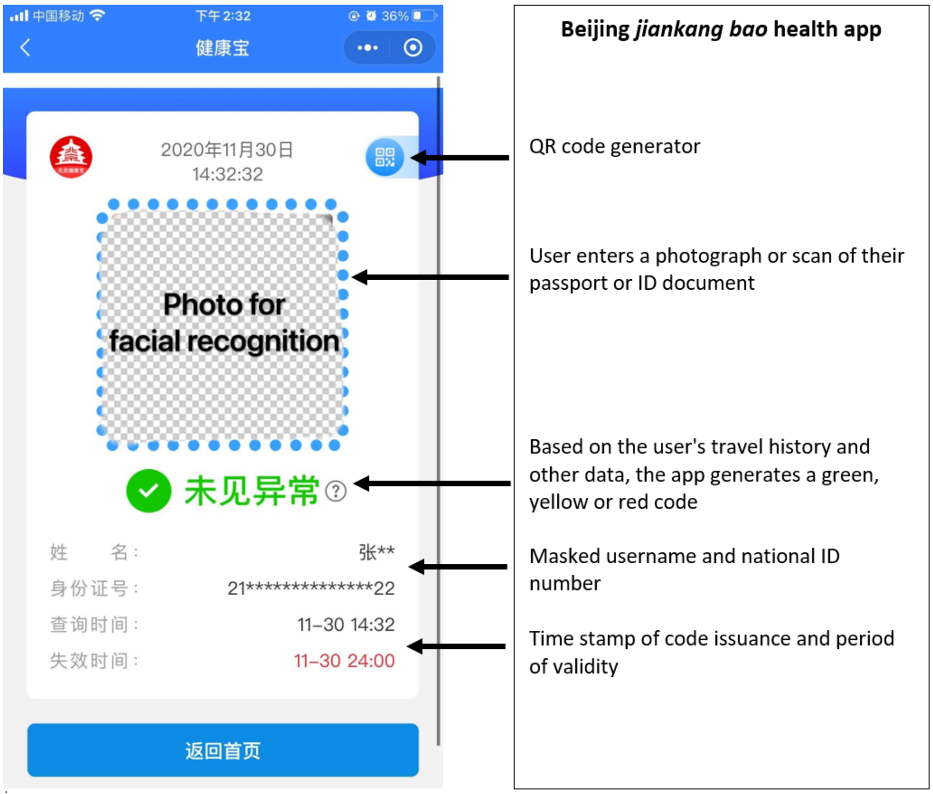


Image credit: Gavekal Dragonomics

Users complain of a lack in transparency on how codes are calculated and the lack of an appeal mechanism

Reception to these apps has been mixed. They are welcomed as a way to avoid harder lockdown measures. But their accuracy is open to question. Users complain of a lack in transparency on how codes are calculated, and the lack of error-correction or appeals mechanisms. The growing number of apps means that users often have to scan multiple codes in the course of a day, rather than having a single standard app that works everywhere. This piecemeal system also means that many areas of the country remain uncovered.

A larger concern relates to privacy. According to a New York Times report, the Alipay health app contains a function called "reportInfoAndLocationToPolice", which sends that individual's location info and identifying code to an external server. This information is sent every time a code is scanned, allowing an individual's movements to be traced.

Health-code apps are not linked to the formal social credit system

Health-code apps are not linked to the formal social credit system, so getting repeated red scores on a health app will not lead to a downgrade of one's social credit classification, where it exists. But the health-code app does point to ways in which social-credit and surveillance methods could intersect in future. Health apps fit the social credit template: they integrate government and user data to create stronger compliance with government rules. But they also incorporate several capabilities that social credit systems do not, notably real-time geographical tracking, and algorithmic decision-making.

Some local governments have already announced schemes to make health care tracking permanent

Already, some local governments have announced schemes to make health care tracking permanent, including data on physical exercise, alcohol and tobacco use. This will present an important test case for the acceptance of digital government tools. Have citizens become so inured to social credit methods and Covid-related apps that they will accept this more active monitoring of their private activities? Or will they push back in the name of personal privacy?

6. The future of digital governance

This year marks the end of the first phase of the development of China's social credit system, as defined by the 2014 plan. Policy documents are already being devised for the next phase. So it is appropriate to conclude with an assessment of the system's development so far, and the drivers and constraints of its future evolution.

The 2014 plan called for the fundamental elements of a social credit system to be "basically" achieved by this year, and generally speaking this target has been met. Databases have been established at the central level and in most localities. Government departments have rolled out, and gained experience in managing, blacklists and redlists. Data-sharing between government agencies and across jurisdictions has strengthened, from a very low base.

The NDRC has identified 28 "model cities" to demonstrate norms with which other cities are expected to converge

The system still suffers from numerous shortcomings. Two issues are persistent fragmentation and citizen push-back. Local systems are still not coordinated: localities emphasize different priorities, use different data gathering and classification approaches, and impose different sanctions, leading to legal uncertainty. In some cases, local governments have even sought to include behavior that is not unlawful, such as plans in Zhejiang province to punish "malicious, frequent job-hoppers." The proliferation of blacklists supervised by different levels of government has led to confusion, and data-sharing between agencies—though more consistent than in 2014—remains spotty. To address these problems, the NDRC in 2018 and 2019 identified 28 "model cities" to demonstrate norms with which other cities are expected to converge.

The public response to social credit is hard to gauge, with little comprehensive research so far. One study suggests that citizen awareness of social credit is low, but support is high among those who are aware. The blacklist system, though, has come in for criticism. There are frequent complaints that individuals are not notified that they are on a blacklist, have no method for protesting or appealing a wrongful blacklisting, and often do not receive clear instructions on how to get off the blacklist. NDRC officials have admitted the need for improvement.

The government's likely next step is to pass a Social Credit Law in early 2021

To address these and other issues, the government's probable next step is the passage of a Social Credit Law. As usual in Chinese regulatory culture, the law will formally conclude the initial stage of relatively open experimentation, and impose a top-down, centralized set of constraints. A public draft should emerge by early 2021.

Its key provisions are foreshadowed in a new policy document published by the NDRC in July 2020. Here the NDRC specifies which data does and doesn't count as credit information, which data can be published, which penalties are permitted and through which procedures they must be imposed, and how negative credit can be restored. Blacklists can now only be established for acts violating laws or regulations that also constitute threats to market disruption, health and safety, violations of judicial or administrative orders, or refusal to perform national defense duties. Blacklisted parties must now be explicitly be notified before listing, while blacklisting is limited to governments of county-level and higher, with decisions being reviewable at the provincial level. The national social credit information catalog is to be reviewed, and

The national social credit catalog will be reconciled with those of local governments

data excluded from the national catalog may not be included in social-credit catalogs of local governments. Sector-specific or local social credit initiatives not complying with these rules by the end of 2021 will be invalidated.

These strictures were reiterated in a State Council executive meeting in late November 2020. In it, premier Li Keqiang emphasized that any social credit sanction must be based on existing laws and regulations; that punishments should be restricted to cases of grave harm to public health, market order and social interests; and that it should be made easier to restore one's credit after a breach or infraction. The rationalization of social credit is also listed as a target in the 14th Five-Year Plan.

A balance between control and dynamism

The law is thus likely to do two main things. First, it will try to clean up the morass of local schemes and strictly limit social credit to the enforcement of existing rules and regulations. Second, it will push for more centralization.

The Party must balance greater social control with the individual initiative necessary for China's sustained growth

The first objective is welcome. The second, however, raises anew the fear that social credit could evolve into a means of totalitarian social control—especially if social credit merges more fully with the surveillance apparatus, as has already occurred in a small way with the health apps and the surveillance-enabled sanctions for jaywalking and traffic violations. These fears are legitimate, but must be tempered by an understanding of the CCP's incentives. The Party wants more social control for sure, but it must balance this desire against the need to maintain space for local autonomy and individual initiative, which remain indispensable for the sustained economic dynamism that underpins CCP legitimacy. Three points about this balancing act are worth noting.

First, fragmentation presents coordination and enforcement problems, but fragmentation is also a solution to the problems of centralization, enabling localities to tailor their measures to local circumstances. Moreover, to be effective the social credit system needs a lot of data, and the vast majority of this data comes from local governments, not central agencies. Social credit will likely evolve through a series of pendulum swings, alternating between the costs and benefits of centralization and localization.

Second, the punitive elements of the social credit system will become ever more explicitly a part of the "rule of law" state that China seeks to construct. In other words, the blacklists will remain closely tied to existing laws and regulations. Punishment will exclusively follow from judgments or administrative decisions lawfully taken by other state bodies. Because its core function is to amplify the enforcement of state actions, it is unlikely that the social credit system will incorporate privately-generated data.

The CCP's interest in control means it is unlikely to ever transfer decision-making power to external processes like AI

Finally, what is the risk that social credit becomes an automated, artificial-intelligence driven engine of state repression? So far it is not such an engine, and the risk that it will become one in future is low—precisely because of the CCP philosophy of governance. The CCP's interest in control means it is unlikely ever to transfer decision-making power from its own officials to external processes such as machine-learning algorithms. The objective of social credit and other digital governance technologies is to strengthen—not replace—Party control and decision-making.

Conclusion

To summarize, the key point about the social credit system is that it is not one unified, all-encompassing tool of automated control, but a loosely connected constellation of systems. Unlike the surveillance system—with which it does overlap—its main aims relate not to control but to governance: to better enforce laws and regulations, to make the market economy work more smoothly and to enable administrators to do their work more efficiently.

The technology behind social credit is surprisingly unsophisticated

The technology behind social credit is surprisingly unsophisticated. It only uses data government entities already have, does not use machine learning decision-making, and in many local cases, actually operates on the basis of manually-compiled, paper-based information.

The social credit system will likely be important for the daily operations of businesses in China in the future. Locally registered subsidiaries of foreign companies are no exception. While social credit does not create new compliance burdens, it does raise the cost of infringement, and also increases the risk of reputational damage, since negative information about a company's compliance record may be easier for the public to obtain. It therefore creates needs for businesses to closely monitor their social credit rating.

With its first phase complete, China's social credit system will move into consolidation over the next few years

With the first phase of social credit now approaching completion, the system will be consolidated over the next few years. We can expect that the variety of models at the local levels will be streamlined, and stricter limitations will be introduced concerning how individual departments and local governments may and may not use the system.