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Understanding the cash cycle for banknotes: a high-level description of the generic model and some observations

This brief paper aims at providing some background information regarding the cash cycle. First, a high-level description is provided, partly inspired by information provided by the European Central Bank¹ (ECB). This description is followed by some observations. This paper addresses banknotes only and not the handling of coins.

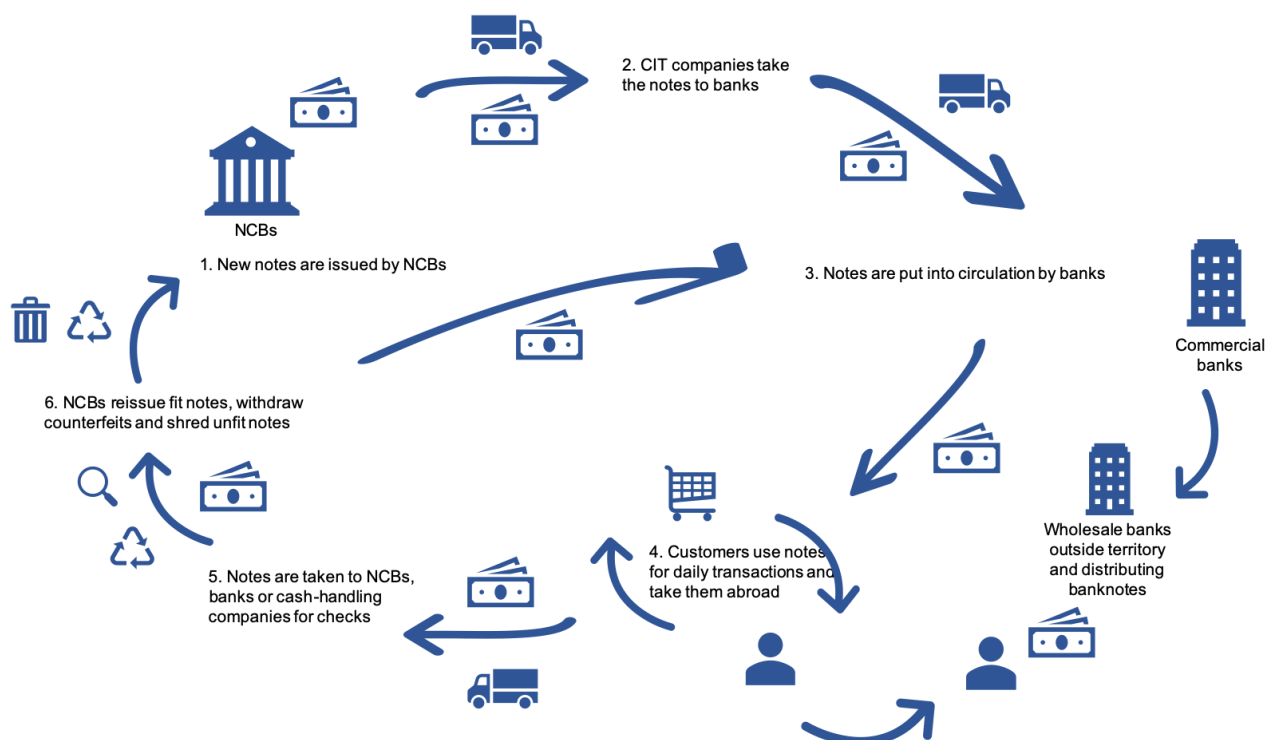
A short description of the cash cycle

National Central Banks (NCBs) are responsible for issuing banknotes and for maintaining confidence in the currency. The production of banknotes is performed by NCBs or by specialized manufacturers on behalf of NCBs. The transportation of cash between retailers, commercial cash centres and NCBs, as well as internal cash management processes, are widely outsourced to professional cash-handling companies (or cash-in-transit – ‘CIT’).

Euro area NCBs check the authenticity and condition of banknotes, withdrawing unfit notes from circulation. The Eurosystem also make efforts to help banknote equipment manufacturers to ensure that their machines meet the ECB’s standards for checking banknotes for authenticity and condition prior to recirculation. Credit institutions and other professional cash handlers check banknotes for authenticity and condition using such machines. This fitness checking is a requirement before banknotes can be put back in circulation, and a minimum number of banknotes need to be sent back to the NCBs for more in-depth fitness checking, that only NCBs can perform.

The figure below shows a generic model of the cash cycle for banknotes, and it shows that cash is actually circulating, following a so-called cash cycle.

¹ European Central Bank Annual Report 2018 and the therein quoted Eurosystem survey on cash services offered by credit institutions and the acceptance of cash by retailers.



Source: European Central Bank

Trends and Tendencies

In 2018 the ECB and the 19 Eurosystem NCBs carried out a survey of 87 credit institutions, 55 professional cash-handling companies and 157 businesses (e.g. shops, retailers, restaurants) with the aim of exploring how the different stakeholders in the cash cycle perceive cash and how the efficiency of the cash infrastructure could be improved. The following findings can be noted:

While all credit institutions described their cash services to customers as resource and cost-intensive, 75% of them rated these services as important or very important, 20% were neutral, and only 5% rated cash services as unimportant.

Cost pressures on banks continue to drive the automation of cash management processes and the extension of self-service banking. The gradual replacement of traditional automated teller machines (ATMs) (simple cash dispensers) with multi-purpose ATMs, in particular cash-recirculation machines with the option to also deposit cash, is set to continue in the coming years, and this trend is supported by technical innovations in the industry. According to the survey, it is estimated that at present around 75% of all euro banknotes withdrawn by customers are withdrawn via self-service banking, while deposits of banknotes by customers are evenly split between attended (over-the-counter, OTC) services and unattended (automated) services.

For cost-efficiency and security reasons, credit institutions carefully analyse the economic viability of ATM locations. Underused machines are relocated or decommissioned. Other factors leading to a downsizing of ATM networks include, for example, bank mergers and interbank cooperation models which may allow customers to use ATMs provided by other institutions under the same conditions as when using ATMs provided by the customer's own institution. Optimisation is another



reason that leads to a reduction of the number of machines within the same branch. One efficient way of offering small-scale cash supplies to citizens is cashback schemes in which retailers disburse cash to customers in connection with card payments for goods or services.

Drivers for cash usage

Although consumers are increasingly paying electronically, cash remains an important payment instrument for the time being and the foreseeable future in most countries at least. First, as per the forthcoming (2020) ECB Study² on the payment attitudes of consumers in the euro area (SPACE), in 2019, cash payments as a proportion of all physical retail payments stood still at 73%, down from 79% in 2016. In terms of the value of transactions, it fell from 54% to 48%. This underpins that consumers still use cash, and that they like to have choice in the way to pay. However, and that is the second argument, there is also a large segment of the population that does not have a choice at all. As per the European Commission³, there are still about 30 million adults in the EU who do not have a bank account and hence don't have a choice. Consumer associations are expressing concerns that there is a tangible risk that as more services are digitalised, those without access to digital services may find themselves more excluded than they are today – for them using cash is the only way they can pay. Finally, and third, given its nature, cash can play a role in offering better payment continuity in case of for example failure of electronic payments networks or in case of disasters. To conclude, there is an expectation that settlement risk-free payment options remain available to all, and that this includes ensuring continued access to cash too.

Challenges

Due to its physical nature, the distribution of cash comes with challenges. Bank branches and multi-functional ATMs have historically been the key consumer touch points for cash withdrawals and deposits. However, banks have to rationalise their physical presence, driven by efficiency demands and a growing move to digital services – the latter trend even being accelerated due to the coronavirus pandemic. The decline in the use of cash and the higher risks involved puts more pressure on the banking industry in general and the maintenance of the cash infrastructure. This calls for a dialogue with a broader set of stakeholders (such as merchants or post offices) on the possibility for them to become more active in the cash distribution cycle.

Conclusion

The cash supply chain is complex – production, storage, distribution and recirculation – and consists of a variety of actors that add to the complexity: an inverse relationship evolves between a decline in cash usage and cost. Less cash use has knock-on effects on related unit costs, which tend to rise.

² As quoted by Fabio Panetta (Member of the Executive Board of the ECB), in his speech “On the edge of a new frontier: European payments in the digital age” at the ECB virtual conference “A new horizon for pan-European payments and digital euro”, 22 October 2020 which can be read [here](#). (to be replaced with a reference to the actual Study on the payment attitudes of consumers in the euro area (SPACE) once published).

³ As mentioned in the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a Retail Payments Strategy for the EU (COM/2020/592 final) which can be read [here](#).



Within its mandate, to address the need to achieve greater efficiency in the cash cycle, the Cash Efficiency Working Group (CEWG) of the European Payments Council (EPC) has issued the last version of their Cash Recirculation Paper in 2019.