

How to ensure reliable cash circulation with less central bank involvement in the cash cycle? The Hungarian experience ¹

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This article describes how way the Magyar Nemzeti Bank, the central bank of Hungary, ensures the stability of cash supply and maintains the quality of cash in circulation, its two main responsibilities in the cash cycle, has changed over the past two decades.

Comparing the major cash cycle participants' current position to that of 15-20 years ago reveals the width of the change. Starting with the Magyar Nemzeti Bank (MNB), the central bank of Hungary, 15-20 years ago it had 19 cash centres across the country with around 500 of its staff, it involved in the cash function with lots of manual operations and paper-based administration. Today, the MNB has only one, highly automated cash centre in Budapest with a fully electronic, paperless operations environment with 64 staff in the Cash Department. The commercial banks have also changed. While in the 1990s they had mostly in-house cash operations with manual sorting, sometimes even maintaining own car fleets to transport cash, by now most banks have mechanized and/or outsourced their cash operations to Cash-in-Transit (CIT) companies that have taken over their transport, ATM replenishment, sorting and vault operations. The CIT market has meanwhile matured: from a segmented market with dozens of smallish firms offering cash logistics services at variable standards, it has become a highly concentrated market with only three major companies using more advanced technologies for sorting under central bank supervision. CIT cash centres have become the real hubs for cash logistics, organizing and implementing the 'trade' between commercial banks with a cash surplus and those with a shortage in any denomination.

The key development was the emergence, facilitated by the central bank from 1998, of commercial cash re-circulation. Before all surplus cash was transported immediately to the central bank; since 1998 cash has to be sorted by the professional cash handlers by its quality, and notes and coins that are 'fit for circulation' can be re-circulated among commercial banks, without being checked by the central bank. Chart 1 shows that today some 75% of banknotes are re-circulated within the commercial sector, while the central bank receives the rest as unfit and surplus fit. All notes are first sorted in a commercial cash centre (usually by the CITs), and those deposited to the central bank being sorted again by the central bank to check the consistency of commercial sorting. As a result of the MNB partially withdrawing from daily banknote logistics, its banknote return frequency declined to cca. 1, among the lowest in Europe.

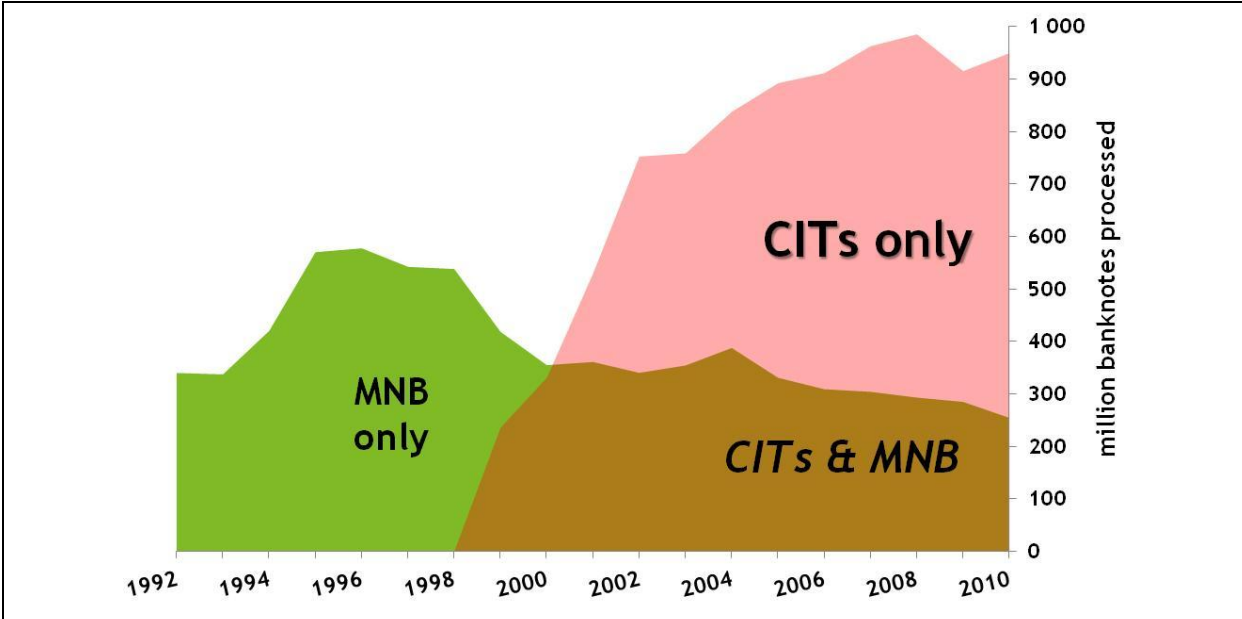
How did the central bank motivate cash re-circulation in the commercial sector? The key measure was the introduction in 1998 of central bank transaction fees across all banknote and coin transactions. These fees particularly increased the cost of transporting fit notes to the central bank, thus creating an incentive for the commercial banks to develop their re-circulation processes. The gradual tightening of central bank logistic and reconciliation standards made less and less practical to turn to the central bank with small amounts of cash (either in or out).

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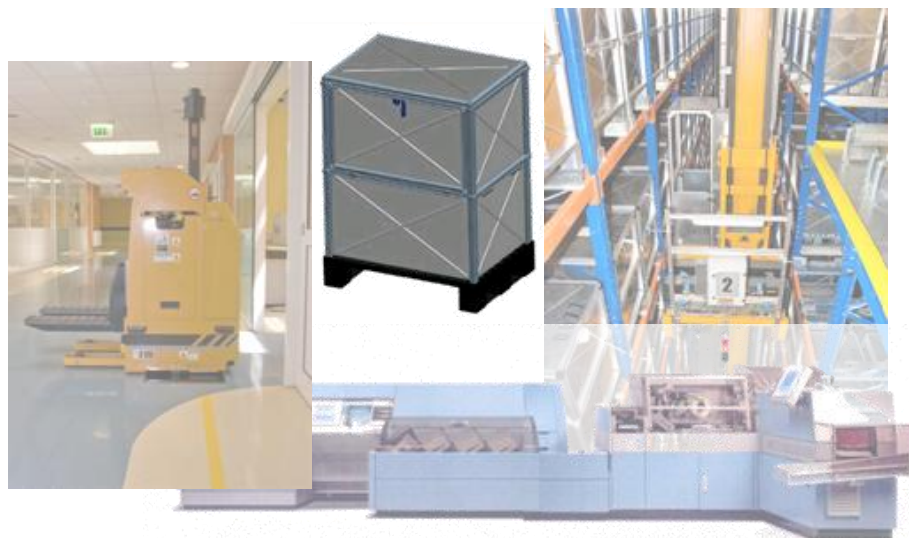
Banknotes circulate more efficiently today than 20 years ago, when the central bank did all the cash re-circulation. Let's follow a typical day in the cash cycle. Surplus banknotes are collected by CITs from retailers and bank branches in the afternoon and delivered to one of the CIT cash centres. They are sorted during the night into fit and unfit categories (suspect ones set aside). Some regional deliveries start during the night from CIT centres to ATMs and countryside bank branches. Every the morning, commercial banks, fully aware of their cash positions by denomination, engage in a 'trade' to transfer (at face value) surplus fit quality cash from cash positive banks to those with a shortage (with offsetting wire transfers). Please note that commercial banks remain the owners of cash throughout the logistics cycle, CITs never take that over. The central bank would receive all the unfit and only those fit that the banks could not trade away and supply those banks that could not 'buy' enough from their partners that day.

Chart 1 Commercial sorting and re-circulation of notes become dominant in Hungary



This cycle is currently undergoing another change phase due to the MNB efforts to standardize its logistics transactions in its new cash centre. As the new central bank cash centre, operational since 2008, is based on a container-based automated vault (storage and retrieval system) and robotized internal material movements system (with automated guided vehicles), supported by an integrated cash software working with bar-codes, the MNB is trying to encourage the use of its large metal containers in central bank deposit and withdrawal transactions (see Picture 1). While this containerisation, involving 50-250 thousand notes transactions, is beneficial for the central bank, enabling it to converge on to a leaner and more secure 'one-touch' internal logistic process, the commercial banks and their CITs are used to depositing and withdrawing smaller amounts.

Picture 1 New cash centre environment for the Magyar Nemzeti Bank
- automation with large containers



So, besides offering multi-denomination and even multi-account deposit options and fee discounts, the MNB introduced a balance sheet relief mechanism in 2011 to motivate more buffering of cash and less frequent central bank transactions. This further reinforced the role of commercial banks and CITs in the cash cycle.

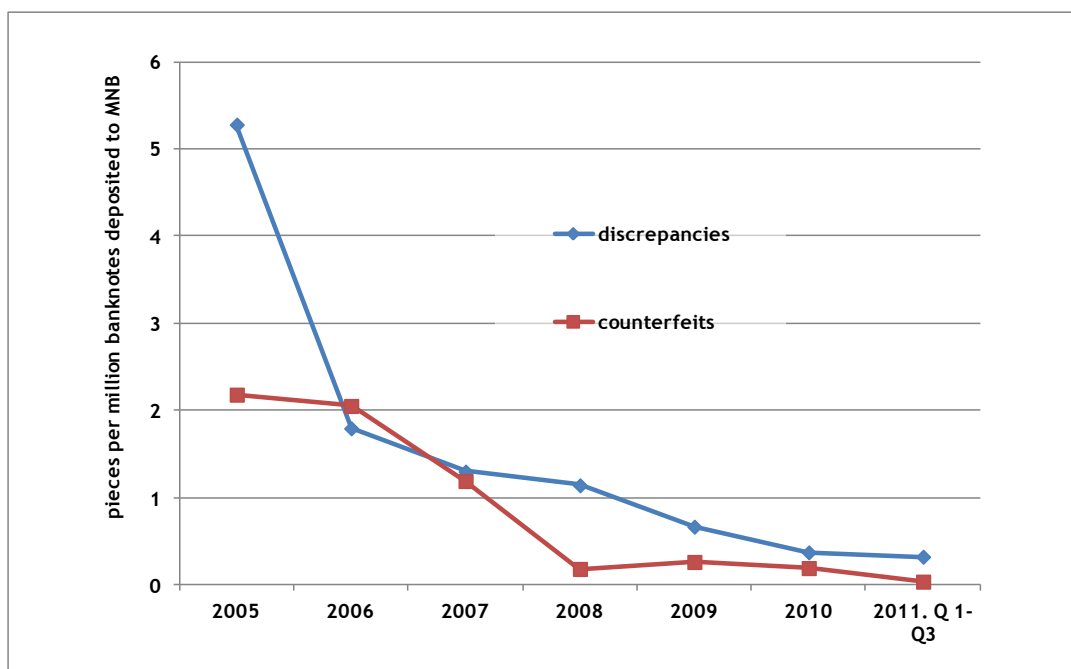
How can the central bank maintain trust in the currency in a commercially dominated cash cycle?

The challenge to ensure that the commercial cash centres filter out suspect and unfit notes is underlined by the fact that Hungary, unfortunately, has a comparatively significant counterfeiting problem. Its number of fake notes per million genuine ones has fluctuated around 30-35 in the past decade, a much higher figure than for most other national (i.e. non-euro) currencies in Europe. The MNB has employed a combination of measures to make ensure the right standards in commercial note sorting. On the legal side, central bank decrees mandate to use of sorting machines tested and certified by the central bank. Similarly to the euro, ATM replenishment can only be done with forint notes sorted on such machines. Moreover, at least 90 per cent of CIT sorting has to be done on such machines. The MNB regularly goes out and checks compliance with these regulations. The central bank licencing of CITs is also part of the framework. Overall, the MNB decrees constitute the strictest note circulation framework currently in Europe.

Since commercial banks and CITs are profit oriented, business incentives are also used besides the legal measures. Based on the re-processing of lodgements delivered to the MNB, the central bank levies special (punishment) fees if counterfeits or numerical discrepancies are found in the deposits. These fees are high enough (e.g. 10 times the face value of a fake note, or a EUR 35 flat fee per discrepancies) to deliver the message to the management of commercial cash centres.

As a consequence of these central bank measures, the commercial sector has invested into proper sorting technology and developed appropriate processes. Chart 2 illustrates the resulting increase in reliability in commercial note sorting as seen in the deposits received by the central bank.

Chart 2 Less ‘incidents’ - discrepancies and counterfeits - among notes deposited to the central bank



The consistency of commercial and central bank sorting has also improved. The result of the central bank (re-)sorting is the same as that of the previous commercial sorting for 88 per cent of the deposited notes. Importantly, the MNB - with its more sophisticated technology - finds less than 10 per cent unfit among those notes sorted as fit by the commercial banks and CITs. This suggests that, with the proper controls, commercial cash sorting is capable of ensuring the quality of notes in circulation.

How can the central bank ensure stability of the cash supply dominated by the commercial sector?

In Hungary a highly concentrated CIT industry is responsible for almost all cash logistics at the retail level. The largest CIT does cca. 90 per cent of ATM replenishment and it also dominates other banknote transports and storage on behalf of the commercial banks and retailers. This is related to the fact that the retail commercial banking market is also fairly concentrated. Although it is not (never was) responsible for retail level cash transport and ATM services, the central bank has a responsibility to reduce the fragility of the cash supply among these circumstances. It is important to highlight that the challenge is on the banknote transport side, while processing has less to do with supply stability. The central bank has enough stocks to cover any supply crisis; the question is always: who would deliver the notes to bank branches and ATMs. Recognizing this, together with the commercial banks the MNB has prepared a Business Continuity Plan (BCP) in case CITs were suddenly not able to fulfil their task - for any reason, be it a strike, business or legal problems in the CIT sector. The principles behind this cash supply BCP are similar to those central bank financial rescue plans: the central bank would help the commercial sector with its resources, but only temporarily and at a price to motivate those helped to find a commercial solution fast. According to this BCP, the central bank would, together with the police, organize wholesale banknote transports to the most critical commercial bank branches and post offices with its costs fully reimbursed by the banks. This plan is ready, its first test will be in early 2012. To ensure cash supply receives

appropriate attention at commercial banks, a new MNB decree mandates them to prepare and submit to the central bank their BCPs for (among others) CIT service failures.

Summing up, the Magyar Nemzeti Bank aims to fulfil its main responsibilities in the cash cycle - ensuring authenticity and quality of notes and stability of their supply - in a cash cycle now dominated by the commercial banks and CITs. So far, the results are encouraging: while the central bank gradually withdrew from most of daily cash logistics, keeping only a residual role in the cash cycle with much smaller operations than 20 years ago, the quality and supply and distribution of Hungarian banknotes and coins ensure a high level of trust in the currency.