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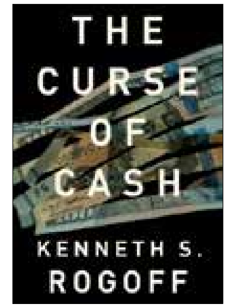

BOOK REVIEW
"THE CURSE OF CASH"

Kenneth S. Rogoff
Princeton University Press, 2016.

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During the last couple of decades it has become possible to purchase goods and services paying with electronic devices such as debit and credit cards and, more recently, with a smart phone. With these increasing possibilities of making payments and money transfers, a relevant question is whether we still have the need for paper money. This question is raised by Kenneth Rogoff from Harvard University in the monography *The Curse of Cash*, where he makes the case that the answer to this question is "no" (or, more precisely, "almost not"). In this non-technical book, Rogoff argues that there are in fact substantial benefits from getting rid of, particularly, the biggest denominations.[1]

After the introduction, the book is divided into three parts and an appendix that discusses in more detail a couple of the more technical issues raised. In the first part of the book, Rogoff argues that eliminating high-denomination bills would make it more difficult to commit economic crimes such as tax evasion, and it would make it harder for the underground economy to operate. He presents a plan by which (most) paper currencies could be phased out. In the second part he discusses the relatively recent events of negative interest rates in some countries, which would be easier to handle if no paper money exists, since cash pays zero interest if there is no inflation. The final part discusses the international dimension of phasing out paper money and the role of digital currencies, such as the Bitcoin.

Part one, "The Dark Side of Paper Currency: Tax and Regulatory Evasion, Crime and Security Issued", starts with a historical review of the use of coins and bills, from the experiences with the first paper currency in China to the end of the gold standard, when people had to get used to pure fiat money. The next chapter presents some statistical facts on currency circulation in, mainly, the United States and, to a lesser extent, other big economies, such as the euro zone and Japan, and to an even lesser extent minor economies. For Chile it is

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1 *Rogoff has debated this issue for more than two decades. See e.g. Rogoff (1998, 2014) for some published articles and Rogoff (2016a, 2016b) for after-book debate.*

illustrated in graphs and tables that in 2015 the currency-to-GDP ratio was 3.64% (the ninth lowest of the 29 countries included in the graph); the share of large banknotes (the $20,000 note in the case of Chile) is 31.9% (seventh highest of 25 countries); and that the holding of local currency per capita was US$ 444 (ninth of 29 countries).

The following two chapters discuss the extent to which the money is held in the legal, or tax-paying, area of the economy and demand for currency in the underground economy. With respect to the former, a great deal of the currency is held by banks and firms. Estimates for the U.S. indicate that firms hold about 2% of the outstanding cash, while banks hold about 5%, where the main part (about 80%) is required bank reserves. The average cash balances in consumers' wallets are quite small, spanning from an average of US$ 51 (median US$ 28) in the Netherlands to US$ 148 (US$ 114) in Austria among the seven developed countries for which data are reported in the book. Information from the 2012 U.S. Diary of Consumer Payment Choice Survey reveals that only 40% of consumer transactions are made in cash, which equals 14% of the value of all transactions. European survey data show that cash is used mainly for small transactions, i.e. an average (among eight countries) of 87% of the transactions are purchases of less than 20 euros, 55% are 30 to 100 euro purchases, 20% of those are between 200 and 1 000 euros, and 4% when the cost of the purchase is more than 10 000 euros. In conclusion, the main bulk of the cash is floating around in the underground economy: use of cash for purposes of tax evasion, outright criminal activities, corruption, human trafficking, terrorism, and counterfeiting are the examples mentioned. It is difficult to quantify the use of cash in the underground economy, but some estimates may help to get an idea of its size. Among 23 mainly industrialized countries, the average of the size of the underground economy is estimated to account for 14% of the GDP, ranging from 7% in the U.S. to 29% in Turkey. Estimates suggest that in 2006, 14% of the federal taxes were never paid, accounting for 2.7% of the GDP. Rogoff argues that without, particularly, high-denomination bank notes, illegal transactions would be reduced, and emphasizes that since 2011 some European countries have already introduced restrictions on the maximum cash payment: Greece (2011), Denmark (2012), Spain (2012), Italy (2012), Belgium (2014), and France (2015).

One issue that should be taken into account if deciding to phase out some or all of the bank notes, is that the central bank/ government would lose the income from printing and distributing the notes, the seigniorage. In the years 2006-15, the average revenue from seigniorage in Chile amounted to 0.36% of the GDP, which is similar to that of the U.S. (0.40%), less that in e.g. Colombia (0.68%), but more than in Mexico (0.02%). These revenues are relatively modest, but there is an issue of central bank independence as the seigniorage helps to fund its operating costs. The author does, however, find it likely that most central banks would be able to cover their costs by the other operations they maintain, and he finds it hard to defend that "central banks make vast extra profits by providing a key financing instrument for underground and criminal activity". In the chapter closing part one, Rogoff presents a concrete plan for phasing out most of the paper currency. It consists in four steps: (1) Phasing out paper currency, (2) Universal financial inclusion, (3) Privacy, and (4) Real-time clearing. (1) uses the U.S. as an example, and it is argued that the larger bills should be phased out gradually while the smaller ones should be left in circulation and eventually be replaced by coins with a substantial weight to make them difficult to transport in large quantities. Some countries—Rogoff mentions Canada, Singapore and Sweden—have already begun to phase out their largest bills. The timeframe for completing the task would have to be determined, but for the sake of concreteness he states that it could be between two and seven years in the case of the U.S. (2) has to do with the fact that not all individuals are permitted by private banks to open an account. Hence, the government should provide free basic-function debit-card or smartphone accounts. (3) is the issue that without paper money, individuals lose a great deal of privacy as all purchases would be registered. Large money transactions are already monitored by governments and the author argues that if privacy is an issue, monitoring may be regulated by legalization. (4) is related to e.g. person-to-person transactions, for which money is still the preferred option. By now there are, however, several alternatives to making transactions between persons easily by smart phones. As noted earlier, small denominations should still be in circulation, maybe indefinitely, to facilitate, among other things, face-to-face transactions.

According to Rogoff, another advantage of phasing out paper currencies is that it would facilitate the use of "negative interest rates" and the second part of the book discusses how the elimination of cash in general would affect central bank policies. The first chapter of part two is about the zero-bound constraint, which has become an issue for central banks during the low inflation period spanning the last 20 years. Even though an increasing literature assesses the impact of the zero lower bound for central banks' interest rates, the experience is very limited and it is difficult to estimate the costs for an economy to have a monetary policy constrained by the zero bound. The experience with negative rates is also limited and in the existing cases, they have been only barely negative. Some have argued that the zero lower bound is not that important because central banks have found ways of using unconventional tools such as forward guidance and quantitative easing, concepts that are also explained and discussed in this chapter of the book.

The following two chapters discuss other ideas for dealing with the zero bound problem. The ones put forward by the author in chapter nine are: raising the inflation target, targeting nominal GDP, relaxing the rigidity of inflation targeting, opportunistic fiscal policy and drone money (giving free money to the people), and increasing consumption taxes. While some of these proposals may seem controversial, they have been discussed in the economic literature as possible ways of raising the inflation rate in an economy. In the next chapter the book acknowledges that it is not necessary to phase out paper currency to have negative interest rates and, indeed, several central banks have already operated in this territory; however, there are still too few observations available to obtain robust results with respect to the consequences of this policy. The last two examples discussed are the stamp tax (Gesell, 1916) and the two-currency system (Eisler, 1933). Briefly speaking, the first consists in making people pay an interest on paper currency, but it is not obvious how to collect this stamp tax. One solution was first proposed by Robert Eisler, and later refined by other economists.[2] It involves having a two-currency system in which one is used inside the banking system (money banco) and the other outside (currency money).[3] Money banco acts more or less like money as we know it today, i.e. a unit of account, the currency accepted for tax payments, debt repayments and the clearing unit for financial transactions, but it would not exist in physical form. Currency money, on the other hand, would only be used for retail transactions, but it would not be a unit of account. There would also be an exchange rate between the two currencies, such that currency money (the paper currency) would have an implicit negative interest rate if money banco maintains its purchasing power.

In the two last chapters of the second part, Rogoff discusses possible negative effects of negative interest rates. One concerns financial stability, about which several finance economists have argued that a very expansionary monetary policy would eventually lead to speculative excesses, due to psychology and market imperfections, which could reach systemic proportions. Another is related to technical issues, e.g. that firms may overpay taxes today and later reclaim a refund at zero interest rate. The last issue discussed in part two of the book has to do with trust. Can the government be trusted not to abuse negative interest rates to raise revenue or repay debts? Would the possibility of negative interest rates make it harder for the monetary authorities to maintain an effective rule-based system? Regarding the first question, the author argues that, in a modern monetary regime, the public has to trust the intentions of the central bank, and with respect to the second, this has to do with the discussion of how much flexibility central banks should have in order to deal with surprises and events that are difficult to write into rules. The last chapter of the second part has a brief discussion on this topic.

Part three "International Dimensions and Digital Currencies" contains two chapters, where the first discusses the international dimension of phasing out paper currency. One could easily think that an economy without paper money would start using foreign ones. Rogoff argues that the ideal solution would be an international coordination to eliminate large-denomination bills. Even so, he claims, the international dimension does not alter the fact that the domestic benefits are likely large enough to offset the costs, e.g. the spillovers to the formal economy from the informal one, which would lose its favored transactions technology. With respect to emerging markets, it is stated that it is too soon for them to phase out paper currency, even though several have important corruption problems, because of a less developed overall financial infrastructure.

2 *Davis (2004), Buiter (2005, 2009), and Agarwal and Kimball (2015).*

3 *Van Suntum (2013) writes that this system was "tried out successfully in Chile in the 1960ies", which must be a reference to the introduction of the UF index in 1967.*

The last chapter of the book discusses digital currency and gold. Rogoff stresses that he does not advocate cryptocurrencies, but a discussion of them naturally has a place in a book about phasing out paper money. Even though a cryptocurrency such as the Bitcoin could become a currency (if governments do not interfere) in the sense that it can fulfill the basic functions, it is not likely that it will take over existing currencies anytime soon. There are simply too many uncertainties with respect to its functioning and how it should be regulated. But the arrival of these currencies raises the discussion of whether there should be a government-supplied digital currency, a debate which is still open. With respect to gold, the author finds it likely that its price will increase as paper money is phased out, but unlikely that a possible increased monetary use of this metal would undermine the overall goal of reducing tax evasion and crime since it is quite difficult to use gold in common circulation.

In his final thoughts, Rogoff underlines that it is not cost-free to phase out cash, but the benefits in terms of reducing the facilitation of e.g. tax evasion, crime and corruption outweigh the costs. He also stresses that the discussion of phasing out cash is orthogonal to the debate of cryptocurrencies.

Suggesting that it would be beneficial to phase out paper money is obviously a controversial issue and there has indeed been some discussion on the thoughts presented by Kenneth Rogoff in his book. Hummel (2017), for example, presents a critical review of the book[4] and concludes that it "is a well-written and engaging book with many intriguing claims and occasional insights. But in the final analysis, the book fails to demonstrate any bountiful gains from phasing out hand-to-hand currency in large denominations". Some of his points of criticism is that Rogoff fails to demonstrate any net increase in the U.S. government's net revenue and that there is no attempt to provide a welfare analysis of the underground economy.[5] Whether or not one agrees with the viewpoints of Rogoff, the book is very well-written, easy to read and certainly deserves a place in the discussion of whether we should transform our society into one without cash.

4 *Other critical reviews are written by Garber (2016) and Lemieux (2017).*
5 *See the response of the author of the book in Rogoff (2017).*

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