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The Risks of Institutional Failure Within a Cashless Society

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Abstract. The paper explores the systemic negative effects of a fully cashless social model against the backdrop of the increasing penetration of digital payments and debate on a cashless society. The study is not about the advantages and disadvantages of the technology of digital payment technology, but rather it moves the analytical lens from the technology to institutional arrangements and power dynamics in the cashless payment system. Drawing on the transaction cost theory and the relevant literature in the sociological and economic fields, the paper outlines the efficiency and crime prevention benefits that are theoretically associated with cashless transactions, and then systematically discusses three main risks: aggravated financial exclusion and digital inequality for vulnerable groups, pervasive privacy risks and algorithmic surveillance, and data monopolies and institutional failure arising from the market power of large digital platforms. The results show that without the institutional arrangements to control payment technology, there will be differential effects. The study recommends maintaining the use of cash as a payment option, strengthening data governance, and strengthening policy measures for inclusive digital finance, all in an effort to strike the right balance between technology convenience and social equity. The authors conclude that digital payment should be voluntary, not compulsory, and the measure of technological progress should be inclusiveness.

Keywords: cashless society, financial exclusion, privacy risk, digital monopoly, institutional failure

1. Introduction

In recent years, cashless transactions have increased in frequency, and more and more products and services are available that can only be paid for with cashless payment. In the meantime, private cryptocurrencies have come into existence after the global financial crisis, and this has created unease among the public. The changes have led to a re-evaluation of the shift towards a cashless society. The question that arises is what could be the systematic negative effects of a fully cashless society? This essay aims to provide a response to the above question and to join in the relevant discussion.

The aim of this essay is to eliminate the fear of the technology of the cashless society. Technology is not the answer; it's a means to an end: making things more efficient. The real danger that needs to be thought about is the institutional structures and power dynamics which support such payment systems. If institutional checks and balances are not established, there will inevitably be

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excessive centralisation of resources in the process of implementing a cashless society. This leads to financial exclusion of vulnerable groups and develops into monopolies of big digital platforms. In this respect, structural inequality and regulatory failure in the use of technology should not be overlooked, and attention should be given to technological anxiety.

2. Efficiency & reduce crime

The concept of a cashless society is a very attractive one in terms of efficiency. Minimising transaction costs improves economic transactions and resource allocation efficiency [1]. Digital payments streamline the whole economy by eliminating the need to deal with physical cash, minimising administrative duties and eliminating unnecessary resource waste, which in turn quickens fund flows [2].

The information gap between regulatory and market participants has been reduced, and governments can enforce regulations at lower costs in terms of social governance and public safety [3]. Digital transactions generate traceable and permanent records, which enhance transparency and make it easier to detect tax evasion and money laundering [4-6]. Therefore, society's security can be greatly improved.

In theory, cashless payments are appreciated and are seen as a way to get rid of the traditional financial barriers and to ensure fair competition. Conventional banking systems involve several approval processes, while digital payment systems allow for instant transfers with minimal administrative burden, promoting trust among local communities and giving small businesses a chance to compete with large businesses [7]. Major financial institutions often employ hidden fees and unfair pricing models, which are avoided with a public record of transactions.

However, this only represents an idealised scenario. The digital payment approach is not only failing to help SMEs and vulnerable groups, but is also increasing structural inequality when it is incorporated into the rules and institutional framework of the real world. These points will be discussed in detail below.

3. Inequality & financial exclusion

While cashless technology has the potential to be inclusive and efficient, it is often associated with financial exclusion in its full application in the real socio-economic structure. The financial capital, which is motivated by the goal of maximising profits, tends to be active in leaving the low-profitability and high-risk areas or groups [8]. Digital technology is also a form of exclusion in a cashless society. The credibility of financial services is no longer restricted to an individual's economic status, but also to their access to the Internet. The cashless transformation is a de facto transformation of technological barriers to survival thresholds, resulting in a substantial growth of the digital divide [9]. Every day, consumption and public services all move to the overwhelmingly online digital platform. The mobile phone and digital literacy have left those without them behind. Gradually, they are pushed out of mainstream economic life; they are denied equal access to basic services, and they are pushed into an unprivileged position. For example, 33% of the world's population that does not have internet access is in Africa. While the connectivity gap has narrowed in the past decade from 41 percent in 2015 to 9% in 2024, mobile internet penetration is still low. This trend is due to a number of factors, among which the lack of affordability of smartphone devices is the most important [10]. Such digital exclusion among disadvantaged communities brings down aggregate social welfare.

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4. Privacy risks

Over-reliance on the Internet and the widespread popularity of a cashless society also bring serious privacy risks. In the era of physical currency, cash transactions possess inherent anonymity, a natural attribute that objectively constructs a protective barrier for individuals and preserves an autonomous space free from external power surveillance. However, the complete shift to a cashless society thoroughly strips away this system's anonymity protection. Every online transaction is recorded, collected and stored by platforms. Without proper regulations, sensitive personal information, such as identity details, can easily be leaked, misused or even sold illegally. When these precise data are endlessly tracked and aggregated, the private life panorama of an individual becomes entirely transparent to the power entities controlling the technology. This privacy risk, in the absence of robust institutional constraints, rapidly escalates into the panoptic surveillance that sociologists are concerned.

On one hand, digital payment grants governing bodies unprecedented microscopic technological power, enabling round-the-clock surveillance over citizens' economic activities. More severe threats stem from the commercial sector. Driven by profit motives, large tech corporations regard private data as a new form of production material and conduct predatory data collection. For instance, because of the concentrated dominance in KakaoTalk, the Korean government and Fair-Trade Commission have heavily scrutinised Kakao's practices, issuing multimillion-dollar fines for data breaches and market abuses [11]. Such privacy infringement transcends the traditional scope of information leakage; instead, it evolves into precise behavioural prediction and psychological manipulation of individuals. When every purchasing decision of consumers can be accurately inferred by platforms via transaction data, the most fundamental principle of market exchange—voluntariness—ceases to exist. The demise of privacy in a cashless society essentially represents a comprehensive surrender of individual autonomy to the power structure of technology and capital.

5. Institutional failure

As more and more data is gathered, data becomes an economic asset. Precise marketing based on data and the expansion of financial services can be a way for big payment platforms to further strengthen their market position and thus their market power [12]. Such centralisation of user data inevitably leads to the concentration of market power. High-tech solutions, large user bases and lots of funding are helping large digital payment platforms gain market share. This implies that SMEs are not sufficiently resourced in terms of financial, technological and digital resources to be able to compete effectively. In many small businesses, it is a must to use large platforms. Big platforms, in turn, take additional profits from data services, thus reducing the profit margins and survival space of small competitors. The market is less competitive, and consumer power is also diminished. In the macro and long-term perspective, this data monopoly has led to a deadweight loss to the economy and has hindered innovation. A deadweight loss in economics is the loss of overall social welfare that happens when goods are produced or consumed at a quantity that is not in the social optimum. That is, some commodities are still produced even if the social costs of production are higher than the benefits generated; other potentially valuable commodities are not produced when the benefits are higher than the costs. Deadweight loss is the net social benefit that is lost that could have been achieved. Deadweight loss is the pure welfare loss by both sides of the market, but no one else. This welfare loss is therefore shared by the consumers and producers [13]. The deadweight loss [14] is shown in Figure 1. Figure 1 has quantity plotted on the x-axis and price on the y-axis. The demand curve is downward sloping, which is the marginal benefit to consumers. The Supply Curve is

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upward sloping, indicating the marginal cost to the producers. The equilibrium is the point where the demand curve and the supply curve cross. It is the point where the total Consumer Surplus and Producer Surplus is the greatest.

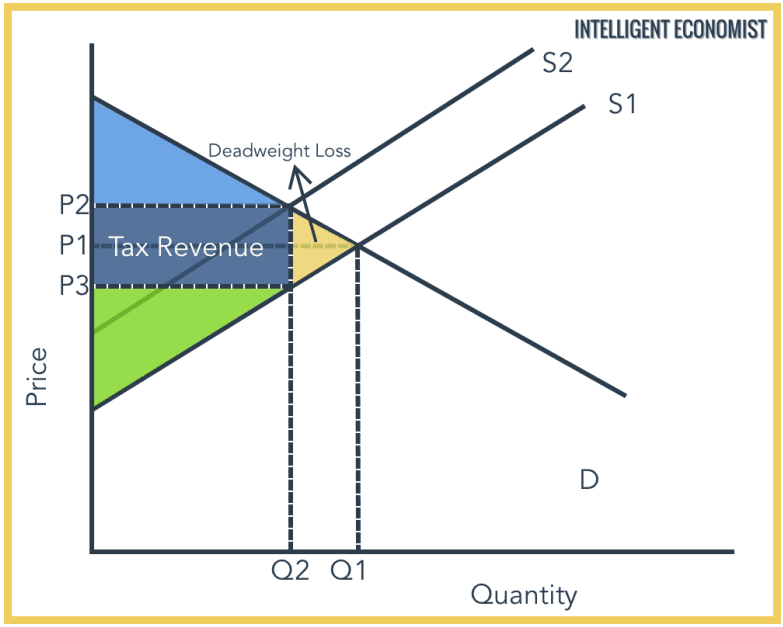


Figure 1. Deadweight loss source [14]

The imbalance of information between consumers, dominant digital platforms and government regulators is the root cause of financial exclusion. Governments regulate the financial sector, and large platforms have key information about financial services and market monopolies. This puts the consumer in a disadvantaged position and gives him or her little or no information. There are incentives for both platforms and regulatory authorities to abuse their power for self-interest. Moreover, the lack of effective mechanisms to regulate the regulators themselves means that the power can be misused to continue and further contribute to financial exclusion of vulnerable groups. Furthermore, these systemic failures may also have significant negative externalities. The negative spillover effects not only impact individual consumers, but the economy as a whole. A significant portion of the population is financially insecure, which leads to a decrease in consumer confidence, consumer spending and investment. The government will have to cover the cost of the additional public funds needed to compensate fraud victims, as well as the cost of cybersecurity infrastructure and financial support for the victims.

6. Solutions

Governments need to have a multi-faceted approach to ensure fairness and inclusiveness in a cashless society, should there be any risks. First, cash payments should be kept as a payment option and given vulnerable groups (such as the elderly and low-income groups) access to basic economic activities, and not be marginalised in social life.

Second, there needs to be more regulation of data protection and cybersecurity to ensure that consumers' payment data and personal privacy are not misused or leaked, and to improve the overall security of payment systems. Third, tougher anti-monopoly laws and regulations are needed to prevent the monopoly of big digital payment firms and to foster competition. Last but not least, inclusive digital finance policies should be encouraged. They contribute to reducing social

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inequalities, consumer rights and interests, and social stability and security, while also enabling societies to benefit from the convenience and efficiency of cashless technologies.

7. Conclusion

Finally, governments should enact policies and legislation to reduce risks in a cashless society. A cashless society also exacerbates financial exclusion and inequality for vulnerable groups who lack a reliable digital device to make transactions. Individuals have privacy concerns. The more payments that are collected by the platform, the more opportunities there are for information leakage. Failure of institutions can happen in the market too. Due to the centralisation of data and market power in large digital platforms, the market is not effective and fair.

For this reason, cashless payment should be considered as an alternative solution to these problems; the government should exercise strict supervision and set up regulations, and policies should be made for vulnerable groups. Standards for measuring technological advances are not just about the speed of transactions or the efficiency of transaction processing, but whether it is inclusive. Digital payment should be an optional tool, rather than a mandatory one, in a fair society.

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