Is the world ready to embrace a cashless economy?

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Abstract

This paper examines the evolution and implications of the transition towards a cashless economy, highlighting the technological advancements that enable digital transactions and the varying readiness levels among nations. It provides historical context on payment methods, particularly the shift towards digital finance in recent decades. The benefits of this transition include enhanced efficiency and security, while potential drawbacks center around inclusivity concerns and reliance on technology. Ultimately, the pace and scope of this transition are contingent on the unique circumstances of individual countries.

Keywords: Productivity, Cashless Economy, Payment Methods, Technology

I. Introduction

I walked by a neighborhood hotdog joint on a Sunday morning and saw this on its door: "We have no cash."

That got me thinking: "We have no cash, so don't even think of robbing us," or "We have no cash as change," or "We have no cash because we only accept non-cash payments."

As I walked home, I quickly accounted for the consumer-payment journey I have gone through over the years and in different geographies. I saw the power of technology as an enabler of change.

II. A 40-Year Consumer-Payment Journey

When I grew up in Hong Kong in the 1970s, cash was the sole medium of exchange in the consumer space. In the 1980s, we would be out shopping with cash and credit cards but only use cards when the purchase was big and it was not viable to bring that much cash. People then saw credit card users as spending on loans unless they used American Express, which was a charge card (that one needed to pay off the full balance at the end of the monthly cycle instead of spending on credit).

In addition, American Express was a pioneer and leader in developing and distributing travelers' checks (or "cheques" in British English). Its travelers' checks were an innovation that provided a secure and convenient way for people to carry money while traveling, especially before the widespread adoption of credit cards.

Credit card usage was widespread in Singapore in the late 1980s and early 1990s. At the time, banks in Singapore had already integrated both credit and debit functions into a single card. However, upon arriving in Chicago in 1993, I was surprised to find that bank cards here at that time offered only a single function ___credit or debit, but not both. This might mean American banks had not fully integrated their internal systems with the global card networks.

Checks were a widely used form of payment in the U.K., including in some restaurants, during the 1990s. While cash and credit/debit cards were already popular, checks were still a common option for different types of transactions, especially for larger amounts or situations where card payments were less convenient or available.

In the past 40 years, since the 1980s, credit cards have been the predominant payment method in developed economies.

III. The Transition Into A Cashless Economy

The shift towards a cashless economy has been gradual over several decades, with notable acceleration during the 2010s and 2020s.

In a cashless economy, financial transactions are conducted without using physical currency but digital means such as bank transfers, credit/debit cards, mobile payment systems, digital wallets, and cryptocurrency. Technological innovations, the ease of digital transactions, and a growing demand for enhanced efficiency, security, and transparency in financial dealings frequently propel the shift toward a cashless economy (Open AI, 2023) [1].

Some key factors contributing to the cashless economy shift are:

1. Government Policies: Certain governments have proactively advocated for cashless transactions to enhance tax revenue, diminish black market operations, and foster financial inclusion. Sweden, for instance, is frequently recognized as a pioneer in the widespread adoption of cashless payments, with numerous businesses ceasing to accept cash. Similarly, countries like India have implemented measures to curtail cash usage, particularly through the demonetization initiative launched in 2016.

2. Digital Payment Systems: The emergence of electronic payment solutions, including credit and debit cards, mobile payment services (PayPal, Apple Pay, Google Pay, Alipay, WeChat Pay), and online banking, has significantly enhanced the convenience of making payments without needing physical cash. While certain payment systems have existed since the 1980s, they achieved significant acceptance during the 2000s and 2010s, leading to a remarkable surge in their development and utilization.

3. Smartphones and Mobile Banking: The proliferation of smartphones during the 2010s significantly enhanced the utilization of mobile banking services, facilitating quicker and more convenient cashless transactions. Mobile payment systems have emerged as the predominant method of financial exchange in China (81.15% of smartphone owners use this technology), Denmark (40.9%), and India (37.65%).

4. Contactless Payments: The advent of contactless payment cards and mobile wallets has significantly simplified the transition to a cashless economy. These payment methods became increasingly popular following the mid-2010s, especially in nations such as the United Kingdom, Sweden, and Australia.

A couple of years ago, I was impressed to learn that I could pay subway fares nationwide in China simply by tapping my mobile Alipay. Similarly, in London, I can use a digital or physical credit/debit card to pay for the subway system at a rate cheaper than buying a physical card from the station. And in Chicago, I can tap to pay my fares on the transit system, rather than purchasing a single-trip or fare storage card.

The cashless economy not only streamlines the use of humans but also machines.

IV. Leaders in the Cashless Economy

Nations at the forefront of a cashless economy typically possess robust digital infrastructure, extensive financial inclusion, and a broad acceptance of electronic payment systems. Below are some key examples (Open AI, 2023) [1]:

Country	Features	Drivers
Sweden	• Almost all transactions are digital • Banks and businesses often discourage cashtransactions • Widespread use of mobile payment apps like Swish	Government Role: Support cashless initiatives and digital payment security
China	• Dominated by mobile payment platforms like WeChat Pay and Alipay • QR code-based payments are ubiquitous, from street vendors to high-end stores	Adoption Drivers: Strong smartphone penetration and integrated services within payment apps
South Korea	• High usage of credit and debit cards • Integration of digital wallets and mobile payment systems like Kakao Pay and Naver Pay	Government Role: Encourage cashless payments for transparency and efficiency
Finland	• Almost universal use of debit/credit cards • Contactless payments are standard for everyday transactions	Adoption Drivers: Tech-savvy population and high trust in digital systems
U.K.	• Extensive use of contactless payments and digital banking • Services like Apple Pay, Google Pay, and PayPal are widely accepted	Trends: Increasing decline in ATM withdrawals
Netherlands	• Heavy reliance on card and mobile payments • Cash usage is minimal in urban areas	Adoption Drivers: Convenience and cultural acceptance of digital payments
Canada	• High penetration of contactless card payments and digital wallets • A robust banking system supports cashless Transitions	Consumer Behavior: Preference for convenience drives adoption
Australia	• Rapid adoption of contactless payments • Decline in cash transactions in favor of digital platforms	Infrastructure: A strong fintech ecosystem supports innovation
India	• Government-driven initiatives like UPI (Unified Payments Interface) • Popularity of apps like PhonePe, Google Pay, and Paytm	Policy Impact: Demonetization in 2016 accelerated the cashless transition
Singapore	• Integration of government-backed platforms like PayNow • High smartphone penetration supports digital transactions	Infrastructure: Seamless payment systems across sectors

A First-hand Experience in China:

My work used to take me to China often, and at one point, I even rented an apartment in Beijing to facilitate my frequent travel there. As a foreigner with no local currency-denominated credit card, I resorted to using cash most of the time and had more than once received counterfeit Renminbi. And since the highest note denomination is RMB 100 (~USD13.70), bringing a big pile of cash out is not quite convenient.

The introduction of payment apps such as Alipay and WeChat Pay made it so convenient to complete transactions online and in-store that it took me no time to adapt to China's cashless economy. Gone were the days when I needed to go to the bank and deposit payment to a vendor after I made an online purchase, communicated to the seller the payment reference number, and then wait for the merchandise to come to me, or sometimes, but rarely, for the vendor to agree on doing Cash On Delivery (COD). For me, the digital payment platform made a transaction seamless online, and most

convenient offline.

V. Benefits and Threats of a Cashless Economy

Transitioning to a cashless economy comes with both benefits and threats. Whether the benefits outweigh the threats depends on the context, including the economy's preparedness, its financial systems' robustness, and its digital infrastructure's inclusivity. (Open AI, 2023) [1] [2]

Below is an overview of some benefits of a cashless economy:

1. Reduce Business Risks and Costs:

- Cashless payments eliminate risks, including counterfeit currency (although stolen cards are still a risk), cash-specific employee theft, break-ins, or robbery.
- Once a business operates completely cashless, the costs of physical security, and physical cash handling (withdrawals from banks, transportation, counting) will also be reduced, as will the risk of not having enough cash for redemption.

2. Efficiency and Convenience:

- Streamlines financial transactions and reduces the cost of producing, distributing, and managing cash
- Reduces the need to carry and manage physical currency
- Enhances the speed of business transactions and online commerce
- Electronic payments are faster and easier than handling cash. U.S. restaurant chain Sweetgreen found that locations that operate cashless where customers use a payment card or the restaurant's mobile app process transactions 15 percent faster.

3. Financial Inclusion Opportunities:

- Digital platforms can reach unbanked populations, particularly in remote areas, through mobile payment systems.

4. Ease of Budgeting for Consumers:

- Cashless payments make it easy to track spending and document the movement of funds, a way to help consumers improve their spending budgets more efficiently.

5. Increase Transparency and Reduce Criminal Activities:

- Governments and organizations can monitor economic activities more effectively
- All transactions are recorded, making it difficult to launder money, evade taxes, conduct illegal transactions, and finance illicit activities.

- Numerous countries have implemented regulations, restrictions, or outright bans on private digital currencies such as Bitcoin in an effort to curb black-market and illegal transactions.

6. Better Collection of Economic Data:

- Rather than conducting expensive periodic surveys and sampling real-world transactions, governments and financial institutions can access detailed and real-time economic data for better policymaking and resource allocation.
- With recorded transactions, the government will have a better grasp of the movement of funds through financial records, allowing it to track illegal transactions in the country.

7. Globalization and Integration:

- Making it easier for cross-border transactions and integration into the global economy
- Facilitates the use of digital currencies and global payment systems

8. Innovation:
- Encourages the development of new financial technologies and services like mobile payments, blockchain, and digital wallets

9. Better Hygiene:
- Eliminates the handling of cash, which can carry germs and bacteria - a concern highlighted during pandemics

And, below is an outline of some threats to a cashless economy:

1. Exclusion of Vulnerable Groups:
- In the transition to a cashless economy, certain vulnerable populations, including the poor, near-poor, elderly, undocumented immigrants, and youth, may be at risk of exclusion. People who do not have the power or knowledge to initiate digital transactions will be left behind.

- Rural and underdeveloped areas with limited internet and banking infrastructure may face difficulties
- To use electronic payments to conduct transactions, people need to have a bank account where they can keep their money. Many poor people do not have bank accounts. In the United States, almost a third of the population lacks access to comprehensive basic financial services. According to the Federal Deposit Insurance Corporation (FDIC), nearly 25.6 percent of households with an annual income of less than US$15,000 do not have a bank account.

2. Economic Inequality:
- Wealth disparities could widen, as those without access to digital systems are excluded
- High fees and interest rates on digital payments could burden low-income individuals

3. Overspending Problem:
- Consumers tend to be less cognizant of their daily spending when using card transactions versus withdrawing budgeted cash from their wallets.

4. Privacy Concerns:
- Digital transactions can be tracked, raising concerns about surveillance and loss of financial privacy
- Potential misuse of data by governments or corporations

5. Centralized Control:

A completely cashless system, in addition to being able to track all transactions, would allow a central government to:
- Implement a transaction tax on every transfer between individuals
- Eliminate the means to circumvent negative interest rates by storing cash
- Totalitarian regimes could conduct more effective mass surveillance and quickly prevent certain individuals from purchasing items or earning money

6. Loss of Anonymity:
- Cash transactions allow for anonymous exchanges, which are impossible in a fully digital system
- Could impact personal freedom and financial autonomy

7. Cybersecurity Risks:

- Increased vulnerability to hacking, fraud, and identity theft
- Potential for massive disruptions during system failures or cyberattacks

8. Dependence on Technology:
- Relies on stable internet and power infrastructure, making it susceptible to outages
- People may be stranded without access to funds in case of technical issues

9. Resistance to Change:
- Cultural and generational preferences for cash may hinder adoption
- Businesses might face initial costs to adapt to cashless systems

VI. Conclusion

Undoubtedly, the world is transitioning into a cashless economy, enabled by technology.

Different states and regions adapt to the cashless economy at varying speeds due to various factors such as government policies, digital payment systems, smartphones and mobile banking, and contactless payments.

A cashless economy can help increase productivity by reducing transaction time, lowering administrative burden, improving security, enhancing economic efficiency, increasing economic participation, and promoting innovation and technology adoption. However, it is important to balance these productivity benefits with potential threats, particularly impacts to its biggest stakeholders, the people.

The transition to a cashless economy has emerged as a significant trend among nations pursuing economic development. However, the speed and extent of this transition varies depending on the unique needs and circumstances of the individual country rather than a one-size-fits-all approach.

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