# How to Make the Perfect Citizen? Lessons from China's Social Credit System

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*Liav Orgad & Wessel Reijers**

### ABSTRACT

*"How to make the perfect citizen?" This has been one of the questions driving the construction of the Chinese Social Credit System: a technology-driven project that aims to assess, evaluate, and steer the behavior of Chinese citizens. After presenting social credit systems in China's public and private sectors (Part II), the Article provides normative standards to distinguish the Chinese system from comparable systems in liberal democracies (Part III). It then discusses the concept of civic virtue, as implemented by the Social Credit System, claiming that it creates a new form of governance, "cybernetic citizenship," which fundamentally*

*changes the essence of citizenship and the political role of the state
(Part IV). On the whole, the Article demonstrates how the Chinese
Social Credit System redefines the institution of citizenship and
warns against similar patterns that are mushrooming in liberal
democracies.*

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## I.   INTRODUCTION

Imagine a world where your daily activities are constantly watched and recorded: what you buy, whether you volunteer in the community, how often you visit your parents, who your close friends are, where you travel, and when you pay your bills. The aggregated data are collected from dozens of public and private agencies and then processed and assessed by a central bureau for developing a ranking for you and your fellow citizens. A high ranking is rewarded while a low ranking may be sanctioned. The ranking is publicly known, so that people can check it before they contact you, date you, or do business with you. And although you are aware that you are constantly being rated, the data sources, criteria used, and ranking methods are largely unknown.

In 2014, the Communist Party of China introduced a plan to construct a "Social Credit System" (社会信用体系).[1] It intends to use technological innovation to establish a unified system that rates citizens for improving social order and public trust. Although one cannot speak yet of a Social Credit System, China aims to create a comprehensive ecosystem by the end of 2021, where all citizens[2] are

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1.      *Notice Concerning Issuance of the Planning Outline for the Construction of a Social Credit System (2014-2020)*, STATE COUNCIL OF THE PEOPLE'S REPUBLIC OF CHINA (June 14, 2014), http://www.gov.cn/zhengce/content/2014-06/27/content_8913.htm [https://perma.cc/Y4DM-5YXR] (archived Sept. 10, 2021) [hereinafter *State Council Notice*].

2.      The article focuses on individual *citizens*, although social credit systems in China also target noncitizens, companies, organizations, and government entities. The term 'citizen' is used not in the formal sense of legal status (e.g., citizens living abroad

rated based on a national credit database. The system should cover most, if not all, aspects of civic life: commerce, finance, taxation, employment, education, transportation, housing, scientific research, and even sports—almost everything that a person leaves a footprint of, physical or digital. It promises to reward "model individuals keeping trust" and impose sanctions for a breach of trust by "blacklist systems and market withdrawal mechanisms."[3] In order to keep trust, a person should obey the law and follow "professional ethics and behavioral norms." The overall idea is to forge public policy in which "keeping trust is glorious and breaking trust is disgraceful."[4]

The Chinese project has become infamous and has been portrayed by Western media as the world's first "digital dictatorship," a "form of high-tech Stalinism," and a means of Orwellian control.[5] Former U.S. Vice President Mike Pence had declared that "China's rulers aim to implement an Orwellian system premised on controlling virtually every facet of human life—the so-called 'Social Credit Score.'"[6] Western reports on the Social Credit System present the ultimate dystopian nightmare, a world in which individuals live in "Bentham's panopticon."[7] There is a sense of anxiety of a future regime ruled by a

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are not part of the system) but, instead, as membership in a political community and being subjected to its jurisdiction.

3.  *State Council Notice, supra* note 1, at para. V(1).
4.  *See State Council Notice, supra* note 1, at para. I(3).
5.  *See, e.g.*, Nicholas Kristof, *China's Orwellian War on Religion*, N.Y. TIMES, May 22, 2019, at A33; Jamie. Horsley, *China's Orwellian Social Credit Score Isn't Real*, FOREIGN POLICY (Nov. 16, 2018, 6:46 AM) https://foreignpolicy.com/2018/11/16/chinas-orwellian-social-credit-score-isnt-real/ [https://perma.cc/YF9V-4MNF] (archived Sept. 17, 2021); Adrian Shahbaz, *The Rise of Digital Authoritarianism*, FREEDOM HOUSE (Oct. 31, 2018) https://freedomhouse.org/report/freedom-net/2018/rise-digital-authoritarian ism [https://perma.cc/FG6C-VXHN] (archived Sept. 17, 2021); Matthew Carney, *Leave No Dark Corner*, ABC NEWS (July 30, 2020, 11:18 PM) https://www.abc.net.au/news/2018-09-18/china-social-credit-a-model-citizen-in-a-digital-dictatorship/10200278? nw=0 [https://perma.cc/3KNK-C88E] (archived Sept. 17, 2021); Nicholas Wright, *How Artificial Intelligence Will Reshape the Global Order*, FOREIGN AFFAIRS (July 10, 2018) https://www.foreignaffairs.com/articles/world/2018-07-10/how-artificial-intelligence-will-reshape-global-order [https://perma.cc/4C5U-HQZ7] (archived Sept. 17, 2021); Robert F. Hunwick, *How Do You Control 1.4 Billion People?*, NEW REPUBLIC (April 25, 2018) https://newrepublic.com/article/148121/control-14-billion-people [https://perma.cc/H3E3-62ZS] (archived Sept. 17, 2021); *Big Data and Government: China's Digital Dictatorship*, ECONOMIST (Dec. 17, 2016) https://www.economist.com/leaders/2016/12/17/chinas-digital-dictatorship [https://perma.cc/7AJB-7DXK] (archived Sept. 17, 2021); *Big Data, Meet Big Brother: China Invents the Digital Totalitarian State*, ECONOMIST, (Dec. 17, 2016) https://www.economist.com/briefing/2016/12/17/china-invents-the-digital-totalitarian-state [https://perma.cc/R347-632Y] (archived Sept. 17, 2021).
6.  Mike Pence, Vice President of the U.S., Remarks on the Administration's Policy Toward China at The Hudson Institute (Oct. 4, 2018) (transcript available in The Trump White House Archives).
7.  Bentham's Panopticon is a prison in which inmates are under constant surveillance at any given time; this system of control is achieved through the architectural design of the prison. Michel Foucault used it as a metaphor for the modern

"Metric Society," a "Black Box Society" and "Surveillance Capitalism."[8] In this background, the Social Credit System is a Pandora's box where everyone expresses their fears. Science fiction series, such as *Black Mirror*'s "Nosedive" episode (2016), accelerate the fears of a society where people become a commodity in the "marketplace of scores."[9] But even though the Social Credit System is a Chinese project, it also reflects a concern in liberal democracies; it is a striking reminder of how the world is rapidly changing.[10]

The Article analyzes social credit systems from the perspective of citizenship in liberal democracies. Thus far, scholarly discussions have largely ignored the impact of emerging technologies on the institution of citizenship. This neglect is remarkable given the increasing speed at which emerging technologies are entangled in the development of new forms of citizenship governance. To a large extent, the intellectual grounds of existing citizenship regimes had been developed long before the rise of automated systems and, therefore, have not engaged with what can be termed "cybernetic citizenship." Against this backdrop, the Article presents a comparison of how new technologies redefine the essence of citizenship in both China and liberal democracies. China's Social Credit System is a unique case as it represents one of the most ambitious attempts in history to use sociotechnical means to produce "perfect citizens." It demonstrates not only how new technologies transform citizenship values and institutions but also indicates future directions of governance. These implement fundamentally different conceptions of freedom and undermine one of the most significant achievements of the Enlightenment—the Kantian-rooted idea that human beings should be treated as an end in themselves, and not merely as a means to achieve public goods.

The Article proceeds as follows. Part II is empirical: it describes social credit systems in China at different levels—national, local,

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surveillance society. *See generally* MICHEL FOUCAULT, DISCIPLINE & PUNISH: THE BIRTH OF THE PRISON (Vintage Books, 1977).

   8.     *See generally* STEFFEN MAU, THE METRIC SOCIETY: ON THE QUANTIFICATION OF THE SOCIAL (Polity Press, 2019); FRANK PASQUALE, THE BLACK BOX SOCIETY: THE SECRET ALGORITHMS THAT CONTROL MONEY AND INFORMATION (Harvard Univ. Press, 2016); SHOSHANA ZUBOFF, THE AGE OF SURVEILLANCE CAPITALISM: THE FIGHT FOR A HUMAN FUTURE AT THE NEW FRONTIER OF POWER (Public Affairs, 2019).

   9.     *Black Mirror: Nosedive* (Netflix television episode released Oct. 21, 2016). Nosedive portrays a world in which citizens rate one another on a 0–5 scale by using a mobile application without government regulation. A high score leads to a wide set of social and financial rewards, while a low score ends up with various social and financial sanctions.

   10.     Xin Dai, *Enforcing Law and Norms for Good Citizens: One View of China's Social Credit System Project*, 63 DEV. 38, 38–43 (2020) (quoting SHOSHANA ZUBOFF, THE AGE OF SURVEILLANCE CAPITALISM: THE FIGHT FOR A HUMAN FUTURE AT THE NEW FRONTIER OF POWER (Public Affairs, 2019)) ("The scary picture [of the Social Credit System]... reflects often not much on China's reality but more on the Westerners' acute sense of anxiety about their own fate in the data society."). ◆

private—and identifies their data sources, criteria used, rating methods, and sanctions and rewards attached to them. Part III is comparative: it analyzes similarities and differences between social credit systems in China and scoring and rating systems in liberal societies. It suggests three points of divergence: scope (is the system all-encompassing or limited in terms of topics and applications to one field?), authority (is the system centralised or decentralised, private or public?), and regime type (is the system part of a democratic regime?). Part IV is normative: it argues that China's Social Credit Systems can be seen as a form of cybernetic citizenship governance that changes the essence of citizenship and the political role of the state. It examines this development from the perspective of political philosophy, discussing how social credit systems impact the concept of civic virtue. Overall, the Article invites the readers to reflect upon the challenges and opportunities brought about by rapidly developing systems of sociotechnical citizenship governance. This topic is likely to be on the agenda in the years to come, particularly in a post-COVID-19 world in which citizens may tolerate more surveillance means, including sensing technologies and self-tracking apps to monitor their lives.

## II.    SOCIAL CREDIT SYSTEMS IN CHINA

There is no commonly accepted definition of a social credit system. At a minimum, it is a form of governance that systematically collects information on societal actors (input), usually by using surveillance techniques, and processes the data to rate those actors according to some categories (throughput), which, based on a system of carrots and sticks, aims to incentivise a certain type of behavior (output). Each actor is watched and recorded, assessed and rated, and either rewarded or sanctioned. It is an infrastructure mechanism for data collection and aggregation on a wide range of topics (shared between government departments and private organisations), data assessment and analysis whose outcome is some sort of rating, and data leveraged to encourage or deter some type of behavior by using rewards and sanctions.[11] A social credit system is not necessarily linked to technological progress, yet recent attempts to implement it present a new generation of

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11.    Religions can be analogous to social credit systems. Religions have ruled human beings by instilling the notion that God knows everything, even the soul, collects data about believers (input), assesses the information according to conformity with religious orders (throughput), and ranks believers based on that (output). In Judaism, during the annual Day of Atonement (known as Yom Kippur), actions and thoughts are recorded, assessed, and sealed by God. It is about rating on a massive scale—a good ranking will lead God to inscribe a person in the Book of Life, and a bad ranking may lead to punishments. According to Jewish tradition, the registry in the Book of Life occurs on Rosh Hashanah, ten days before Yom Kippur. In these ten days, believers can change their rating by seeking forgiveness for wrongs and doing good deeds, thereby moving from blacklists to redlists.

systems that aim to develop a scientific understanding of society through the use of emerging technologies.

In recent years, social credit systems are mainly discussed with reference to China. Despite the reports on a Social Credit System, a unified national system does not exist (yet) in China. And still, some forms of social credit systems, which are developed and implemented in China, provide adequate information to understand the systems' goals, functions, and outcomes. Overall, three types of systems are in place. First, there is the national system of redlists and blacklists curated by the government. If citizens are blacklisted, they can be limited in the type of services and goods they can access. Second, over a dozen pilot projects of the Social Credit System exist at the sub-national levels—all are diverse in terms of design and implementation. And third, there are private[12] and commercial initiatives, such as the Zhima (or Sesame) Credit.

At the national level, the social credit initiative revolves around notions of redlists and blacklists, which are lists of "trustworthy" citizens, who should be rewarded, and "untrustworthy" citizens, who should be sanctioned. The first national blacklist was created by the Supreme People's Court in 2013;[13] it tracks down "dishonest persons" who are obliged and capable of complying with court orders and administrative decisions yet fail to do so.[14] Blacklisted people appear with their names on an official website of the Supreme People's Court. [15] Other blacklists have been created since 2013, either thematic, for a specific field (tax, transport, customs, etc.), or geographic, for a confined area (province, city, etc.). Grounds for being

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12. Zhima Credit (and similar programs) is classified as a "private" system, although it is questionable because the Social Credit System is a government initiative and Zhima's level of autonomy in the design and implementation of the system is limited. The actual operation is more approximate to a government-outsourcing contract than to a private initiative.

13. Zuìgāo rénmín fǎyuàn <guānyú gōngbù shīxìn bèi zhíxíng rén míngdān xìnxī> de ruògān guiding fǎ shì 〔2013〕17 hào ( 最高人民法院关于公布失信被执行人名单信息的若干规定法释〔2013〕17 号) [Several Provisions Regarding the Publication of Information on the List of Untrustworthy Persons Subject to Enforcement Law Interpretation, Judicial Interpretation No. 17 [2013]] (promulgated by the Judicial Comm. Sup. People's Ct., July 16, 2013, effective Oct. 1, 2013), http://www.court.gov.cn/fabu-xiangqing-37172.html [https://perma.cc/X6DH-D39U] (archived Aug. 31, 2021) (China).

14. Zuìgāo rénmín fǎyuàn <guānyú xiūgǎi "zuìgāo rénmín fǎyuàn guānyú gōngbù shīxìn bèi zhíxíng rén míngdān xìnxī> de ruògān guǐdìng" de juédìng 〔2017〕7 hào (最高人民法院关于修改《最高人民法院关于公布失信被执行人名单信息的若干规定》的决定 (2017 7 号) [Decision of the Supreme People's Court on Amending the "Several Provisions of the Supreme People's Court on Disclosure of List of Untrustworthy Persons Subject to Enforcement," Interpretation No. 7 [2017]] (promulgated by the Judicial Comm. Sup. People's Ct., Jan. 16, 2017, effective May 1, 2017), http://www.court.gov.cn/fabu-xiangqing-37172.html [https://perma.cc/G29N-G4NC] (archived Aug. 31, 2021) (China).

15. For this list, see http://zxgk.court.gov.cn/shixin [https://perma.cc/Z72P-362T] (archived Aug. 31, 2021).

on a blacklist include failure to comply with a court order, tax evasion, scam activities, or misbehavior in public transportation. Grounds for being on a redlist include a good financial credit and payment record, social charity, blood donation, "good citizen" award, and environmental protection.[16] The result is dozens of national and regional lists, whose aggregated data is kept in a *centralized* database, the National Credit Information Sharing Platform (NCISP). The existence of "memoranda of cooperation" allows government agencies and the private sector to share data.[17] The data is organized by different categories, which, together, include hundreds of data points on each individual. It contains financial information, employment information, and information on legal conformity and violations, such as traffic violations, insurance fraud, and violations of a professional code of ethics. Legal limitations on data collection exist; for instance, collecting genetic or religious data is prohibited.

The categorization into black and red lists—at the national level, people are not strictly speaking scored—has serious consequences. Blacklisted people are sanctioned; they face "restrictions on leaving the borders . . . [and] on the purchase of immovable property, traveling on aircraft, traveling on high-class trains and . . . staying in star-ranked hotels."[18] In addition, commercial banks, insurance companies, and financial bodies are guided to raise the rates for "gravely trust-breaking subjects, or limit their provision of loans, recommendations, sales, insurance and other such services."[19] Other consequences include restrictions in buying stocks, applying for civil service jobs, and

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16. *See* KENDRA SCHAEFER & ETHER YIN, UNDERSTANDING CHINA'S SOCIAL CREDIT SYSTEM 11–16 (Trivium China, 2019).

17. Guiding Opinions of the State Council on Establishing and Improving the System of Joint Incentive for Keeping Faith and Joint Punishment for Losing Faith and Accelerating the Advancement of the Development of Social Honesty (promulgated by The State Council of the People's Republic of China, May 30, 2016), http://www.gov.cn/zhengce/content/2016-06/12/content_5081222.htm [https://perma.cc/G3QJ-W4FF] (archived Aug. 31, 2021) [hereinafter State Council Guiding Opinions]. As for 2020, 42 memoranda for data sharing and joint punishments have been signed by government, commercial, and local agencies. A survey is available at: http://www.credlink.com/show-107.html [https://perma.cc/HM2H-97FM] (archived Aug. 31, 2021).

18. State Council Guiding Opinions, *supra* note 17, at para. III(11); *see also* Opinions on Accelerating the Establishment of Credit Supervision, Warning, and Punishment Mechanisms for Untrustworthy Persons (promulgated by the General Office of the Central Committee of the Communist Party of China and the General Office of the State Council, Sept. 25, 2016), http://www.gov.cn/zhengce/2016-09/25/content_5111921.htm [https://perma.cc/G8T3-EMWY] (archived Aug. 31, 2021).

19. State Council Guiding Opinions, *supra* note 17, at para. III(11). *See also* Opinions on Accelerating the Establishment of Credit Supervision, Warning, and Punishment Mechanisms for Untrustworthy Persons (promulgated by the General Office of the Central Committee of the Communist Party of China and the General Office of the State Council, Sept. 25, 2016), http://www.gov.cn/zhengce/2016-09/25/content_5111921.htm [https://perma.cc/G8T3-EMWY] (archived Aug. 31, 2021).

accessing public places. In 2018, for example, over 23 million tickets for flights and high-speed trains were blocked.[20] Furthermore, there is a "joint punishments system" under which government agencies agree to punish together blacklisted people by using the NCISP.[21] The national system also affects social reputation. One example is shaming.[22] The High People's Court of Hebei Province, for instance, has announced a mini program (similar to an app) in WeChat, "Laolai Map," where people can check if there are blacklisted people around them (*Laolai* means willful defaulter).[23] Alerting against untrustworthy people nearby is done not only through online platforms but also through newspapers and street billboards. And in some cities, courts work together with local phone companies to have a ringtone that alerts callers that a person has been blacklisted.[24] The overall motto of the Social Credit System is "trust-breaking in one place, restrictions everywhere" (一处失信、处处受限).[25]

At the local level of government, there are dozens of pilot programs for social credit systems. The first pilot was initiated in 2010 in Suining, a city of Jiangsu Province. It provided every citizen with 1,000 starting points. People could lose points for traffic violations or earn points for looking after the elderly. Rewards for high scores contained priorities in access to job applications and top schools, while sanctions for low scores contained restrictions in social services. This pilot was criticized and abandoned.[26] Another pilot exists in Rongcheng, a city of

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20.     Lily Kuo, *China Bans 23m from Buying Travel Tickets as Part of "Social Credit" System*, GUARDIAN (March 1, 2019) https://www.theguardian.com/world/2019/mar/01/china-bans-23m-discredited-citizens-from-buying-travel-tickets-social-credit-system [https://perma.cc/SRC6-A7GT] (archived Sept. 17, 2021).

21.     State Council Guiding Opinions, *supra* note 17. *See* SCHAEFER & YIN, *supra* note 16, at 24–32 (providing a detailed list of sanctions and rewards).

22.     *See List of the Latest Batch of Untrustworthy Persons to be Enforced in Hebei! Full Name+ Address + Photo Announced*, PAPER (March 5, 2020), https://www.thepaper.cn/newsDetail_forward_6350510 [https://perma.cc/NA36-P9DQ] (archived Aug. 31, 2021).

23.     G. Mengdong, *"Laolai Map" Appeared in the Summit of Establishing A Digital China*, HEBEI LEGAL NEWSPAPER (May 10, 2019), http://www.hebeicourt.gov.cn/public/detail.php?id=31216 [https://perma.cc/MQ7E-CVHG] (archived Nov. 14, 2021).

24.     *See, e.g., Ringtone of Shame Rings Bell for Debtors in East China*, CHINA DAILY (July 30, 2017) http://global.chinadaily.com.cn/a/201707/30/WS59bbf473a310ded8ac18f70e.html [https://perma.cc/7U4T-E394] (archived Sept. 17, 2021); Marianne von Blomberg, *The Social Credit System and China's Rule of Law*, 2 MAPPING CHINA J. 77, 91 (2018).

25.     *The General Office of the Central Committee of the Communist Party of China issued the "Opinions on Accelerating the Construction of Credit Supervision, Warning and Punishment Mechanisms for Untrustworthy Persons"*, XINHUA NEWS AGENCY, (Sept. 25, 2016), http://www.xinhuanet.com/politics/2016-09/25/c_1119620719.htm [https://perma.cc/KNB2-VF7E] (archived Aug. 31, 2021).

26.     Simina Mistreanu, *Life Inside China's Social Credit Laboratory*, FOREIGN POLICY (Apr. 3, 2018) https://foreignpolicy.com/2018/04/03/life-inside-chinas-social-credit-laboratory/ [https://perma.cc/A2ZE-PA8A] (archived Sept. 17, 2021).

Shandong Province. In this scheme, people are given 1,000 points as a first step; from here, the play begins. The county-level city publishes a yearly Social Credit Information Collection Catalogue, which lists 150 positive and 570 negative actions as a guiding framework for residents.[27] Points can be deducted for throwing cigarette butts in public places or selling fake products. Serious offences, such as employing children under the age of sixteen and forcing people to work in hot temperatures, lead to the blacklist. Conversely, points can be earned for donating to a charity and committing a heroic act. The score scale is between ++A (>1,050) and D (<600, a blacklist).[28] A D-category means restrictions on public finance, employment, and welfare. Rewards for a high score can include cheaper utilities and health care or better bank loans.

Local initiatives often use more tech-oriented systems. Thus, in Shenzhen, facial recognition technology is part of the traffic system, enabling the detection of petty crimes such as jaywalking (jaywalkers can be publicly shamed on screens).[29] Similarly, Hangzhou, the capital of Zhejiang Province, has a smart-ID card where users are identified by facial recognition for multiple purposes, from public transport to social security funds. Other initiatives, however, are low-tech. In the villages of Jiakuang Majia, the system operates with pens and papers.[30] Some practices are reminiscent of the old German Democratic Republic, illustrated by civil servants going around villages with assessors to collect information. The role of the information collectors is to watch and record the life of the residents. If the residents do something "good," such as helping the elderly, they can get a boost; if they do something "bad," such as leaving trash in hallways, they can lose points.[31]

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27.    Adam Knight, Local Piloting of China's Social Credit System (2018) (Oxford Internet Institute) (on file with the author); see also Yongxi Chen & Anne Sy Cheung, *The Transparent Self under Big Data Profiling: Privacy and Chinese Legislation on the Social Credit System*, 12(2) J. COMPAR. L. 356, 359 ("Another attempt at a social credit system was made by the Shanghai municipal government, which published a catalogue of more than 1200 items that would be awarded points for entry into a credit system.").

28.    Knight, *supra* note 27 (in Gangwan, one can earn points for sweeping snow (+1), clearing vegetation (+1), and looking after the elderly (+2), as well as lose points for gambling (-20), abusing children (-50), mistreating a dog (-10), cutting down trees (-50), exceeding burial restrictions (-100), public quarrelling (-20), burning rubbish (-5), and WeChat rumours (-50)).

29.    Sophia Yan, *China Uber-Rates its Citizens*, TELEGRAPH (May 30, 2019) https://www.telegraph.co.uk/news/social-credit-in-china/ [https://perma.cc/AQY9-6YJR] (archived Sept. 17, 2021).

30.    Karen Hao, *Is China's Social Credit System as Orwellian as it Sounds?*, MIT TECH. REV., (Feb. 26, 2019), https://www.technologyreview.com/2019/02/26/137255/chinas-social-credit-system-isnt-as-orwellian-as-it-sounds/ [https://perma.cc/4RPB-CJSJ] (archived Aug. 31, 2021).

31.    *See generally* Severin Engelmann, Mo Chen, Felix Fischer, Ching-yu Kao, & Jens Grossklags, *Clear Sanctions, Vague Rewards: How China's Social Credit System Currently Defines "Good" and "Bad" Behavior*, CONF. ON FAIRNESS, ACCOUNTABILITY, &

As for 2021, there are more than forty municipal and district social credit pilots in China. Local pilots, especially the twelve "model cities" chosen by the National Development and Reform Commission, [32] provide an opportunity to observe lessons on a future unified Social Credit System.[33] In some cities, the system targets actions that, in a liberal perspective, may be regarded as private, such as visiting one's elderly parents. (In China, there is a legal obligation to visit one's parents older than sixty.)[34] In addition, local codes of "good conduct" contain both legal rules and common social norms. For instance, in Qingshan, the system includes items such as "being rude to neighbors, and showing off in fancy cars at weddings and funerals."[35] In some areas, there are photos of residents with high scores displayed outside the city hall and public libraries.

Next to national and local programs, private companies have extensively experimented with social credit scoring. In 2006, the state-owned People's Bank of China initiated the Credit Reference Centre.[36] The goal was to create a centralized consumer credit reporting system to assess the financial credibility of individuals and legal entities. In 2014, following the release of the State Council Agenda, a national plan to establish a Social Credit System that goes beyond financial credit information to assess whether a person is trustworthy in the public eye, was announced. This has been the background for the

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TRANSPARENCY, ATLANTA GA, Jan. 2019, at 69 (attempting to determine how "good" and "bad" are defined in the Social Credit System).

32.    The 12 prototype cities are Chengdu, Hangzhou, Huizhou, Nanjing, Rongcheng, Suzhou, Suqian, Wenzhou, Weifang, Weihai, Xiamen, and Yiwu. *See Notice of Publicizing the List of the First Batch of National Model Cities of Establishing the Social Credit System*, NAT'L DEV. & REFORM COMM'N & PEOPLE'S BANK CHINA (Dec. 28, 2017),    http://www.gov.cn/xinwen/2018-01/09/content_5254715.htm    [https://perma. cc/384A-QV6K] (archived Aug. 31, 2021).

33.    Mareike Ohlberg, Shazeda Ahmed, & Bertram Lang, *Central Planning, Local Experiments: The Complex Implementation of China's Social Credit System*, MERCATOR    INST.    FOR    CHINA    STUD.,    Dec.    12,    2017,    at    11–12, https://merics.org/sites/default/files/2020-04/171212_China_Monitor_43_Social_Credit _System_Implementation.pdf [https://perma.cc/RG6H-FJG4 ] (archived Sept. 17, 2021); *see generally Giving Credit 2: Carrots and Sticks*, CHINA L. TRANSLATE (Dec. 15, 2017), https://www.chinalawtranslate.com/en/giving-credit-2-carrots-and-sticks/ [https://perma.cc/959R-5MYS] (archived August 31, 2021) (comparing social credit systems in Shanghai, Hebei, Hubei, and Zhejiang).

34.    Law on the Protection of the Rights and Interests of the Elderly (promulgated by the Standing Comm. Nat'l People's Cong., Apr. 24, 2015, effective Apr. 24, 2015), art. 18, 2015 P.R.C. LAWS 1788 (China). For interpretation of this duty, see Wang Mou 1, Wang Mou 2 Shanyang Jiufen (王某 1、王某 2 赡养纠纷) [Wang v. Wang] (Xuchang Interm. People's Ct. Dec. 24, 2019) (China).

35.    René Raphael & Ling Xi, *Discipline and Punish: The Birth of China's Social-Credit System*, NATION (Jan. 23, 2019), https://www.thenation.com/article/archive/china-social-credit-system/ [https://perma.cc/R5HT-3AR4] (archived Aug. 31, 2021).

36.    *See About Us, Overview*, CREDIT REFERENCE CTR., PEOPLE'S BANK CHINA, http://www.pbccrc.org.cn/crc/zxgk/index_list_list.shtml    [https://perma.cc/TB45-KQLX] (archived Aug. 31, 2021).

development of private pilots.[37] From 2015 to 2018, eight private companies implemented such pilots: Sesame Credit, Kaola Credit, Qianhai Credit, Intellicredit, Sinoway Credit, Pengyuan Credit, China Chengxin Credit, and Tencent Credit.[38] Starting in 2018, these companies—each has different data sources, scoring methods, and functional goals—joined forces to create Baihang Credit (百行征信有限公司) as a unified platform of the big tech companies and the Chinese government.[39] The connection between Baihang Credit and the planned national Social Credit System in 2021 is not yet clear.[40]

Sesame Credit, the credit rating system of the online retail giant Alibaba, is the best-known private platform. Launched in 2015, it tracks the behavior of Ant Financial's millions of users, who have signed up for the program (although there are strong incentives to sign up, it is voluntary), and rates them. The system is part of Ant Financial Services Group, an affiliated company of Alibaba. Data sources mostly rely on Alipay, the world's largest online payments platform (with more than one billion users it is larger than PayPal).[41] Using its subsidiaries, Ant Financial also has data on loans (Ant Cash Now), insurance (Ant Insurance Services), and wealth (Ant Fortune). Sesame Credit (and other private systems) do not have access to government data held by the NCISP. With this data, people can be assessed based on five categories: (1) payment/credit history, (2) contractual capacity, (3) behavior (such as shopping habits[42] or travel data), (4) personal

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37. *See generally* Zhuo Huang, Yang Lei, & Shihan Shen, *China's Personal Credit Reporting System in The Internet Finance Era: Challenges and Opportunities,* 9 CHINA ECON. J. 288 (2016).

38. *Notice concerning Accomplishing Preparatory Work for Personal Credit Reporting Business Activities,* PEOPLE'S BANK CHINA (Jan. 5, 2015), http://www.gov.cn/xinwen/2015-01/05/content_2800381.htm [https://perma.cc/JE4L-D8BZ] (archived Aug. 31, 2021).

39. *Public License Information Form of Establishing Institutions Operating Individual Credit Investigation Business,* PEOPLE'S BANK CHINA (Feb. 22, 2018), http://www.pbc.gov.cn/rmyh/105208/3485339/index.html [https://perma.cc/VYZ4-UCM5] (archived Sept. 10, 2021); *see* BAIHANG CREDIT, http://www.baihangcredit.com/index.html [https://perma.cc/BZ9D-ZTBJ] (archived Nov. 14, 2021).

40. The system may eventually be divided into two credit systems: financial (经济信用) and moral (道德诚信). *See* Wang Lu, *Violations of Laws Cannot be Equal to Dishonesty: On the Clarification of the Divergence of the Establishment of Social Credit System,* CAIXIN (Mar. 31, 2020), http://opinion.caixin.com/2020-03-30/101535820.html [https://perma.cc/8GWY-Q29U] (archived Sept. 17, 2021).

41. *See generally* Cheong Boon Cheong, Xiaobai Shen, & Jake Ansell, *Alipay entered Malaysia: a closer look at the new market entry strategy driven by Chinese tourists,* 12 QUALITATIVE RESEARCH IN FINANCIAL MARKETS 561–77 (2020).

42. *See* Celia Hatton, *China "Social Credit": Beijing Sets up Huge System,* BBC NEWS (Oct. 26, 2015), https://www.bbc.com/news/world-asia-china-34592186 [https://perma.cc/5NDB-GTN4] (archived Aug. 31, 2021) ("Someone who plays video games for 10 hours a day, for example, would be considered an idle person, and someone who frequently buys diapers would be considered as probably a parent, who on balance is more likely to have a sense of responsibility").

character (such as age, job, salary, and education), and (5) social relations (such as social networks). The algorithm, however, is secret—the criteria, and their relative weight in the overall assessment, are unknown. The outcome of the evaluation is a score ranging between 350 and 950. A low score leads to restrictions—slow internet speeds, limited access to clubs and jobs, low chance to get loans, mortgages, and insurances, and even limited access to public toilets that work on facial recognition. A high score leads to commercial privileges—low-interest loans, priority booking of taxis or deposit-free bike and car rentals, free use of umbrella sharing services, discounted mobile phone rates, coupons for shopping, and fast-track visa to designated countries at airports.[43] A high score signals wealth and prosperity. Interestingly enough, it has not gone unnoticed in the Chinese dating scene. Baihe.com (百合网), a dating service platform, is linked up with Sesame credit scores, allowing people to judge one another based on their social credit score as well. To a great extent, the Sesame Credit looks like a gamification of citizenship.[44]

Reviewing social credit initiatives in China teaches several lessons. First, there is no unified Social Credit System, but multiple systems: national, local, and private. It is an ecosystem, consisting of multiple sub-systems—each has different data sources, scoring criteria, forms of assessment, and normative outcomes.[45] Notably, "scoring" is not a feature of all systems, with the national black and red lists assigning a status rather than a score. Western media reports, which describe a unified system that inspects every aspect of life and generates a score for every citizen, are exaggerating and mostly

43.    See Cai Yi, *Analysis of Sesame Credit Sub-credit System (Part 2)*, ZHIHU (July 23, 2016), https://zhuanlan.zhihu.com/p/21697124 [https://perma.cc/RAU8-LMYM] (archived Sept. 1, 2021); Zhima, *Credit Related Agreements and Authorization Instructions* (芝麻服务协议) https://ds.alipay.com/zmxy/tbagreement.htm [https://perma.cc/3ZR4-XKPY] (archived Sept. 1, 2021); *see also* Shazeda Ahmed, *The Messy Truth About Social Credit*, LOGIC, (May 1, 2019) https://logicmag.io/china/the-messy-truth-about-social-credit/ [https://perma.cc/PLH5-ZV99] (archived Sept. 17, 2021); Genia Kostka, *What Do People in China Think About "Social Credit" Monitoring?*, WASH. POST, (Mar. 21, 2019), https://www.washingtonpost.com/politics/2019/03/21/what-do-people-china-think-about-social-credit-monitoring/ [https://perma.cc/7W4S-GWSX] (archived Sept. 1, 2021); Manya Koetse, *Open Sesame: Social Credit in China as Gate to Punitive Measures and Personal Perks*, WEIBO (May 27, 2018) https://www.whatsonweibo. com/open-sesame-social-credit-in-china-as-gate-to-punitive-measures-and-personal-perks/ [https://perma.cc/N668-D4R6] (archived Sept. 1, 2021); Jeremy Daum, *The Redlists are Coming! The Blacklists are Coming!*, CHINA L. TRANSLATE (Mar. 30, 2018), https://www.chinalawtranslate.com/en/the-redlists-are-coming-the-blacklists-are-coming/ [https://perma.cc/43AH-EM22] (archived Sept. 1, 2021).
44.    See Zahy Ramadan, *The Gamification of Trust: The Case of China's "Social Credit,"* 36 MARKETING INTELLIGENCE & PLANNING 93, 98 (2018).
45.    See Xin Dai, *Toward a Reputation State: The Social Credit System Project of China*, 24–39 (June 10, 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3193577 [https://perma.cc/G9NJ-DVLM] (archived Sept. 1, 2021) (focusing mainly on reputation mechanisms).

incorrect. Nuances exist not only on different government levels and regions but also on functions: administrative, commercial, societal, and judicial. Each operates separately and has distinctive features. And even though the different systems include both rewards and sanctions, in most cases, only rewards are strictly speaking extralegal, while sanctions are mostly related to breaking the law.

Second, it seems that the Social Credit System is not largely known in the Chinese public and is not front-page news in China. As Jeremy Daum observes, "I really think you would find a much larger percentage of Americans are aware of Chinese social credit than you would find Chinese people are aware of Chinese social credit."[46] Among the people who know the system, studies show a high public approval of social credit systems, especially among "wealthier, better-educated, and urban residents." Such systems are perceived as "useful tools to make individuals and companies more honest and accountable for their actions," and as mechanisms to improve "ethical conduct in Chinese society and economy."[47] Chinese media, too, positively portrays the social credit system as a favorable development.[48]

Third, the goals of the system are disputed. Western media portrays it as a means of surveillance, rooted in a history of social control in China.[49] And yet, China insists that the goals of the national system are different—creating a culture of integrity and trust in four policy areas: judicial integrity (enforcing court orders), government integrity (fighting corruption in public institutions), commercial integrity (reducing business dishonesty),[50] and societal integrity (strengthening trust within society).[51] The system is mainly geared toward compliance with legal norms—dealing with tax evasion, non-payment of administrative fees, food safety violations, and failures to follow judicial orders and contract obligations—although it is also concerned with a moral decline in civic society and a rapid economic

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46.    Quoted in Louise Matsakis, *How the West Got China's Social Credit System Wrong*, WIRED (July 29, 2019), https://www.wired.com/story/china-social-credit-score-system/ [https://perma.cc/YJ3C-GAM8] (archived Sept. 1, 2021).

47.    Genia Kostka, *China's Social Credit Systems and Public Opinion: Explaining High Levels of Approval*, 21 NEW MEDIA & SOC'Y 1565, 1565, 1573, 1568 (2019).

48.    See Ohlberg, Ahmed, & Lang, *supra* note 33, at 6–7; Manya Koetse, *10 State Media Cartoons on China's Social Credit Implementation*, WEIBO (July 20, 2018), https://www.whatsonweibo.com/10-state-media-cartoons-on-chinas-social-credit-implementation/ [https://perma.cc/R7MA-9QYJ] (archived Sept. 1, 2021).

49.    *See generally* Samantha Hoffman, *Programming China: The Communist Party's Autonomic Approach to Managing State Security*, MERCATOR INST. FOR CHINA STUD. (Dec. 12, 2017) https://merics.org/sites/default/files/2020-05/Programming%20 China.pdf [https://perma.cc/XWA4-LGXD] (archived Sept. 17, 2021).

50.    *See* Engelmann, Chen, Fischer, Kao, & Grossklags, *supra* note 31, at 70 ("It is estimated that Chinese enterprises suffer from a loss of 600 billion RMB (around 92 billion USD) per year due to dishonest activities").

51.    *See* State Council Guiding Opinions, *supra* note 17; Ohlberg, Ahmed, & Lang, *supra* note 33, at 6.

growth in China.[52] For instance, 225 million citizens have no bank account,[53] and a social credit system can enable people with no credit history to participate in the economy.

The outbreak of coronavirus in China shows the widening scope of its Social Credit System. On January 31, 2020, the People's Bank of China and other government departments issued a notice concerning the coronavirus and the Social Credit System.[54] People who have lost their income source due to the coronavirus are granted a repayment schedule; unpaid bills do not negatively affect the social credit score. People devoted to the public good, demonstrated by volunteering to help during the coronavirus period, are listed in a "Joint Incentive List" and rewarded administratively, commercially, and socially.[55] At the same time, concealing medical history (or travel history in infected regions or contact with infected people) and refusing quarantine can lower the social credit score and place one on a blacklist in Shanghai and other cities.[56] In Hunan, scores can be reduced for actions such as spreading incorrect rumors or driving up the prices of social goods and medical supplies.[57]

Fourth, it is unclear how effective the system is in promoting its declared goals. Anecdotal evidence indicates that people. are more likely to stop in front of crosswalks, keep the streets clean, and visit their parents under a social credit system. A book released by Ant

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52. Kevin Werbach, *Panopticon Reborn: China's Social Credit as Regulation for the Algorithmic Age*, U. ILL. L. REV. (forthcoming 2020) (manuscript at 29–42) at http://dx.doi.org/10.2139/ssrn.3589804 [https://perma.cc/H92H-FQXX] (archived Sept. 1, 2021) (identifying four goals: economic development, political control, legal compliance, and ethical instruction).

53. Engelmann, Chen, Fischer, Kao, & Grossklags, *supra* note 31, at 70.

54. *Notice on Further Strengthening Financial Support for the Prevention and Control of the Outbreak of Pneumonia Caused by Novel Coronavirus*, PEOPLE'S BANK CHINA (Jan. 31, 2020), http://www.gov.cn/zhengce/zhengceku/2020-02/01/content_5473639.htm [https://perma.cc/5ZZ2-ADHL] (archived Sept. 10 2021).

55. *Notice on Effectively Strengthening Credit Management and Service in Response to the Impact of the Pneumonia Outbreak Caused by the Novel Coronavirus*, JIANGSU DEV. & REFORM COMM'N (Feb. 18, 2020), http://xyb.nantong.gov.cn/xynt/upload/ffd9b1f9-c504-4cc1-ae67-01cda4b2915f.doc.

56. *See* Harbin Epidemic Prevention and Control Headquarters, *Fourteenth Announcement of Harbin's Work Headquarter of Countering the Pneumonia Situation Caused by the Novel Coronavirus*, CREDIT CHINA (Feb. 15, 2020), https://www.creditchina.gov.cn/home/zhngcefagui/202002/t20200217_184961.html [https://perma.cc/V22N-LY62] (archived Sept. 17, 2021); Shanghai Municipal Government, *Decision of the Standing Committee of the Shanghai Municipal People's Congress on the Prevention and Control of Pneumonia Situation Caused by Novel Coronavirus*, CREDIT CHINA (Feb. 7, 2020), https://www.creditchina.gov.cn/home/zhngcefagui/202002/t20200214_184840.html [https://perma.cc/MR3Z-K9VP] (archived Sept. 17, 2021).

57. Ling Lian, *Hunan Strengthens Incentives for Honesty and Punishments for Dishonesty during the Period of Preventing and Controlling the Pandemic*, CHINA DAILY (Feb. 18, 2020), https://cn.chinadaily.com.cn/a/202002/18/WS5e4b9eafa3107bb6b57a0877.html [https://perma.cc/9ZCF-6GFB] (archived Sept. 1, 2021).

Financial employees shows that 46 percent of Sesame Credit users paid their debt after being blacklisted.[58] In Rongcheng, there has been a 23 percent decrease in criminal cases, an 18 percent drop in public order offenses, and a 40 percent decline in "uncivilized" behavior.[59] This trend, the government hopes, will lead to a trust-based society by affecting citizens. In one study, 94 percent of the respondents reported that they changed their behavior at least once to influence their social credit assessment positively, mostly about shopping habits, traffic laws, and mainly as a response to material incentives, rather than punitive measures.[60]

## III.  CHINA AND LIBERAL DEMOCRACIES

How unique is China's Social Credit System? Is it really different from national, municipal, and commercial credit systems in liberal societies? To a certain extent, there are similarities between China and liberal democracies. Most credit systems systematically collect data[61] and have diverse forms of surveillance and assessment, which lead to some sort of classification and scoring. Most credit systems have behavior control, management, and change as primary goals, even if other goals are included. Most credit systems seek to construct norms and values. In both China and liberal democracies, social credit systems can be voluntary (a person needs to sign in and can opt out based on consent; for example, at Sesame Credit or Uber) or mandatory (regardless of a personal choice). And in both China and liberal democracies, credit systems function as a reputation system that often goes beyond the law.

Scoring systems are well known in liberal societies.[62] In the private sector, companies in the sharing economy, such as Airbnb, eBay, and Uber, allow providers and users to rate one another based on characteristics such as courtesy, politeness, and human interest. Likewise, quantified technologies track personal habits related to

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58.    S. Ji, *Credit Economy: The Capital Blue Ocean Next Decade* (Publishing House of Electronics Industry, 1st ed., 2018).

59.    Knight, *supra* note 27.

60.    Genia Kostka & Lukas Antoine, *Fostering Model Citizenship: Behavioral Responses to China's Emerging Social Credit Systems,* 12 POL'Y & INTERNET 256, 275–77 (2019).

61.    Questions of informatics are not analyzed: issues of data identification (What is raw data? How to distinguish between data as facts or as judgments?), data collection (What are the methods and by which institutions?), data choice (Which data is used for the normative assessment?), and data verification, interpretation, use, protection, and distribution. For a discussion of these issues, see generally, Fan Liang, Vishnupriya Das, Nadiya Kostyuk, & Muzammil Hussain, *Constructing a Data-Driven Society: China's Social Credit System as a State Surveillance Infrastructure,* 10 POL'Y & INTERNET 415 (2018).

62.    Daithí Mac Síthigh & Mathias Siems, *The Chinese Social Credit System: A Model for Other Countries?,* 82 MOD. L. REV. 1034, 1037 (2019).

health, sports, and sleep, and categorize (and often score) people based on the data.[63] Rankings are everywhere. Companies rate individuals— as passengers, clients, students—and products. Examples are all around: agencies that rate job applicants and provide employment credit checks; insurance companies that offer exclusive deals for people who are willing to give access to personal data, such as fitness trackers and tracking devises to record driving patterns; landlords who decide on tenants based on "tenant blacklists" in the rental market;[64] and firms that base decisions on data bought from "data brokers."[65] Such ratings may have severe consequences:[66] a denial of a job application, a loan, and health insurance, or an inability to return a product in case of being on a "store-returns blacklist."[67] The most known examples of rating systems are credit scores in the United States (e.g., FICO score) and other states (e.g., Schufa in Germany), which assess the creditworthiness of a person mostly based on financial criteria, and whose score is frequently used by banks, insurance, and credit card companies. Methods for rating people based on physical and digital activities are massively expanding in liberal societies.[68]

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63.    BRETT FRISCHMANN & EVAN SELINGER, RE-ENGINEERING HUMANITY 165 (2018).

64.    Kim Barker & Jessica Silver-Greenberg, *On Tenant Blacklist, Errors and Renters With Little Recourse*, N.Y. TIMES (August 16, 2016), https://www.nytimes.com/ 2016/08/17/nyregion/new-york-housing-tenant-blacklist.html    [https://perma.cc/DFY6-JFRW] (archived Sept. 10, 2021).

65.    Aaron Rieke, Harlan Yu, David Robinson, & Joris von Hoboken, *Data Brokers in an Open Society*, OPEN SOCIETY FOUNDS. (November 21, 2016); Stephanie Clifford & Jessica Silver-Greenberg, *Retailers Track Employee Thefts in Vast Databases*, N.Y. TIMES (April 2, 2013), https://www.nytimes.com/2013/04/03/business/retailers-use-databases-to-track-worker-thefts.html [https://perma.cc/8DWL-AYLS] (archived Sept. 10, 2021).

66.    Rebecca Rose, *The Shame of My Very Low Uber Rating*, FINANCIAL TIMES, July 3, 2018; *Big Data and Online Scoring: Fintech and Beyond*, FINTECH RANKING, (Mar. 17, 2016), https://fintechranking.com/2016/03/17/big-data-and-online-scoring-fintech-and-beyond/ [https://perma.cc/4ZTU-8MFQ] (archived Sept. 10, 2021).

67.    James Dennin, *Are You on a Store-Returns Blacklist? How to See the Data Retailers are Quietly Using to Monitor You*, MIC (Mar. 27, 2018), https://www.mic.com/articles/188629/in-store-return-policy-blacklist-retail-equation-rar-return-activity-report (https://perma.cc/NF9T-HDJP) [archived Sept. 20, 2021).

68.    *See generally* Danielle Keats Citron & Frank A. Pasquale, *The Scored Society: Due Process for Automated Predictions*, 89 WASH. L. REV. 1 (2014); Mikella Hurley and Julius Adebayo, *Credit Scoring in The Era of Big Data*, 18 YALE J. L. & TECH. 148 (2016); John Harris, *The Tyranny of Algorithms is Part of Our Lives: Soon They Could Rate Everything We Do*, GUARDIAN (Mar. 5, 2018), https://www.theguardian.com/ commentisfree/2018/mar/05/algorithms-rate-credit-scores-finances-data [https://perma.cc/7YRR-BD2E] (archived Sept. 17, 2021); *A Brief History—and Future— of Credit Scores*, ECONOMIST (July 6, 2019) https://www.economist. com/international/2019/07/06/a-brief-history-and-future-of-credit-scores [https://perma.cc/X6ZL-36CK] (archived Sept. 17, 2021); MAU, *supra* note 8; JOSH LAUER, CREDITWORTHY: A HISTORY OF CONSUMER SURVEILLANCE AND FINANCIAL IDENTITY IN AMERICA (2017).

Scoring systems are used not only in the private sector but also in the public sector. In Israel, for instance, citizens who serve in the military get a personal score (a quality index, *kaba*), which reflects their value as soldiers. This numerical figure (41–56) influences the placement in military positions, which may affect the future prosperity of the individual. Reported criteria are education, motivation, the result of a psychometric test, and the result of an interview. At Ben Gurion Airport, every passenger is assigned a score according to his or her security risk, and there are "blacklists" for people whose risk is high.[69] Scoring systems are implemented by public authorities in other democratic countries, rating the valuableness, reliability, and credibility of citizens, often rating them against other citizens. Recently, a digital social credit method was proposed by Andrew Yang, a former US Democratic presidential candidate (2020). Digital Social Credits, in his view, could improve civic engagement and volunteer rates; scores could be gained, for instance, by "participating in a town fair," "tutoring a local student," and "volunteering at a local shelter."[70]

At the municipal level, notions of social credit are on the rise. There have been attempts to use technology to motivate good citizenship through the creation of a catalogue of "good deeds." Examples of good deeds include: voting, helping the elderly, seeking professional training, taking first-aid courses, organizing cultural events, and undergoing self-employment workshops. According to one idea, citizens can choose and implement good deeds from a municipal catalogue, which will then be recorded and scored; based on the score, each citizen will receive a reward from a parallel catalogue of "municipal benefits."[71] Rewards include free public transportation and bicycle rentals, tickets to cultural events, and easier access to municipal housing. The general idea is to use financial incentives to motivate civic engagement, social solidarity, volunteer work, and social interaction with the hope that, over time, these incentives will create a culture of communal activism. Different versions of this system exist in Barcelona, Spain (Social Coin); Cascais, Portugal (Innowave CityPoints); and Hull, United Kingdom (HullCoin).

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69.    Badi Hasisi, Yoram Margalioth, & Liav Orgad, *Ethnic Profiling in Airport Screening: Lessons from Israel, 1968-2010*, 14 AM. L. & ECON. REV. 517, 532 (2012).

70.    Kevin Roose, *His 2020 Campaign Message: The Robots Are Coming*, N.Y. TIMES (Feb. 10, 2018), https://www.nytimes.com/2018/02/10/technology/his-2020-campaign-message-the-robots-are-coming.html (last visited August 31, 2021) [https://perma.cc/6BKU-63P6] (archived Aug. 31, 2021).

71.    Tlalnepantla de Baz, Mexico: 2016 Finalist, *Catalog of Good Deeds: Building Civil Society Through Daily Acts of Kindness*, BLOOMBERG PHILANTHROPIES MAYORS CHALLENGE (Feb. 26, 2017), https://web.archive.org/web/20170226130418/ http:/mayorschallenge.bloomberg.org/ideas/tlalnepantla-de-baz/?lang=es [https://perma.cc/S4MV-YPEG] (archived Sept. 17, 2021).

Despite the rise of social credit systems elsewhere, the Chinese system differs significantly for at least three reasons.[72] First, in *scope*: credit systems in liberal democracies usually score people qua drivers, landlords, or clients, while social credit systems in China target persons *qua citizens*. By targeting people as citizens, social credit systems do not target them according to a particular, limited profession or social role, but according to being members of a political community. As such, everyone is included in the system and is assessed not only on the basis of being "good" at a job or "nice" toward customers but also as a good (or a bad) citizen. If a person has a low FICO score, she may not be able to get a loan, but this will not affect her entire life—whether she can travel on high-speed trains or apply for a civil service job. In other words, the Chinese system is not limited to one field but is potentially *all-encompassing*. The implications of doing good or bad radiate beyond the original context of "wrongdoing" into other spheres of life by a set of socioeconomic rewards (or punishments) and reputational gains (or losses). Citizens can thereby be "punished" multiple times for the same action.

The system is comprehensive for another reason. In liberal democracies, the rule of law entails that everything that is not forbidden is generally allowed; this creates a division, which is not always clear, between law and morality. In China, social credit systems target not only legally impermissible actions but also morally and professionally undesirable actions. The Chinese system may thus function even when the law ends (hence, it is not fully subject to constraints that typically characterize legal systems). It is not merely a law enforcement system but a system to enforce conformity with social norms. It encourages desirable actions, even if they are not legally required, and deters undesirable actions, even if they are not unlawful *per se*. However, it should be noted that the Chinese legal tradition has dominant schools of thought—in particular, Confucianism—that have promoted the extension of the sphere of the law into the domain of morality for centuries.[73] The design of the Social Credit System is thus interconnected with the Chinese perception of citizenship, in which the dividing line between law and morality, public and private, is blurred and is quite different than in liberal democracies.[74]

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72.     Síthigh & Siems, *supra* note 62, at 1046 (offering eight criteria to distinguish China from the West: drafter, user, aim, scoring, application, algorithm, enforcement, and accountability).

73.     Yongxi Chen, *A Déjà Vu? The Social Credit System and Fajia (Legalism)*, VERFASSUNGSBLOG (June 28, 2019), https://verfassungsblog.de/a-deja-vu-the-social-credit-system-and-fajia-legalism/ [https://perma.cc/2WPD-3UQS] (archived Aug. 31, 2021).

74.     The Constitution of China states that the country is governed by law (Art 5) yet lists a set of ethical and cultural values that the state promotes (Art 24). *See* XIANFA art. 5, 24 § 1 (1982) (China).

Second, in *authority*: the Chinese system is not only comprehensive, but it is also a government-sponsored enterprise. It matters whether private parties, such as large companies, or public parties, such as state governments, leverage the technology. Public authorities, as sovereign actors, have a more extensive range of means at their disposal to reward or punish citizens, like the use of physical force or the power to require companies to refuse services. China is developing a centralized ecosystem of databases whose sources are both public and private; the outcome produced by the data is implemented by both the public and the private sectors. Data sharing between government institutions, and between them and private companies—such as Alibaba, Tencent, and Baidu—will produce a centralized database where many aspects of public and private life are recorded: commercial data (e.g., mobile phone purchases), social data (e.g., social connections), and digital data (e.g., internet search history). Think of, as an analogy, an ongoing lawful data-sharing mechanism between the US government, municipal authorities, Facebook, Google, Amazon, Uber, eBay, Twitter, Microsoft, and financial bodies such as banks and credit card companies. Such a mega database will allow extending the system's logic from "good citizenship" to "good personhood," aiming to create not only the "perfect citizen" but also the "perfect person."

Third, in *regime type*: due to the wide scope of the system in China and the fact that it is government sponsored, the affected human rights are fundamental—education, health, and housing, as well as free speech, freedom of movement, and individual liberty. True, the implications of being blacklisted in a liberal democracy can also be severe—think of a person who is classified as high- risk at the airport or has a low FICO score—and may infringe upon fundamental human rights. Nevertheless, in liberal democracies, people vote in free elections on the future of the system, and there are different notions of the rule of law, due process, and separation of power. In particular, the likelihood of abusing the system for oppression is higher in authoritarian regimes than in liberal democracies; the alleged use of mechanisms similar to the ones deployed in the Social Credit System against the Uighur minority in Xinjiang[75] is a salient example. The point is not against social credit systems *per se*, but against their design, application, and outcome in a nondemocratic regime. In other words, it is a matter of degree, not principle. Social credit systems just mirror the good and the bad things of the socioeconomic structure that implements it.

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75.    Ross Anderson, *The Panopticon Is Already Here*, ATLANTIC (September 2020), https://www.theatlantic.com/magazine/archive/2020/09/china-ai-surveillance/614197/ [https://perma.cc/33TC-25SB] (archived Sept. 10, 2021).

China's Social Credit System has been influenced by Western notions of financial credit. Sesame Credit was designed in light of the FICO score in the United States, [76] which assesses a person's creditworthiness. The FICO score ranges from 300 to 850, and it is mostly based on financial criteria: payment history (35 percent of the score) and length (15 percent), credit owed (30 percent), new credit (10 percent), and credit mix (10 percent). Mac Síthigh and Siems rightly note that "it cannot be assumed that 'what happens in China, stays in China . . . the growing global influence of China can mean that the Social Credit System may well be a regulatory tool which could inspire the West."[77] Authoritarian regimes, such as Venezuela, are already considering the implementation of a similar system; pilots are planned in Kazakhstan, Kyrgyzstan, and Mongolia, and elements of different versions of it exist in liberal states such as Germany.[78]

Some liberal scholars find the system to be valuable. Werbach finds it potentially beneficial for liberal societies: "[I]n nations where the rule of law is strong and corruption is restrained, a system like SCS [social credit system] might be implemented without producing the abuse or repression it generates in China. SCS is a model the rest of the world must evaluate."[79] Werbach encourages people to think of the social credit system not in the context of China, but as a paradigmatic model to promote government accountability. He perceives it as "a grand 'nudging' engine to influence nominally voluntary behaviors,"[80] and invites liberals to deconstruct the system to fit their needs. The social credit system "is the world's most advanced prototype of a regime of algorithmic regulation" and, hence, "China today could well represent our future. Or it could be a cautionary tale that sets the West on a different path."[81] In a similar spirit, Mac Síthigh and Siems mention that the "system enables honest but poor persons . . . to obtain financial credit which otherwise would not be available," and add that "even the blacklisting system can be seen as beneficial for individuals

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76.    Raphael & Xi, *supra* note 35; MARTIN CHORZEMPA ET AL., CHINA'S SOCIAL CREDIT SYSTEM: A MARK OF PROGRESS OR A THREAT TO PRIVACY? 4, PETERSON INSTITUTE FOR INTERNATIONAL ECONOMICS (June 2018).

77.    Síthigh & Siems, *supra* note 62, at 1035, 1059.

78.    Angus Berwick, *Special Report: How ZTE Helps Venezuela Create China-style Social Control*, REUTERS (Nov. 14, 2018), https://www.reuters.com/article/us-venezuela-zte-specialreport/special-report-how-zte-helps-venezuela-create-china-style-social-control-idUSKCN1NJ1TT [https://perma.cc/Y5R6-Y5G3] (archived Sept. 17, 2021); Yau Tsz Yan, *Exporting China's Social Credit System to Central Asia*, DIPLOMAT (January 17, 2020), https://thediplomat.com/2020/01/exporting-chinas-social-credit-system-to-central-asia/ [https://perma.cc/A9A5-GLYK] (archived Sept. 17, 2021); ERGO, ERGO RISIKO-REPORT 2019: ÜBER DIE RISIKOKOMPETENZ UND EIGENVERANTWORTUNG DER DEUTSCHEN, (Sept. 12, 2019).

79.    Werbach, *supra* note 52, at 42.

80.    Werbach, *supra* note 52, at 59.

81.    Werbach, *supra* note 52, at 1.

as far as it induces their debtors . . . to comply with court judgments."[82] By treating citizens by their actions, "the Social Credit System may give Chinese citizens more control over the impact of their actions than previously." [83] Social credit systems can also reward actions and characteristics that are not valued in a market mechanism, such as taking care of children and parents. [84] The challenge with which political theorists are likely to struggle in the next decades is how to design a form of social credit that respects the Western conceptions of liberty and democracy. The Chinese system may be frighteningly repressive, but, if properly designed and operated, its underlying structure can grow into something quite different in liberal states.

The following section takes up this challenge and analyzes social credit systems from dominant perspectives of political philosophy. By taking this approach, this Article does not seek to present a normative analysis of the Chinese context. It acknowledges that different political philosophies are relevant in China, such as Confucianism and legalism, which might offer very different ways of evaluating a social credit system. Rather, this Article takes the social credit system as a "mirror image" of tendencies in sociotechnical systems that are being developed in liberal democracies. Therefore, the discourse is one concerning the desirability of social credit systems in the context of *liberal* democracies.

## IV. CIVIC VIRTUE

At the core of China's Social Credit System lies the notion that citizens ought to have certain qualities to sustain order and harmony; it is essentially a "social virtue system."[85] The concept of civic virtue is central in China as the government perceives its role in promoting personal and public morality, whether legally recognized or not, as essential for community functioning.[86]

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82.     Síthigh & Siems, *supra* note 62, at 1055.
83.     *Id.*
84.     Mirjam Müller, *Is a Social Credit System Good for Women?, in A Dystopian Future? The Rise of Social Credit Systems* 29–31 (European University Institute RSCAS Working Paper No. 94) (Liav Orgad and Wessel Reijers eds., 2019).
85.     The system is called "social credit," yet the word *xìnyòng* (诚信), translated to "credit," also means trust, integrity, and virtue; it is more accurate to call it a "social virtue system."
86.     In 2019, the State Council published moral guidelines on how to be 'model citizens' in China. *See Implementation Outline for Citizen Moral Construction*, BAIKE BAIDU (2019), https://baike.baidu.com/item/公民道德建设实施纲要/9731526?fr=aladdin (last visited Aug. 31, 2021) [https://perma.cc/H3FM-G4DN] (archived Aug. 31, 2021) for the guidelines.

Civic virtue is a cornerstone of the institution of citizenship.[87] in the Western tradition as well. [88] Its understanding differs among liberal and republican theorists, although the dividing line is not always clear-cut.[89] Under a republican theory, the virtue of citizenship is active participation in public life and commitment to the common good. Citizens are expected to engage in political deliberation by voting, protesting, participating in military service, and living self-sufficient lives. Under a liberal theory, citizenship is either a *modus vivendi* allowing plural ways of life or a moral project that holds some universal truths and ideal ways of life that ought to be promoted.[90] Liberal theorists of the first type are likely to see civic virtue as legal obedience and commitment to the peaceful coexistence of the society, while liberal theorists of the second type may even require some commitment to liberal values and beliefs.[91] The legitimacy of civic virtue, as promoted by China's Social Credit System, may be evaluated differently under different theories, even from a Western perspective. Republican and liberal theorists can find in a social credit system both positive signs (for example, a commitment to the common good for republicans and the imposition of the system on government officials to limit their power for liberals) and negative signs (for instance, limits on self-government and active citizenship, such as political protestation for republicans and invasions of privacy and liberty for liberals).

This Part presents what the model of social credit systems, as implemented in China, can teach us about citizenship, as perceived

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87. By engaging with citizenship through the lens of civic virtue, this Article departs from the mainstream conception of citizenship as a legal status. Yet, when it comes to the impacts of technology on citizenship such a departure is warranted, both because technology as *techne* is essentially about virtue (a epistemic disposition concerning "knowing how") and because contemporary work on citizenship and technology focuses not only on how technology reconfigures formal rights and obligations of citizens, but also how technologies nudge, persuade, and incline citizens to behave according to certain desired patterns of behavior. Scholars that take such a stance are for instance Karen Yeung and Marion Fourcade, in the context of the application of AI and Big Data analysis. *See* Karen Yeung, *'Hypernudge': Big Data as a mode of regulation by design*, 20 INFO. COMMC'N. SOC'Y. 118 (2017); Marion Fourcade, *Ordinal Citizenship*, 72 BRIT. J. SOCIO. 154 (2021).

88. The concept of citizenship is among the most contentious in law and political theory, yet it is widely understood as having four dimensions: status, right/duties, identity, and participation. *See* CHRISTIAN JOPPKE, CITIZENSHIP AND IMMIGRATION 1–33 (2010); Liav Orgad, *The Citizenship Puzzle*, 59 AM. J. COMPAR. L. (No. 2) 594, 594–98 (2011).

89. *See* Iseult Honohan, *Liberal and Republican Conceptions of Citizenship, in* THE OXFORD HANDBOOK OF CITIZENSHIP 83, 83–94 (Ayelet Shachar, Rainer Bauböck, Irene Bloemraad & Maarten Vink eds., 2017) (comparing the alternative perspectives that liberal and republican theories on citizenship provide).

90. JOHN GRAY, TWO FACES OF LIBERALISM 105 (2000).

91. Liav Orgad, *Naturalization, in* THE OXFORD HANDBOOK OF CITIZENSHIP 337, 345 (Ayelet Shachar, Rainer Bauböck, Irene Bloemraad, & Maarten Vink eds., 2017).
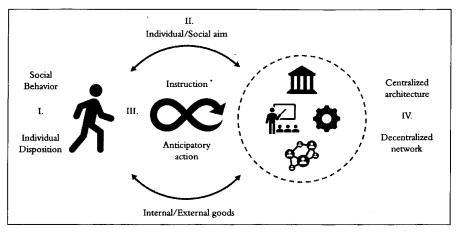
through the lens of civic virtue. While social credit systems alter several democratic values and principles—notably, the rule of law, individual freedom, privacy, and human dignity—their impact on civic virtue is fundamental and inherent in the system; it would prevail (and be normatively problematic from both liberal and republican perspectives) even if the negative impact of social credit systems on democratic values, such as privacy violation, can be minimized. The impacts of the Social Credit System on the concept of civic virtue described below are broader than the case of China; in this regard, social credit systems provide case studies to reflect on much wider consequences of the Digital Revolution.[92] They signal the emergence of cybernetic citizenship.

## A. *Instrumentalization and Standardization*

What conception of civic virtue does the Chinese Social Credit System promote? Generally speaking, models of civic virtue raise and answer at least four questions (see Figure 1). First, (I.) they ask *what* civic virtue is, for instance, an individual disposition or a form of social behavior. Second, (II.) they ask *why* both the individual and society at large are interested in cultivating civic virtue. For society, this can be to promote individual happiness or social harmony. For the individual, this can be because of intrinsic or extrinsic motivations. Third, (III.) they ask *how* civic virtue is cultivated—for instance, through instruction or anticipatory action. Fourth, (IV.) they ask *which* structures in society support the cultivation of civic virtue—for instance, civic education, democratic institutions, technologies, or networks of civic trust. Admittedly, these questions do not fully capture the richness and intricasies of theories of civic virtue and operate at a certain level of simplification. Yet, they do capture essential elements of civic virtue through which a normative critique of social credit systems is conducted.

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92. The Digital Revolution denotes the global proliferation of digital computers in many spheres of personal, corporate, and public life. This includes the growing use of artificial intelligence and Big Data analytics through smart devices (the Internet of Things), social media, and commercial and government services.

## Figure 1: Basic elements of models of civic virtue.



*These elements correspond to the questions of (I.) what civic virtue is, (II.) why it is cultivated, (III.) how it is cultivated, and (IV.) which structures in society promote its cultivation.*

What model of civic virtue is promoted by the Chinese Social Credit System? First, it considers civic virtue to be a form of social behavior, similar to etiquette in the broad sense of the term. Under the heading of "credit" or "virtue" construction, the Social Credit System assesses virtue according to desirable and observable individual acts. The input of the system—the "items" it collects, such as whether one pays bills, crosses the street while the traffic light is green, or pays a visit to his/her parents—is seen as a measurable indicator of civic virtue. These indicators can be about practically any behavior, captured by the motto that "trust-breaking" can happen anywhere and lead to consequences everywhere. Sometimes behaviors are observed and measured directly, such as in the case of facial recognition at traffic lights, but often this depends on the analysis of digital traces, for instance, in payment data.

Second, the Social Credit System justifies its existence through a social aim. China considers civic virtue an indispensable tool to achieve social order and harmony[93]—citizens are required to be virtuous in order to serve the aggregate social good and public trust—and not as a means for individual happiness. Thus, civic virtue is perceived as any quality possessed by a citizen that contributes to the well-being of the

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93.    *See* Larry Catá Backer, *Next Generation Law: Data-Driven Governance and Accountability-Based Regulatory Systems in the West, and Social Credit Regimes in China*, 28 S. CAL. INTERDISC. L.J. 138 (2019); *State Council Notice, supra* note 1 ("Accelerating the construction of a social credit system is an important basis for comprehensively implementing the scientific development view and building a harmonious Socialist society.").

community, which includes a broad range of social norms like wanting to parttake in public discourse and to abide by legitimate laws.[94] Furthermore, citizens are incentivized to behave "correctly" through mechanisms of increased reputation and material rewards or punishments. The simplest form is the national system of blacklists and redlists by which punishments or awards are assigned. Mechanisms of public shaming, like through the use of displays with the personal information of "willful defaulters," offer reputational sanctions. More sophisticated methods exist in local pilots and commercial initiatives. Sesame Credit, for instance, provides citizens with a personalized score based on data evaluation; the score affects a citizen's reputation and wealth, providing an extrinsic motivation to engage in the cultivation of civic virtue and behave in a certain way.[95]

Third, the Social Credit System cultivates civic virtue through a method of instruction. To act virtuously means to imitate model rules of correctness and error that are mostly derived from past and existing social norms, etiquettes, and customs. The standards for correctness and failure are established through catalogues of civic virtues. These catalogues enable citizens to know with which type of actions they must engage to increase their rating; they largely know the standards on how to perform actions well and change their rating. Acquiring civic virtue is akin to learning by instruction, for instance, in the context of standardized testing. Citizens can be considered as "students" of civic virtue, who have to familiarize themselves with the predetermined sets of good and bad behaviors. Furthermore, they have to know how to live up to these behaviors: which rules to follow, what to do or what to refrain from, and how to repair damages to one's credit score.

Fourth, the Social Credit System introduces a centralized, technology-driven architecture to support the cultivation of civic virtue. Although its current implementation differs strongly across local contexts, it moves towards a consolidated architecture controlled by the central government and enabled by data-driven technologies. It depends on data-sharing and interoperability, for instance, to automate sanctions when a citizen is put on a blacklist. As such, the Social Credit System offers a tangible "choice architecture" that is able to nudge and steer activities. Arguably, it is the first historical example of the actual implementation of a social virtue *system*.

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94.     For a discussion on the relationship between virtues and citizen behavior, see Emily McTernan, *How to Make Citizens Behave: Social Psychology, Liberal Virtues, and Social Norms* 22 J. POL. PHIL. 84, 101 (2014); RICHARD DAGGER, CIVIC VIRTUES: RIGHTS, CITIZENSHIP, AND REPUBLICAN LIBERALISM 196 (1997).

95.     *See* Eva Xiao, *Tencent's New Credit System to Use Payments, Social Data*, TECH ASIA    (Jan.    31,    2018),    https://www.techinasia.com/tencent-credit-launch [https://perma.cc/R9LU-DC3W] (archived Aug. 29, 2021) (comparing Tencent's Credit System to Google PageRank).

The Social Credit System promotes a model of civic virtue that is highly *instrumentalized* and *standardized*. It is instrumentalized because individuals are expected to cultivate civic virtue not for the sake of themselves, but for the maintenance of social order, and they are incentivized to do so by means of extrinsic motivations that are linked to evaluations of observable behaviors. It is standardized because it cultivates civic virtue through instruction based on catalogues with predefined standards for good and bad behavior, embedded in a centralized, technology-driven architecture.

## B. *Normative Critique*

What are the implications of the conception of civic virtue promoted by the Social Credit System? This question is approached through three distinct models of civic virtue that derive from the Western republican tradition.[96] In what follows, the model of civic virtue in the Social Credit System is juxtaposed with the (1) neo-republican model, (2) civic humanist model, and (3) existentialist republican model. For each model, it is interrogated for where it diverges from civic virtue in the Social Credit System. On the whole, the Article claims that social credit systems threaten good citizenship because they tend to proliferate patterns of domination and promote conformism and depoliticization of civic participation.

First, the neo-republican[97] model of civic virtue is considered to be represented most forcefully by Philip Pettit's notion of civility. For Pettit, civility is a form of general societal trust;[98] a sense of benevolent behavior towards others that comes from the desire of good opinion or reputation. As such, civility resonates with the "rule by reputation" implied in the Social Credit System.[99] Neo-republicans such as Pettit, arguably, can go quite far along with the Social Credit System's model of civic virtue, though they would quite strongly object to its authoritarian implementation in China, which would undeniably constitute non-freedom through domination. Civility constitutes a

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96.     Though this limits the critique in scope, this Article argues that the first model, namely the neo-republican one, resonates strongly with models of civic virtue in liberal theories. Indeed, it is exactly around the concept of civic virtue that liberal (e.g., Rawlsian) and republican theories of citizenship meet and intersect. *See, e.g.*, Richard Dagger, *Citizenship as Fairness: John Rawls's Conception of Civic Virtue*, in A COMPANION TO RAWLS 297, 299 (Jon Mandle & David A. Reidy eds., 2013).

97.     This article understands the neo-republican tradition as the contemporary revival of classical, mostly Roman republicanism, which focuses on conceptualizing freedom as non-domination and using legal means to cultivate a sense of civility. Central scholars in this tradition are Philip Pettit and Quentin Skinner.

98.     *See* Philip Pettit, *The Cunning of Trust*, 24 PHIL. PUB. AFF. 202, 202–03, 218 (1995).

99.     Xin Dai, *Toward A Reputation State: A Comprehensive View of China's Social Credit System Project, in* SOCIAL CREDIT RATING: ASSESSING REPUTATION AND TRUST 139 (Oliver Everling ed., 2020).

network of norms that supports laws and institutions guaranteeing non-domination. This instrumental conceptualization of civic virtue, which to some extent can be accepted by both liberal and republican theorists,[100] implies that virtue is not primarily and intrinsically valuable for the happiness of the citizen possessing it, but rather for something external: the well-being (social order, community cohesion, etc.) of the political community.[101] Its cultivation happens through the proliferation of social norms, which are implicit and mostly perpetuated by what Pettit calls the "intangible hand."[102] Similar to Smith's invisible hand of the market, the intangible hand of civility is a social structure that generates order from below. Citizens are interested in cultivating civility because of extrinsic rewards that they get from maintained or increased reputation. Furthermore, the process by which civic virtue is cultivated is akin to a form of peer-to-peer instruction and happens through social sanction (e.g., shaming) and reward (e.g., praise).

Neo-republicans might view some core aspects of the model of civic virtue in social credit systems in a favorable light. Yet, they would strongly object to the societal structure that these systems introduce to support civic virtue. For Pettit, the intangible hand is not a system of intervention of any "directly ordering mind," but a decentralized network of norm enforcement.[103] It is anarchic in a certain sense. There is no central authority that designs a system with explicit rules that people follow. Citizens might cultivate one-another's civility by sanctioning each other in a decentralized fashion (e.g., a citizen may actively disapprove of someone who is jaywalking), but there is no centralized, standardized metric according to which cultivation is organized. Pettit warns against centralized cultivation of civic virtue because this process may lead to patterns of control.[104] Social credit systems would constitute a process of soft domination as they can arbitrarily interfere with the individual's ability to decide freely in a particular moment and with the implicit social norms that guide citizens' civility. This might be expected in the authoritarian setting in

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100. Michael A. Fitts, *Vices of Virtue: A Political Party Perspective on Civic Virtue Reforms of the Legislative Process*, 136 U. PA. L. REV. 1576, 1634 (1988). Although there is great diversity amongst liberal scholars, the view of civic virtue in instrumental terms exists in the writings of central liberal thinkers such as Hobbes and, to a lesser extent, Rawls. *But see* Emad H. Atiq, *Why Motives Matter: Reframing the Crowding Out Effect of Legal Incentives*, 123 YALE L.J. 1070, 1072 (2014) (rejecting incentives in choice-architectures based on extrinsic motivation).

101. *See* WILLIAM A. GALSTON, LIBERAL PURPOSES: GOODS, VIRTUES, AND DIVERSITY IN THE LIBERAL STATE 218–19 (1991).

102. PHILIP PETTIT, REPUBLICANISM: A THEORY OF FREEDOM AND GOVERNMENT 268–69 (1997).

103. Geoffrey Brennan & Philip Pettit, *Hands Invisible and Intangible*, 94 SYNTHESE 191, 191 (1993).

104. PETTIT, *supra* note 102, at 11.

China, where citizens are unable to participate in initiating the standards that govern them or challenge the system's rules. [105] However, the standardization and tangible steering of "good" and "bad" civic behavior is an inherent feature of any social credit system. Even a democratic social credit system would run the risk of instituting a system of behavioral domination, for instance, when the majority population can set the behavioral standards for what counts as success and error in the cultivation of civic virtue.

Second, the civic humanist model[106] of civic virtue is considered, which primarily draws from an Aristotelian approach. Aristotle made a distinction between civic virtue as effectiveness and excellence.[107] As moral excellence, civic virtue is about freely participating in governing. Citizens can only be virtuous when they are intrinsically motivated to partake in governance and cannot be primarily swayed by extrinsic incentives like reputation or money.[108] In liberal democracies, this translates into engaging in civil society and taking up public offices or public initiatives. As civic effectiveness, virtue is explicitly linked with the aspect of the civic life of "being ruled" according to a pre-determined range of knowable and desirable behaviors, such as paying taxes on time and registering one's real estate. In this sense, even citizens living in a country governed by a dictator can be virtuous by acting according to the expectations of the ruler. As effectiveness, civic virtue is exercised in practices that aim at external goods, such as money and reputation, which create extrinsic motivation; citizens exercise civic virtue because they can get some external gain, and not because they achieve a state of happiness.[109]

For civic humanists, civic virtue as effectiveness has to do with institutions, which are sustained through practices that aim at external goods (e.g., paying taxes).[110] Insofar as social credit systems

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105.   *See* Jens van 't Klooster, *Rewarding Virtuous Citizens, in* A DYSTOPIAN FUTURE? THE RISE OF SOCIAL CREDIT SYSTEMS 4, 6 (Liav Orgad & Wessel Reijers eds., 2019).

106.   This article understands the civic humanist tradition as building on the classical, mostly Greek conception of republicanism, as developed by Aristotle, Niccolo Machiavelli, and, later, Alisdair MacIntyre. It emphasises participation in governance and public deliberation, and has less regard for legal structures.

107.   *See generally* ARISTOTLE, THE POLITICS (T. Sinclair trans., Penguin Books 1981).

108.   According to Aristotle, there are three potential "ultimate goods" for human action: pleasure, honor, and *eudaimonia*. The goods of pleasure and honor are not self-contained; pleasure depends on external stimulus (e.g., consuming food) and honor on the external approval of others (e.g., gaining a reputation). Only actions aimed at *eudaimonia* are self-contained and should be intrinsically motivated. *See* ARISTOTLE, NICOMACHEAN ETHICS bk. 1.2, ¶ 1094a 18–23 (Terence Irwin trans., Hackett Publishing Company, 2d ed. 1999),

109.   *Id.* at bk. 1.6, ¶ 1096b 15–20.

110.   *See* ALASDDAIR MACINTYRE, AFTER VIRTUE: A STUDY IN MORAL THEORY 194 (Univ. Notre Dame Press, 3d ed. 2007).

support such practices, they have little to do with virtue in the moral sense. Up until a point, civic humanists might agree with the model of civic virtue in social credit systems when it comes to cultivating excellence, most notably in terms of its reliance on instruction. The standards of excellence that support virtuous practices are indeed assessed according to historically delivered standards of success and error. Yet, when it comes to the system of sanctions and rewards, they would insist that it can only be through goods internal to practices that citizens should be motivated.[111] Social credit systems go against this view, as they promote civic effectiveness at the expense of moral excellence. Incentives are organized according to technologically mediated carrots and sticks, which confront citizens with reputational and material consequences. They might be shamed or declined access to certain forms of consumption and public services. By means of these extrinsic incentives, citizens are channeled toward conformity to a pre-defined regime of behavior. They might even be encouraged not to act virtuously as long as they already have a high social credit, which threatens a citizen's capacity and intrinsic willingness to engage in political governance (i.e., civic engagement).[112] Under social credit systems, Primavera de Filippi rightly argues, "an individual may feel legitimised to act wrongly, provided that s/he has performed a sufficient number of good deeds in the past, so as to discount for the lower score." Such a system changes the meaning and essence of "good citizenship" since the motto is no longer "I have a good credit score because I am a good citizen," but rather becomes "I'm a good citizen because I have a good credit score."[113]

Third, the existentialist republican model is considered,[114] which primarily draws from the phenomenological interpretation of civic virtue. This model is most radically opposed to social credit systems, challenging its model of civic virtue on all four aspects presented above. Existentialist republicans understand civic virtue as a disposition to act politically. Hannah Arendt takes this view to be the essence of moral virtue, arguing that a virtuous action "has always been assigned to the public realm where one could excel" and, thus, "could distinguish oneself from all others."[115] Political action is characterized in terms of

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111. *Id.* at 188.

112. For two different views of civic virtue, see Robert Develin, *The Good Man and the Good Citizen in Aristotle's 'Politics,"* 18 PHRONESIS 71, 72 (1973).

113. Primavera de Filippi, *The Social Credit System as a New Regulatory Approach: From "Code-Based" to "Market-Based" Regulation, in* A DYSTOPIAN FUTURE? THE RISE OF SOCIAL CREDIT SYSTEMS 25, 27–28 (Liav Orgad & Wessel Reijers eds., 2019).

114. This article understands the existentialist republican model as a synthesis between the classical, Greek form of republicanism and 20th century phenomenology, developed by Edmund Husserl and Martin Heidegger and culminating in the political theory of Hannah Arendt. It emphasizes freedom, in the sense of taking initiative, as the authentic expression of citizenship.

115. HANNAH ARENDT, THE HUMAN CONDITION 49 (1958).

its temporality. Because it has no "telos" (end), it is radically open towards the future and consists of an act of taking initiative, or acting anew.[116] This "newness" of political action implies that virtue cannot be learned through a process of instruction based on fixed standards.[117] The exercise of civic virtue is oriented toward an open future and depends on the individual ability to make a singular decision in a particular context in which no previously known and coded standards can let one know how to act.[118] To promote civic virtue in which people freely act and speak together, liberal democracies usually foster forms of liberal arts education and engagement in civic society. [119] Yet, ideally, this form of cultivation does not imply that citizens follow a fixed set of rules or patterns of behavior, but rather that they internalize civic virtues indirectly within their characters, voluntarily exploring and cultivating some understanding of a responsible civic action.[120]

For existentialist republicans, the future-oriented exercise of civic virtue requires safeguarding a "space of appearances," in which citizens reveal themselves as political agents.[121] This space should be free from other human activities, most notably past-regarding activities of an instrumental and standardized nature. As Arendt observed, modern technology and bureaucratic organizations threaten to challenge political action by replacing it with activities of calculative risk assessment (e.g., public management) and processes of production and consumption (e.g., online "clicktivism"[122]). These developments hollow out the ability of citizens to act as political agents. This threat of de-politization is eminently present in social credit systems. In social credit systems, civic virtue is becoming a human metric—a measurable human quality that is assessed by pre-defined indicators. Cultivating civic virtue in this way can be likened to the way a craftsman cultivates a technical skill.[123] For instance, in building a house, a builder relates

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116.   *Id.* at 189.
117.   *See generally* TOM AINGER, TECHNĒ IN ARISTOTLE'S ETHICS: CRAFTING THE MORAL LIFE (2010).
118.   *See* ARENDT, *supra* note 115, at 178.
119.   *See id.* at 49.
120.   *See* ANDREW PETERSON, CIVIC REPUBLICANISM AND CIVIC EDUCATION, 91 (2011).
121.   *See* ARENDT, *supra* note 115, at 199.
122.   The term clicktivism broadly denotes a set of practices for supporting political or social aims (e.g., environmental protection) that solely involve interaction on digital media like social media platforms. This often takes the form of digitally signing petitions, or "liking" posts that promote the aforementioned aims.
123.   To some extent, the way in which a Social Credit System understands civic virtue can be likened to the way in which one understands the quality of a tool like a computer. Its value is derived from the function it has with regard to the human user or the organization in which it operates; a computer is not valuable in and of itself. Moreover, its qualities (speed, safety, processing capacity, etc.) can be observed and measured by testing its performance.

to different activities, such as placing the stones and fixing the roof to finalize the house, which all must conform to some architectural standards.[124] The difference, however, is that in acting according to the method offered by China's Social Credit System, a citizen has no final product but engages in a never-ending technical project.

## C. *Cybernetic Citizenship*

While the instrumentalization and standardization of civic virtue are not unique to China, a broader effect of the Social Credit System on civic virtue, the emergence of cybernetic citizenship, is more radical and fundamental. This effect results from the progressive application of the Social Credit System to citizenship as a whole, affecting citizens' status, rights and obligations, identity, and modes of participation. Cybernetic citizenship is likewise not unique to China, yet the Social Credit System brings it to the extreme in application and operation.

China's Social Credit System is a governance structure to steer behavior. It uses cybernetic principles in its design and implementation, giving rise to what can be termed "cybernetic citizenship." The field of cybernetics is concerned with understanding systems of control and communication—how humans and machines communicate with one another. It is premised on the idea that goal-directed entities such as animals, humans, and machines cannot only be understood in mechanical terms but should also be comprehended in teleological terms, that is, explaining behavior in terms of "purpose." These entities are assemblages of parts (e.g., databases) in greater wholes and have relatively stable boundaries.[125] Cybernetic systems have an internal, corrective feedback mechanism, which uses sensory inputs to change a behavioral output; governing is perceived as a purposive action, a goal-directed behavior. [126] These systems are characterized according to (a) sensed input, (b) processed throughput, and (c) effective output. It is no coincidence that the modern study of cybernetics emerged at the dawn of information and communication technologies because they presented these characteristics.[127]

Cybernetics is not only focused on understanding systems of governance but also on designing them according to cybernetic

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124. In this regard, social credit systems may "program" citizens by introducing a choice-architecture. Citizens no longer need to exercise ethical judgement, deciding themselves what is right or wrong; instead, they delegate their autonomous judgements to "the system."

125. *See generally* RONALD R. KLINE, THE CYBERNETICS MOMENT: OR WHY WE CALL OUR AGE THE INFORMATION AGE (2015).

126. *See* NORBERT WIENER, THE HUMAN USE OF HUMAN USE OF HUMAN BEINGS 58–59 (Free Ass'n Books 1989).

127. *See* ANDREW PICKERING, THE CYBERNATIC BRAIN: SKETCHES OF ANOTHER FUTURE 6–7 (2010); *see also* EDEN MEDINA, CYBERNATIC REVOLUTIONARIES: TECHNOLOGY AND POLITICS IN ALLENDE'S CHILE 20–21 (2010).

principles. Since the Industrial Revolution, cybernetic principles have guided the design of the governance of factories and bureaucratic organizations. [128] However, the greater the scale, openness, and complexity of a system, the harder it is to apply cybernetic principles successfully. With the advances in policymaking and technology, this difficulty has progressively lessened and cybernetic systems have been applied to broader contexts (for instance, that of a "sensing city"[129]), extending the scope of cybernetic governance to that of the entire political community. As Foucault already showed, [130] political communities have had cybernetic "points of intervention" in civic life before; for example, the school, the prison, and the factory. Yet, while these relatively closed environments show some cybernetic features— they have enclosed and stable input sensing mechanisms (a school test, a prison tower, and factory surveillance), throughput mechanisms (test scores, hour registrations, and production targets), and output mechanisms (job prospects, wages, and punishments). Hence, they are limited in nature and scope.

Early applications of modern information and communication technology (ICT), such as broadcasting (TV, radio), were not comprehensively cybernetic. They could "sense" the world to collect inputs, process these inputs to change their internal states, and generate outputs that seem goal-directed, but they lacked a corrective feedback mechanism. The spread of recording technologies and the invention of the internet have given rise to a network society,[131] where the cybernetic use of technology for citizenship governance has become possible. Three technological developments have motivated the rise of cybernetic citizenship governance. [132] First, innovations in sensing technologies, such as security cameras and facial recognition software, have augmented the capacity to observe the behaviors of citizens in the public sphere (and often in the private sphere). Second, advances in big data and information processes have enabled real-time data sharing and processing, where data inputs can be translated into a score or a ranking. Third, the ubiquity of ICTs, alongside their increasing proximity to everyday life, have enabled fine-grained modes of semi-automated punishment and rewards.

The Social Credit System presents a radically new extension of cybernetic governance to the entire political community on a mass

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128.  *See generally* Stafford Beer, *What is Cybernetics?*, 72 KYBERNETES 209 (2002).

129.  *See* Jennifer Gabrys, *Programming Environments: Environmentality and Citizen Sensing in the Smart City*, 17 ENV'T & PLAN. D 30, 30–48 (2014).

130.  MICHEL FOUCAULT, DISCIPLINE AND PUNISH: THE BIRTH OF THE PRISON (2nd Vintage ed. 1995*).*

131.  *See* MANUEL CASTELLES, THE RISK OF THE NETWORK SOCIETY, 60–61 (2nd ed. 2000).

132.  TIQQUN, THE CYBERNATIC HYPOTHESIS 30 (Robert Hurley trans., 2020).

scale. It is designed in line with cybernetic principles. In its ideal form, it constantly records information about citizens in real-time according to measurable proxies (input), processes the data as feedback loops to generate a personalized citizen's status or score in accordance with a pre-defined catalogue (throughput), and controls behavior by issuing real-time rewards and punishments based on the status or score (output). In China, the input is composed of a standardized metric, the output aims at civic virtue in the sense of effectiveness, and the throughput is governed by cybernetic features. The system is not a structure of enforcement of pre-made human decisions but is often capable of "deciding" itself. It may act autonomously by preconceived parameters, rather than human choices, based upon data inputs. Not all the data are automatically recorded; yet, to the extent that the system is conceived in cybernetic terms, it creates what Samantha Hoffman terms "automated social management."[133]

The Social Credit System is still under development, yet the trend toward cybernetic citizenship, within and beyond China, accelerates the process of instrumentalization and standardization of civic virtue across society. One of the greatest achievements of the Enlightenment has been the Kantian idea that human beings should be treated as an end in themselves, and not merely as an instrumental means to something else; people have an intrinsic value that should not depend on external values, such as whether the person contributes to the public good.[134] The implementation of this idea has always been limited in reality. The Industrial Revolution massively turned humans into means of production needed to increase the return on capital investment. However, new technologies potentially extend the factory unit to the entire citizenry, where every citizen is a "worker" in the "factory" of the citizenry, which *en masse* serves the public good. In this respect, the Chinese system is problematic as it extends the application of cybernetics to the realm of citizenship. Citizens are treated merely as a means to realize public interests and their consent to the system is at least doubtful; the system objectifies (or commodifies) people.

The Social Credit System is China's attempt to create a form of cybernetic citizenship. While China does not currently offer a fully-fledged cybernetic citizenship, it moves toward such reality. This development should be seen as part of a wider shift in modern states, including liberal states, from human decisions to AI and machine

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133. Samantha Hoffman, *Managing the State: Social Credit, Surveillance and the CCP's Plan for China*, 17 CHINA BRIEF (2017) https://jamestown.org/program/managing-the-state-social-credit-surveillance-and-the-ccps-plan-for-china/ [https://perma.cc/QSD8-HXCT] (archived Sept. 18, 2021).

134. *See generally* Nancy Davis, *Using Persons and Common Sense,* 94 UNIV. CHI. PRESS J. 387 (1984); Jacob Weinrib, *Kant on Citizenship and Universal Independence,* 33 AUSTL. J. LEGAL PHIL. 1 (2008); *see also* Samuel J. Kerstein, *Treating Oneself Merely as a Means, in* KANT'S ETHICS OF VIRTUE, 201, 201–18 (Monika Betzler ed., 2008),

learning-based decisions on the basis of cybernetic features (the rising of "cyberneticism"). John Danaher captures that by the term "algocracy"—the rise of algorithmic governance—and demonstrates how it might affect individual freedom when implemented on a large scale and scope.[135] While it is known that computational systems are becoming increasingly "human," the converse seems true as well; humans are becoming increasingly like "simple machines," making choices not out of a free will and rational considerations but by a ubiquitous choice-architecture. What is so novel in the Social Credit System is that, perhaps for the first time in history, technology creates a mass-scale cybernetic system, which applies to most human activities, where citizens are governed daily by the logic of a sociotechnical system.[136] These cybernetic features of China's Social Credit System are what makes it distinctive, as elements of instrumentalization and standardization already exist in most legal systems. In this context, the Social Credit System presents a new regulatory approach that combines all four types of regulation, as perceived by Larry Lessig: laws (enforced by sanctions), norms (enforced by social pressure), markets (enforced by price mechanisms and economic incentives), and architecture (enforced by technical codes).[137]

## V.   CONCLUSION

The question of what is "good citizenship" has been at the core of political theory ever since the creation of political communities. Is the "right" thing to do in society dictated by law or morality? Who should decide, by which criteria, and under which procedures? Is it a philosophical question, to be decided by a set of moral standards, or a sociological and anthropological question, to be decided by a survey of public opinions or the way people live in society on a daily basis? Traditional mechanisms to cultivate good citizenship include public education, public media, and the legal system. Social credit systems deviate from (or add to) these known mechanisms by creating a new

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135.   John Danaher, *Freedom in an Age of Algocracy in* OXFORD HANDBOOK ON PHIL. TECH., 10 (Shannon Vallor ed., forthcoming).

136.   It is an interesting anecdote that the Chinese government is dominated by people whose education backgrounds are in natural and formal sciences, such as engineers. In such context, civic virtue may be seen as a "technical craft" of social engineering to optimize objectives. *See, e.g.,* James Palmer, *China's Overrated Technocrats,* FOREIGN POL'Y (July 4, 2019) https://foreignpolicy.com/2019/07/04/chinas-overrated-technocrats-stem-engineering-xi-jinping/ [https://perma.cc/U9JV-BHM9] (archived Sept. 18, 2021); *see also* Patricia Eldridge, *The Chinese Government Is Dominated by Scientists and Engineers,* GINEERSNOW (Dec. 7, 2018) https://gineersnow.com/leadership/chinese-government-dominated-scientists-engineers [https://perma.cc/6R59-39A4] (archived Sept. 18, 2021).

137.   *See* LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE 85–99 (1999).

system of citizenship governance that the world has never seen before. It combines cybernetic features with technological innovations (big data, feedback mechanisms, and enforcement systems) as a way to organize and govern political communities everywhere, all the time, and in almost every action. It thus invites individuals to think of other forms of citizenship governance.

While the Industrial Revolution brought a cybernetic notion into factories, the Digital Revolution is expanding the scope of cybernetic systems far beyond labor-force participation into the entire human life. Cybernetic citizenship trends in China present a different understanding of what is civic virtue, how to cultivate it, and what role citizens should have in public life. Cybernetic citizenship fails to produce "republican citizens," who use sensor data to engage in political deliberations and master technologies to express themselves, but instead gives rise to "cybernetic citizens," who are "mere nodes of sociotechnical networks under corporate or government control."[138] At the beginning of the Digital Revolution, the expectations were that citizens would bend technology for civic empowerment and liberation. And yet, some of the ideals that liberal democracies are grounded upon—among them autonomy, liberty, and justice—are not necessarily the ideals on which the Digital Revolution is premised. It may be that emerging technologies will not duplicate liberal democratic values, making their achievements better and faster, but fundamentally change them.[139] In cybernetic citizenship, surveillance and control are not a means of governance but are the basis for governance.[140] This, if it happens, can lead to a fundamental transformation in the concepts of citizenship and civic virtue and the political role of the state.

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138. Dorien Zandbergen & Justus Uitermark, *In Search of the Smart Citizen: Republican and Cybernetic Citizenship in the Smart City*, 57 URB. STUD. J. 1733, 1733 (2019).

139. Lessig predicted long ago how the architecture of the Net could become a tool for social control. *See* LESSIG, *supra* note 137, at 213–21.

140. *See* Larry C. Backer, *Next Generation Law: Data-Driven Governance and Accountability-Based Regulatory Systems in the West, and Social Credit Regimes in China*, 28 S. CAL. INTERDISC. L. J. 123, 124 (2018).

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