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Sociotechnical imaginaries shaping China's emerging social credit system

Abstract: Is the convergence of new technologies and an authoritarian state bound to create an all-encompassing surveillance system? Is this happening in China with the Social Credit System (*shehui xinyong tixi*, abb. SCS)? Grounded in the field of Science and Technology Studies (STS), this article aims to describe the nature of the project by focusing on its inception and retracing how the initial visions materialized into the system that is now in place. It will do so by seeking to identify the sociotechnical imaginaries rooted in the SCS with the premise that these imaginaries, in particular the ones proposed by authoritative actors, shape the development trajectory of the SCS. Next, it asks whether the dominant socio-technical imaginaries are control and power legitimation. By touching upon the role of officials, academics, private companies, and citizens in negotiating what is practicable and what is desirable, this article argues that the SCS does not follow a determined trajectory toward technologically enabled dictatorship. It is the result of a process that Sheila Jasanoff has described as co-production, as the various actors embed their values into the project by imagining, engineering, using or even rejecting elements of the SCS. This article finds that before even knowing all the possibilities offered by new technologies, a certain future was envisioned and shared. Rather than the need for control and surveillance, actors emphasized the importance of trustworthiness, the advancement of a post-industrial society, quality of life, and a sense of community. In a certain way, technology was expected to offer a solution to most, if not all social problems. The room left for experimentation supports the argument that sociotechnical imaginaries have the potential to impact the development trajectory of the SCS project. The article concludes that, after more than 20 years since its inception, the SCS is still a policy under construction, whose interpretation and use is yet to be stabilized.

Keywords: China, science and technology studies (STS), social credit system (SCS), sociotechnical imaginaries

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1 Introduction

The year 2020 was marked by intensified surveillance of Chinese citizens. Yet, this surge of control was not a result of the national implementation of the Social Credit System (*shehui xinyong tixi*, abb. SCS),[1] but rather an immediate response to the SARS-CoV-2 pandemic and the resulting needs for public health management.[2] Pervasive monitoring was not limited to China either, as temporary and long-term preventive measures in various forms or strictness have been implemented all over the world since 2020, ranging from police or community surveillance to CCTV and drone footage, telecommunication and credit card location tracking, Bluetooth- or GPS-based smartphone tracing applications, health testing and health status verification, as well as other home or electronic wearable surveillance devices.[3]

The swift development of extensive digital solutions as part of the global pandemic response to cope with health and socioeconomic issues was hardly predictable. It underlines that innovation and national projects – publicized ones in particular – are adopted provided they balance several individual and collective concerns.[4] The present article is based upon the assumption that the SCS takes a development pathway similar to COVID-19 digital solutions, in the sense that it is not predetermined, and that it should balance different actors' values and concerns. Despite being qualified as an authoritarian country, space for negotiation is made possible in China to some extent by the fragmented authoritarianism model of its political regime,[5] as well as by the experimentative approach towards policymaking.[6] As to whether the dominant concern of the SCS is the State's need for control and power over the citizen's every move, further analysis is needed.

2 Structure and methodology

This article begins to address the question whether the SCS is conceived as a coercive surveillance tool by focusing on sociotechnical imaginaries, defined as the "collectively hold, institutionally stabilized, and publicly performed visions of desirable future [...] attainable through, and supportive of, advances in sciences

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1 State Council 2014.
2 Khalil 2020, Liu/Zhao 2021.
3 Gershgorn 2020, Hale et al. 2021.
4 Mahr/Bloch 2022, Knight/Creemers 2021.
5 Liberthal 1992, Mertha 2009.
6 Heilmann 2008, Heilmann/Perry 2011.

and technology."[7] This analytic concept is a useful framing grounded in the field of Science and Technology Studies (STS) to explore a policy still under development and to shed light on the societal future it aims to achieve through the use of technology, or what it attempts to resist. More than discourse analysis of a policy, it implies a performative dimension and serves as an instrument of legitimation.[8]

However, sociotechnical imaginaries are not explicit. A good entry point is to unravel them through the lens of comparison,[9] as will be done in the present article. Other methods employed are text and sense-making analysis.[10] Assuming that future imaginaries of state entities and scholars are predominantly drawn on for policy purpose, it is relevant to analyse the accessible legal documents, policy and media reports, as well as the work of intellectuals related to the SCS project. Therefore, this research relies mainly on all the open-source documents collected on Credit China (*xinyong zhongguo*), SCS's official state website managed by the two leading agencies of this project, the National Reform and Development Commission (NRDC) and People Bank of China (PBoC). To go further, the finding of this research could be triangulated with visual analysis, ethnographic methods, and case studies. Further research could also explore alternative sociotechnical imaginaries to the dominant political elite, and to which extent they have a power in the endeavour.

This article is structured as follows. After addressing the definition of the SCS, I will compare the external – mainly Western – understanding of the SCS with the national sociotechnical imaginaries of the project. Then, I will explore more in detail the national imaginaries, subdivided into two types: first, the national outward-looking imaginaries, which informed the reference models of the SCS; second, the Chinese inward-looking vision of a desirable future, which is reflected in the establishment of the SCS project. I will conclude by raising the controversies and future work identified by some actors involved in the SCS.

3 Literature review

According to Google Trend,[11] worldwide interest on the topic 'Social Credit System' rose slightly at the end of 2016, only to gain traction in 2018. Peak interest was reached in the second half of 2021. This surge not only reflects interest in the situation in China, but also the controversies around health monitoring measures amid

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7 Jasanoff/Kim 2015: 4.

8 Jasanoff/Kim 2009, 2015, Beckert 2016, Sovacool/Hess 2017.

9 Jasanoff/Kim 2015.

10 Jasanoff/Kim 2015, Widbeck/Linnér 2021.

11 www.trends.google.com, searching for the topic 'Social Credit System' worldwide from 2004 to now (2022).

the pandemic. Calling for resistance against privacy and liberty infringements, some COVID-sceptics and activists referred to the Chinese system as the inevitable dystopian future awaiting Western societies if action was not taken against schemes for health and vaccination pass.[12] The SCS became a symbol for a digital totalitarian state, the obverse of a desirable future in sociotechnical imaginaries.[13]

Next to plenty and at times sensationalist media coverage outside of China,[14] the SCS has also become a much-discussed topic in the Western-language academic literature. A number of studies discuss the SCS with a prospective tone, reflecting for instance on how this system could infringe human rights, automate or be diverted for governance or surveillance, and whether the SCS is an exportable model.[15] Yet, this body of literature fails to explain why the Chinese government would need the SCS as a tool to legitimate and maintain its power, giving the impression that granular control of its citizen is an obvious need or end to itself.[16]

Other studies remain more descriptive and factual. Western legal scholars, social scientists, and Chinese studies specialists have for the most part clarified the ongoing development,[17] and the multiplicity of heterogeneous components of the SCS.[18] In doing so, they contributed to demystifying the immediate totalitarian threat associated with the SCS and its impact on Chinese citizens by showing, for instance, that it is far from automated,[19] or that it is not an unanimously popular policy.[20] Consultancy reports have also described the SCS with a corporate audience in mind, to help businesses active in China navigate the new regulatory environment.[21]

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12 See for instance Davidson 2020, Andrews 2021 or Hinchliffe 2021.

13 Jasanoff/Kim 2015: 4–5.

14 See for instance the following newspapers, each featuring a rather sensationalist coverage followed by more nuanced articles a few years later: *Business Insider* (Nguyen 2016, Ma 2019), *Financial Times* (Clover 2016, Hornby 2017), *Foreign Policy* (Creemers et al. 2016, Horsley 2018 and Brussee 2021), *MIT Technology Review* (Condliffe 2016, Hao 2019). *The Conversation* (Brehm/Loubere 2018, Wang 2019), *The Economist* (2016, 2019), *The New York Times* (Gough 2016, Mozur 2018), *The Washington Post* (Denyer 2016, Song 2018), and *Wired* (Botsman 2017, Kobie 2019 and Matsakis 2019).

15 Hoffman 2017, Cheung/Chen 2017, 2021, Chen et al. 2018, Chorzempa 2018, Dai 2018, Loubere/Brehm 2018, Síthigh/Siems 2019, Strittmatter 2019, Wong/Schields Dobson 2019, Cho 2020, Knight 2020, Orgad/Wessel 2019, 2020, Jessup 2021.

16 On the contrary, China's one-party rule popularity is often explained by its ability to deliver high economic performance. While an important factor, researchers have called for a more nuanced explanation (see Chu 2013, Zeng 2014, Huang/Pang 2022).

17 Hoffman 2017, Ohlberge et al. 2017, Creemers 2018, Von Blomberg 2018, Liang et al. 2018, Arsène 2019, Backer 2019, Song 2019, Ding/Zhong 2021, Woesler et al. 2021.

18 Daum 2017, 2018, Ahmed 2017, 2019, Liu 2019.

19 Mistreanu 2018, Drinhausen/Brussee 2021.

20 Ohlberge et al. 2017, Kostka/Antoine 2018, Kostka 2019, Kostka et al. 2021, Liu 2022.

21 Meissner 2017, Schaefer et al. 2019, European Chamber of Commerce in China 2019.

Interestingly, whereas Western research on the SCS hardly addresses economic aspects, most Chinese scholarly literature stems from the field of economics and business management.[22] By focusing on sociotechnical imaginaries, this paper attempts to shed light on the underlying dynamics that have shaped the SCS's formation as well as the reasons why Western academics view the SCS primarily through a political rather than an economic lens.

4 Defining the social credit system

The first step in addressing imaginaries is the definition of the SCS. Terminology – and its translation – influences the representation of what is referred to. Legal scholar Daum believes that the term is too vague and argues that had the SCS been named differently, it would have raised less interest and speculation.[23] So what does "social credit system" mean?

In a narrow sense, it is a credit reporting system, an infrastructure standardized by institutions and rules to collect, assess, and monitor the credit situation of market actors for the purpose of better efficiency thanks to information flow with creditors.[24] Over time, as I will explain later, the SCS became an umbrella reform policy that not only addressed financial transactions, but also the improvement of efficiency and information management across various sectors. In this context "credit" no longer described the trust that enables payment deferment in a transaction but also trust for any market interaction. Therefore, all market actors are addressed by the SCS framework. This is reflected in the policy name. "Social" (*shehui*) should actually be translated as "societal" to indicate how the policy is targeted towards the entire *society*, which means individuals, corporate entities, and government institutions alike.[25] It does not refer to the kind of non-financial data (also known as "social" data)[26] feeding the system.

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22 Out of the 9,106 results related to the keyword search "社会信用体系" on China Academic Journals (CNKI) database, more than 55% come from to the field of finance and economics, while 33% are related to governance and public administration (China Academic Journals 2022). Out of the 77 literary references on SCS listed on the Credit China website, 65% stems from in the fields of economics or finance, and 22% are written by experts in financial law.

23 Luchsinger 2020, Yu 2021.

24 Lin 2010.

25 By the same logic, localized subsystems are called urban (*chengshi*) and community (*shequ*) credit systems. I have also noticed that Chinese researchers tend to call other national credit systems with the same term, such as the *American social credit system* (*meiguode shehui xinzong tixi*) (e.g. Li et al. 2008, Wu/Zhang 2017). It would indicate that, in their mind, the term is not Chinese specific, even if its concrete deployment is adapted to the national characteristics.

26 The use of non-financial information is considered mainstream. According to Experian, a leading multinational credit reporting company, 74% of lenders use nonfinancial data for

This distinction is particularly important for two reasons. Firstly, it indicates that the emphasis does not lie on the individual alone. As a risk management and law enforcement tool for efficiency, the monitoring of state and corporate entities is the core concern of the policy. The provincial documents regarding the SCS construction mention primarily the concrete objective of developing a better business environment, while the goal to carry forward a modern society and a culture of integrity is more aspirational.[27] Secondly, by equating the policy with the social data it uses, there is also the danger of obfuscating how privacy concerns, data discrimination and lack of impartial oversight are not only a problem in authoritarian states.[28]

In practice, the broad sense of SCS is both encouraged and criticized within the policy framework. On the one hand, the Chinese experimentative approach toward policymaking invited early on local government officials to develop infrastructure, processes, regulations, but also to explore creative credit products and promotional activities.[29] Widespread use and need of credit information were encouraged so that it would become an integral part of society and a driving force of development. On the other hand, the output of some of these initiatives led to mixed feedback. Aggregating blood donation into the financial assessment led, for instance, to controversies.[30] According to different national polls and interviews, there is a general concern that credit is too broadly defined and could be abused.[31] To accommodate public concerns of an all-encompassing SCS, the next development stage of the policy is devoted to better defining credit and clearly delineating trust-breaching behaviours.[32]

In a nutshell, the SCS shows a degree of interpretative flexibility.[33] The fact that the SCS is a heterogeneous assemblage under construction[34] contributes to this vague representation of what the system really is. The room left for interpretation allows for several sociotechnical imaginaries to flourish, articulating desirable and undesirable futures. As the sociologist Tarkkala[35] demonstrates, sociotechnical imaginaries are not stable and change over time, along with policy framing.

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credit risk modelling or lending decisions, and 96% believe in the usefulness of this additional source of information (Experian 2020, see also Njuguna/Sowon 2021).

27 A quantitative analysis from 2007 to 2016 identifies commercial benefits and rural welfare as the predominant topic in the national coverage of the SCS (Shahin/Zheng 2018). The recently released five-year plans of each province confirm that this tendency prevails (e.g. Hebnews 2021).

28 O'Neil 2016.

29 Wang 2005.

30 Toledo 2019.

31 Wang/Pan 2020.

32 State Council 2020.

33 Bijker et al. 1987; Bijker 1995.

34 Liu 2019.

35 Tarkkala et al. 2019.

5 External sociotechnical imaginaries of the social credit system

I begin with the sociotechnical imaginaries that arguably have the least impact on policy debates in China. These are the external, mainly Western visions of the SCS. Terminology issues aside, legal scholar Daum points out – and other scholars after him – that the SCS is often covered by Western media as a projection of our fears of pervasive use of technology.[36] The SCS, and by extension China, is imagined as the undesirable model.[37] This vision resonates with Edward Said's influential *Orientalism* theory, suggesting that Western culture has learnt to view China with a mix of fascination and fear. In the case of the SCS, fascination for potential technological advancement and fear over its potentially undemocratic use has created a fertile soil for sociotechnical imaginations.

While it has been recognized that the original SCS documents are "dry",[38] it is often described in overly melodramatic fashion as a digital dystopia established for the sole purpose of maintenance of the leadership's power, total control of the population and assertion of power abroad.[39] This framing is reinforced by its association to President Xi Jinping, and his image as an autocratic leader so thirsty for absolute power that he abolished term limits and evinced any opposition under the pretext of his anti-corruption campaign.[40] Leadership power is a common explanation for modern Chinese policymaking,[41] yet the SCS is not President Xi Jinping's flagship policy,[42] since it was already promoted by Jiang Zemin in 2001.

In Western countries, the SCS crystallizes concerns over China's rapid economic, technological, and undemocratic development. Yet the timeline of the SCS's

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36 Daum 2017.

37 Resistance against the use of social data for credit scoring pre-existed (e.g. Geslevich-Packin/ Lev-Aretz 2016, O'Neil 2016), but became stronger as awareness for the SCS increased. For instance, the European Commission issued the *Artificial Intelligence Act*, in which it is proposed to prohibit artificial intelligence practices for social scoring and trustworthiness assessment or usage of real time biometric data for the purpose of law enforcement. The word choice "social score and trustworthiness assessment" suggests an influence of the SCS. (European Commission 2021: art. 5(c)–(d)).

38 Greenfield 2018.

39 Strittmatter 2019.

40 Arguments supporting the leader power explanation speculated that his firm stand against corruption and his experience in charge of the highly surveilled Olympic Games in 2008 inspired him to the comprehensive system. See also Strittmatter 2019.

41 Duckett 2019.

42 The"Belt and Road Initiative" (BRI), launched in 2013, is claimed as Xi Jinping's flagship policy.

development also warrants to be taken into consideration. In 2001, it was hardly imaginable that total digital dictatorship would soon be possible. On the contrary, up until 2009, the Internet in China was portrayed by many as a technology of freedom embedded with democratic hopes.[43] I therefore now turn to the leadership's vision of the SCS to analyze the initial context of the project and explain why it was in fact not imagined as a as a tool for authoritarian digital control.

6 Internal sociotechnical imaginaries of the social credit system: (1) outward-looking

Because of the vague definition of the SCS, its starting point is also unclear. "Trustworthiness" (*shou xinyong*) was already promoted within pilot projects in 1984.[44] The term "social credit" (*shehui xinyong*) was mentioned for the first time in 1990 in a State Council statement.[45] What is clear is that it did not exist before 1978, because the People's Republic of China (PRC) was a centrally planned economy without any need or infrastructure for credit. After 1978, as the PRC opened-up to the market economy, bank and commercial credit emerged, followed by credit agencies and law to guarantee compensation for defaulted loans in 1993.[46]

Fair Isaac Corporation (FICO) and Experian, leading credit agencies in the US and UK respectively, provided their help in the endeavour.[47] Developed countries, the US in particular, were made into advanced, almost idealized, models to learn from. It was also understood that expanding credit allowed them efficient management of the economy and stimulated consumption, hence growth.[48] For this reason, many Chinese scholars and government officials started to visit Western developed countries.[49] Studies on their credit system were compiled, which constitute the foundation of credit knowledge in China.[50] The SCS is explicitly based on Western models.[51]

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43 Delise et al. 2016.
44 Reformdata 2012.
45 State Council 1990. The concept "social credit *system*" (*shehui xinyong tixi*), previously referred to as the "national credit management system" (*guojia xinyong guanli tixi*), was first mentioned in 2002 (Lin 2019).
46 People.cn 2018.
47 Ronas-Tas/Guseva 2014, Huang et al. 2016, Lin 2019.
48 Yang/Qiao 2001.
49 Lin 2012, 2019, Han 2018, Ronas-Tas/Guseva 2014.
50 Lin 2019. Reading these comparative studies is very insightful to understand how some foreign elements have been perceived and adapted within the SCS (e.g. Li et al. 2008, for a short analysis of the Swiss system, see for instance Zhang 2017).
51 Shahin/Zheng 2018.

For many Chinese credit scholars, and notably the leading SCS designer Lin Jinyue, national development follows an evolutionary path. As China is entering the digital economy, it has to catch up by improving the problem of lack of integrity, a problem that is believed to be already solved in Western countries.[52] In the same vein, it was hoped that the emphasis on moral education would be temporary. Once well into the post-industrial era and trust being part of the fabric of society, the moral assessment part of the SCS would recede into the background while financial assessment would prevail. This is what these scholars perceived to be the case in the West.[53]

Inspiration from the West was not restricted to scholars and policy specialists. Ordinary citizens and entrepreneurs experienced a growing exposure to Western societies through travel and business. For many Chinese observers social trust appeared to be a key underlying dynamic of developed economies. The influential businesswoman Huang Wenyun, for instance, expressed after a visit the US that trust was fundamental to the functioning of a society.[54] Huang's name has become strongly attached to the SCS, because she made large donations to the project.[55] Premier Zhu Rongji allegedly even launched the SCS in response to one letter she wrote, a letter "from an ordinary citizen" requesting a fair competition mechanism to enhance economic and social integrity as exist in other countries.[56]

In brief, Chinese sociotechnical imaginaries were strongly influenced by the belief that the grass is greener elsewhere, and that China is only catching up. Western countries have a post-industrial economy model to learn from and to imitate. Experts from the West even contributed, directly or indirectly, to the endeavour. Even if the SCS is adapted to local conditions, the belief that other SCS were successfully developed elsewhere contributed to the positive reception of the national policy.[57] In addition, the policy is portrayed as a direct response to the population's needs for such a comprehensive system.

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52 Han 2018, Lin 2022.

53 Han 2018, Lin 2012, 2022.

54 Shenzhen Special Zone News 2014.

55 Contrary to Huang's original story, China National Investment & Guaranty Co. Ltd. played a key role in leading research, collaboration and high-level discussion with Premier Zhu Rongji (People. cn 2018). Note that openness of credit and credit data was also a requirement to access the World Trade Organisation (WTO) in 2001.

56 Lin 2010, Lin 2019.

57 Wang 2019, Kostka 2019.

7 Internal sociotechnical imaginaries of the social credit system: (2) inward-looking

The civilized West is even more attractive when compared to what is believed to be a backward China. Despite impressive economic growth since the reform and opening-up in 1978, the Chinese population suffered from a sense of moral crisis.[58] A national survey in 2009 found that only 5.3% of the population was satisfied with China's ethical situation.[59] Huang Wenyun, the reportedly hero originator of the SCS initiative, substantiated her reform request with a lot of personal anecdotes on how much she suffered from fraud and disillusionment in her own country.[60]

In the 2000s, public contentions expressed growing concern for the moral decay caused by economic growth.[61] Notwithstanding China's autocratic regime and censure, these concerns could not be ignored. For the few scandals which made it to international headlines, such as the 2008 tainted milk scandal or the 2011 Wenzhou train collision, there were a host of other issues regularly giving a concrete sense of insecurity and moral decay to people: corruption, mass protests, pollution, food and safety hazards, unfulfilled contracts, tax evasion, fraud, criminality, etc. One incident in particular became an ethical wake-up call. In 2011, surveillance cameras displayed that some twenty bystanders failed to rescue, or even cared to notice Wang Yue, a two-year-old girl who had been run over in the street. Consequently, central authorities promoted one year later twelves core values – among which civility, prosperity, harmony and integrity – to address the perceived moral crisis. The ethic awakening came with the realization that a high quality of life could not be attained by money alone, but for which underlying values and trust were necessary. There was a strong desire for a society with a sense of community rather than apathy. This desire informed the national sociotechnical imaginaries. It is interesting to observe that the SCS, first and foremost a financial initiative, was imagined over time as a tool that would go beyond the credit in a narrow sense and, correlating with social concerns, expanded to the socio-economic field. This can also be observed in a shift of the SCS's objectives from financial stability to socio-economic stability in official discourses around 2011–2012. Experimentation on moral assessment became more important in the SCS, thereby diverting from the Western models.

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58 He 2015, Lin 2009, Linggi 2011.
59 Fan 2009.
60 Shenzhen Special Zone News 2014.
61 Lei 2017.

Over time, the SCS grew into an overarching policy framework that was supposed to solve a large number of problems and trust-breaking behaviour was identified as the root of all kinds of society's ills in China.[62] As mentioned above, Chinese scholars, SCS developers and population alike tended to believe that developed countries were attainable models who had already solved this issue with a credit system. This shows that support for the SCS was not mainly motivated by the desire for citizen surveillance, for which there are also other methods that do not need to be promoted openly.[63] The SCS was thus primarily conceived of as an economic tool and economic considerations are at the core of the SCS since its inception. Of course, this does not mean that it cannot also serve other goals. In addition to delivering economic performance, caring for the citizens' concern and bringing long-term stability, the SCS could indeed also become an important ideological tool in service of the Party.[64] The inspirational slogans of building a "Harmonious Society" (*hexie shehui*) and the "Chinese Dream" (*Zhongguo meng*), put forward respectively by then-President Hu Jintao in 2004 and by President Xi Jinping in 2013, indicate that stability and a broad socioeconomic development are promoted as a key goal of the leadership.

Against this backdrop, national sociotechnical imaginaries view the SCS as a one-size-fit-all solution that would bring trust, protection against misdemeanours, individual and collective prosperity, as well as material and environmental quality of life. Having identified quality of life and sense of community as important aspects of the national sociotechnical imaginaries, I now turn to the ways these values are articulated within the SCS project.

7.1 The social credit system to improve quality of life

By expanding access to credit for both consumers and enterprises, the SCS promises to contribute to economic growth and thereby also technological progress. Both foster a higher quality of life. The SCS is envisioned as being supported by and supporting innovation. Better market environment and access to credit will help entrepreneurs and companies to innovate. The SCS infrastructure should be supported by the latest technology, and official documents highlight particularly the importance of Big Data and Artificial Intelligence. Whether and how these technologies will be applied remains to be seen. Moreover, the SCS' initial vision

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62 He 2015. A global debate about trust took place since the end of the Cold War. Observing that in Western Europe, democracy alone was not enough to guarantee prosperity, economics and political scholars identified trust as a potential economic growth factor (Linggi 2011).
63 Drinhausen/Brussee 2021.
64 Gow 2017.

was formed long before these technologies existed, for instance, with regards to security surveillance technologies. Therefore, it is doubtful that the SCS was initially considered as a tool for control, although its later use could diverge from the uses for which the SCS was initially designed.

On an abstract level, the local government officials in their work report that the SCS is expected to create an attractive business environment and a "beautiful" society.[65] On a concrete level, the SCS' main contribution to quality of life is convenience and improved efficiency in the administrative process for trustworthy individuals, which is currently 99% of the overall Chinese population, although we should be cautious with taking this data at face value, especially in regards to the prosecution of ethnic minorities.[66] Nevertheless, it is important to recognize that the SCS is heavily promoted as a tool for administrative efficiency. For state and private entities which are the main target of the SCS, the benefit of convenience is triple. First, by providing a hassle-free all-in-one service for administration processes, entrepreneurs save time and focus on their core business. Thanks to a digitally streamlined process, a company could be set up in half a day,[67] and a loan obtained in less than 3 min.[68] Second, local governments ease their resource-intensive supervision workload. Finally, digitalization of government services is intended to stymie corruption and arbitrariness.[69]

7.2 Social credit system to foster a sense of community

Sense of community is to be achieved with small-scale projects within a village or a neighbourhood, often in rural areas or elderly urban dwellers. Consisting mostly of a mechanism of personal credit points (*geren xinyongfen*), also called moral points (*daode jifen*), it is based on voluntary participation to activities, whose accumulation leads to material and honorific rewards. These subsystems aim mainly at individuals rather than companies. Focusing on moral assessment rather than

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65 E.g. Xiaoxiang Morning News 2020, Song 2021, Hebnews 2021. Some even target "exquisiteness" (Song 2021).

66 According to statistics of the National Public Credit Information Center in 2019 and 2020, only 0.15 to 0.30% of the population is blacklisted, and only 2% of the moral entities (Drinhausen/ Brussee 2021). In some local official documents, it is clearly stated that the objective is to have a maximum 0.2% of the market actor blacklisted (Xinxiang County Office 2022, Peony Evening News 2022).

67 Xiaoxiang Morning News 2020.

68 Alibaba put forward the "310" concept in 2015: 3 min to fill in a form online, 1 s to obtain a credit line, and 0 human intervention. Research confirms quick processing for many lending services (Chen 2020).

69 Ke/Zhang 2020, Wu 2022, see also State Council 2021.

financial credit in the narrow sense, these local projects are often a sign of a high concern for poverty, left-behind rural families and solitary elderly. Relying on official governmental reports and newspaper interviews, community schemes are considered a success: closer unity and mutual help among people, improved living conditions, reduced criminality, better sense of satisfaction and happiness.[70] Delegating public responsibility for infrastructure maintenance and social services by demanding voluntary work is questionable, yet these moral points schemes remain small in scale and far from the Western concern of a digital surveillance assigning points to every behaviour. On a larger scale, at the city level, some moral scorings exist. However, instead of encouraging a sense of community, these local systems provide small conveniences to their users: simplified administrative processes, easier access to the shared economy and potential discounts. Commercial SCS systems could be considered as part thereof. In 2019, Lian Weiliang, Deputy Director of the SCS' leading organism NDRC, formalized that moral scoring subsystems can only be used as an incentive mechanism, not for punishments.[71] Finally, on the provincial and national level, through better law enforcement, the community is ironically created by isolating untrustworthy elements, as captured by the 2018 State Council guideline, "once untrustworthy, restricted everywhere." The disproportionality of punishment is frowned upon. Peking University Law Professor Shen Kui advocated for the abandonment of this guideline.[72] He also reminded that even if the SCS yields some success, it is utopic to believe that it will create a flawless society. Indeed, as of end 2020, priority in the development of the SCS is given to legislation. Financial assessment should remain the core of the policy. Disproportionality, arbitrariness, and overgeneralization of the term "credit" should be avoided.

Fundamentally, China is in a stage of constant reforming and amelioration since its opening up in 1978, and so is the SCS policy since its outset. Sociotechnical imaginaries are influenced by current issues people are facing at home: fraud, heavy administrative burden, poor access to credit, need for innovation, internal migration, rapid urbanization, etc. These concerns were embedded as a desire for a better future in the SCS policy. It is hoped that the SCS will affect the quality of life, interpersonal relations, business, and technology. In a word, support China's socioeconomic development.

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70 E.g. Taihe Net 2021, Chen/Tang 2022.
71 China News 2019.
72 Shen 2019.

8 Co-production & evolving sociotechnical imaginaries

In practice, ideals and good intentions don't prevent controversies from emerging. China's population, the end users of the SCS, are not ready to tolerate everything in the name of a better future. Points of friction and subsequent negotiations are particularly interesting because it reminds us that, to some extent, the SCS is [the SCS is] a co-production (footnote: Jasanoff 2004), that is [a collective project...] a collective project rather than a top-down imposed decision.[73] Controversies often led to clarification or redirection of the course of development of the SCS. This is where we can also gain insight into the experimental nature of the policy.

Here, I will shortly focus on one prevalent controversy: the quantification of morality and its aggregation to financial assessment. The blood donation controversy quoted above is one example, but many other cases sparked public reactions.[74] Among them, the recent controversy of the civility score in Suzhou (2020)[75] is particularly interesting. It proves that what is technically feasible is not necessarily desirable in the citizens' imaginaries. The civility score was based on an app built on top of the "Health Code" (*jiankangma*) COVID-tracking app, which has become de facto obligatory since 2020.[76] From a technical point of view, it made sense to use an already prevailing app rather than invest resources in a new one, whose adoption rate is uncertain. The moral rating, however, was not well accepted. Interviewed by a Shanghai Newspaper, a representative of the Suzhou government explained that the negative public reception was due to poor communication and insufficient testing of the trial version, but the intentions behind were good.[77] Nevertheless, the app had to be modified. Following this logic,

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73 In addition to national policymakers, there are 47 ministerial agencies, 65 market institutions, 16 universities, thousands of credit agencies and many private companies that contribute to the legal and infrastructural development of the SCS. Thirty two provinces (all but Hong Kong and Macao) are in charge of tailoring the national SCS policy to their provincial level. Six hundred and seventy two cities take part in the urban credit schemes. Rural and community schemes have not been compiled yet. Between 2018 and 2020, 62 demonstration zones have been selected as models to learn from. China's adult population and all companies active in China are the SCS end users. Finally, note that all the SCS official documents are first published as public drafts open for comments before being enforced (e.g. Hebnews 2021).

74 E.g. the scoring of individuals in Suining in 2010 (Creemers 2018), the ethical files in Pujiang between 2009 and 2011 (Chu 2012), the National Committee Member of the Chinese People's Political Consultative Conference Li Xiaolin's suggestion of a moral file in 2012 (Li 2012).

75 Qian 2020.

76 Mahr/Bloch 2022.

77 Qian 2020, Yuan/Chen 2020.

it is not because parallel systems are in place, for instance, for surveillance purpose, that they will necessarily be embraced into the SCS without civil negotiation.

As mentioned above, the distinction between financial credit score and moral credit score has been required since 2019, at least on paper. Relying on previous experiences and controversies, NDRC decided that the moral credit score should only be used for incentive, not deterrence.[78] As the Suzhou case shows, even if it has been educated in an official document previously, this was still a problem in local practice in 2020. This reminds us that not every document or technological promotion is to be taken at face value.

More generally, this controversy illustrates that although scholars and citizens agree to the principle of trust in society put forward by policymakers, they disagree with the "disciplinary overkill" of getting more burden than benefits from the system.[79] Corroborating Tarkkala's findings,[80] the case of the SCS gives evidence that sociotechnical imaginaries evolve to better delineate the future society the community wishes to achieve, while the policies are adapted accordingly. In sum, the process can best be described as an agile management of the project, with a broad objective at the end of the road and small steps with twists and turns to reach it. This pragmatic and gradual approach to reform resonates with Deng Xiaoping's policymaking principle of "crossing the river by feeling the stones."

9 Conclusion

Although the SCS has reached an advanced stage of construction in over twenty years of local experimentation, it is still a moving target. I have therefore decided not to describe the system's exact functioning and its subdivisions, because I expect the system to be modified and clarified in the next stage of development. Instead, I have explored the sociotechnical imaginaries underlying the SCS development. I have focused on the visions held by the authority and promoted in official documents, but I have tried to signal that it is a collective process with many stakeholders. Apart from cultural and historical explanations, few research has been devoted to explaining the reasoning and hopes behind the SCS, and this paper starts to address this topic. Since I focused on official documents, further research is needed on the alternative visions and if they end up playing a role in the project. To my knowledge, the sociotechnical imagination framework is also little used in the Chinese context. Hence, this study contributes to STS research about China.

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78 China News 2019.
79 Wang/Pan 2020.
80 Tarkkala et al. 2019.

The starting point of the SCS was contextual. There were concrete financial issues to solve in order to establish market order, as other countries did before China. These post-industrial economies were admired as a model to learn from. As time passed, the SCS continued to be linked to the present circumstances. As the Chinese government encountered social unrest, it broadened the scope of the SCS. To address growing tensions, the government aligned its objective of high-quality growth to the aspirations of the population for a better quality of life and stronger community ties. At the same time, new technologies offered new potential for deployment of the policy. Because the SCS is so broadly defined, it feeds imagination and fear, especially from an external point of view. Perception of the policy might also be changing in China. Researchers have found that, after purposefully framing the SCS as a potentially repressive tool, results of a survey showed decreased support to the policy.[81] By following the dominant sociotechnical imaginations, I did not observe the wish to develop the SCS as a control tool for the sake of strengthening the authority's grip on power. At least, it is not publicized.

As it continues to evolve, it is hard to predict if citizens' resistance will grow stronger, or if the government will impose certain aspects to ensure greater control. It could also be that the SCS disappears in the background as a seamless infrastructure supporting other administrative or commercial activities. It would become unnoticeable unless glitches appear. If the SCS manages to be so imperceptibly entangled in the life of its users, it would become a black box. In the West, especially in the US, the credit rating system has already become a black box. In a comparative perspective, the Chinese example becomes interesting. Even if the modelling and the use of technology constantly improve the American system, it is hardly questioned unless a crisis or a controversy emerge. Per comparison, the SCS project in China is still partially in the experimental phase. It is regularly evaluated and subject to improvements and changes. This co-production period is thus a particulary important moment to question its purposes and speculate about its future impacts.

References

Ahmed, Shazeda (2017): "Cashless society, cached data—security considerations for a Chinese social credit system." *The Citizen Lab*. https://citizenlab.ca/2017/01/cashless-societycached-data-security-considerations-chinese-social-credit-system/ (01/03/2022).
Ahmed, Shazeda (2019): "The Messy Truth About Social Credit." *Logic Magazine*, May 1. http://www.logicmag.io/china/the-messy-truth-about-social-credit/ (01/03/2022).

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81 Kostka et al. 2021. About the issue of failure of imagination, see Halegoua/Lingel 2018.

Andrews, Helen (2021): "Say No To Vaccine Passports." *The American Conservative*, August 30. https://www.theamericanconservative.com/articles/say-no-to-vaccine-passports/ (01/03/2022).

Arsène, Séverine (2019): "China's Social Credit System. A Chimera with Real Claws." Paris: Institut français des relations internationales. https://www.ifri.org/en/publications/notes-de-lifri/asie-visions/chinas-social-credit-system-chimera-real-claws (01/03/2022).

Backer, Larry Catá (2019): "China's Social Credit System: Data-Driven Governance for a 'New Era.'" *Current History* 118(809), September; 209–214.

Beckert, Jens (2016): *Imagined futures: Fictional expectations and capitalist dynamics*. Cambridge, MA: Harvard University Press.

Bijker, Wiebe E. (1995): *Of Bicycles, Bakelites and Bulbs: Toward a Theory of sociotechnical Change*. Cambridge: MIT Press.

Bijker, Wiebe E., Hughes, Thomas Parke, & Pinch, Trevor J. (1987): *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*. Cambridge: MIT Press.

Botsman, Rachel (2017): "Big data meets Big Brother as China moves to rate its citizens." *Wired*, October 21. https://www.wired.co.uk/article/chinese-government-social-credit-score-privacy-invasion (01/03/2022).

Brehm, Stefan, & Loubere, Nicholas (2018): "China's dystopian social credit system is a harbinger of the global age of the algorithm." *The Conversation*, January 15. https://theconversation.com/chinas-dystopian-social-credit-system-is-a-harbinger-of-the-global-age-of-the-algorithm-88348 (01/03/2022).

Brussee, Vincent (2021): "China's Social Credit System Is Actually Quite Boring." *Foreign Policy*, September 15. https://foreignpolicy.com/2021/09/15/china-social-credit-system-authoritarian/ (01/03/2022).

Chen, Yu-jie, Lin, Ching-Fu, & Liu, Han-Wei (2018): "'Rule of trust': The power and perils of China's social credit megaproject." *Columbia Journal of Asian* Law 32(1): 1–36.

Chen, Yuxiang 陈云翔 (2020): "'Can small banks compete on local data in online retail loans? The example of Baotou Rural Commercial Bank 市民贷' 地方中小银行线上零售 贷款业务应用研究." *Applied thesis*. Genève/Beijing: Université de Genève & Tsinghua University.

Chen, Kexu, 陈科旭 & Tang, Dexin 唐德鑫 (2022): "*Fengcai | Zhewei rendadaibiao tansuo jifen guanli jichu xiangcun hao fengqi* 风采 | 这位人大代表探索积分管理 积出乡村好风气. *Sohu News Portal,* March 11. https://www.sohu.com/a/529037259_121106884 (11/03/2022).

Cheung, Anne S. Y., & Chen, Yongxi (2017): "The Transparent Self Under Big Data Profiling: Privacy and Chinese Legislation on the Social Credit System." *Journal of Comparative Law* 12(2): 356–378.

Cheung, Anne S. Y., & Chen, Yongxi (2021): "From Datafication to Data State: Making Sense of China's Social Credit System and Its Implications." *Law & Social Inquiry.*

China Academic Journals (2022). (CNKI): visual analysis of the 9,106 results from the keyword search '社会信用体系' via overseas access. https://chn.oversea.cnki.net/kns/Visual/Center (01/03/2022).

China News (2019): "*Fagaiwei: Geren xinyongfen keyi jiehe shouxin jili dan buneng yongyu chengjie* 发改委: 个人信用分可以结合守信激励但不能用于惩戒." *Credit China* 信用中国, July 19. https://www.creditchina.gov.cn/gerenxinyong/gerenxinyongliebiao/201907/t20190719_162509.html (01/03/2022).

Cho, Eunsun (2020): "The Social Credit System: Not Just Another Chinese Idiosyncrasy." *Journal of Public & International Affairs*. https://jpia.princeton.edu/news/social-credit-system-not-just-another-chinese-idiosyncrasy (01/03/2022).

Chorzempa, Martin, Triolo, Paul & Sacks, Samm (2018): "Policy Brief 18–14: China's Social Credit System: A Mark of Progress or a Threat to Privacy?" *Peterson Institute for International Economics (PIEE)*. https://piie.com/publications/policy-briefs/chinas-social-credit-system-mark-progress-or-threat-privacy (01/03/2022).

Chu, Chaoyin (2012): "*Zhejiang Pujian wei xianlingdao yiwai minzhong jian dedao dangan wuguo er Zhong* 浙江浦江为县领导以外民众建道德档案无果而终." *Southern Weekend*, May 4. http://news.sina.com.cn/c/sd/2012-05-04/113924367806.shtml (01/03/2022).

Chu, Yun-han (2013): "Source of Regime Legitimacy and Debate over the Chinese Model." *China Review* 13(1): 1–42.

Clover, Charles (2016): "China: When big data meets big brother." *Financial Times*, January 19 https://www.ft.com/content/b5b13a5e-b847-11e5-b151-8e15c9a029fb (01/03/2022).

Condliffe, Jamie (2016): "China Turns Big Data into Big Brother." *MIT Technology Review*, November 29. https://www.technologyreview.com/2016/11/29/244155/china-turns-big-data-into-big-brother/ (01/03/2022).

Credit China 信用中国 [website]. https://www.creditchina.gov.cn (01/03/2022).
      Creemers, Rogier, Mattis, Peter, Hoffman, Samantha & Crossley, Pamela K. (2016): "What Could China's 'Social Credit System' Mean for its Citizens?" *Foreign Policy*, August 15. https://foreignpolicy.com/2016/08/15/what-could-chinas-social-credit-system-mean-for-its-citizens/ (01/03/2022).

Creemers, Rogier (2018): "China's Social Credit System: An Evolving Practice of Control." *Social Science Research Network (SSRN)*. https://doi.org/10.2139/ssrn.3175792 (01/03/2022).

Dai, Xin (2018): "Toward a Reputation State: The Social Credit System Project in China" *Social Science Research Network*.

Daum, Jeremy (2017): "China through glass, darkly: What foreign media misses in China's Social Credit." *China Law Translate*. https://www.chinalawtranslate.com/en/china-social-credit-score/ (01/03/2022).

Daum, Jeremy (2018): "The redlists are coming! The blacklists are coming!" *China Law Translate*. https://www.chinalawtranslate.com/en/the-redlists-are-coming-the-blacklists-are-coming/ (01/03/2022).

Davidson, Aaron (2020): "The Health Passport—A Green Light for Tyranny?" *Medium*, June 19. https://medium.com/@aarondavidsonn/the-health-passport-a-green-light-for-tyranny-545298e108d (01/03/2022).

Delise, Jacques et al. (eds.) (2016): *The Internet, Social Media, and a Changing China*. Philadelphia: PENN.

Denyer, Simon (2016): "China's plan to organize its society relies on 'big data' to rate everyone." *The Washington Post*, October 22. https://www.washingtonpost.com/world/asia_pacific/chinas-plan-to-organize-its-whole-society-around-big-data-a-rating-for-everyone/2016/10/20/1cd0dd9c-9516-11e6-ae9d-0030ac1899cd_story.html (01/03/2022).

Ding, Xiaodong, & Zhong, Dale Yuhao (2021): "Rethinking China's Social Credit System: A Long Road to Establishing Trust in Chinese Society." *Journal of Contemporary China* 30(130): 630–644.

Duckett, Jane (2019): "International Influences on Policymaking in China: Network Authoritarianism from Jiang Zemin to Hu Jintao." *The China Quarterly* 237: 15–37.

Drinhausen, Katja, & Brussee, Vincent (2021): "China's Social Credit System in 2021: From fragmentation toward integration." *Merics China Monitor*, March 3: 1–25.

European Commission (2021): "Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and Amending Certain Union Legislative Acts." COM(2021) 206 Final.

European Chamber of Commerce in China (2019): "The Digital Hand: how China's Corporate Social Credit System Conditions Market Actors." In partnership with Sinolytics. https://www.sinolytics.info/wp-content/uploads/2021/05/Sinolytics_The-Digital-Hand-How-Chinas-Corporate-Social-Credit-System-Conditons-Market-Actors.pdf (01/03/2022).

Experian (2020): "State of Alternative Credit Data." *Experian*. http://www.experian.com/alternativedata (01/03/2022).

Fan, Hao 樊浩 (2009): *"Danqian Zhongguo lunlidaode zhuangkuang jiqi jingshen zhexue fenyi* 当前中国伦理道德状况及其精神哲学分析." *Zhongguo shehui kexue* 中国社会科学 2009(4): 27–42.

Gershgorn, Dave (2020): "We Mapped How the Coronavirus Is Driving New Surveillance Programs Around the World." *Medium*, April 9. https://onezero.medium.com/the-pandemic-is-a-trojan-horse-for-surveillance-programs-around-the-world-887fa6f12ec9 (01/03/2022).

Geslevich Packin, Nizna & Lev-Aretz, Yafit (2016): "On Social Credit and the Right to Be Unnetworked." *Business Law Review* 2016(2): 339–425.

Gough, Neil (2016): "Snooping in the Bathroom to Assess Credit Risk in China." *The New York Times*, October 11. https://www.nytimes.com/2016/10/11/business/international/snooping-in-the-bathroom-to-assess-credit-risk-in-china.html (01/03/2022).

Gow, Michael (2017): "The Core Socialist Values of the Chinese Dream: towards a Chinese integral state." *Critical Asian Studies* 49 (1): 92–116.

Greenfield, Adam (2018): "China's Dystopian Tech Could Be Contagious." *The Atlantic*, February 14.

Hale, Thomas et al. (2021): "A global panel database of pandemic policies (Oxford COVID-19 Government Response Tracker)." *Nature Human Behaviour* 5: 529–538.

Halegoua, Germaine, & Lingel, Jessica (2018): "Lit up and left dark: Failures of imagination in urban broadband networks." *Computer Science: New Media & Society* 20: 4634–4652.

Han, Jiaping 韩家平 (2018): *"Zhongguo shehui xinyong tixi jianshede tedian yu qushi fenxi* 中国社会信用体系建设的特点与趋势分析." *Government Online-Offline Shanghai Qingpu, typical cases section*, July 3.

Hao, Karen (2019): "Is China's social credit system as Orwellian as it sounds?" *MIT Technology Review*, February 26. https://www.technologyreview.com/2019/02/26/137255/chinas-social-credit-system-isnt-as-orwellian-as-it-sounds/ (01/03/2022).

He, Huaihong (2015): *Social Ethics in Changing China. Moral Decay or Ethical Awakening?* Washington: Brookings Institution Press.

Hebnews 河北新闻网 (ed.) (2021): *"Shengwei yinfa 'Hebeisheng fazhi shehui jianshe shishifangan (2021–2025)* 省委印发《河北省法治社会建设实施方案（2021—2025 年）》." *Hebnews*, April 12. http://hebei.hebnews.cn/2021-05/12/content_8503020.htm (01/03/2022).

Heilmann, Sebastian (2008): "From Local Experiments to National Policy: The Origins of China's Distinctive Policy Process." *The China Journal* 59: 1–30.

Heilmann, Sebastian, & Perry, Elizabeth J. (eds.) (2011): *Mao's Invisible Hand: The Political Foundations of Adaptive Governance in China*, Cambridge, MA: Harvard University Press.

Hinchliffe, Tim (2021): "COVID passport mandates are fueling authoritarian social credit systems, digital identity schemes." *The Sociable*, August 3. https://jamestown.org/program/managing-the-state-social-credit-surveillance-and-the-ccps-plan-for-china/ (01/03/2022).

Hoffman, Samantha (2017): "Managing the State: Social Credit, Surveillance and the CCP's Plan for China." *China Brief* 17(11). https://jamestown.org/program/managing-the-state-socialcredit-surveillance-and-the-ccps-plan-for-china/ (01/03/2022).

Hornby, Lucy (2017): "China changes tack on 'social credit' scheme plan." *Financial Times*, July 5. https://www.ft.com/content/f772a9ce-60c4-11e7-91a7-502f7ee26895 (01/03/2022).

Horsley, Jamie (2018): "China's Orwellian Social Credit Score Isn't Real." *Foreign Policy*, November 16. https://foreignpolicy.com/2018/11/16/chinas-orwellian-social-credit-score-isnt-real/ (01/03/2022).

Huang, Guan, & Pang, Rosemary (2022): "How a non-democratic regime maintains its legitimacy over time: A study of changes in Chinese Communist Party legitimacy after 1949." *Asian Journal of Comparative Politics*. https://doi.org/10.1177/20578911221078030 (01/03/2022).

Huang, Zhuo, Yang, Lei, & Shen, Shihan (2016): "China's personal credit reporting system in the internet finance era: challenges and opportunities." *China Economic Journal* 9(3): 288–303.

Jasanoff, Sheila (ed.) (2004): *States of Knowledge: The co-production of science and social order*. London and New York: Routledge.

Jasanoff, Sheila, & Kim, Sang-Hyun (2009). "Containing the Atom: Sociotechnical Imaginaries and Nuclear Power in the United States and South Korea." *Minerva* 47: 119–146.

Jasanoff, Sheila, & Kim, Sang-Hyun (eds.) (2015): *Dreamscapes of Modernity: sociotechnical Imaginaries and the Fabrication of Power*. Chicago: University of Chicago Press.

Jessup, Thomas (2021): "'I think therefore I AM'? – Artificial intelligence and the Chinese Social Credit System: A Human Rights Critical Analysis." *Social Science Research Network (SSRN)*. https://doi.org/10.2139/ssrn.3847481 (01/03/2022).

Ke, Linxia 柯林霞, & Zhang, Yi 张毅 (2020): *"Shuzi shehui beijingxia woguo gonggong xinyong zhidu de yanjin —— you xiayi xinyong xiang xinxi xinyongde zhidu bianqian* 数字社会背景下我国公共信用制度的演进——由狭义信用向信息信用的制度变迁." *Zhengxin* 征信 11, excerpt reproduced on Credit China. https://www.creditchina.gov.cn/home/lfyj/202102/t20210218_227065.html (01/06/2022).

Khalil, Lydia (2020): "Digital Authoritarianism, China and Covid." *Lowy Institute Analysis*, November. https://www.lowyinstitute.org/publications/digital-authoritarianism-china-and-covid (01/03/2022).

Knight, Adam (2020): "Technology of Risk and discipline in China's Social Credit System." *Law and the Party in China*, edited by R. Creemers, and S. Trevaskes. Cambridge: Cambridge University Press: 237–262.

Knight, Adam & Creemers, Rogier (2021): "Going Viral: The Social Credit System and COVID-19." *Social Science Research Network (SSRN)*. https://doi.org/10.2139/ssrn.3770208 (01/03/2022).

Kobie, Nicole (2019): "The complicated truth about China's social credit system." *Wired*, June 7. https://www.wired.co.uk/article/china-social-credit-system-explained (01/03/2022).

Kostka, Genia (2019): "China's social credit systems and public opinion: Explaining high levels of approval." *New Media & Society* 21: 1565–1593.

Kostka, Genia & Antoine, Lukas (2018): "Fostering Model Citizenship: Behavioral Responses to China's Emerging Social Credit Systems." *Social Science Research Network (SSRN)*, December 15. https://doi.org/10.2139/ssrn.3305724 (01/03/2022).

Kostka, Genia, Xu, Xu, & Cao, Xun (2021): "Information Control and Public Support for Social Credit Systems in China." https://doi.org/10.13140/RG.2.2.18569.16488 (01/03/2022).

Lei, Ya-wen (2017): *The Contentious Public Sphere: Law, Media, and Authoritarian Rule in China*. Princeton, NJ: Princeton University Press.

Liang, Fan, Das, Vishnupriya, Kostyuk, Nadiya, & Hussain, Muzammil M. (2018): "Constructing a Data-Driven Society: China's Social Credit System as a State Surveillance Infrastructure." *Policy & Internet* 10(4): 414–452.

Li, Jiaxun 李家勋, Li, Gongkui 李功奎 & Gao, Xiaomei 高晓梅 (2008): "*Guowai shehui xinyong tixi fazhan moshi bijiao ji qishi* 国外社会信用体系发展模式比较及启示". *Xiandai guanli kexue* 现代管理科学 6(1).

Li, Xinyue (2012): "*Li Xiaolinde daode dang'an jianyi weihe yin Zhengyi?* 李小琳的道德档案建议为何引争议?" *Shangdu.com*, March 12. http://opinion.china.com.cn/opinion_69_36669.html (01/03/2022).

Liberthal, Kenneth (1992): "Introduction: The 'Fragmented Authoritarianism' Model and Its Limitation." *Bureaucray, Politics and Decision Maling in Post-Mao China*, edited by K. Lieberthal and D. M. Lampton, Berkley: University of California Press: 1–30.

Lin, Qinghong (2009): *Civilising Citizens in Post-Mao China: Understanding the Rhetoric of Suzhi*. Doctorate Dissertation at Griffith University.

Lin, Junyu 林钧跃 (2010): "Retrospect: 1999-2009 Achievements in Social Credit System Construction of China." *BIIA Industry Library*, Hong-Kong: Business Information Industry Association.

Lin, Junyu 林钧跃 (2012): "*Shehui xinyong tixi lilun de chuancheng mailuo yu chuangxin* 社会信用体系理论的传承脉络与创新 The inheritance of the social credit system theory and it theoretical innovations." *Zhengxin* 征信 2012(1).

Lin, Junyu 林钧跃 (2019): "*Weishenme shuo shehui xinyong tixi jianshe qi shiyu 1999 nian?* 为什么说社会信用体系建设起始于 1999 年?" *Credit China*. https://www.creditchina.gov.cn/xinyongyanjiu/xinyongyanjiujiaodianwenzhang/201910/t20191021_172722.html (01/03/2022).

Lin, Junyu 林钧跃 (2022): "*Lun gonggong he shichang liangzhong butong leixingde shixin chengjie jizhi jiqi xiangguan guanxi* 论公共和市场两种不同类型的失信惩戒机制及其相关关系." *Zhengxin* 征信 2022(1).

Linggi, Dominik (2011): *Vertrauen in China. Ein kritischer Beitrag zur kultuvergleichenden Sozialforschung*. Berlin: VS Verlag.

Liu, Chuncheng (2019): "Multiple social credit system in China." *Economic Sociology* 21(1): 22–32.

Liu, Chuncheng (2022): "Who supports expanding surveillance? Exploring public opinion of Chinese social credit system." *International Sociology*: 1–22.

Liu, Jun, and Zhao, Hui (2021): "Privacy lost: Appropriating surveillance technology in China's fight against COVID-19." *Business Horizons* 64(6): 734–756.

Loubere, Nicholas, & Brehm, Stefan (2018): "The global age of algorithm: Social credit and the financialisation of governance in China." *Made in China Journal*.

Luchsinger, Nico (2020): "'The Confusion is a Feature, not a Bug!' Debunking The Myths Surrounding China's Social Credit System." *Asia Society*, December 3. https://asiasociety.org/switzerland/confusion-feature-not-bug (01/03/2022).

Ma, Alexandra (2019): "China's controversial social credit system isn't just about punishing people—here's what you can do to get rewards, from special discounts to better hotel rooms." *Business Insider*, February 3. https://www.businessinsider.com/china-social-credit-system-how-to-get-rewards-2019-1?r=US&IR=T (01/03/2022).

Mahr, Dana, & Bloch, Marylaure (2022): "Digital risk distribution and COVID-19: How contact tracing is promoted as a solution to equilibrate public health and economic prosperity during pandemics." *Digital Health* 8: 1–8.

Matsakis, Louise (2019): "How the West Git China's Social Credit System Wrong." *Wired*, July 2019. https://www.wired.com/story/china-social-credit-score-system/ (01/03/2022).

Meissner, Mirjam (2017): "China's social credit system: a big data-enabled approach to market regulation with broad implications for doing business in China." *Merics China Monitor* 39: 1–13.

Mertha, Andrew (2009): "'Fragmented Authoritarianism 2.0': Political Pluralization in the Chinese Policy Process." *China Quarterly* 200: 995–1012.

Mistreanu, Simina (2018): "Life inside China's social credit laboratory. The party's massive experiment in ranking and monitoring Chinese citizens has already started." *Foreign Policy*. https://foreignpolicy.com/2018/04/03/life-inside-chinas-social-credit-laboratory/ (01/03/2022).

Mozur, Paul (2018): "Internet Users in China Expect to Be Tracked. Now, They Want Privacy." *The New York Times*, January 4. https://www.nytimes.com/2018/01/04/business/china-alibaba-privacy.html (01/03/2022).

Nguyen, Clinton (2016): "China might use data to create a score on how trustworthy they are." *Business Insider*, October 26. https://www.businessinsider.com/china-social-credit-score-like-black-mirror-2016-10?r=US&IR=T (01/03/2022).

Njuguna, Rebecca W., & Sowon, Karen (2021). "Poster: A Scoping Review of Alternative Credit Scoring Literature." *ACM SIGCAS Conference on Computing and Sustainable Societies (COMPASS),* June 28–July 02. https://doi.org/10.1145/3460112.3471972.

Ohlberge, Mareike, Shazeda, Ahmed, & Bertram, Liang (2017): "Central Planning, Local Experiments: The Complex Implementation of China's Social Credit System." *Merics China Monitor* 43: 1–15.

O'Neil, Cathy (2016): *Weapons of Math Destruction.* New York: Crown Books.

Orgad, Liav, & Wessel, Reijers (eds.) (2019): "Dystopian Future? The Rise of Social Credit." *Global Citizenship Governance, EUI Working Paper RSCAS* 2019(94).

Orgad, Liav, & Wessel, Reijers (eds.) (2020): "How to make the perfect citizen?: lessons from China's model of social credit system." *Global Citizenship Governance, EUI Working Paper RSCAS* 2020(28).

Peony Evening News 牡丹晚报 (2022): "Dazao genggao shuiping '*Chengxin Heze*' 打造更高水平 "诚信菏泽"." *Qilu News* 齐鲁网, March 23. http://m.iqilu.com/pcarticle/5090981 (30/03/2022).

People.cn 人民网 (ed.) (2018): *"Yi xinyongdanbao zhutui shehui xinzong tixi jianshe: Zhong toubao 25 nian bao chengshouxin fazhan shijian* 以信用担保助推社会信用体系建设:中投保 25年抱诚守信发展实践." *People.cn*, November 11. http://finance.people.com.cn/n1/2018/1130/c422488-30435305.html (01/03/2022).

Qian, Sun (2020): "Suzhou introduced a new social scoring system, but it was too Orwellian, even for China." *Algorithm Watch*. https://algorithmwatch.org/en/suzhou-china-social-score/ (01/03/2022).

Reformdata 中国改革信息库 (2012): *"Zhonhuo xinyong tixi jianshe ershi nianji dashiji (1984–2004)* 中国信用体系建设二十年大事记（1984~2004）." *Reformdata*, August 21. http://www.reformdata.org/2012/0821/15491.shtml (01/03/2022).

Ronas-Tas, Akos, & Guseva, Alya (2014): *Plastic Money: Constructing Markets for Credit Cards in Eight Postcommunist Countries.* Stanford: Stanford University Press.

Schaefer, Kendra, et al. (2019): "Understanding China's Social Credit System." *Trivium China*, September 23. https://socialcredit.triviumchina.com/reports/ (01/03/2022).

Shahin, Saif & Zheng, Peng (2018): "Big Data and the Illusion of Choice: Comparing the Evolution of India's Aadhaar and China's Social Credit System as Technosocial Discourses." *Social Science Computer Review* 38(1): 25–41.

Shen, Kui 沈岿 (2019): "*Shehui xinyong tixi jianshde fazhizhi dao* 社会信用体系建设的法治之道." *Zhongguo faxue* 中国法学 2019(5): 25–46.

Shenzhen Special Zone News (ed.) (2014): "*Huang Wenyun: Zhongguo xinyong tixi jianshe diyiren* 黄闻云: 中国信用体系建设第一人." *Shenzhen Special News* 深圳特区报, October 14. http://www.ccmpc.org.cn/news/page/1289.html (01/03/2022).

Síthigh, Daithí Mac, & Siems, Mathias (2019): "The Chinese Social Credit System: A Model for other countries?" *The Modern Law Review* 82(6): 1034–1071.

Song, Bing (2018): "The West May Be Wrong About China's Social Credit System." *The Washington Post*, November 29. https://www.washingtonpost.com/news/theworldpost/wp/2018/11/29/social-credit/ (01/03/2022).

Song, Bing (2019): "The West May Be Wrong About China's Social Credit System." *New Perspectives Quarterly* 36(1): 33–35.

Song, Qian 宋倩 (2021): "*Rushangshi: Jianshe 'gao yanzhi' chenshi, lexian gaopinzhi sheng*huo 乳山市：建设 '高颜值' 城市，乐享高品质生活." *Whnews*, June 22. https://www.whnews.cn/news/node/2021-06/22/content_7180017.htm (01/03/2022).

Sovacool, Benjamin K., & Hess, David J. (2017): "Ordering theories: Typologies and conceptual frameworks for sociotechnical change." *Social Studies of Science*. 47(5): 703–750.

State Council 国务院 (1990): "*Guowuyuan guanyu zai quanguo fanweinei kaizhan qingli 'sanjiaozhai' gongzuode tongzhi* 国务院关于在全国范围内开展清理 '三角债' 工作的通知." *State Council* N° (1990)19, March 26.

State Council (2014): "*Shehui xinyong tixi jiansheguihua gangyao (2014-2020 nian)* 社会信用体系建设规划纲要 （2014—2020年）." *State Council Notice* N° (2014)21, June 14.

State Council (2020): "*Guowuyuan bangongting guanyu jinyibu wanshan shixin yueshu zhidu goujian chengxinjianshe changxiao jizhide zhidao yijian* 国务院办公厅关于进一步完善失信约束制度构建诚信建设长效机制的指导意见." *State Council Notice* N° (2020)40, December 7.

State Council (2021): "*Zhonggongzhongyang guowuyuan yinfa 'fazhi zhengfu jianshe shishi gangyao (2021–2025)'* 国中共中央 国务院印发《法治政府建设实施纲要 （2021—2025年）》." State Council Notice N° (2021)24, August 11.

Strittmatter, Kai (2019): *We Have Been Harmonised: Life in China's Surveillance State*. London: Old Street Publishing.

Taihe Net (2021): "*Jinjiang Lishan cun shixing cunmin jifenzhi jili cunmin canyu xiangcun zhili* 晋江黎山村实行村民积分制 激励村民参与乡村治理." *QQ News*, June 22. https://new.qq.com/omn/20210622/20210622A01N8D00.html (01/03/2022).

Tarkkala, Heta A. U., Helen, Ilpo A., & Snell, Karoliina (2019): "From health to wealth: The future of personalized medicine in the making." *Futures* 109: 142–152.

The Economist (2016): "China invents the digital totalitarian state." *The Economist*, December 17. https://www.economist.com/briefing/2016/12/17/china-invents-the-digital-totalitarian-state (01/03/2022).

The Economist (2019): "China's 'social credit' scheme involves cajolery and sanctions." *The Economist*, March 28. https://www.economist.com/china/2019/03/28/chinas-social-credit-scheme-involves-cajolery-and-sanctions (01/03/2022).

Toledo, Rebeca (2019): "Should Doing Good Deeds Be Part Of the Social Credit System?" *Beijing Review* 62(50), December 12: 46–47.

Von Blomberg, Marianne (2018): "The Social Credit System and China's Rule of Law." *Maping China Journal*: 77–162.

Wang, Jueying 王珏玢, & Pan, Ye 潘晔 (2020): "*Xinyong chengjie fanhua luanxiang diaocha: shixin xingwei 'luokuanghua' zhi you* 信用惩戒泛化乱象调查：失信行为 "箩筐化" 之忧." *Xinhua News*, July 13. http://www.xinhuanet.com/politics/2020-07/13/c_1126228656.htm (01/03/2022).

Wang, Li 王丽 (2005): "*Quyu xinyong tixi jianshe jingyan jiaoliuhuiyai Wenzhou zhaokai* 区域信用体系建设经验交流会在温州召开." National Development and Reform Commission (NDRC). https://www.ndrc.gov.cn/fzggw/jgsj/cjd/sjdt/200507/t20050714_1111229_ext.html (01/03/2022).

Wang, Xinyuan (2019): "Hundreds of Chinese citizens told me what they thought about the controversial social credit system." *The Conversation*, December 17. https://theconversation.com/hundreds-of-chinese-citizens-told-me-what-they-thought-about-the-controversial-social-credit-system-127467 (01/03/2022).

Widbeck, Victoria & Linnér, Björn-Ola (2021): "Sense-making Analysis: A Framework for Multi-Strategy and Cross-Country Research." *International Journal of Qualitative Methods* (20): 1–12.

Woesler, Martin et al. (2021): "The Chinese Social Credit System. Origin, political design, exoskeletal morality and comparisons to Western systems." *European Journal of Interdisciplinary Studies* 2: 7–35.

Wong, Karen Li Xan, & Schields Dobson, Amy (2019): "We're just data: Exploring China's social credit system in relation to digital platform ratings cultures in Westernised democracies." *Global Media and China* (4)2: 220–232.

Wu, Jingmei 吴晶妹 (2022): "*Xinyong lifa sikao: Weilai woguo san da xinyongfa* 信用立法思考：未来我国三大信用法." *Faxue zazhi* 法学杂志 3, excerpt reproduced on Credit China. https://www.creditchina.gov.cn/xinyongyanjiu/xinyongjiedu/202205/t20220519_293850.html (01/06/2022).

Wu, Weihai 吴维海, & Zhang, Xiaoli 张晓丽 (2017): *Daguo Xinyong–Quanqiu shishu de Zhongguo shehui xinyong tixi* 大国信用——全球视野的中国社会信用体. Beijing : Zhongguo jihua chubanshe.

Xiaoxiang Morning News 潇湘晨报 (2020): "*Guanzhou qiangzhan yingshang huanjing gaodi* 广州抢占营商环境高地." *China Credit*, September 29. https://www.creditchina.gov.cn/csxynew/yshj/tpxw/202111/t20211126_250548.html (01/03/2022).

Xinxian County Office 莘县县政府办公室 (2022): "*Shenxian renminzhengfu bangongshi guanyu yinfa shenxian chuangjian sheng shehui xinyong tixi jianshe dianxing chengshi shishifang'ande tongzhi* 莘县人民政府办公室关于印发莘县创建省社会信用体系建设典型城市实施方案的通知." *Xinxian Renmin Zhengfu* 莘县人民政府 2022(2). http://www.sdsx.gov.cn/sxxxgk/xzfxxgk_16885/202203/t20220310_3873530.html (01/03/2022).

Yang, Chengxun, & Qiao, Farong (2001): "*Shichang jingji shi xinyong jingji* 市场经济是信用经济" *People's Daily* 人民日报, 18 January.

Yu, Cindy (2021): "The fightback against facial recognition." *Chinese Whisper [Podcast]*. http://podcasts.apple.com/us/podcast/chinese-whispers-fightback-agains-facial-recognition/id793236670?i=1000522037139 (01/03/2022).

Yuan, Jie, 袁杰 & Chen, Zhuo 陈卓 (2020): "*Suzhou huying 'wenmingma' zhengyi: ziyuan zhuce, zhengxiang jili, buzuo chufa yiju* 苏州回应 "文明码" 争议：自愿注册，正向激励，不作处罚依据." *The Paper*, September 6, 2020. https://www.thepaper.cn/newsDetail_forward_9057245 (01/03/2022).

Zeng, Jinghan (2014): "The Debate on Regime Legitimacy in China: bridging the wide gulf between Western and Chinese scholarship." *Journal of Contemporary China* 23(88): 612–635.

Zhang, Zhuanlun (2017): "*Ruishi shehui xinyong tixi jianshe dui woguo de qishi* 瑞士社会信用体系建设对我国的启示." *Global Market Information Guide* 18.