

UNIVERSITÀ DEGLI STUDI DI  
MILANO-BICOCCA



SOCIAL ISSUES IN INFORMATION SOCIETY

PROF. ROBERTO MASIERO

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# Chinese Social Credit System in Shaping Local and Individual Life

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*Autumn 2019*



# Contents

<b>1</b>	<b>Introduction</b>	<b>2</b>
<b>2</b>	<b>How it works</b>	<b>3</b>
2.1	Outline and objectives of the CCP . . . . .	3
2.2	Current framework . . . . .	4
2.3	Future prospective . . . . .	5
<b>3</b>	<b>The Impact on Ordinary Life</b>	<b>7</b>
3.1	Financial Impact . . . . .	7
3.2	Social Impact . . . . .	8
3.3	Individual Impact . . . . .	9
<b>4</b>	<b>Conclusions</b>	<b>11</b>

# 1 Introduction

Our world has changed very rapidly in the last 50 years and it does not appear to be stopping. Since the invention of the computer, and the subsequent prominent role of newer ICTs in our society, many dilemmas, both practical and philosophical, have arisen and contributed to a non-significant part of the public debate.

As stated by Luciano Floridi,[5] we are at the begging of a new era in human history, which can be called **Hyperhistory**. Our current period is indeed characterized by the ever present role of ICTs in ordinary life and, in particular, it sees a growing dependence on them.

Technologies, such as Artificial Intelligence, can have a huge impact on people's life, especially regarding *privacy*. [6] As such, we decided to look at a place where ICTs, and in particular advanced AIs, are being deployed with the effort to control society and erode privacy: China.

Since its proposal in 2014,[12] China's **Social Credit System** has been developing through trials and tests all over the

Asian country. The aim of the Chinese Communist Party (CCP) is to reach, by 2020, a national coverage that would allow the state to monitor and reward or punish its citizens.

While the system is aimed at both companies and individuals, the latter poses many questions, mostly ethical and regarding privacy. In our work, we decided to focus on the many tests already in place in different parts of China. In particular, we analyzed mostly English literature regarding how the different systems have been implemented and what has been the impact for individuals.

Our analysis starts from a *top-down* perspective, where we see how bureaucratically and practically the system is implemented. We describe some examples and details about the workings, with attention to what is the official propaganda. In a second part we take a different approach, which can be called *bottom-up*, where we describe how it affects individuals and local communities. Obviously, a lack of sources is sometimes a significant factor in our review.

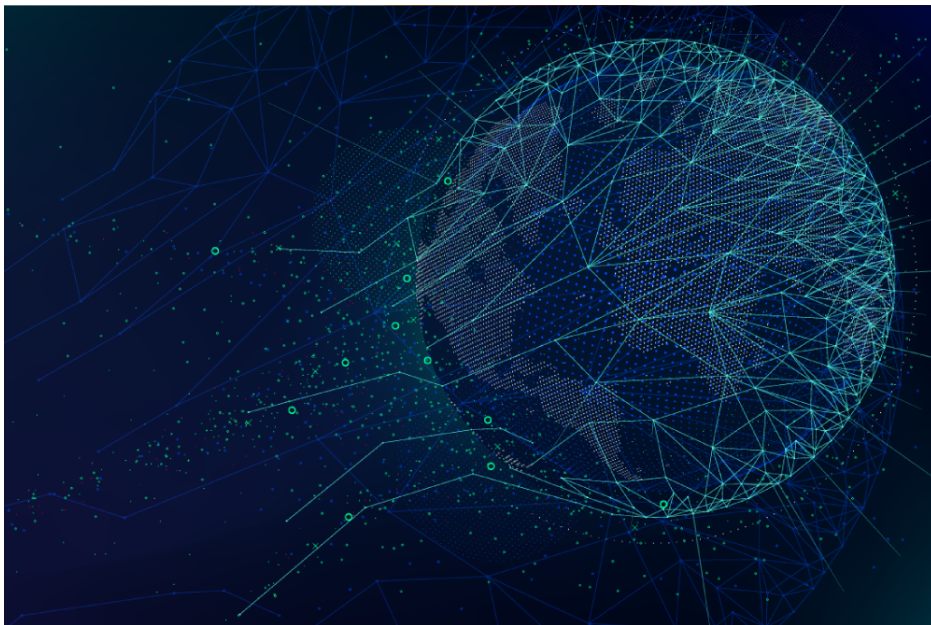


Figure 1: Hyperhistory

## 2 How it works

### 2.1 Outline and objectives of the CCP

Since the 19th century the Chinese state always encouraged social and financial control over society, with the explicit aim of prosperity.[3] Indeed, the idea of credit is nothing new and was first mentioned by Deng Xiaoping in the 1990s, from a market-economic perspective, in similitude to Western bank credits. The modern-day social credit program has its roots both in the controlling, surveillance-based model that was envisioned by Mao Zedong and the economic system that arose in the last 20 years.

In 2014, the **Chinese State Council**, the main executive body of the *People's Republic of China*, issued a series of outlines for the establishment of a **Social Credit System**.<sup>1</sup> It aimed at building a national system by 2020 that would contain information regarding each Chinese citizen, each company and, most probably, each foreigner living and/or working in China.

As stated by the official outline, the Chinese Communist Party aims at integrating into a single, national system many local and regional ones. In particular, as proposed, the government wants to create a credit record for each member of society and a related reward/punish mechanism for “breaking trust”.<sup>2</sup> The official outline focuses both on financial aspects, in a system that would mimic some present in “Western societies”, and social aspects, more related to local laws and costumes, as stated previously.

Completely moving the construction of a social credit

system forward is an effective method to strengthen social sincerity, stimulate mutual trust in society, and reducing social contradictions, and is an urgent requirement for strengthening and innovating social governance, and building a Socialist harmonious society.[11]

This quote, from the official outline, shows how the CCP views the program in a mere positive way, highlighted throughout their propaganda. Both the party and the main media outlets boost the program as a way to create a stronger societal cohesion. Indeed, the program is centered around the words of “culture of integrity” and “social trust”. The little to none criticism is focused around mainly commercial uses, which are administered by private companies.

The party’s objective is to have, by 2020, a complete system, where private and public players share data regarding people. While not directly specified, some form of “score” will be given to each individual, whose value will decree punishments or rewards. The system is thought as an integral part of society and to the advancement of the Chinese economy. These mechanisms, as will be highlighted in the next section, rely both of *financial trustworthiness*, e.g. if a person pays taxes, how often he or she pays its debts, and *social sincerity*, i.e. if a citizen respects the law.

Obviously, the use of new technologies, from data mining to image recognition, is at the heart of a program where the **state** will be watching each and every individual for the *greater good*.

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<sup>1</sup>From the English translation of the Official Party Outline.

For information regarding the translation, visit: <https://chinacopyrightandmedia.wordpress.com/2014/06/14/planning-outline-for-the-construction-of-a-social-credit-system-2014-2020>.

<sup>2</sup>The word *trust* is extensively used by the official propaganda without any specific meaning. This is, according to us, intentional, with the objective of keeping the language as vague as possible.

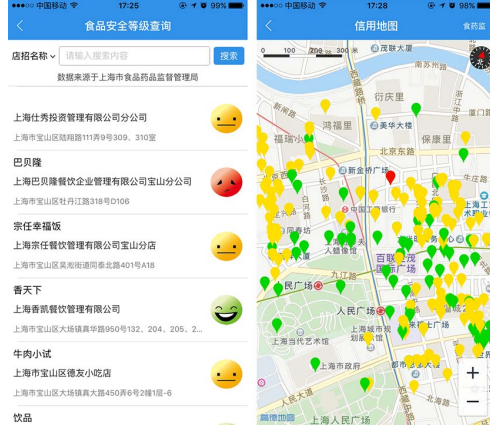


Figure 2: Screenshot from Honest app. The app shows a list of restaurants based on cleanliness.

## 2.2 Current framework

In 2020 the Social Credit System will be active all over the nation, covering both social and financial aspects. Answering how the SCS will technically work in terms of transforming data into a credit score is a challenge, due to the secretive aspect of the CCP. We report some pilot projects being conducted both by the private and the public sector as a means to show how the system will likely be implemented in the near future. [9]

**Honest Shanghai** Honest Shanghai is one of three-dozen social credit systems run by local governments throughout China. It's an app that establishes people's "social credit" score. To sign on this app users have to give their national ID number and then a facial recognition software locates associated government records. Each user is ranked by three scores - very good, good, or bad. The main factors are "political, commercial, social, and legal activity", which modify individual scores. <sup>3</sup>

We show in Figure 2 one of the few examples of the app working. In this case, a list of restaurants nearby based on re-

viewed cleanliness is depicted: while not a warring portrayal, it still is a warning to the capabilities it could achieve.

**Alibaba's Sesame Credits** Although a private society, Alibaba obtained an official permission to run a pilot experiment. The project is centered around an app, designed to use data and services both from Alibaba and the government to create a rank.[7] The score oscillates between 350 and 950, based on factors such as: "Personal characteristics, ability to pay off debt, social network, behavioural habits, etc". The real algorithm is unknown but, according to reports,[9] it judges you based on products bought on Alipay, Alibaba's payment system, combined with other sources. Having a high Sesame score means advantages, such as shopping discount on Alibaba's website, car rental without deposit, leaving a hospital without standing in line to pay and pay online later on Alipay.

These are just few examples which highlight how this ranking system could be a real Orwellian model, meant to reward people "loyal to the state" and punish those who try to oppose it.

<sup>3</sup><https://www.npr.org/sections/parallels/2017/01/03/507983933/whats-your-public-credit-score-the-shanghai-government-can-tell-you>

## 2.3 Future prospective

The myriad of experiments, of which what was described in the previous section is just a glimpse, regarding Credit Systems all over the country aims at one goal: have a comprehensive and national credit by 2020.

Due to the secretive way the CCP and the main branches of government work, as of today it is hard to establish how the system will be fully implemented. As stated by Charles Clover, “No one knows exactly what the new models will look like or what variables will be employed.”[2] Nevertheless, some scholars managed to establish resources and information regarding the matter. We will try to review here the most important aspects that have been studied.

As highlighted by the official party outline,[11] the data collected will come from both financial information, e.g. bank account or debts payment, and non-financial information, e.g. criminal records or social media use.

Already in 2014 the Communist Party laid the details for the enormous cooperation throughout society for the construction of a **Social Credit System**. In Figure 3 we depict a graph with a summary of known information regarding the SCS. As shown, a large variety of different sources will be used to evaluate each citizen. While a considerable number of data is already in the hands of the government, either local and national,<sup>4</sup> some will be provided by private companies.

Large quantities of different players, due to the size of the Chinese population, means that a lot of *data integration* will be needed in order to develop a fully functional SCS. Indeed, according to *Liang et al.*,[7] at least five different data management platforms are planned or under construction, all required to share and exchange data among themselves.

State and private managers are already

cooperating in the many localized trials underway, as mentioned in Section 2.2. While the timeline and the effort is not entirely known, the final objective will be to create a comprehensive centralised infrastructure, which will allow for a complete grip on society’s data by the Chinese government.

Once collected the data, China plans to develop analytical infrastructures, with two main goals: a reward/punishment mechanism and the so-called *Enterprise Environment Credit*. While the latter focuses more on environmental commitments by commercial companies, the first is meant for normal citizens.

Regarding responses for individuals, the system will rely on a **red list** and a **black list**. [8] The red one will contain a list of citizens worthy a reward while the black one those who will receive some form of punishment. As of today, a single criterion to establish how people will be added to the lists has not been provided, even though different government agencies, e.g. the *Central Cyberspace Affairs Commission* or the *Civil Aviation Administration*, have proposed, and sometimes created themselves, different types.

Different punishments have been adopted throughout the many local systems in place, ranging from travel restrictions to tax hikes. The most interesting method between the many utilized is **public shaming**. To Western culture, *shaming* is in general seen as a negative way to pursue behavioural corrections, i.e. to push people towards respecting laws and societal norms. In China the practise has a lot of prominence, due to cultural roots in Confucianism.[1] Indeed, in the new data controlled society that the Communist Party is building, this instrument has been one of the first to be implemented: since 2016, a national website, <https://www.creditchina.gov.cn/>, shows nationwide blacklisted people.

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<sup>4</sup>The official outline describes the effort to gather local sources as something essential and not already achieved.

An interesting finding[8] is that between the many people and companies present in the more than 40 blacklists in China, more than 100 Local Governments appear. This fact, which is mostly due to debt payment, puts a lot of pressure on local leadership: the system is designed to blacklist both entities, e.g. companies and government agencies, and people responsible for them, i.e. legal representatives.

As described for some already implemented local systems in Section 2.2, for

those deemed *good citizens*, i.e. inscribed in the **red lists**, the government is building some forms of reward. These range from tax cuts, decrease in transactions cost to priorities in public services, e.g. less wait time in hospitals. In analogy with the shaming practice for blacklisted people, the platform “Credit China” contains some *Stories of Integrity*, which focus on positive cases where people put the common good against their self interest.[4]

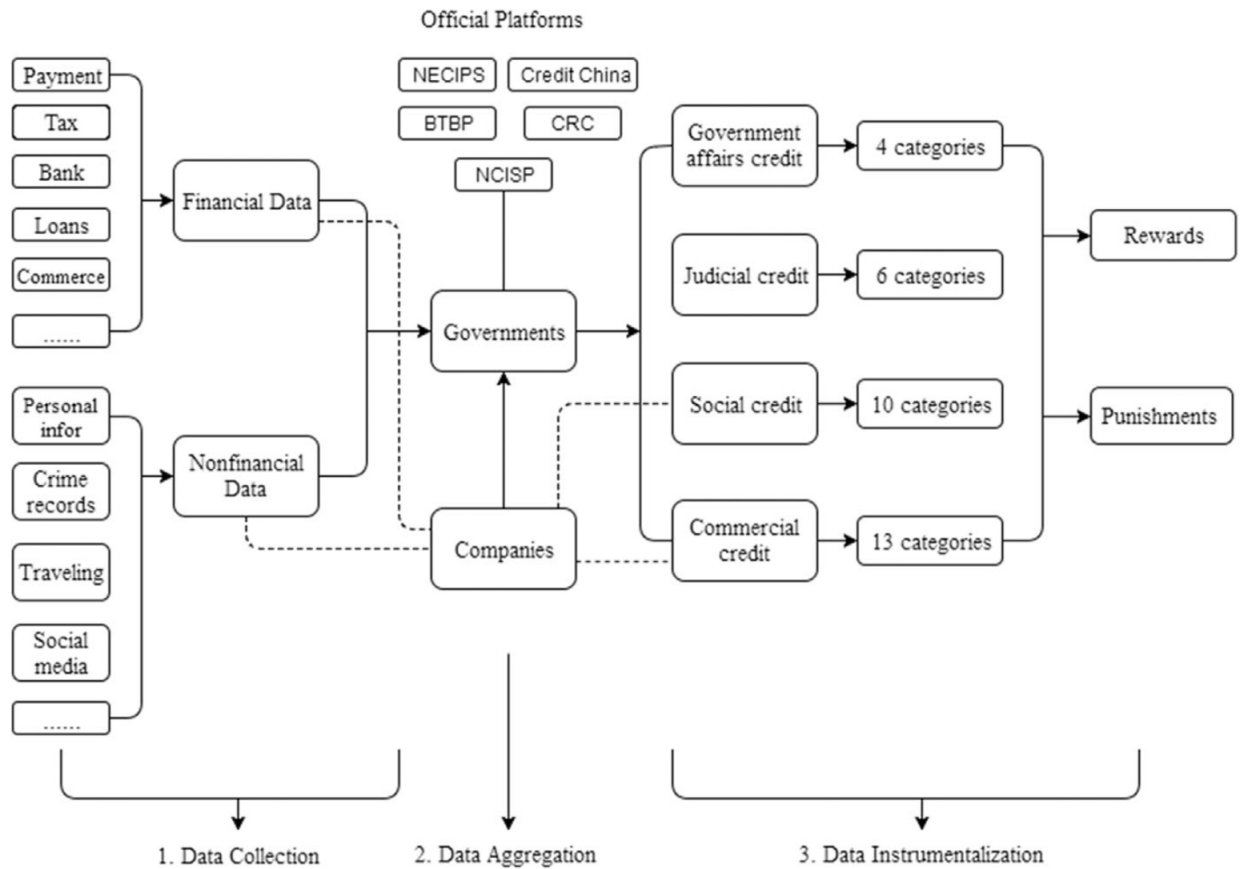


Figure 3: Diagram depicting the organizational scheme for the construction of a Social Credit System.

Source: *Constructing a Data-Driven Society: China’s Social Credit System as a State Surveillance Infrastructure* [7]



## 3 The Impact on Ordinary Life

We analyse hereafter the direct impact on individuals, understood both as physical and juridical, that the SCS has so far, in its many local trials, had. We try to show what information is available regarding financial and social aspects, with attention to how the presence of an ever watching state is affecting society as a whole.

### 3.1 Financial Impact

Many “Western countries” have some form of financial credit system, where individuals are given a score based on their *creditworthiness*. These methods have been used since the 1950s, e.g. FICO in the United States,<sup>5</sup> and have since been adopted as the best means to establish risk in many financial decisions. While most of such scores are given by private institutions, and thus their calculation is not disclosed, they take into account past financial data, e.g. payment history, how much money is owned by one individual and others.<sup>6</sup>

As mentioned previously, China built onto such systems and morphed them into a more comprehensive, “Big Brother”-like control, where financial aspects have the same weight as social ones. This translates with different personal financial evaluations by credit institutions. For example, someone might receive a house loan based not only on his financial situation, e.g. how much money he or she has or their payment history, but also other aspects of their life, e.g. someone’s respect of the law or how often they visit their parents.[10]

<sup>5</sup>[https://www.fico.com/en/about-us#our\\_history](https://www.fico.com/en/about-us#our_history)

<sup>6</sup><https://web.archive.org/web/20080315205832/http://www.fool.com/cc/c/check/check02.htm>

<sup>7</sup>This information is part of the official party propaganda, hence one should take into consideration the purpose of highlighting the benefits of having such a system. Source: <https://www.youtube.com/watch?v=TX0JSUpJz1w>

<sup>8</sup>Taken from Vice News’s *China’s “Social Credit System” Has Caused More Than Just Public Shaming (HBO)*. Source: [https://www.youtube.com/watch?v=Dkw15LkZ\\_Kw](https://www.youtube.com/watch?v=Dkw15LkZ_Kw)

In Section 2.2 we described **Sesame Credit**, a privately owned, government backed social credit system. Inside this framework, being a “good citizen” can have high financial rewards, with score based both on payment habits, tracked mostly through **Alipay**, and government information. If one has a high enough score, he or she can rent bikes or cars without deposit and get discounts on everyday amenities.<sup>7</sup>

On the other hand, if one finds himself into financial trouble, either due to his or her doing or because of reasons beyond personal control, many restrictions come into place. As stated by the *Chinese Global Television Network* (CGTN), the official government media outlet in English, “If trust is broken in one place, restrictions are imposed everywhere”. Once someone ends up in a blacklist, many constraints are possible: inability to travel, e.g. impossibility to purchase plane or train tickets, limitations on house rent and higher utility costs. Dystopian scenarios where a man goes to buy a high speed train ticket but he is refused due to low score are starting to be normal in those places where some early form of SCS is being implemented.<sup>8</sup>

The many systems in place have so far barred **4 million** people from buying high-speed train tickets and **11 million** from getting on airplanes.

In such a difficult social environment, one may wonder if there is a possibility to raise the score. Other than “following the law” and abiding to social norms that the party deems correct, the short answer is *money*.

### 3.2 Social Impact

One of the main points that differs the Chinese Social Credit System from more traditional credit scores concerns the social aspect. From a non-chinese point of view this model sounds scary, but the real question is: “*What does a chinese person think about it?*”.

To answer this question, it is important to pay particular attention to those who are living this system in their everyday life.

**Beijing university students’s point of view** In a Thesis authored by Martin Maurtvedt,[9] some interviews to local students regarding score methods have been done. We will briefly outline the most important points highlighted in this survey. As stated in the work, the vast majority understands that this model has a strong connection to big data. However, nobody knows technical or political aspects of the SCS.

It seems that they don’t care about the privacy and identity aspect. A big part of all respondents does not use adjectives such as “scary” or “bad” to describe the model. On the contrary, they only highlight the benefits and they believe that these surveillance systems could have advantages from a consumer perspective.

I think that the positive sides with the system far exceed the negative sides of it. For instance, people at times need to apply for loans, and the government should fulfill this need.

It’s like you have tailored advertisement – you only get the one’s you want!

So the concept of privacy do not seem to have the same importance that in a Euro-

pean country could have: indeed, just one student talked about privacy and all the risk that follows.

**Rongcheng, Dong Huo Tang** Another example that explains how this system affects Chinese society comes from a Vice News’s video on YouTube.<sup>8</sup>

This video shows how *Dong Huo Tang Zhai*, located on the north-east coast of China, began to track their citizens in order to extract from their behaviour a social score. In this city, in addition to digital tracking systems, there are human figures called *information collectors*. They work for the government and their job is to keep track of people on a personal journal: they write they people do, from “bad” to “good” things. Then, all of this information, in addition to more ITCs-collected data, is analysed in a local office and transformed into a score. A method used by the city to reward people is to publish their faces and stories on posters in public places. What the journalists found is that citizens started to care more about their social image than really caring about others. Indeed, the score dramatically affects both social and economic aspects of life. There are obviously serious consequences if one’s score gets lower than a certain threshold, such as: public shaming, ban on buying flight and train tickets, etc. One of the methods to raise this score is through means of *donations*, mostly money to the party, advertised as “charity donations”, blood donations and volunteer work.

Personally, we would like to point out some worrying problems with the whole concept from the point of view of a “normal individual”, i.e. someone who has nor power nor money to have political influence.



Figure 4: Photo taken in Dong Huo Tang Zhai street showing people with a high social credit score.

### 3.3 Individual Impact

In this Section we try to give our opinion about how we think the system might be perceived and actually lived by each individual. In particular, we tried to convey the implicit atmosphere present in a overly-controlled society, such as those described previously. We would like to point out how the next thoughts are ours and not what is really given out by the official propaganda, which shows the Social Credit System as an idyllic approach.

As stated previously, **trust** is the center piece around which the CCP wants to build the future. This data-controlled society, dominated by an ever watching “Big Brother”, will resound with Orwellian tones, where people will spy on each other and will try to “appease” the party.

In this context, **privacy** vanishes completely and individuals have their life scrutinized, like “glass houses”. [5] While people might not know everything about each other, the state will harness more and more data, until nothing will be left hidden. The more the SCS develops, the less will be relevant talking about *privacy*. This will keep advancing in the coming years, until some point in the not-so-far future when the term will become insignificant.

On the other hand, as stated by the of-

ficial propaganda, people should be safer. In a more scrutinized environment, individuals should be compelled to follow the law and help each other. This optimistic view is not completely wrong: even “Western culture” gives a lot of importance to societal well being and protection, both from outside and inside. However, we believe such a strict and controlling system will push for an ever greater alienation of the individual, where personal fulfilment and societal cohesion are traded for “protection” and “integrity”. The **trust** so much emphasized by the government will be a *blind trust in the state* more than a *trust in each other*.

One important objection to ideas about “alienation” and “privacy” is centered around the cultural and societal structure present in China. European culture and society has its roots in Greek philosophy, where the individual is considered above everything else and democracy is seen as the best form of organization. On the other hand, most of Chinese thinking is based on Confucianism and thousands of years of Imperial dominion: the individual is less important than society. The well being of the **family**, understood both as relatives and community as a whole, is above everything.

The Communist Party inserted in this culture is thought as a *guiding figure*, a superior entity above each individual whose goal is the general well being. While speaking out against the official government policy is dangerous, it is also considered culturally unthinkable.

**Gedankenexperiment: life in the blacklist** We try here to express what we believe might be the life and problems of a Chinese individual whose name is blacklisted. In this scenario, we do not take into consideration a particular local system, e.g. Rongcheng, but what we perceive might be the national credit in place starting from 2020.

Imagine you are living in a city near Beijing, not too far from the Capital but far enough that your commute needs the use of a high-speed train. For a few years you have been owing a small business in the city, which you started with a very good friend of yours. Unfortunately, you and your partner had to take a small loan in order to start; you have repaid your amount and have completely forgotten about it. Your partner hasn't been so dutiful: one day, he vanishes and leaves behind a huge repayment to the bank, which you can not afford. From here, it all spirals down. Even if the debt was not your issue, the state deems you responsible for it and writes your name in a **blacklist**. When you try to take your usual train to the city, the ticket officer informs you that he is not allowed to sell to you: your score is too low. Your only option is to take a bus, whose route is 4 times slower than that by train: your ability to work is tramped. Soon, your inability to reach work means that the business fails, aggravating even more your score. Your close family wants nothing to do with you, for fear of having their score dropped. Your rent goes up, and with that the cost for utilities.

The system does allow for you to get points back, but it is a lengthy and dif-

ficult process: volunteer work, blood and money donations, are all a start. You are trapped in a vicious circle, which you will need a lot of work to escape from.

While what we just described with our *thought experiment* is pure fictional, it is actually possible for a person to fall in such catastrophe. Even more frightening, according to us, is the use of technology: what we omitted from our example is the fact that each citizen is constantly monitored, e.g. through CCTVs.

In the new Orwellian society China is building, the individual is ever more diminished. The state is the sole owner of *truth*, where “psyco-police” (information collectors) and “big screens watching you” (digital tracking systems) are becoming real.

Relationships between such a gargantuan government and single persons are built through *trust*, a vague and ambiguous term, whose malleable definition renders citizens lonely and impotent. Only the future will tell how these changes will be fully absorbed by the Chinese society, or if the “experiment” will be the perish of the nation.

## 4 Conclusions

With this short report, we have showed the possible workings and impact of the Chinese Social Credit System. We have tried to analyze the possible implications, either economic, social and individual of such data-driven control. Obviously, the scarce information on the subject restricted our comprehension. Indeed, scholar literature regarding the SCS focuses mostly on local tests, either public or private, and generic knowledge, sometimes even speculation.

In the light of the knowledge provided in this article, an existential question remains open: what is the potential risk for our Hyperhistoric societies, which have the

same instruments used in China for a mass surveillance state? Are “Western” people willing to trade their privacy and identity for “security” and “integrity”?

In 1949, when George Orwell wrote his novel **1984**, a future where a “Big Brother” would be in control of all information and data regarding each citizen seemed improbable. Today, as shown by the intent of the Chinese Communist Party, we are closer and closer to a dystopian society as the one described in the book. While China remains a close community with a specific culture, such dealings will have far reaching consequences.

We hope our article is a starting point for a reflection about the use of ICTs and privacy and their potential risk for abuse.

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