Éva Divéki and István Helmeczi: The effects of the introduction of the intraday credit transfer*

In Hungary, the overwhelming majority of credit transfers have been executed in the course of the day since July 2012. In the past half year, the new system operated reliably, without any trouble. The central clearing of transactions is typically performed within 10 minutes, and almost all transactions are executed within 2 hours, i.e. the transferred amount is credited to the beneficiary's account within this time span. Experiences of the first half year suggest that the management of the liquidity needed for the settlement of intraday credit transfers also does not cause any problems for banks. According to our calculations, in line with our preliminary expectations, banks implemented only negligible hikes in their fees in connection with the introduction of the intraday credit transfer.

The new system also offers advantages that will have favourable effects over the medium and long terms as well. These favourable effects include an expected increase in competition among banks and the hoped wide spreading of automation from customer to customer.

INTRODUCTION

In Hungary, the regulation of payment systems is included in the scope of duties of the Magyar Nemzeti Bank (MNB). Accordingly, for the public good, the MNB performs continuous monitoring of the quality of the services that can be used by real economy customers and the development of technology. Development proposals are elaborated with focus on customers' interests, but taking account of technological reality.

In June 2010, the MNB decided to amend MNB Decree No. 18/2009 (VIII. 6.) on the Execution of Payment Transactions (hereinafter: the Decree). Following consultations with the stakeholders, the amendment was published in October 2010, with entry into force on 1 July 2012, in line with the planned launch of the intraday credit transfer system. The objective of the amendment of the Decree was to ensure with legal means that customers in Hungary receive up-to-date payment service at reasonable price. Pursuant to the provision of the Decree (the so-called 4-hour rule), credit institutions (hereinafter: banks) must forward the sum of the forint electronic credit transfer orders by customers to the beneficiary's account-holding bank within 4 hours from debiting the customer's account. It has been an effective rule for years that the beneficiary's bank must credit the sum of the payment orders received to their customers' account immediately.

Our article presents the experiences of the first half year of operation of the intraday credit transfer system, with special regard to the changes in bank charges attributable to the introduction of the new system.

THE INTRADAY CREDIT TRANSFER PROJECT

Domestic payments were previously served by two clearing systems:

- The so-called VIBER (Real-time Gross Settlement System) operated by the MNB (since 1999): payments in this system may be settled in a few minutes, and its primary function is the risk-free settlement of very high-value interbank money market transactions.

- The night platform of the ICS (Interbank Clearing System) operated by GIRO Zrt. (since 1994); this system was designed to clear the payment transactions of the real economy (households and corporates), and it ensures that the beneficiary receives the transferred amount on the next day.

Although VIBER also allows the settlement of real economy transactions, in practice the number of such items moving therein is relatively low. This is primarily attributable to the high bank charges (often starting from HUF 10,000), due to

* The views expressed in this article are those of the author(s) and do not necessarily reflect the offical view ot the Magyar Nemzeti Bank.

which the use of this system is extremely uneconomical for customers (except for the cases when a high bank fee is still better than the effect of the consequences of a default in payment). Banks send the items into the night platform of the ICS in bulk, in the afternoon and evening. The items are already received by the receiving banks in the early hours of the next morning, and are typically credited to customers' bank accounts by the time when branches open in the morning. In 1994, this service level was considered state-of-the-art, but the MNB thought that compared to today's technology it did not provide an acceptable service level any longer. Therefore, it examined whether intraday clearing of real economy transactions entails any financial risks that would still justify the maintenance of the older clearing infrastructure. The analysis concluded that banks' liquidity is completely sufficient for the settlement of the result of intraday clearing of real economy items.[1]

In addition, in the past decade, credit transfers settled on the same day have become a basic service in most Eastern and Western European countries as well, which also pointed to the necessity of raising the domestic service level. This has an impact on interbank competition as well, because previously banks with a larger clientele were able to obtain customers more easily, as there was a fair chance that a customer's partners also had their accounts at the given bank (allowing cheaper, faster settlement of transfers to them).

With introduction of the 4-hour rule, the MNB intended to achieve that banks jointly create a flexibly parameterable clearing system, in which a given amount can turn round several times in a day ('A' pays to 'B', who pays from this amount to 'C'), and that this be the minimum service in Hungary (i.e. banks should not provide it as a premium service with a pricing similar to that of VIBER for their customers). The 4-hour rule ensures that most of the payment orders contribute to the return on the development, and thus the bank costs of the investment are distributed across a large number of transactions, so that the increase in production cost per transaction can also be kept at a low level.

Analysing domestic customers' activity – based on the March 2007 per minute data – we can see that customers mainly give credit transfer orders to their banks during the daytime, primarily during working hours. The clearing cycle periods have been determined accordingly (see Table 1). In addition to amending the Decree, the MNB used other means as well to facilitate implementation of intraday credit transfers. In addition to initiating a nationwide project to coordinate the preparations of the banking sector, it also extended the operating hours of its own real-time system so that the clearing and settlement systems can be open in the periods when customers' activity is the highest.

The 4 hours set forth in the Decree is the MNB's minimum requirement, which can be met with bi-hourly clearing even if one of the banks has a minor operating problem during the day or at the time of the clearing cycle just does not have sufficient funds on its account held with the MNB.

In 2008, the MNB requested the banks that account for the most part of the turnover to estimate the expected costs of the project on the basis of the preliminary concept of the intraday credit transfer system. Banks' estimates varied very widely: as great as tenfold differences occurred between the estimates of banks with similar sizes and turnovers. However, as retail payment transactions represent a very high number of credit transfers, the investment cost can be distributed across a huge amount of transactions. Accordingly, based on the MNB's calculation – writing the banking sector's investment off as depreciation in 5 years (distributed over a transaction turnover of five years) – the increase in banks' production cost per transaction was estimated to amount to HUF 3.40.

CHANGES IN INCOMES FROM PAYMENT SERVICES AND THE USUAL MAGNITUDE OF BANK FEES AND CHARGES

The most uncertain issue for the MNB in connection with the introduction of the intraday credit transfer was how banks would actually determine the fees and charges of credit transfers (hereinafter jointly: fees). However, before specifically discussing this question, it is worth examining the sources of banks' incomes from payment services and the types of fees applied by them in the pricing of credit transfers.

Incomes related to payment services may originate from:[2]

- the fees of payment services,
- the interest income from the balances in the accounts, and
- the float.[3]

[1] At the same time, it means that the justification for the high price of VIBER items also cannot be accepted in each case.
[2] Divéki and Olasz (2012).
[3] Float is the interest income produced at banks on the credit transfers in transit and the settlement of which takes more than a day.

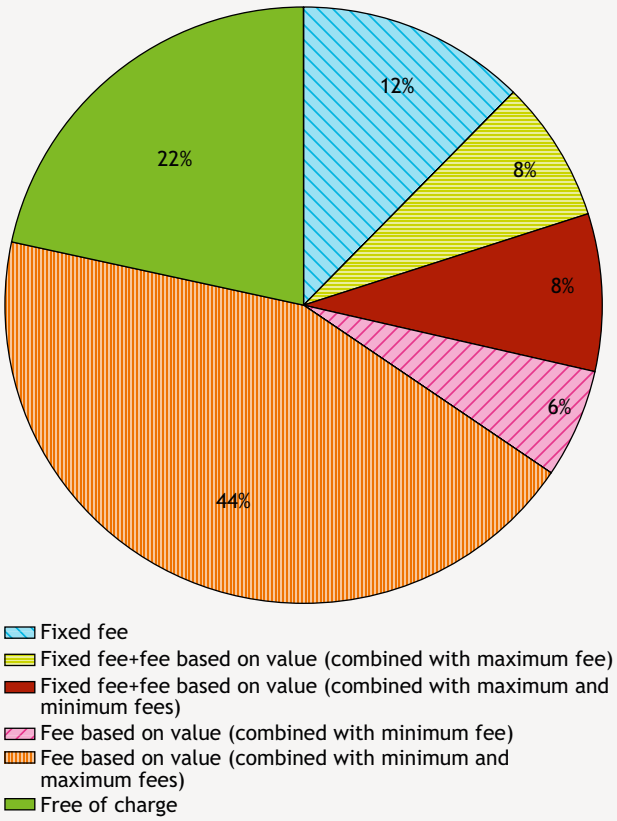
According to statistics available to the MNB, the value of banks' fee income from payment services amounted to an annual HUF 147–247 billion in the period between 2005 and 2011 (see Chart 2). This revenue is from the fees paid by customers to banks for using payment services. Examining the fees, it is worth analysing the fees of domestic forint credit transfers separately as well, since most of the transactions initiated by customers belong to this category.

Looking at the pricing of domestic forint credit transfers, a distinction must be made between the fees applied to the credit transfers of households and corporates. Considering that the pricing of credit transfers is combined and not the same in the case of various account packages, it is important to examine the types of fees of credit transfers. We mainly focus on the fee types applied in the case of electronically submitted credit transfers, because the 4-hour rule of the Decree also relates to electronically submitted credit transfers.

For households, banks apply fees based on value (per cent, per thousand), and they also apply minimum, maximum and fixed fees or free of charges; they may even be combined in various manners, depending on the given bank. A typical pricing method is the application of fees based on value, combined with minimum and maximum values. Fees based on value have been used by banks for credit transfers for years, so this type of fee is not unusual for customers. Looking at account packages for households,[4] fees based on value (combined with minimum and maximum values) are applied in 44 per cent of electronic credit transfers. In the case of electronic credit transfers, the second most frequent is the free of charge type (22 per cent), followed by the fixed-fee category (12 per cent).

The main difference between the pricing of corporate and household credit transfers is that although there are announced and public conditions in the medium and large company segments, these customers (mainly the large corporates) are granted special prices by their banks, and it is difficult to obtain information about these prices. Therefore, fee types for the credit transfers of large corporations are not discussed in this article. In the case of small enterprises, in the pricing of credit transfers submitted via the electronic channel to outside the bank, banks typically apply fees based on value combined with minimum fee (78 per cent), followed by the joint application of the fixed fee and the fee based on value (10 per cent).

Chart 1
Fee types for electronic transfers in retail account packages



Note: Our charts examining fee types were prepared by taking banks' fee packages collected from the Internet as a basis in the period under review. For each fee package we checked which type of fee is typical of the electronic credit transfer in the given fee package; individual account packages were classified into categories corresponding to the type of fee accordingly.
Source: Payment service providers' conditions.

In addition to the fees income from payment services, income from payment services also include the interest income originating from the fact that the interest paid by payment service providers on the sight balance of bank accounts is typically lower than BUBOR, but by lending this same amount they can attain a higher yield. This type of income is estimated to have reached an annual amount of HUF 147–224 billion in the period between 2005 and 2011 (see Chart 2).

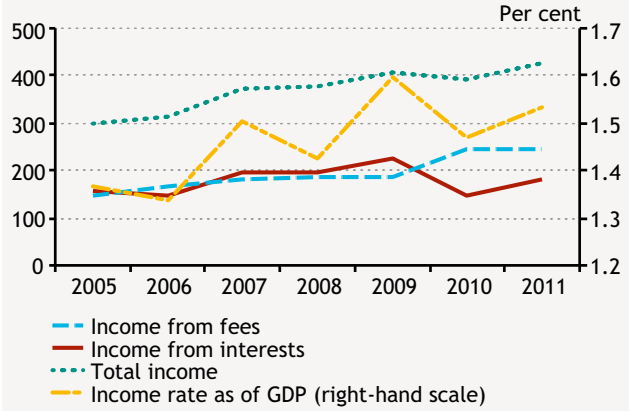
Until the introduction of the intraday credit transfer, the banking sector had another interest-type income as well from payment services, which is called float. Float meant the interest income from the money in transit. It originated

[4] The account packages were analysed on the basis of lists of conditions collected from the Internet between April and October 2011. It was not possible to weight the individual types by the number of customers, because we did not have information on the number of customers that use the individual account packages at banks.

from the fact that banks debited their customers' accounts on the day of giving the payment order or on the date due, but the money remained with them, and they had to pass it on to the bank where the beneficiary had its bank account only at a later date – typically on the day when the other customer also received the money. Banks did not pay any interest to their customers for this period, but produced interest income for themselves. In Hungary, between two banks this period was typically 1 day, which increased to 3 days at weekends (or could even reach 4–5 days around holidays or upon a reorganisation of working days). Accordingly, float is the interest on current account for 1 working day not paid by the bank to its customer. The introduction of the intraday credit transfer practically terminated banks' float income.

In summary, (partly according to our estimates) payment service providers' incomes from fees, charges and interests related to payment services amounted to an annual HUF 301–428 billion in the period between 2005 and 2011. Of this, the value of fee incomes from payment services was HUF 147–247 billion, while interest incomes are estimated to have amounted to HUF 147–224 billion. Total income from payment services in the period under review amounted to 1.34–1.6 per cent of GDP at current prices. Incomes from payment services reached their highest level in 2011, amounting to nearly HUF 428 billion in total. Within incomes from payment services, in the period between 2005 and 2011, interest incomes of payment service providers represented a total share of 37–55 per cent, while the share of fee incomes was 45–63 per cent. Compared to them, float income was low and estimated to be somewhat higher than HUF 3 billion in 2010 (however, Chart 2 does not include this income).

Chart 2
Payment service providers' incomes related to payment services
(2005–2011; HUF billion)



Note: The methodology of data collection regarding fee incomes changed from 2010.
Source: MNB.

The following section discusses the changes in credit transfer fees after the introduction of the intraday credit transfer.

CHANGES IN CREDIT TRANSFER FEES UPON THE INTRODUCTION OF THE INTRADAY CREDIT TRANSFER

The money market crisis that started in the autumn of 2008, the surtax imposed on banks and the preferential prepayment of foreign currency loans resulted in a decline in banks' lending activity, a considerable deterioration in the quality of the existing portfolio and a significant fall in the profit of the banking sector. Economic factors other than the introduction of the intraday credit transfer (such as the introduction of the financial transaction tax) further increase the chance that banks will offset their lost incomes by raising their fees. The fall in float due to the 4-hour rule also results in a decline in profit, and prompts banks to raise their fees. Although it can be concluded that many factors point to price rises, our analysis below is limited only to the possible fee increase resulting from the introduction of the intraday credit transfer.

As the bank fee charged for a specific credit transfer may depend on many parameters (minimum, maximum fees and fees based on value), there are many ways to implement a price increase. For example, banks may increase the minimum fee and reduce the maximum fee, emphasising the latter to their customers. As the information about the volume and value of their customers' credit transfers is available for banks, they can make precise calculations, whereas customers typically do not prepare such deep calculations regarding their own turnover.

It is extremely difficult to estimate at banking sector level the magnitude of the fee increase due to the introduction of the intraday credit transfer. The underlying reason for this is the existence of a high number of fee packages and individual conditions and the fact that only the individual banks know (1) how many customers use the individual fee packages, (2) what size of turnover the customers belonging to each account package have, and (3) what the composition of this turnover is. In addition, difficulties are raised by the existence of cross subsidisation across various services, which allows banks to make their customers pay their costs through the prices of other bank services, instead of account management services.

Relying on the data available, below we try to estimate the size of the price increase due to the introduction of the intraday credit transfer. Looking at the fee types described above, we can conclude that there are several types of fee increases. For example, raising only the minimum fees may also result in a fee increase for customers, depending on the value band the amount intended to be transferred falls into. We strived to take all of this into account in our estimation. The distribution of the values of interbank transactions is available for the MNB, and so we calculated what price increase this may mean at individual banks in the case of the fee packages with the lowest monthly fee. The reason why we analysed these ones is that there are many packages that contain free of charge services in exchange for a fixed monthly fee. In the case of these packages, it would be difficult to prove which service included in the package caused the change in the fee. We think that the change in prices can better be observed in the case of fee packages where the monthly fixed fee is minimal, so the possibility of cross subsidisation across services is lower.

In the case of these fee packages, banks increased their credit transfer fees per one transaction from HUF 143.16 to HUF 146.66, i.e. by HUF 3.5, corresponding to a total 2.45 per cent. Although this size of increase equals the estimate prepared on the basis of the cost survey concerning the introduction of the system conducted prior to the project, the situation is in fact more favourable due to the preferential/fixed-fee packages. We cannot speak about a fee increase in the case of the zero-cost account packages, where customers are granted free payment services and credit transfers in exchange for a regular monthly credited sum directed to their bank account (here the bank also covers its costs from incomes from cross subsidisation). This points to the fact that the total average fee increase related to the intraday credit transfer is in fact lower than the HUF 3.5 quantified in the case of the selected account packages. Our estimate also leads to the conclusion that banks have not even shifted a part of the ceasing of their float income to their customers, as (according to our calculations) they would have been able to do so only through a much higher fee increase, exceeding HUF 20. Accordingly, the ceasing of the float income, which used to amount to some HUF 3 billion a year, has turned into savings for banks' customers.

Banks must announce changes in their general terms and conditions and lists of conditions to their customers 60 days prior to entry into force. As the 4-hour rule resulted in considerable changes in the operation of banks, they already published the amendments to their general terms and conditions at end-April 2012.

It is a statutory regulation for banks[5] that fees and costs may only be amended due to a reason that has an actual impact on the size of the given fee or cost. Therefore, for banks it is expedient to increase their fees when their costs change, otherwise it becomes much more difficult for them to prove justifiability. Accordingly, numerous banks amended their lists of conditions at end-April 2012 (with entry into force in July). Therefore, we believe that a comparison of the 2011 lists of conditions and the ones amended between April and July 2012 allows well-founded conclusions to be drawn regarding the sizes of increases in the fees to be paid by customers due to the introduction of the intraday credit transfer.

The comparison of the previous conditions valid between April and October 2011 and the new conditions reveals that **there was some increase** in credit transfer fees at some banks, but several banks left their conditions unchanged. It is interesting that although **several banks raised the fees for bank branch (paper-based) credit transfers in the case of certain account packages, their fees for electronic transfers remained unchanged** compared to 2011. However, there was a bank that increased the fees of electronic transfers.

Payment services fees were raised again in early 2013, but these increases are typically attributable to the introduction of the financial transaction tax and not to the intraday credit transfer.[6]

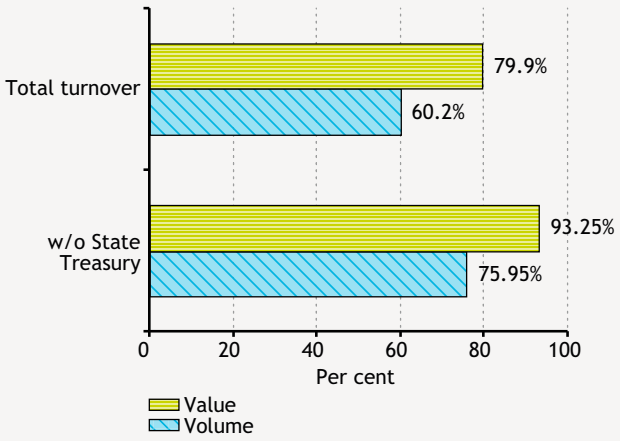
EXPERIENCES OF THE INTRADAY CREDIT TRANSFER

The intraday ICS clearing that allows for compliance with the Decree started at the time set by the MNB, i.e. upon the entry into force of the 4-hour rule. As this was a very radical change in the operation of banks and GIRO Zrt., minor incidents occurred, but those concerned were able to solve them, so banks' customers did not even perceive them.

In terms of its operation, the new system passed the exam. Clearing of a cycle typically took 8–10 minutes (including waiting for the arrival of the cover funds as well); the cycle with the highest turnover (497,000 items) to date also remained within 15 minutes. Clearing takes longer only if the provision of cover funds has to be waited for (but, as described below, it happens rarely).

[5] Article 210 (4) of Act CXII of 1996 on Credit Institutions and Financial Enterprises.
[6] It was observed in this case as well that banks scheduled their fee changes in line with the changes in circumstances.

Chart 3
Intraday clearing in the ICS in September



Source: MNB.

Based on September data, of all the transactions cleared in the ICS, 60 per cent in terms of volume and 80 per cent in terms value were settled in the course of the day. At the same time, the 4-hour rule does not apply to the Hungarian State Treasury (MÁK). Excluding the Hungarian State Treasury, 76 per cent of all transactions in volume and 93 per cent of them in value were settled in the course of the day (the rest comprises paper-based and debit type transactions, e.g. direct debits).

Although no increase in volume can be detected, the turnover of the ICS in value increased considerably, by HUF 1,000 billion per month on average. Previously, banks were concerned that the ICS would take items from the VIBER turnover. These concerns were justified as there are many high-value corporate transfers that require intraday settlement, but not necessarily a real-time one. A detailed review of the turnover data reveals that there was a considerable increase in the number of very high-value (above HUF 1 billion) transactions; therefore, in all probability, these items had previously typically been settled in VIBER. However, this cannot be detected in the turnover of VIBER (as it amounts to approx. HUF 1,300,000 billion a year, and the change is much smaller than the natural monthly fluctuation observed in VIBER).

As early as in 2007, the MNB requested ad hoc data supply from the largest banks regarding the intraday distribution of the number of transactions.

In the first months it is already worth examining what picture of customers' intraday credit transfer activity is drawn on the basis of the turnover of individual cycles of the intraday clearing, and how it compares to the practice observed earlier (Table 1).

The data show that the only significant change between the two years under review is that a lower percentage of customers submit their credit transfer orders early in the afternoon, while the percentage of the number of orders given later or only at the beginning of the next day increased considerably. Accordingly, on the basis of the table we may conclude that the greatest portion of retail customers' transfers is executed in the first cycle in the intraday credit transfer system. The exact reason for the intraday rearrangement of the times of orders is unknown, but as the data of comparison are old (2007), it is not necessarily attributable to the intraday credit transfer system. It is more likely that the number of non-paper based retail credit transfers has grown continuously since 2007, and as a significant portion of retail customers (especially those who apply Internet banking solutions) submit their credit transfer orders late in the afternoon or in the evening, this process naturally resulted in the shift seen in the table. This is also shown by the fact that the average value of transactions (around HUF 170,000) is the

Chart 4
Intraday distribution of customer transactions in March 2007

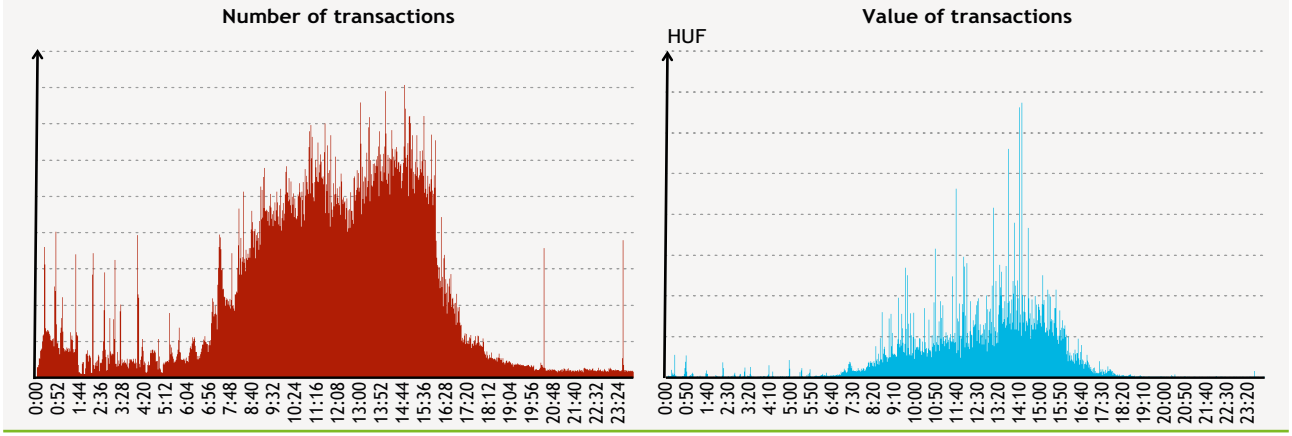


Table 1
Intraday distribution of the transfer turnover in 2007 and 2012

Cycle*	2007**		2012***		Difference	
	ea (%)	HUF (%)	ea (%)	HUF (%)	ea (%)	HUF (%)
Items submitted between approx. 16:00 hours and approx. 08:00 hours next morning (at present, they are executed in cycle 1 [08:30] of the intraday credit transfer)	24.13	11.29	32.33	15.07	**8.2**	**3.78**
Items submitted between approx. 08:00 and 10:00 hours (at present, they are executed in cycle 2 [10:30] of the intraday credit transfer)	15.16	12.9	15.69	14.87	0.53	1.97
Items submitted between approx. 10:00 and 12:00 hours (at present, they are executed in cycle 3 [12:30] of the intraday credit transfer)	19.52	18.92	18.13	20.74	−1.39	1.82
Items submitted between approx. 12:00 and 14:10 hours (at present, they are executed in cycle 4 [14:40] of the intraday credit transfer)	19.52	27.63	19.18	25.2	−0.34	−2.43
Items submitted between approx. 14:10 and 16:00 hours (at present, they are executed in cycle 5 [16:30] of the intraday credit transfer)	21.68	29.26	14.67	24.13	**−7.01**	**−5.13**

** The cut-off times indicated in the table are for guiding purposes only; individual banks may depart from them.*
*** Estimate on the basis of a March 2007 survey.*
**** Based on actual data of September 2012 (but other months also show a similar picture).*

lowest in the first cycle, suggesting a preponderance of retail orders, whereas the much higher average value of the last cycle (approx. HUF 601,000) indicates the dominance of corporate orders.

An important question in intraday clearing was how able banks would be to manage their liquidity. Preliminary liquidity simulations showed that this would not cause any problem, although there are many banks that circulate the multiple of their respective account balances on the same day in VIBER. In spite of the fact that the credit line provided by the MNB against securities collateral greatly facilitates the performance of the turnover, and the turnover value of the ICS is negligible compared with that of VIBER, theoretically it may still happen that money market items 'take away' the funds from the low value clearing (and the temporarily uncovered position may delay ICS clearing). Of the 310 cycles completed in the period between July and September 2012:

- it happened on 3 occasions that the funds did not arrive during the day in the designated 10-minute period; in this case the items of the bank concerned[7] are executed in the next cycle (but even in these cases, the 4-hour rule was not breached);

- it happened on 2 occasions that the provision of funds had to be waited for at the end of the day (in the most important period for treasuries).

Accordingly, we think that the system's parameters related to the provision of funds are adequate and work well.

OTHER FAVOURABLE EFFECTS OF THE INTRADAY CREDIT TRANSFER

We explained in the previous chapter that there are effects of the intraday credit transfer that can already be measured. In addition, however, there are future effects that are difficult to measure, which are also expected to belong to the group of favourable effects. They are outlined below.

The main objective of the 4-hour rule was to attain a significant increase in service level in payment systems. The increase in the service level is an effect that can be quantified only partly, although everyone 'feels' its positive consequences.

For the time being, the use of the system only covers the simplest transactions. The underlying reason is that the special Hungarian payment methods (transfer of funds by the order of authorities, direct debit) also have to be adjusted to the international message standard. As they account for a smaller portion of the turnover, the MNB did not want any delay in launching the intraday credit transfer because of the adaptation of these payment methods. **However, within not more than 3–4 years it will be expedient to clear all types of transactions in the new system.** Then the night clearing will become empty and cease to exist, and debit type transactions will also be executed in the course of the day.

The shortening of execution has a risk-reducing effect, as it may be able to substitute for cash in higher-amount transactions. With regard to this issue, the MNB is of the

[7] The number of transactions here is only in the magnitude of a hundred.

opinion that it will be worthwhile to further increase the frequency of clearing in the future, because this reduces risks.

As intra-bank items will not be received (significantly) earlier than now, larger banks' competitive advantage due to the time factor will cease to exist. Since the ICS fee is much lower than what typically appears as a difference in bank fees between intra- and extra-bank transfers, **the MNB expects a strengthening in interbank competition.**

Intraday credit transfers may provide an opportunity for corporations to reduce the balance of their current account and take it over to another instrument that has a better yield, provided that they have a credit limit at their banks. As there is no interest on the intraday credit limit, if the balance of the account is positive again at the end of the day, the account balance held previously because of the T+1 turnover can be reduced. However, as our statistics show, customers do not use this opportunity yet.

The intraday credit transfer is based on a message standard that has a much wider data content and can be much more flexibly shaped than the previous one. This allows companies as well to change their accounts receivable and payable analytics in a way to considerably reduce manual work.

Accordingly, intraday clearing may have numerous positive impacts, whose magnitude cannot yet be precisely determined due to the complexity of the issue and the shortness of time that has elapsed.

CONCLUSIONS

The MNB launched the project that aimed at the reform of bank and interbank systems after lengthy preparatory work. During the project, the systems of more than 150 financial service providers concerned had to be modified and tested. This required both significant investment and considerable external and internal human resources investments from the participants, entailing a cost increase for banks.

However, due to the enormous number of transactions that bear these costs we thought that the cost increase would be insignificant. Based on the investment costs estimates requested from banks, **the MNB estimated the production cost increase per transaction to amount to HUF 3.4.** It was uncertain for the MNB as well whether due to lower profits as a result of the financial crisis and due to other burdens carried by banks they would considerably raise the fees to be paid by customers, so we wanted to measure it in any case. This is not a simple task because of the significant cross subsidisation and the fee packages the monthly charge of which is higher but which contain many 'free' transactions in exchange, as sufficiently detailed information is not available. According to our calculations, in the packages with a minimum monthly fee (containing no 'free' transactions) **the cost of transfers increased by an average HUF 3.5,** which is very close to our earlier estimate. This figure seems to be especially good considering that banks lost most of their income from the money in transit (float) when the system was launched.

The past half year demonstrated that the completed system passed the exam, works reliably and its operation has become a routine. The MNB considers it a great achievement that banks chose a 2-hour clearing period instead of the 4-hour one required by the MNB Decree, which practically means that in normal operation **transactions reach recipients in not more than 2 hours.** Transactions submitted at the 'luckiest' time might as well reach the other bank account in 10–20 minutes. As a result, the execution time of transfers shortened considerably, and customers also seem to have adjusted themselves to it: firstly, submission practices changed to some extent; secondly, the value of transactions performed through the ICS increased significantly.

In our opinion, the shorter execution time will strengthen interbank competition for customers against the execution within the same bank, which has been a real-time operation for long.

As interbank transactions are already based on the flexibly changeable xml standard, which is applied in the SEPA payment methods as well, this allows the wide spreading of automation from customer to customer in the case of transfers as well.

REFERENCES

Divéki Éva and Olasz Henrietta (2012), "A pénzforgalmi szolgáltatások árazása", [The pricing of payment services], *MNB-tanulmányok,* 101.

Kovács Levente (2011), "A T-napos utalás gazdasági hatásai. Előadás a Magyar Közgazdasági Társaság Pénzügyi Szakosztályának konferenciáján, 2011. február 8., Budapest", [Economic effects of the T-day transfer. Presentation at the conference of the Financial Section of the Hungarian Economic Association], in: *InterGIRO2 – Napon belüli elszámolás konferencia tanulmánykötet,* [Intraday clearing conference, volume of essays and studies], pp. 20–30.

Kovács Levente (1999): "A pénzforgalmi jutalékbevétel növelésének lehetősége", [The possibility of increasing the commission income from payment services], *Bankszemle*, 10–11. sz., pp. 96–101.

Milne, Alistair and LeiLei Tang (2005), *An economic analysis of the potential benefits and dis-benefits of faster payments clearing*, Office for Fair Trading, 2005.