

Cashless Society: An Implication To Economic Growth & Development In Nigeria

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Abstract—The Central Bank of Nigeria (CBN) announced a new cash policy (Cashless Society), which began on 1st of January 2012 in Lagos state. The policy will be effective nationwide from June 1st 2012. The various technologies and issues involved in cashless society are discussed. This research work sampled the opinions of the general public on issues surrounding the Cashless Society by using structured questionnaire to gather information from people. Data obtained was tabulated and the result was analyzed using percentages. The analyzed result was presented graphically and it was discovered that larger percentage of sampled population are of the opinion that Cashless Society will proffer solution to high risk of cash related crimes such as illegal immigration, financing Terrorism, illegal drug Trade, Human Trafficking, corruption etc. It will enhance effectiveness of monetary policy in managing inflation in Nigeria, thereby improving economic growth and development. Various issues such as benefits and social implication of Cashless Society are discussed. We proposed a Model Cashless System for Nigeria, which will be more convenient for people to appreciate, embrace, and use.

Keywords- Cashless Society; Corruption; Development; Economic growth; Electronic Card.

I. INTRODUCTION

The CBN (2011) introduced a new policy on cash-based transactions which stipulates a ‘cash handling charge’ on daily cash withdrawals or cash deposits that exceed ₦500,000 for Individuals and ₦3,000,000 for Corporate bodies. The new policy on cash-based transactions (withdrawals & deposits) in banks, aims at reducing (NOT ELIMINATING) the amount of physical cash (coins and notes) circulating in the economy, and encouraging more electronic-based transactions (payments for goods, services, transfers, etc.). The new cash policy was introduced for a number of key reasons, including:

1. To drive development and modernization of our payment system in line with Nigeria’s vision 2020 goal of being amongst the top 20 economies by the year 2020. An efficient and modern payment system is positively correlated with economic development, and is a key enabler for economic growth.
2. To reduce the cost of banking services (including cost of credit) and drive financial inclusion by providing more efficient transaction options and greater reach.
3. To improve the effectiveness of monetary policy in managing inflation and driving economic growth.

In addition, the cash policy aims to curb some of the negative consequences associated with the high usage of physical cash in the economy, including:

- **High cost of cash:** There is a high cost of cash along the value chain - from the CBN and the banks, to corporations and traders; everyone bears the high costs associated with volume cash handling.
- **High risk of using cash:** Cash encourages robberies and other cash-related crimes. It also can lead to financial loss in the case of fire and flooding incidents.
- **High subsidy:** CBN analysis showed that only 10% of daily banking transactions are above ₦150,000, but the 10% account for majority of the high value transactions. This suggests that the entire banking population subsidizes the costs that the tiny minority 10% incur in terms of high cash usage.
- **Informal Economy:** High cash usage results in a lot of money outside the formal economy, thus limiting the effectiveness of monetary policy in managing inflation and encouraging economic growth.
- **Inefficiency & Corruption:** High cash usage enables corruption, leakages and money laundering, amongst other cash-related fraudulent activities.

The Content of the Cash policy shall apply from January 1st 2012 in Lagos State (“tagged Cash-less Lagos”) as follows:

- Only CIT licensed companies shall be allowed to provide cash pick-up services. Banks will cease cash in transit lodgment services rendered to merchant-customers in Lagos State from December 31st 2011. Any Bank that continues to offer cash in transit lodgment services to merchants shall be sanctioned.
- 3rd party cheques above ₦150,000 shall not be eligible for encashment over the counter. Value for such cheques shall be received through the clearing house.

The idea is, among others, to identify the habits and preferences of the users, be it a teenager without a credit/debit card or a retired elderly with a checkbook, and make the mobile phone the new electronic wallet and thereby try to abolish physical money: cash. Furthermore, the goal is to measure the experience when paying without physical money and compare it to an ordinary physical payment in terms of safety, complexity, efficiency, for example (Hansen, 2011). The Cashless Policy (aka Cashless Society) of Central Bank of Nigeria has begun on the 1st of January 2012 in Lagos State, Nigeria. This policy will be effective nationwide from

June 1st 2012. Several apprehensions have been expressed by the public on this policy but the Central Bank of Nigeria has educated the general populace on the need to embrace this policy as it will be useful in solving cash related crimes as listed above, enable monetary policy to tackle inflation in the economy, reduce cost of banking services like reduction in cost of printing money and transportation of cash from one location to another.

This Research work sampled the opinions of the general public on issues surrounding the Cashless Society policy and its implication on economic growth and development in Nigeria. Several countries in Europe, Asia and other continents have been operating cashless society for a long time and it has been beneficial to their respective economies. It solved cash related crimes in those societies like financing terrorism, kidnapping, money laundry etc.

Section 2 of this paper discusses some of the various technologies related to Cashless society. Section 3 presents research methodology, which was based on sampled population of nine thousand and eighty (9,080) individuals that cut across students above eighteen years, civil servants, market men and women, and professional (including bankers). Information was gathered using questionnaire. The data obtained was analysed and discussed. Some issues emanating from the discussion were presented in section 4. We propose a Cashless Society Model for Nigeria in Section 5, which we hope should be convenient for people to embrace and use. Section 6 concludes the paper, while recommendations are presented in Section 7.

II. LITERATURE SURVEY

A. Electronic Cash

Several companies have taken this idea further and developed cards which can be used in multiple retail outlets, effectively as “electronic cash”. One such system is Mondex, developed by the National Westminster Bank in the UK and later sold to MasterCard International. Mondex was originally developed in 1996 as a “smartcard alternative to cash”. Graham Higgins, a banker and co-inventor of Mondex, had been quoted as explaining that the scheme would help alleviate “the burden of counting, storing, as well as the security associated with physical cash” (Bonugli, 2006).

B. The Advent Of Plastic Cards

Card-based alternatives to cash payments are now well established, with credit and debit cards in popular usage. Additionally, new technology has enabled the development of so-called ‘smartcards’ where additional data can be stored on a microchip Chip and PIN Press Office 2005, 2006).

1) Smart Cards

A smart card is a plastic card, similar in appearance to a credit card, and containing one or more embedded semiconductor chips. Smart cards typically have a storage area in EEPROM and may also include a microprocessor able to process any data stored. Recent technological progress has seen the development of a “contactless” smart card, one in which the chip communicates with a card reader using radio frequency identification (RFID). Smart cards have significant

potential over magnetic-stripe ‘swipe’ cards: not only can more data be stored, but it can be processed in some way as well. Despite privacy concerns, it seems likely that smart cards are the way forward, with increasing systems merging together. In an article for Credit Union Magazine, Schacklett (2000) predicts that “as smart cards gain momentum in the financial services marketplace, it is likely that other forms of plastic like credit, debit, and ATM cards will all melt into one universal, multifunctional smart card”.

The first major use of smartcards was by French banking association, CartesBancaires, which saw advantage of using the technology in reducing fraud. By replacing magnetic striped cards with smart cards; fraud rates in France dropped tenfold (Flohr, 1998).

2) Credit And Debit Cards

In the 1950s, Diners’ Club began issuing charge cards and since then, a major proliferation in credit card usage has made such cards become a popular alternative to cash payments. In the thirty years between 1971 and 2001, the number of cards per household in the United States grew from 0.8 to 7.6 (PayingWithPlastic.org, 1997).

3) Stored-Value Cards

Stored value cards are typically similar in appearance to credit cards and either employs a magnetic stripe or smart card technologies in order to store data. Under this scheme, using an appropriate reader an amount can be electronically added or deducted from a balance on the card. Such a scheme is seen by some as an “initial step toward a cashless society” (Shelfer and Procaccino, 2002).

C. Security Issues In Cashless Society

Security is clearly of crucial importance in considering any alternative to physical cash. At the root of this lies the problem of authentication, “the process of verifying the identity of a person” (Pountain, 2003). This is typically performed by examining some identifying information such as a password or digital signature.

1) Pins

One of the obvious and most commonly used forms of authentication is a password. In the context of payment systems more commonly implemented as a personal identification number (PIN). Such a system has long been in place for authenticating users of cash points prior to withdrawing money. In line with much of Europe, since 2003 the UK has been in the process of converting to use of a similar system for the authentication of credit or debit card transactions. Since the 1970s, most face-to-face card transactions have made use of a magnetic stripe card to read and record account data, along with the customer’s signature for verification. However, technological advances meant that criminals have been increasingly successful in making copies of the data stored on the magnetic stripe, and forging signatures in order to commit fraud. Over £402 million was lost through “plastic card fraud” in 2003, which has led to the advancement of a new system, marketed in the UK under the name ‘Chip and PIN’ (British Retail Consortium, 2005).

This system sees a replacement of magnetic stripe cards, with ‘smart cards’ containing an integrated-circuit chip which

can store and verify a PIN. Rather than sign for purchases in a retail outlet, customers are required to input their PIN in a reader (Chip and PIN Press Office, 2005). Uptake of the 'Chip and PIN' system has, on the whole, been very responsive and it is planned that signatures will cease to be accepted as verification of a chip card from February 14th 2006. Official statistics show that by the end of 2005 more than 80% of shops and card accepting businesses had upgraded their point of sale equipment to accept 'Chip and PIN' and that 99% of cardholders in the UK had at least one 'Chip and PIN' enabled card (Chip and PIN Press Office, 2006).

The 'Chip and PIN' system is not without criticism, however. One of the main problems is that the introduction of PIN based systems in securing credit card payments is that they will not protect 'card not present' transactions (such as those placed over the internet or by telephone). Thus, there is still a market for stealing or counterfeiting credit cards which can still be used without knowledge of the PIN (Anderson, Bond, and Murdoch (2010).

2) Biometrics

Biometrics is "an area of information technology concerned with the study of techniques capable of uniquely identifying a human individual, based upon intrinsic physical or behavioral traits" (Wikipedia, 2011). In the realm of security, particularly in terms of electronic payments, these characteristics may then be adopted for authentication purposes.

III. RESEARCH METHODOLOGY

We sampled the opinion of nine thousand and eighty (9,080) individuals within Lagos state. The sampled population cut across students above 18 years, civil servants, market men and women (both educated and illiterate), and professionals

(including bankers). The medium of communication is English language, but people were employed to administer the questionnaires. For those who were unable to read and write in English language, the questionnaire was translated to them in their native language and the person that administered the questionnaire then tick the answer based on their response. Data was gathered from the sampled population by using structured questionnaire with easy means of response, which is based on ticking the best option from the given available options: YES, NO, and UNDECIDED.

The responses to the questionnaire were recorded and tabulated raw as in Table 1, and in percentages as in Table 2 below:

Table 1: Raw Data Obtained from Questionnaire

Questions#	Response		
	Yes	No	Undecided
1	4994	4086	0
2	5902	3178	0
3	5448	2724	908
4	1543	7264	273
5	3178	5448	454
6	6447	1906	727
7	5539	1998	1543
8	4630	1725	2725
9	5357	2815	908
10	1907	6447	726

Table 2: Data Obtained from Questionnaire in Percentage

Questions#	Response		
	Yes (%)	No (%)	Undecided (%)
1	55.00	45.00	0.00
2	65.00	35.00	0.00
3	60.00	30.00	10.00
4	16.99	80.00	3.01
5	35.00	60.00	5.00
6	71.00	20.99	8.01
7	61.00	22.00	16.99
8	50.99	19.00	30.01
9	59.00	31.00	10.00
10	21.00	71.00	8.00

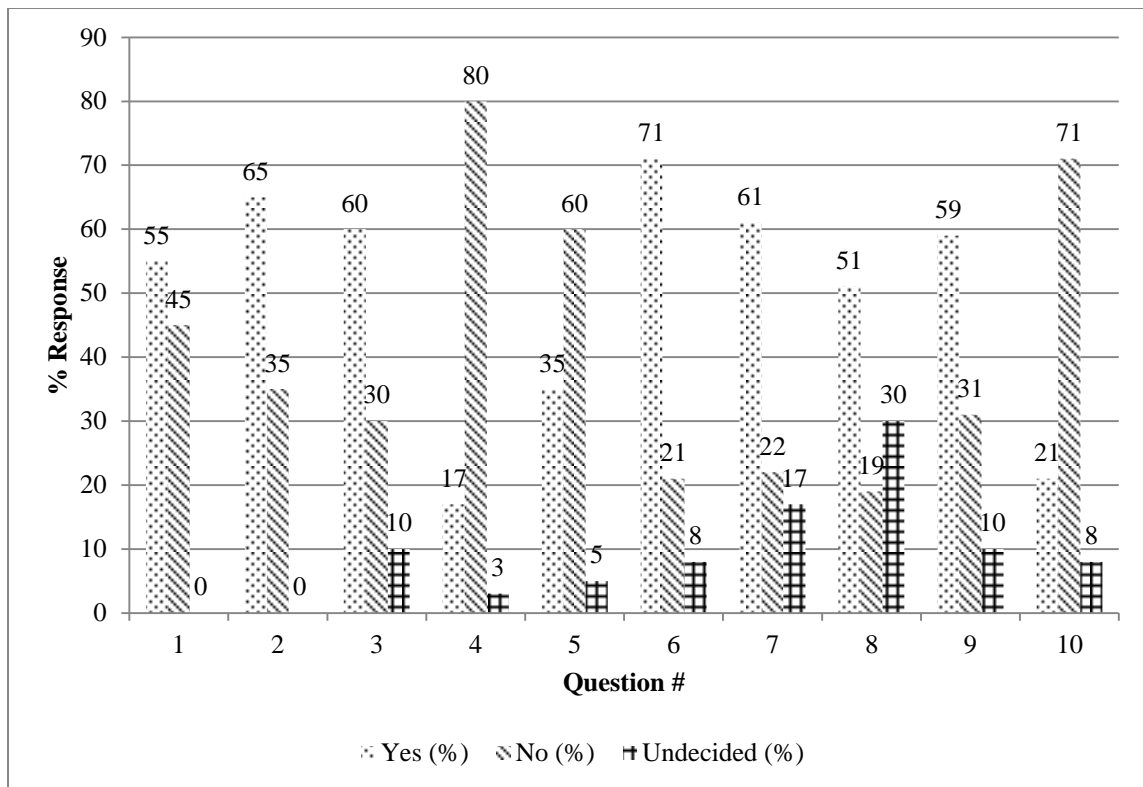


Figure 1: Chart showing response % from Table 2

The result is discussed in section 4.1.

IV. DISCUSSION/CRITICAL ANALYSIS OF THE RESULT

4.0.1 General Discussion On Response To Questionnaire

Question 1: Are you aware of the cashless banking policy recently announced by Central Bank of Nigeria (CBN)?

55% and 45% of the people which are equivalent to 4,994 and 4,086 were respectively aware and unaware of the policy. This close gap indicates that the stakeholders in this policy should intensify effort in creating awareness among the general public on issues regarding cashless policy.

Question 2: Are you currently operating a bank account with any bank in Nigeria or outside Nigeria?

65% of the sampled population has bank account while 35% does not. In this case, those 35% (3178) cannot fully participate in cashless society. This 35% were among the students, and market women. Consequently efforts must be put in place to encourage these individuals to open bank account so that they can be fully part of cashless banking policy.

Question 3: Is this Cashless Policy (Cashless society) a welcome idea to you as an individual?

60% welcomed the cashless banking policy while 30% does not, and 10% undecided. If enough awareness and education is given to the general public, we strongly believed that more people will be willing to support the policy rather than forcing on the people.

Question 4: Do you think Nigeria has enough infrastructures such as electricity, IT Personnel etc. required for successful implementation of the policy?

17% believed that Nigeria has enough infrastructure and trained personnel to support the cashless policy. 80% said No to this question and 3% were undecided. There is no doubt that infrastructures to support this policy such as stable electricity, system networking etc. are seriously unavailable for full implementation of the policy. Therefore it is advisable that government starts implementation of this good policy in phases and come out with model that will be more convenient for people to embrace.

Question 5: Do you think the government and the major stakeholder in the banking policy in Nigeria have given the proper information, awareness or education on the need for the adoption of a cashless banking policy in Nigeria?

Majority of the people believed that people were not well informed on the issues surrounding this policy as 60% said No, and 35% said Yes, while 5% were undecided. Therefore people need to be more educated.

Question 6: Do you think Cashless banking will help to reduce high-risk of cash related crime in Nigeria?

71% said Yes, 22% said No and 7% were undecided. There is overwhelming consensus that cashless policy will be a tool to eliminate or reduce to miniature the cash related crime such as: illegal immigration, financing Terrorism, illegal drug Trade, Human Trafficking, corruption etc. in Nigeria.

Question 7: Do you think high usage of cash in the society is one of the reasons for the high cost of banking services in Nigeria?

61% agreed that high usage of cash is one of the reasons for high cost of banking services in Nigeria, while 22% said No and 16.9% were undecided. In this case it was discovered that cashless banking will reduce the cost of systems as cost of printing, and transportation of cash will be reduced considerably.

Question 8: Cashless banking will improve the effectiveness of the monetary policy to managing inflation?

51% said Yes, 19% said No, and approximately 30% were undecided. It was discovered that Yes response were among educated people that know the technicality and principles involved in using monetary policy to tackle inflation.

Question 9: Cashless Society will reduce high cost of printing and transporting cash from one financial institution to another?

59% said yes 31% said no and 10% were undecided. In this case it was concluded that the policy will surely reduce the high cost of using and printing cash as well as nuisance associated with transportation of currency from one location to another.

Question 10: Do you think government and the stakeholders in this policy have done enough in term of security of public funds that may arise from cashless banking?

71% believed that government have not done enough in area of security, 21% response in contrary an approximately 8% were undecided. Security is clearly crucial and important consideration of any alternative to physical cash. In this era of cashless society different form of card (smartcard) will be introduced. At the root of this lies the problem of authentication, which results from using those cards? In this case PIN (personal Identification Number), should be replaced with Biometric features such as finger prints, facial recognition, voice recognition etc., for robust security. Based on the critical analysis and general discussion of the result of responses of sampled population, we hereby pinpoint the Benefit of Cashless Society in section 4.1, Social implications of Cashless Society in section 4.2, and our Proposed Cashless Society Model for sustainable cashless society in Nigeria in Section 5.

A. Benefits Of Cashless Society

There is no doubt that with cashless society, the use of paper and coins currencies will reduce, migrating to virtual

money that uses computerized systems to handle transactions. Replacing physical cash with cashless credits or electronic money transfer will help to:

- Eliminate or reduce cash related crimes such as illegal immigration, financing terrorism, illegal drug trade, human trafficking, money laundering, corruption etc. in Nigeria.
- A Cashless Society policy will go a long way in making our society a better place to live with a reduced rate of criminal activities.
- Paper cash is non-traceable and unaccountable; it can be easily hid/lost, stolen, counterfeited, and spent without a trace. As a result physical cash has allowed all sorts of criminal activities to thrive. However in a cashless economy, this will change overnight. Certain crimes like armor car heists, kidnap for ransom, store holdups, armed robberies, will cease since there will be no paper cash to steal.
- Reduce corruption.
- Reduce cost of printing, managing and transporting paper money, thereby making more funds available to the government, which will translate to economic growth and development.
- Facilitate possibility to carry large quantities of money around safely and effectively, even an entire personal wealth.

B. Social Implications Of Cashless Society

This cashless society also has its cons, some of these include:

- Government would be able to monitor purchase, spending habits and businesses patronized. In this case government will have a total control over everything we do. It can oppress or suppress society where it hurts the most and that is money.
- In case of financial crisis, how could we backup the purely electronic financial reserves?
- Business will be conducted with imaginary money; this may reduce the value of money and bargaining power.

V. PROPOSED CASHLESS SOCIETY MODEL

Figure 2 is the diagram for our proposed “Cashless SocietyModel”.

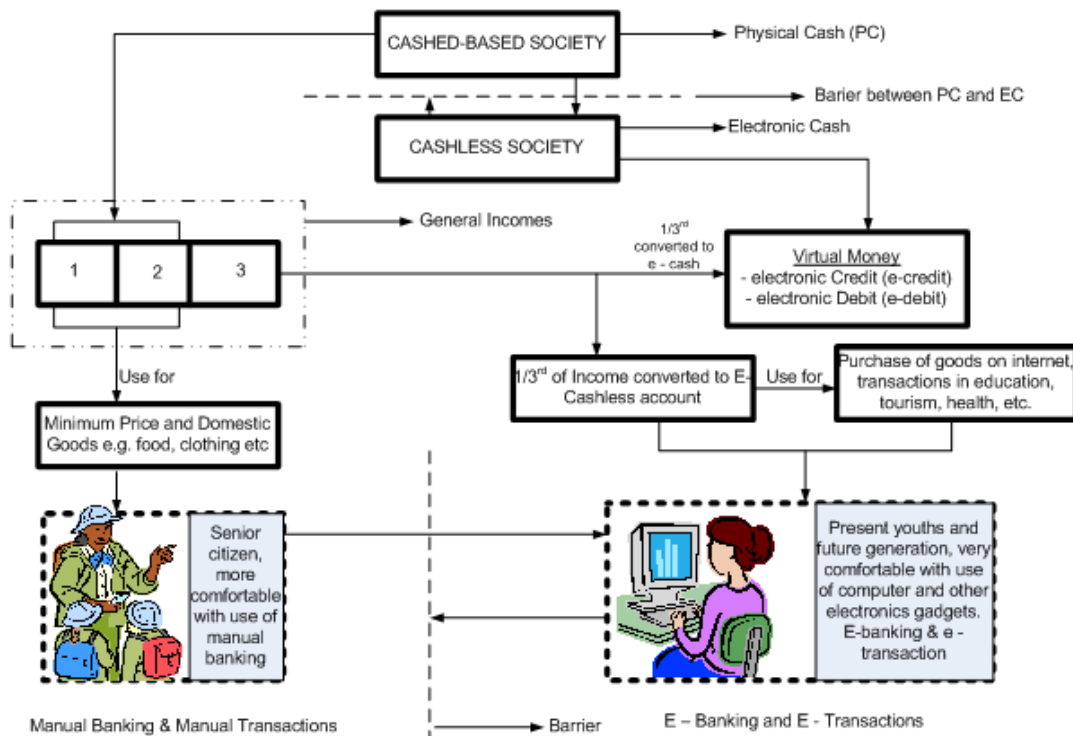


Figure 2: Proposed Cashless Society Model

Figure 2 is discussed as follows: the cashless society will run parallel to the ongoing cash-based society. The model presented will work as itemized below:

- Electronic cash will exist as E-credits and e-debits. The e-credits and e-debit will function as the currency or cash as in present times.
- 1/3 of a person's general income will be converted to e-cash, so that a part of the person becomes a cashless.
- Cashless e-credit policy shall be used in the following areas of transactions:
 - Purchase of any types of electronic goods
 - Purchase of machines and hardware components
 - Transaction in education and health care systems
 - Transaction in travel and tourism (e-booking).
 - And in many other similar transactions.
- The cashless transactions should not be used in transaction dealing with essential commodities such as foods, clothing etc. in the meantime.
- The cashless society must be mainly planned for the young and future generation of people. Senior citizens (i.e. the elderly people) could be left out. But doors should be open for whoever among the senior citizens that is interested to cross the barrier and move to cashless transactions.
- Cashless credit should not be converted to real cash, but cash based money can be converted to cashless.
- E-banks should be available to manage and maintain cashless account; these banks will just be website and called cashless banks and will maintain and manage the credits, debits and savings and record the transactions

made by every account holders. This will eliminate the manual banking system which is relevant today.

With this hypothetical concept for a cashless society, it would be beneficial for the present and future generations. This concept will enable Nigerian economy to be digitized and provide a unique convenient system of cashless transactions. It will also enable step by step migration to cashless society.

VI. CONCLUSION

A cashless Society is a welcome idea in this modern day, because the use of credit and debit cards has become an established and popular alternative to cash. It is then advisable for every individual to embrace this policy. Some important issues have been identified and some will be encountered as people embrace this policy. Some of these issues include transfer to electronic transaction, benefits and social implication, security etc. This paper discussed some of the benefits of cashless society towards economic growth and development, especially in the area of eliminating corruption and reducing the cost of producing, transporting and managing cash money. A Cashless Society Model was proposed which, if implemented in a proper manner, can engender a perfect cashless transaction system in future, which will improve our economic growth and development and reduce corruption among others.

VII. RECOMMENDATIONS

- It is highly recommended that this research should be carried out in other states of the federal republic of Nigeria before full implementation of the cashless society in June 2012. It is not possible to discuss all of the issues and investigation during compilation of this paper.

- Government should create more awareness and intensify efforts in educating the general public on issues related to cashless society, improve on infrastructure and training of personnel so that cashless society will be more acceptable, convenient and durable in Nigeria.
- Government should intensify effort to improve the state of electricity supply.
- Government should harness the use of our satellites in space to improve the speed of computer network to true broadband.
- The citizens should brace up to understand the positive impact of the policy, so that they can embrace it, for their own good.

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