István Helmeczi

The map of payments
in Hungary

MAGYAR NEMZETI BANK

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Contents

Abstract

Until recently only aggregate data were available on national payment turnover. In reality, however, there are substantial differences across individual settlements (or between the various districts of Budapest). As a result, there is hardly any settlement which would be more or less on a par with the 'national average' in terms of the volume of payments. This paper presents Hungary's payments infrastructure (its supply of bank branches, automated teller machines and merchant PoS terminals) and payment transactions between individual counties and settlements – which, in principle, reflect well their economic relationships – plotted on maps and summarised in table form. In addition, data on individual settlements are made available for researchers and those with interest in the subject.

JEL: H30, J10, R10, R50, Y10.
Keywords: payments, map, bank branch, bank card, POS, ATM, transfer, batch credit transfer, direct debit, statistics, county, settlement.

Összefoglaló

Az országos pénzforgalomról eddig csak összesített adatok álltak rendelkezésre, a valóságban azonban az egyes települések között (vagy akár Budapesten belül a kerületek között) igen jelentős különbségek vannak, így valójában alig van olyan település, amelyre az „országos átlag" igaz lenne. A kiadvány Magyarország pénzforgalmi infrastruktúráját (bankfiókokkal, bankjegykiadó automatákkal és kereskedői POS-terminálokkal való ellátottságát) és az egyes megyék, települések egymás közötti – elvileg a gazdasági kapcsolatokat jól tükröző – pénzforgalmát mutatja be térképen is ábrázolva, illetve táblázatos formában. Ezen túlmenően a kutatók, illetve az érdeklődők számára rendelkezésre bocsátjuk az egyes településekre vonatkozó adatokat is.

1 Introduction

Note for non-Hungarian readers: this paper was primarily prepared for the Hungarian public; therefore for best understanding, readers should be somewhat familiar with Hungary's geography. Despite this, we believe that the information presented in this study may be interesting for foreign readers.

The MNB collects a wide variety of data on payments in Hungary, but these data are only characteristic of the country "on average" or "overall". Often, these "average values" are not suitable when it comes to decision-making, because settlements differ in terms of characteristics across the country. When the details are examined, interconnections are revealed and identified which cannot be captured with the aggregate data.

The Interbank Clearing System[1] (the Hungarian retail payments system) is designed in such a manner that the bank branch (and its address) can be identified by the first 8 digits of the account number. Using detailed data for 2 months of payments in the country,[2] we compiled tables and maps which allow for an analysis of the "payment infrastructure" of the individual locations and the relationships between them.

This led to us examining payment transactions in Hungary in a manner which, in contrast to the practice adopted so far, they are linked to counties and settlements rather than to banks, and examining data in an intra-month or even intra-day breakdown rather than looking at aggregate annual data. Accordingly, we use the word "map" as a synonym for both geographical and temporal dimensions. These data represent a source of valuable information for the MNB as the institution responsible for the smooth functioning of payment services; at the same time, we think that most data should be shared with and made available to the interested reader.

We hope that this publication has something to offer for experts and non-experts alike and encourage them to ask questions that have so far seemed unanswerable. We believe that this publication, in which we also share our most important views with the reader, is of interest in its own right. At the same time, we have also provided the tables of data aggregated by settlements and counties, enabling other researchers to study this topic. Furthermore, we think that these data can be put to good use in the decision-making processes of the national government, local governments and banks.

We have attempted to write this publication in a manner that can also be appreciated by the layman, and therefore some terms are used in a sense other than their technical/legal proper meaning. Such differences from the original meanings are consistently indicated.

The maps we have compiled in this publication are based on the base map[3] published on Wikipedia.

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[1] Interbank Clearing System (ICS): this is where banks forward the orders sent by the clients to the clients of the other banks. ICS checks messages from various aspects and, if it does not identify any error in them, it transfers them the bank of the client.

[2] Data are depersonalised, i.e. only the account-managing branch office, but not the account-holder can be identified.

[3] http://hu.wikipedia.org/wiki/F%C3%A1jl:Hungary_map_modern_with_counties.png.

2 Methodology, assumptions and biases

In designing a national system of account numbers, it was of key importance that the proportion of erroneous orders be drastically reduced. As there were no automated clearing houses before 1994, interbank orders in a paper-based format were sent to the MNB, which also kept a record of them. During this period, the number of erroneous orders was significant, and it was rather cumbersome to recover the sums involved. Therefore, account numbers in the bank account number system designed in 1994 and operational since then contain control codes which ensure that erroneous digits are already recognised by the payer's bank;[4] accordingly, the system thus designed provides considerable protection against erroneous transfers arising from erroneous digits. The underlying reason for establishing the database of the Routing Table containing the 8-digit codes of the bank branches was similar. The clearing house rejects transactions from or to bank branches that are not listed in the table (because, for instance, they are no longer operational), as a result of which the number of erroneous transfers can be further reduced. The Routing Table is managed by the MNB and updated monthly on the basis of the reports submitted by the banks.

In addition to containing information that also bears relevance to automated settlement systems, the Routing Table also lists the addresses of the individual bank branches. The intended purpose is to facilitate the accurate channelling of the orders that mandatorily contain paper-based attachments (e.g. bills of exchange). Based on the branch office identifying codes and the Routing Table, the settlement from which a transfer is made and the one to which the transfer is made can be identified without having to know the actual payer and payee.

Chart 1
Composition of the Hungarian bank account numbers

The Routing Table contains addresses, and therefore, the settlements and counties where a specific settlement is located are identified on the basis of a list of postal codes compiled by Magyar Posta Zrt. (Hungarian Post). The identifier (abbreviated name) of the county stands next to the individual post codes.

Although the data provided in this publication are based on facts, it should be kept in mind that there are certain impacts that cannot be disregarded when the data are interpreted. If they are, it may lead to erroneous conclusions. Such possible biases are as follows:

a) **Redistribution by the state:** It would be a mistake to include tax payments and major state disbursements (e.g. pensions) in the map, and therefore we excluded transfers of this kind from the regional analyses (see branch offices unrelated to settlements). If we went by branch codes only, it may easily be the case that a business in Győr transfers taxes to Budapest, and a pensioner in Szeged receives his pension from Budapest. The state is unrelated to settlements, even if national state authorities have their headquarters (and accounts) in Budapest. Accordingly, we excluded all the

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[4] In this paper the word "bank" is used as an umbrella term covering all payment services and credit institutions, including all savings and credit co-operatives, licensed to manage accounts.

transactions affecting the central branches of the Hungarian State Treasury (HST) from the regional analysis. We did not, however, exclude transactions handled by the regional offices of the HST, as these branches' transactions are retail payments. The individual means of payment are presented in such a way that the groupings which do not present regional information (e.g. temporal distribution, breakdowns by amount brackets and purpose codes) contain all transactions, including those affecting the state.

b) **Bank branch offices unrelated to settlements:** Some banks have only reported one single branch office to be included in the Routing Table, despite the fact that they have branches in a number of settlements. Although they are allowed to do so and this is perfectly legitimate, based on the above logic, all the transactions affecting them would qualify as Budapest-related transactions, which would distort the picture significantly. Moreover, some banks have branches unrelated to any settlement (e.g. AAA Bank Credit Card Branch, BBB Bank Central Foreign Exchange Branch). We excluded the transactions related to such branches from the analysis.

Recently, one of the banks changed the addresses of all its branch offices to Budapest addresses. In their case, we used the addresses prior to the change.

c) **Impact of conurbation:** It is often the case that many people commute to work in large towns from neighbouring settlements. Therefore, many private individuals residing in small settlements or businesses registered there are likely to have their accounts managed at the bank branches in the nearby town (as it is easier to go about their business during the day). It follows that the demonstrated payment turnover in towns may be larger and that of the neighbouring settlements may be lower than what it actually is. *As we cannot exclude or assess this impact,* data for large towns should be interpreted together with those for their immediate conurbation. The same holds true for settlements where there are branch offices while there are none in the neighbouring settlement(s).

d) **Issues related to internal transactions in small settlements:** The publication also addresses the issue of payment turnover within settlements. If the population of a settlement is small, the number of the bank branch offices is likely to be equally small, i.e. the likelihood of the payer and the payee having their respective accounts managed by the same branch is higher. As these transactions are intra-bank transactions processed in the Interbank Clearing System, the reliability of the proportion of intra-turnover may, in regard to this document, vary according to the size of the settlement (i.e. it is "roughly" accurate in large cities and biased "in the favour of" the city, while in settlements with small populations, it is biased "to the detriment" of the settlement).

e) **Settlements with no post code of their own:** In Hungary a number of settlements do not have post codes of their own. On the other hand, we could link bank branch office to a settlement on the basis of post codes. Therefore, in regard to our maps, the details of a total of 2,457 settlements also containing the data of the settlements with no post code of their own have been included in the map.

f) **Payments are not restricted to the Interbank Clearing System:** This study does not cover cash and bankcard-based transactions, and postal payments and transactions within the same bank. Therefore, although the data provided are accurate, they do not cover the entire payment market. Nevertheless, given the fact that the Interbank Clearing System represents a dominant part of the overall turnover of payments, we believe that the conclusions drawn from the data can be considered relevant.

3 A geographical map of the domestic infrastructure of payments

If we wish to examine payments, we must first examine both the static components (payment infrastructure) and the relations between such components. Thus, our analysis also examines the number of the branch offices, ATM's[5] and POS terminals that settlements have, and addresses the issue of payments between individual settlements.

In the analysis, we do not differentiate between credit co-operatives and banks[6] in view of the fact that both provide up-to-date payment services (e.g. bankcards, telebanking and Internet-based banking) and, as regards payments, both have to meet the requirements laid down in the same laws or decrees. Accordingly, we consistently use the term "branch" or "bank branch" to refer to both credit co-operatives and bank branches.

The basis of the analysis is the turnover of the ICS system for the period September–October 2008; accordingly, unless indicated otherwise, turnover data pertain to this period.

3.1 MAP OF THE PAYMENTS INFRASTRUCTURE

The level of development of a country's payments is fundamentally determined by the ease with which clients can access services. No client can be realistically expected to have a bank account, if there is no cash withdrawal facility at their place of residence or bank cards are not accepted in the shops where they do their regular shopping.

Therefore, we first identify the payment services to which clients may have access depending on their place of residence. In so doing, we present the location of ATM's and POS terminals.

In terms of their intended use, POS's can be included in two major groups: some are located in outlets and, in line with their original purpose, these are used for purchases. Others are located in bank branch offices or post offices and are used for cash withdrawal. Naturally, we treat the two types separately.

3.1.1 Bank branches

Some 15 to 20 years ago, in the 'paper-based' era, a bank branch was practically synonymous with the availability of a payment infrastructure. Although the situation has changed thanks to the spread of different means of payment (bank cards, Internet banking and telebanking) making "remote access" possible, bank branches are still a major building block of the financial infrastructure as proven by surveys, which reveal that easy access to bank branches is still a major consideration for clients when it comes to choosing a bank. It follows that it is a factor that fundamentally affects competition between banks. Given that what counts in terms of competition is the number of the banks from which clients can choose, we checked not only the availability of bank branches in a given settlement, but also their number.

3.1.1.1 Number of branch offices in an international comparison

In addition to a comparison of Hungary's counties and settlements, the country's ranking relative to the other Member States of the European Union may also be of interest. Unfortunately, a comparison is rather difficult because payment services vary from one Member State to the next: there are countries where local post offices manage accounts and handle

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[5] Automated Teller Machine.

[6] On the basis of the act on credit institutions and financial enterprises, "bank" is a protected term and only banks, but not savings co-operatives are allowed to use it. For the sake of easier understanding, however, we decided not to stick to this legally precise wording.

Chart 2

Number of bank branches providing payment services per 1 million residents in the individual countries, 2008
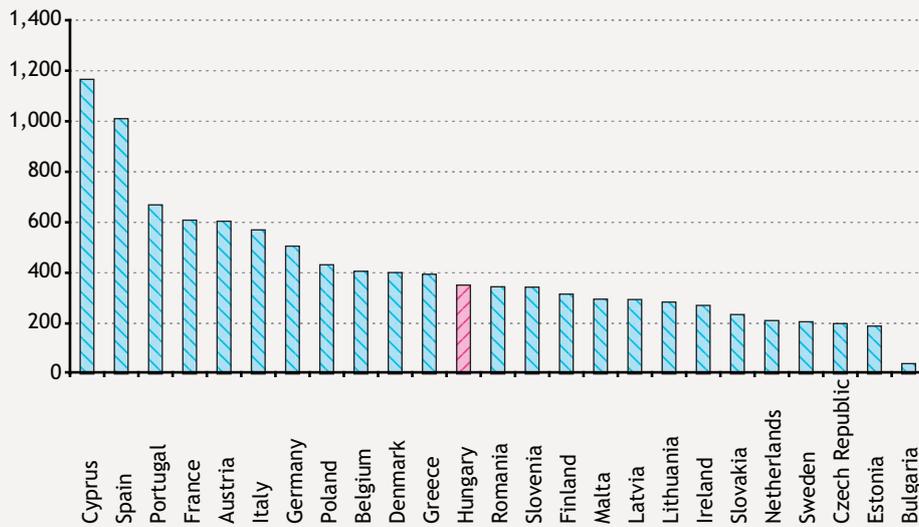
Source: Blue Book (a publication by the European Central Bank).

a sizeable turnover of payment transactions (the majority of payments are cash transfer orders in Hungary as well). In light of the above, it would be a mistake to consider the countries 'bringing up the rear' as 'backward', because it could easily be the case that it is not banks that provide certain payment services in those countries. Moreover, as we will later see, to a large extent branch networks depend on the number and size of settlements.

Based on the table, Hungary is a country that is moderately well supplied with branch offices within the European Union, with most Western European countries faring better than Hungary in this respect.

3.1.1.2 Number and location of domestic bank branches

There has been an upsurge of bank branch openings in Hungary in the past decade, which is shown in Chart 3.

Chart 3

Number of bank branches in the Routing Table, 2003–2008
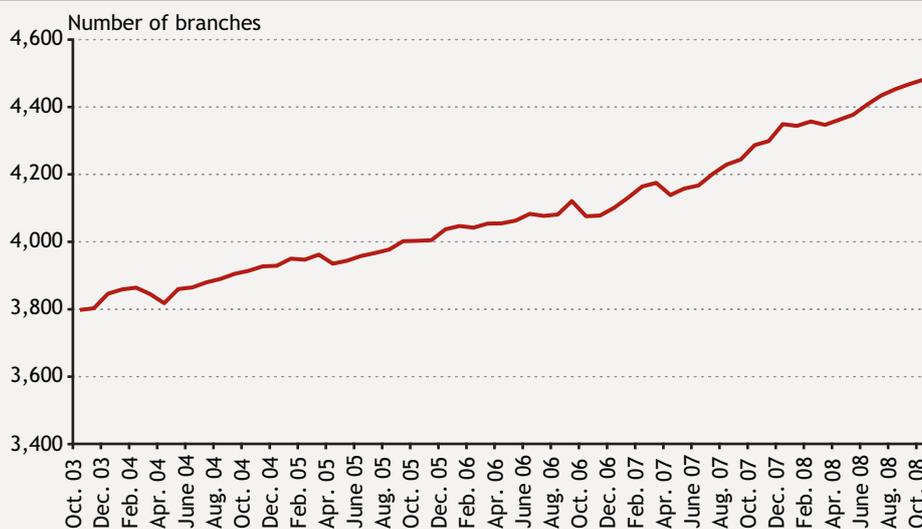
Source: MNB (Routing Table).

Table 1
Distribution of Hungary's settlements in a breakdown by population, 1 January 2008

Population	Number of settlements	Total population of settlements
Over 1 million	1	1,702,297
100,000 to 1 million	8	1,157,636
50,000 to 100,000	11	708,813
10,000 to 50,000	122	2,342,470
5,000 to 10,000	138	960,713
1,000 to 5,000	1,134	2,403,607
Below 1,000	1,738	769,865
Total	**3,152**	**10,045,401**

Source: HCSO (Hungarian Central Statistical Office).

Chart 3 shows the number of the branches participating in the payment systems reported for the purpose of inclusion in the Routing Table. Although the Routing Table also comprises the branches of the State Treasury and MNB, along with banks' 'virtual' branches (reported for technical banking reasons), the number of actual, physically existing bank branches is slightly lower than this. On the other hand, however, growth is attributable – almost exclusively – to the opening of actual branches. (In response to the financial crisis, this trend has reversed, but the decline has not been significant so far.)

The reason why such an increase in the number of branches is surprising is that, according to MNB statistics, an overwhelming share of orders are now submitted electronically (via the Internet or office banking), while the share of paper-based orders ranges from 6% to 8%. Based on this, it is safe to say that the opening of bank branches is driven by considerations other than payments.

A look at the distribution of Hungary's population reveals that 60% of the overall population are concentrated in 142 settlements, each with a population of more than 10,000. Also, more than 50% of the settlements have a population of fewer than 1,000 (Table 1).

One would think that opening a branch in settlements with a small population is not profitable, because the cost of establishment and maintenance is high. Although this is true in general and data also underpin this conclusion, there are several exceptions to this (one such exception is Ibafa,[7] the settlement with the smallest number of inhabitants (239 residents) which has a branch operational in it). Despite the exceptions, **there are no bank branches in most of the settlements with a small population.**

A comparison of the number of bank branches per 1,000 persons reveals a surprising result. On the list of the number of bank branches per 1,000 persons (residents) villages and small towns rank first; Budapest with approximately 25% of all bank branches only fares 1,227[th]. Generally speaking, the *"per 1,000 persons"* type indicator reflects, in a comparable manner, the relative frequency/availability of a thing or the level of development of a region or settlement. However, using this indicator on its own can result in incorrect conclusions because, typically, residents of larger settlements have more competing banks to choose from than their peers living in small settlements with only one bank branch. Consequently, in this case, we do not think that this indicator is suitable for assessing the relative level of development, despite the fact that it is likely to be able to indicate that customer waiting time is probably shorter in settlements with a small population where a branch is operational.

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[7] Despite its small size, Ibafa is well known in Hungary, as there is a tongue-twister which refers to it.

Table 2
Top 10 settlements based on the number of bank branches per 1,000 persons, October 2008

Name	Population	No. of bank branches	Number of bank branches per 1,000 persons ↓
Erzsébet	332	2	6.02
Kétbodony	477	2	4.19
Ibafa	239	1	4.18
Árpás	249	1	4.02
Tarnaszentmária	255	1	3.92
Porrog	258	1	3.88
Szilsárkány	662	2	3.02
Lipót	678	2	2.95
Szentbalázs	340	1	2.94
Kárász	343	1	2.92

*Note: If there are more branch in the same address we counted those as only one branch. This may happen in case of virtual branches, like '***** Bank credit card branch', or when a physical branch is closed, it doesnt deleted from the table, but gets its address modified to another branch's, which takes over the closed one's customers. However, minor errors may occur if the table contains different text for the same address (e.g. abbrevations), as the table is too big for manual revision.*
Source: HCSO (population), MNB (branch data).

Naturally, a complete list is included as an annex to this publication; readers can find data for the settlements in which they are interested in *"7.1.1 Data on the infrastructure of payments"* and compare them with data for other settlements. The maps on the following pages show the absolute distribution of bank branches and their distribution relative to the population.

Map 1
Number of bank branches in the individual settlements, October 2008
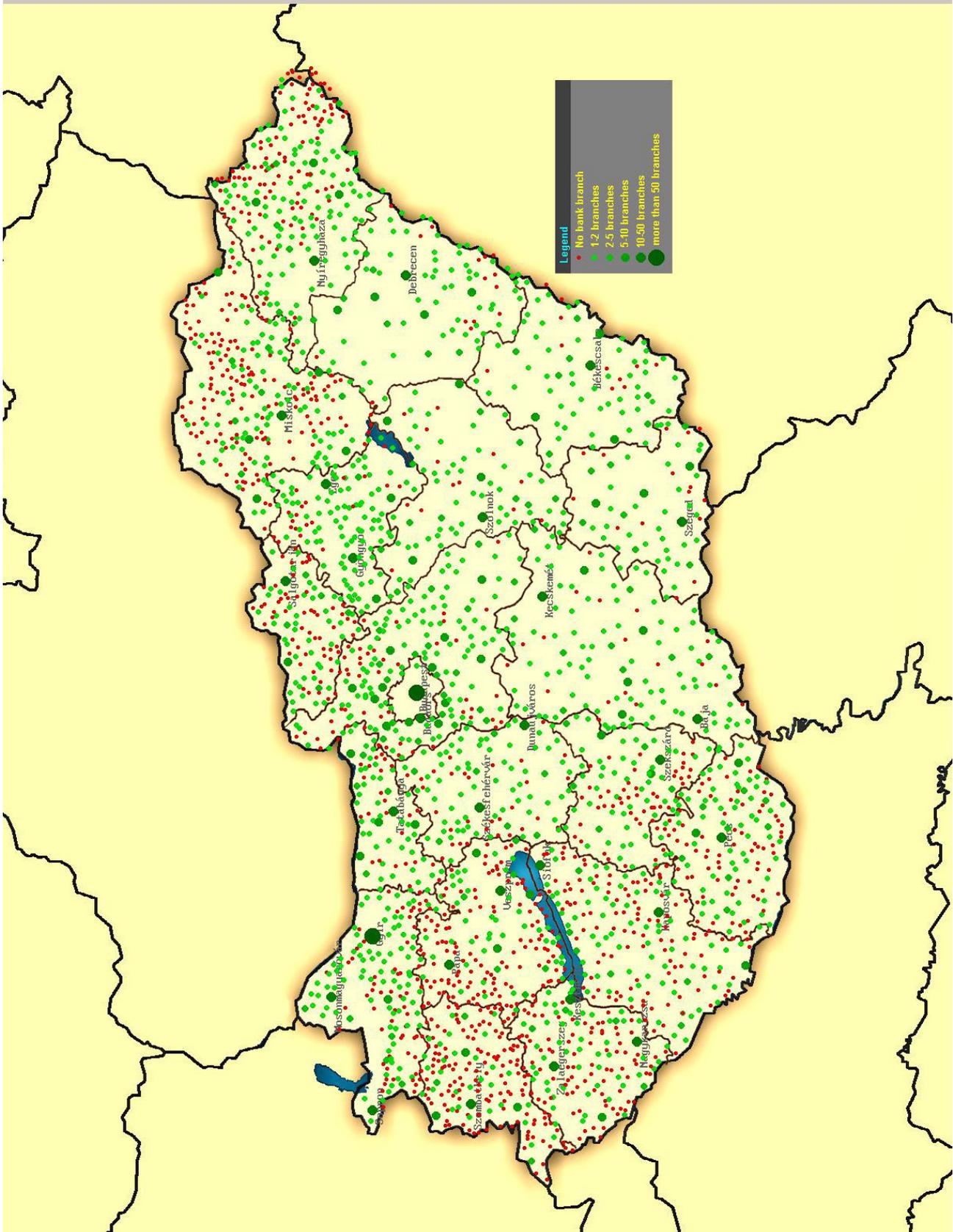
Map 2
Number of bank branches relative to the population in the individual settlements, October 2008

Table 3
Number of bank branches in the individual counties, October 2008

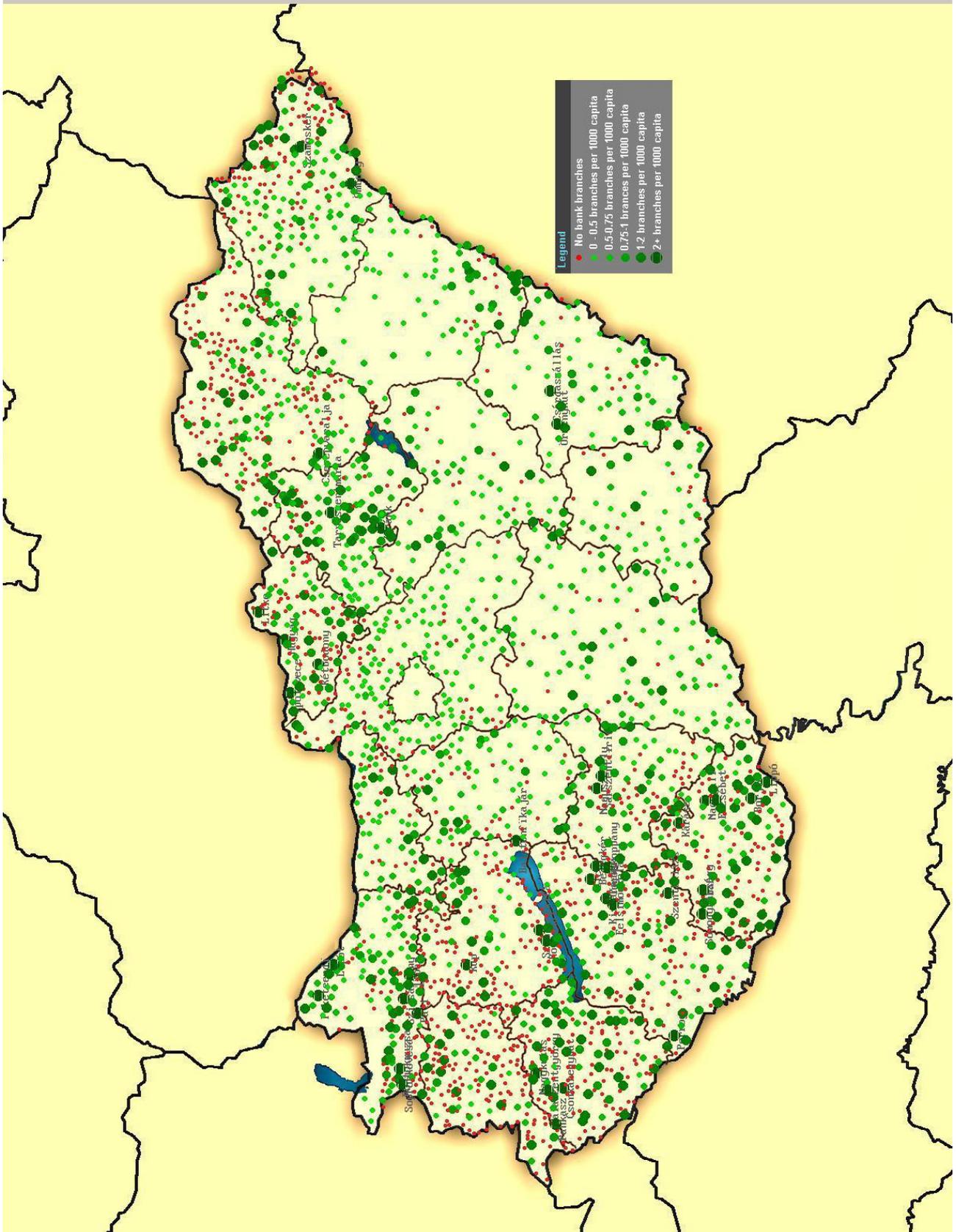| County	Number of settlements	Total population	Number of settlements without a bank branch	Population of settlements without a bank branch	Proportion of such population % ↑	Average distance to the nearest bank branch (km)
Budapest	1	1,702,297				
Hajdú-Bihar	81	543,434	18	13,155	2.42	3.54
Békés	75	376,657	12	10,368	2.75	3.62
Jász-Nagykun-Szolnok	79	400,127	13	12,820	3.2	3.4
Csongrád	60	424,139	16	16,341	3.85	3.26
Heves	116	314,464	22	13,379	4.25	2.44
Bács-Kiskun	118	544,042	19	23,571	4.33	2.41
Pest	187	1,191,739	53	81,682	6.85	1.81
Fejér	107	429,707	33	33,288	7.75	2.36
Komárom	75	312,312	26	24,873	7.96	2.09
Baranya	147	360,849	79	39,645	10.99	5.28
Győr-Moson-Sopron	157	437,634	77	52,220	11.93	3.34
Tolna	103	236,31	50	28,732	12.16	4.89
Szabolcs-Szatmár-Bereg	221	569,619	112	92,247	16.19	2.89
Zala	143	270,118	89	52,383	19.39	4.91
Borsod-Abaúj-Zemplén	276	690,927	175	138,253	20.01	3.44
Somogy	187	309,742	115	67,614	21.83	4.72
Nógrád	114	203,927	64	46,451	22.78	3.27
Veszprém	183	358,14	132	90,652	25.31	4.23
Vas	170	253,079	134	65,614	25.93	6.59
Settlements with no post code of their own	717	386,256				
Hungary, total	**3,174**	**10,045,401**	**1,150**	**850,905**	**8.47%**	**3.69**

Source: HCSO (population), MNB (branch data).

A look at the map reveals that most of the settlements in Vas, Zala and Somogy Counties[8] in Transdanubia and in Nógrád, Borsod-Abaúj-Zemplén and Szabolcs-Szatmár-Bereg Counties in North Hungary do not have a branch. By contrast, practically, there are no settlements in the Great Plain[9] where there is no bank branch. Naturally, only the banks and the savings co-operatives could provide an authentic explanation; based on the map, it seems that counties in Transdanubia have numerous settlements with a small population each. By contrast, the number of the settlements in the Great Plain is lower, and as a result, on average, the population of the individual settlements is larger. Table 3 shows the above in a quantified manner.

In Hungary there are no bank branches in 1,150 settlements (accounting for 36% of all settlements) with a total population of 851,000 (i.e. 8.5% of the total population). The likely reason for this is that, due to the low population in these settlements, the operation of a bank branch would not be profitable.

We were curious to learn the distance from the settlements without a bank branch to the nearest bank branch in the same county (included in the table as a population-weighted average in the table); furthermore, we also wished to determine the distance between the most disadvantaged settlement in this respect and the nearest bank branch in the same county. When the distances were established, we calculated in 'air kilometres' i.e. as the crow flies, on the basis of the geographical co-ordinates. Surely, road distances are longer, especially in hilly areas.

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[8] These counties are located in south-western Hungary.
[9] A prairie-like area, located in south-eastern Hungary.

Based on records, **for a resident living in a settlement with no bank branch, it is 3.7 kilometres on average, calculated in air kilometres, to the nearest branch office.** Naturally, this does not apply everywhere. In the most disadvantaged areas it is 16 kilometres, calculated in air kilometres, to the nearest bank branch.

Although a distance like this is not unusual in towns and cities, typically, mass transport at a standard similar to that of urban mass transport is not available in small settlements.

Naturally, this also affects competition between banks, because the proximity of a bank branch is one of the most important considerations when it comes to opting for a bank.[10] With relatively high additional costs (e.g. travel expenses and journey time) taken into account, this can be considered reasonable, because these costs are comparable with bank costs in the case of a retail client. It should be noted, however, that in order for payment transactions to be conducted, a visit to a bank branch is no longer needed.

Another possible major contributor to greater coverage is the Hungarian Post, because it has branches in settlements where neither banks nor savings co-operatives are operational. Although the Hungarian Post sells some banking and insurance products, the selection of financial and payment services that a local post office can provide is much narrower that of than a bank branch.

The distribution of branches is not consistent even in Budapest. Banks are mostly headquartered in the 5th, 6th and 13th districts, which is also clear from Table 4.

Table 4
Number of bank branches in the districts of Budapest

District	Population	Number of bank branches	Number of bank branches per 1,000 persons
Budapest, 5th district	27,023	74	2.7
Budapest, 6th district	41,784	31	0.7
Budapest, 13th district	111,681	50	0.4
Budapest, 1st district	24,665	11	0.4
Budapest, 8th district	81,447	32	0.4
Budapest, 9th district	60,892	23	0.4
Budapest, 23rd district	20,463	7	0.3
Budapest, 2nd district	88,187	29	0.3
Budapest, 7th district	62,034	20	0.3
Budapest, 12th district	56,257	17	0.3
Budapest, 3rd district	123,737	32	0.3
Budapest, 11th district	137,426	30	0.2
Budapest, 14th district	118,435	22	0.2
Budapest, 22nd district	50,468	9	0.2
Budapest, 20th district	63,315	11	0.2
Budapest, 18th district	93,239	15	0.2
Budapest, 4th district	98,381	13	0.1
Budapest, 16th district	68,298	9	0.1
Budapest, 10th district	78,484	10	0.1
Budapest, 15th district	80,533	10	0.1
Budapest, 17th district	77,775	9	0.1
Budapest, 19th district	61,453	7	0.1
Budapest, 21st district	76,320	8	0.1

[10] Based on a survey on switching banks commissioned by the Competition Office in 2006.

Compared to the other settlements of the country, access to bank branches in the remaining districts is rather poor. Although Downtown Budapest has a small population, a large number of people work there, and facilities within easy reach come in handy (as official matters can be settled during the day). A higher number of bank branches would be welcome in the districts in the lower section of the table.

3.1.2 ATM coverage

Cashless payment is far more common in Western Europe (see section 5.1) than in Hungary, where cash is a more common means of payment. Retail and corporate clients withdraw cash at bank branches, the Hungarian Post and from ATM's. The Hungarian Post delivers cash to the payees (beneficiaries) of postal orders (e.g. mothers on maternity leave and old-age pensioners, etc.); moreover, cash can also be withdrawn at most local post offices.

As, however, this study mainly deals with the issue of payments (i.e. movement of cash (funds) between two bank accounts), we only address the issue of ATM's. This is all the more important, because some of the clients of banks withdraw (the full amount of) their pay from an ATM after it is transferred to their bank account. Based on the data provided by the Hungarian Banking Association, 3,692 ATM's are operational in Hungary.

ATM's are more concentrated (see the maps on the pages to follow) than bank branches; ATM's are operated in a far lower number of settlements. Data reveal that there are 29 settlements where there are no bank branches, but there are ATM's (there are even 2 in 5 of these settlements); by contrast, in 794 such settlements there are bank branches, but no ATM's.

Table 5
Number of ATM's in the individual counties, 2008

| County	Number of settlements	Population	Number of ATM's	Per 1,000 persons ↓
Heves	116	314,464	196	0.62
Budapest	1	1,702,297	1,017	0.60
Győr-Moson-Sopron	157	437,634	252	0.58
Tolna	103	236,310	135	0.57
Zala	143	270,118	152	0.56
Nógrád	114	203,927	113	0.55
Somogy	187	309,742	165	0.53
Baranya	147	360,849	175	0.48
Veszprém	183	358,140	171	0.48
Komárom	75	312,312	147	0.47
Bács-Kiskun	118	544,042	238	0.44
Békés	75	376,657	157	0.42
Vas	170	253,079	106	0.42
Szabolcs-Szatmár-Bereg	221	569,619	225	0.40
Jász-Nagykun-Szolnok	79	400,127	157	0.39
Fejér	107	429,707	165	0.38
Csongrád	60	424,139	155	0.37
Borsod-Abaúj-Zemplén	276	690,927	237	0.34
Hajdú-Bihar	81	543,434	185	0.34
Pest	187	1,191,739	333	0.28

Source: Hungarian Banking Association (ATM locations), HCSO (population).

A comparison of the table and the maps paints an interesting picture: typically, banks operate ATM's in large towns, as a result of which the county averages (number of ATM's per 1,000 persons) can be impressive. Such a situation is properly illustrated by the example of Zala County, which, although there are no ATM's in most settlements, ranks fifth in the list based on the indicator of "per 1,000 persons", and lags behind the first four only slightly. The current infrastructure makes it difficult to channel pay and social transfers (e.g. pensions, maternity benefit and unemployment benefits) to bank accounts in the case of residents of small settlements, because, except for cash withdrawals at the local post office, the majority of those affected do not have access to banking services.

There is a natural cycle of cash circulation between households and corporations, which can satisfy some of the demand for cash. In settlements where the black and grey (i.e. informal) economy is dominant and payments means cash payments, this effect (outcome) is stronger (more perceptible).

Interested readers can find data in the table entitled "*7.1.1 Data on the infrastructure of payments*" on the absolute and relative availability of ATM's in the settlements in which they are interested, and compare them with data on other settlements.

Map 3
Number of ATM's in Hungary, 2008
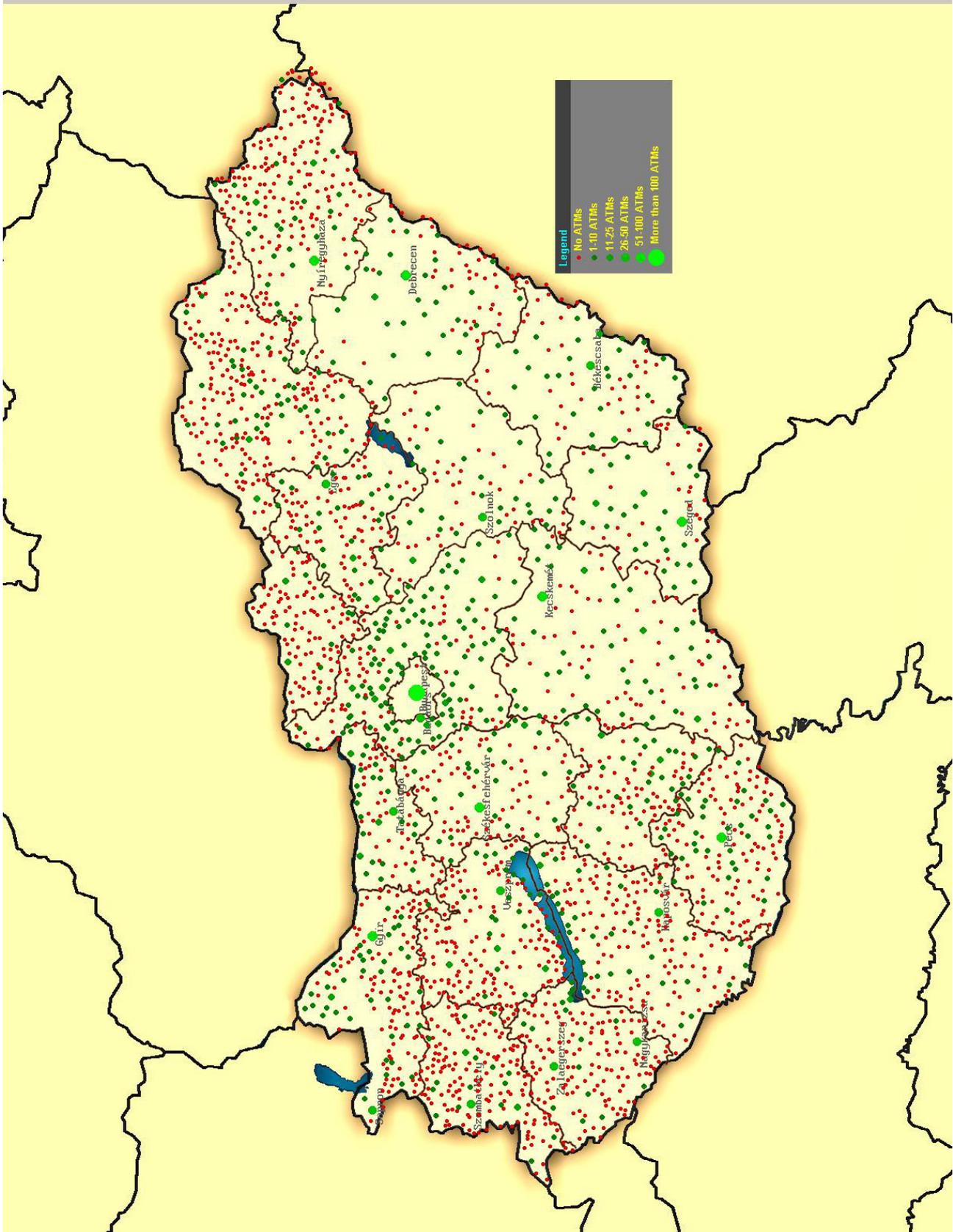
Source: Hungarian Banking Association.

Map 4
Number of ATM's in Hungary in proportion to the population, 2008
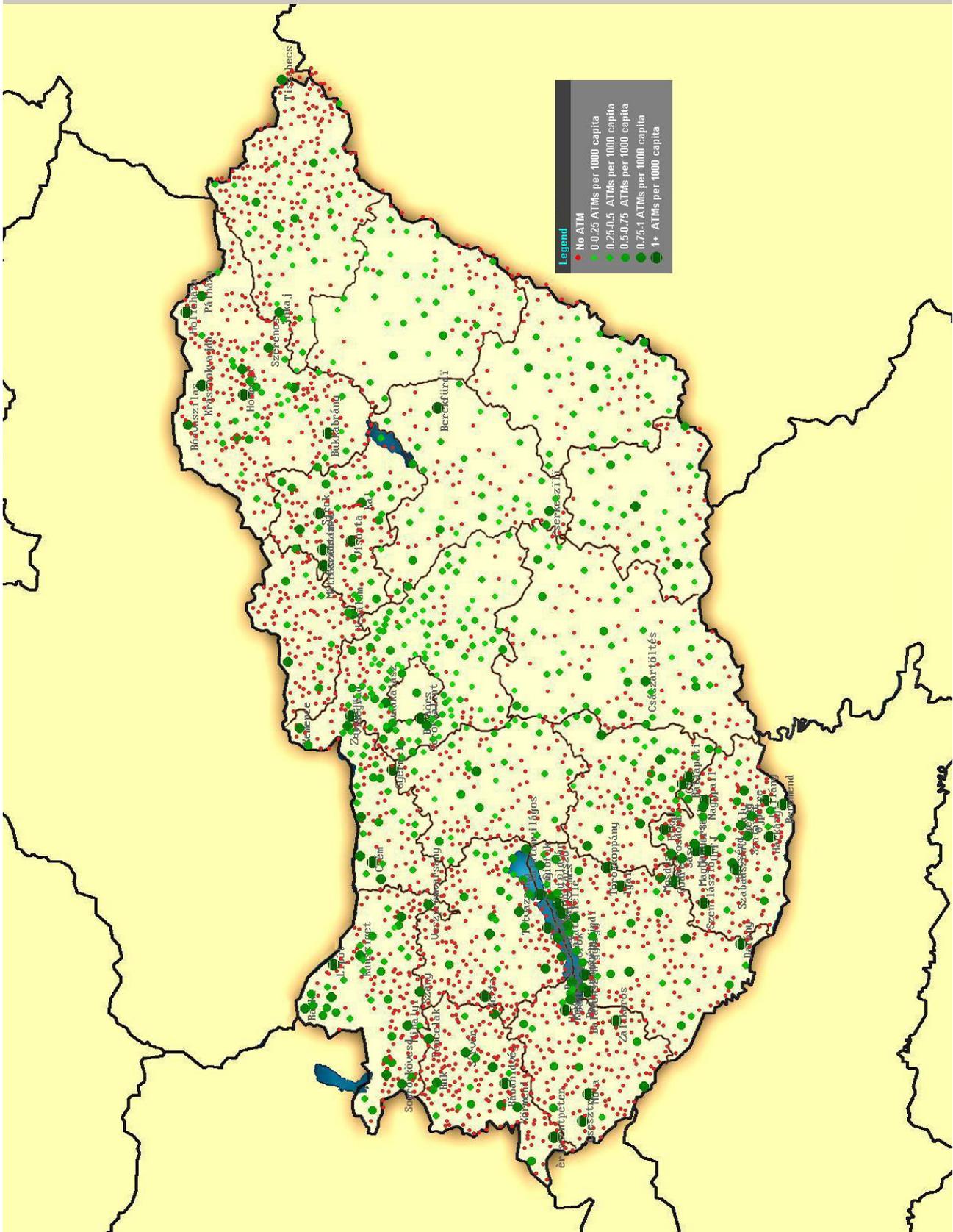
Source: Hungarian Banking Association.

3.1.3 Number of ATM's in an international comparison

There are international statistics on the availability of ATM's, which renders Hungary comparable with other countries.

Chart 4
Number of ATM's per 1 million residents in European countries, 2007

Source: Blue Book (ECB publication), Red Book (BIS publication).

In terms of ATM availability – similar to the other CEE countries, compared with Western European countries – there is ample room for improvement in Hungary. There is a general consensus that cashless means of payment are an ideal solution from a social perspective. It is hard to predict with any degree of certainty whether or not banks should increase the number of ATMs in Hungary. Compared with those in the vanguard, there is als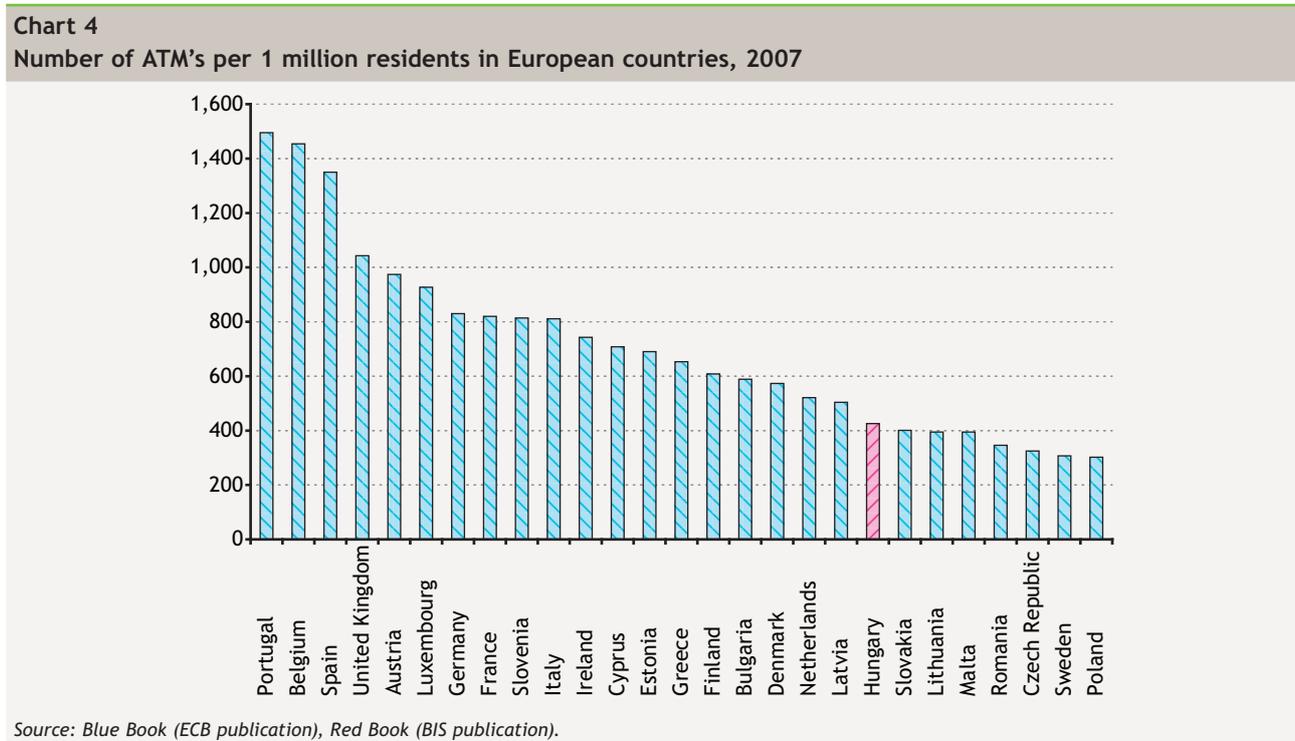o room for improvement in Denmark and Holland; they fare better than Hungary only slightly in regard to this factor, and in Sweden, which is far more sophisticated in terms of cashless payments, this indicator is even lower than in Hungary.

Furthermore, cash can be withdrawn at post offices (and some mobile post offices) with POS terminals; therefore, during the opening hours they can substitute for ATM's. The map below, which shows bank branch offices, ATM's and POS terminals suitable for cash withdrawals at bank branches and post offices, reveals that there are cash withdrawal facilities in most settlements.

Map 5
Points of cash withdrawals (ATM's and POS terminals at post offices) in Hungary
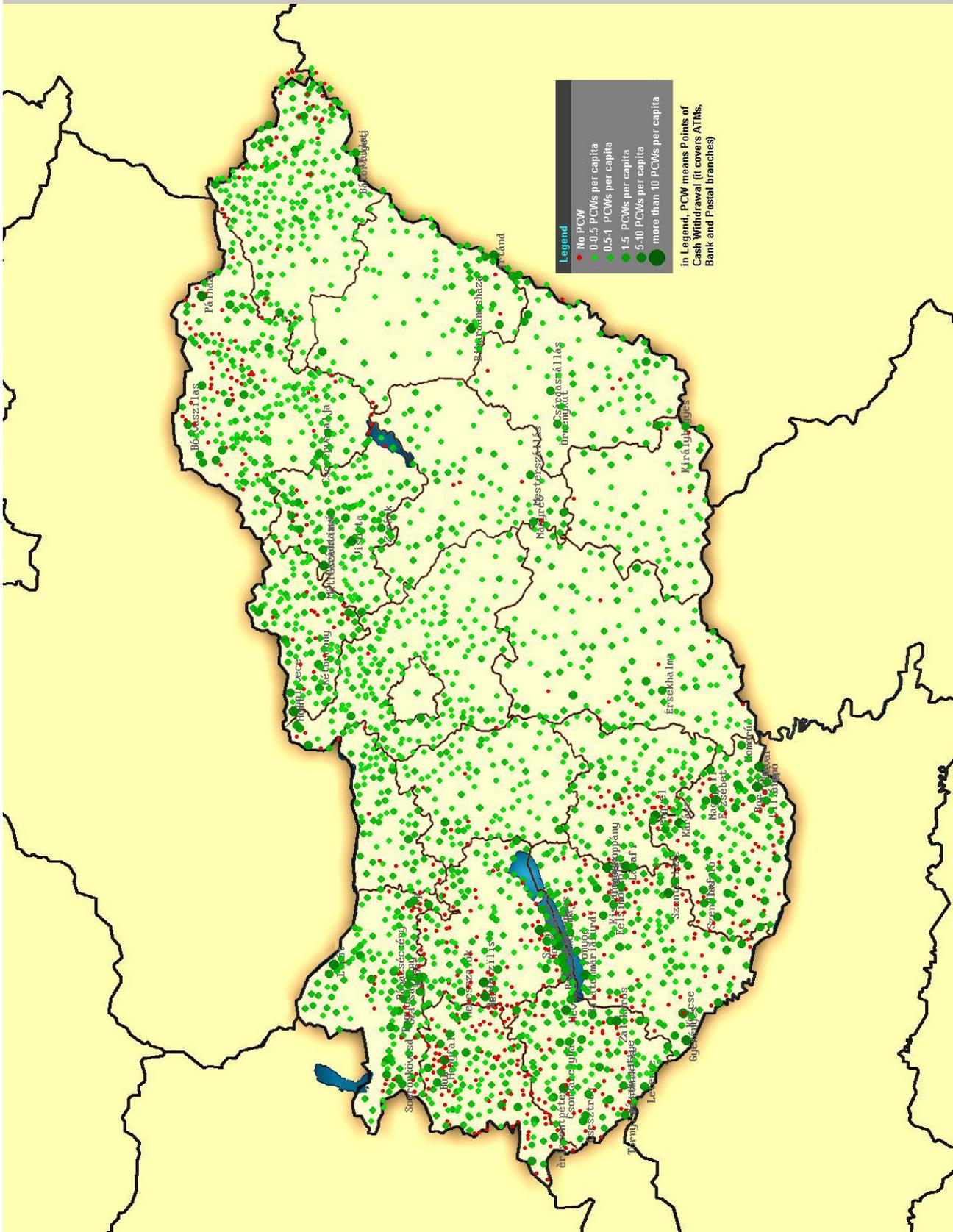
Source: MNB ad hoc data collection (from commercial banks).

3.1.4 Point of sale (POS) terminals (electronic retail payment devices)

We requested data on POS terminals from commercial banks involved in card acceptance and the Hungarian Post (Magyar Posta Zrt.). Data attest to the fact that POS terminals are even more concentrated than ATM's are. Not counting Budapest and county seats, most are in the settlements in the environs of Budapest and around Lake Balaton. Typically, the number of POS terminals is many times higher than the average number in spa/resort towns and villages (Szántód, Hévíz and Tihany).

Regarding 'per 1,000 persons data', there are marked differences between the individual counties even if we exclude Budapest; the number of POS terminals in the county where their number is the highest is over twice the number in the county where their number is the lowest.

Interested readers can find data in the table entitled *"7.1.1 Data on the infrastructure of payments"* on the absolute and relative availability of POS terminals in the settlements in which they are interested and compare them with data on other settlements.

In contrast to ATM's, data on the number of POS terminals in a breakdown by Budapest's districts are available and are shown in Table 7.

Table 6
Number of POS terminals in the individual counties, mid-2009

| County	Number of settlements	Population	Number of POS terminals	Number of POS's per 1,000 persons ↓
Budapest	1	1,702,297	15,508	9.11
Zala	143	270,118	1,629	6.03
Veszprém	183	358,140	2,024	5.65
Győr-Moson-Sopron	157	437,634	2,368	5.41
Baranya	147	360,849	1,856	5.14
Csongrád	60	424,139	1,965	4.63
Pest	187	1,191,739	5,448	4.57
Somogy	187	309,742	1,410	4.55
Vas	170	253,079	1,148	4.54
Komárom	75	312,312	1,381	4.42
Fejér	107	429,707	1,900	4.42
Heves	116	314,464	1,298	4.13
Hajdú-Bihar	81	543,434	2,134	3.93
Tolna	103	236,310	920	3.89
Jász-Nagykun-Szolnok	79	400,127	1,417	3.54
Békés	75	376,657	1,285	3.41
Bács-Kiskun	118	544,042	1,853	3.41
Borsod-Abaúj-Zemplén	276	690,927	2,265	3.28
Nógrád	114	203,927	599	2.94
Szabolcs-Szatmár-Bereg	221	569,619	1,382	2.43

Source: MNB ad hoc data collection (from commercial banks).

Table 7
Number of POS terminals in the individual districts of Budapest, mid-2009

District	Population	Number of POS's	Number of POS's per 1,000 residents
Budapest, 5th district	27,023	1,364	50,5
Budapest, 6th district	41,784	1,171	28,0
Budapest, 1st district	24,665	389	15,8
Budapest, 11th district	137,426	1,943	14,1
Budapest, 15th district	80,533	1,121	13,9
Budapest, 9th district	60,892	809	13,3
Budapest, 23rd district	20,463	266	13,0
Budapest, 2nd district	88,187	931	10,6
Budapest, 7th district	62,034	633	10,2
Budapest, 8th district	81,447	792	9,7
Budapest, 13th district	111,681	1,062	9,5
Budapest, 10th district	78,484	648	8,3
Budapest, 3rd district	123,737	874	7,1
Budapest, 12th district	56,257	391	7,0
Budapest, 14th district	118,435	740	6,2
Budapest, 2nd district	50,468	303	6,0
Budapest, 19th district	61,453	311	5,1
Budapest, 4th district	98,381	477	4,8
Budapest, 18th district	93,239	426	4,6
Budapest, 20th district	63,315	287	4,5
Budapest, 21st district	76,320	291	3,8
Budapest, 17th district	77,775	255	3,3
Budapest, 16th district	68,298	196	2,9

The distribution of POS terminals aptly illustrates the fact that there is a significant difference between the individual districts: although POS availability is good in Budapest, the difference in proportion to the population between the "best" district and the last one in the list is over 17-fold. It is clear from the table that the number of POS terminals is much higher in districts frequented by tourists (tourist destinations) than what would follow from the number of local residents. Furthermore, the number of POS terminals is higher than average in districts where major shopping centres are located (malls, hypermarkets and shopping plazas).

Map 6
Number of POS terminals installed at outlets/merchants' (used for purchases), mid-2009
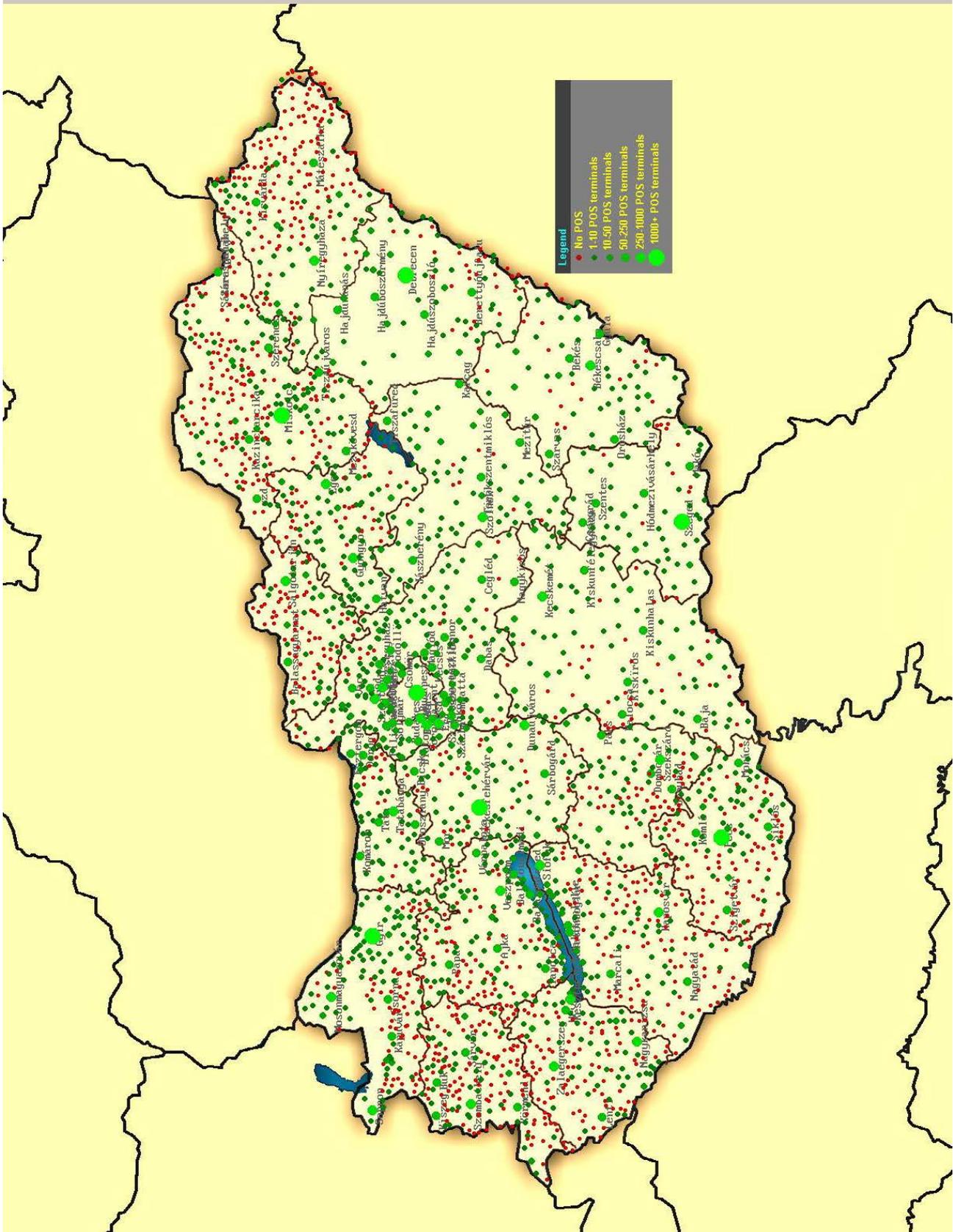
Map 7
Number of POS terminals installed at outlets/merchants' (used for purchases) per 1,000 persons, mid-2009
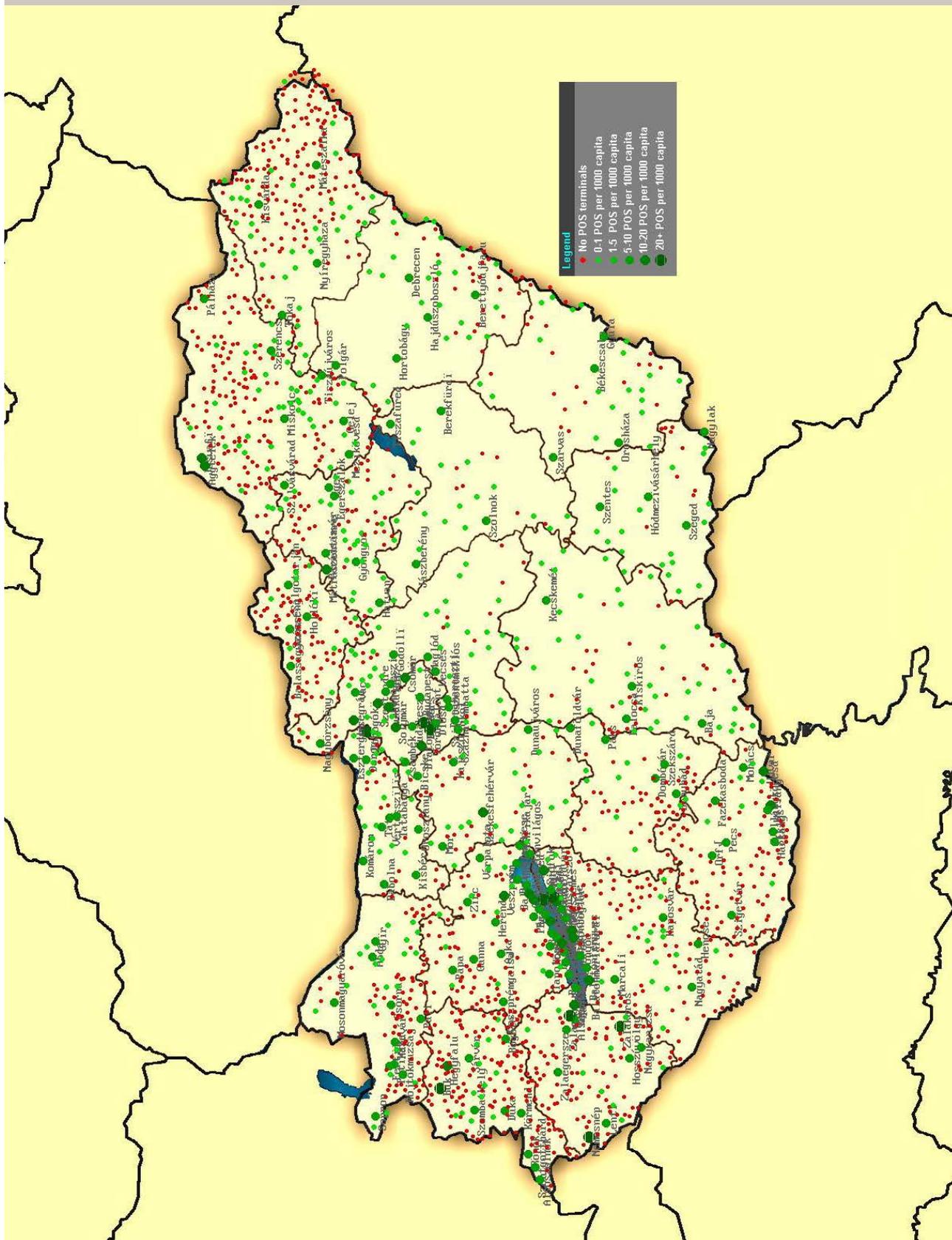
3.1.5 Number of POS terminals in international comparison

The ECB also collects data on the number of POS terminals from central banks and publishes such data in what is called the Blue Book.
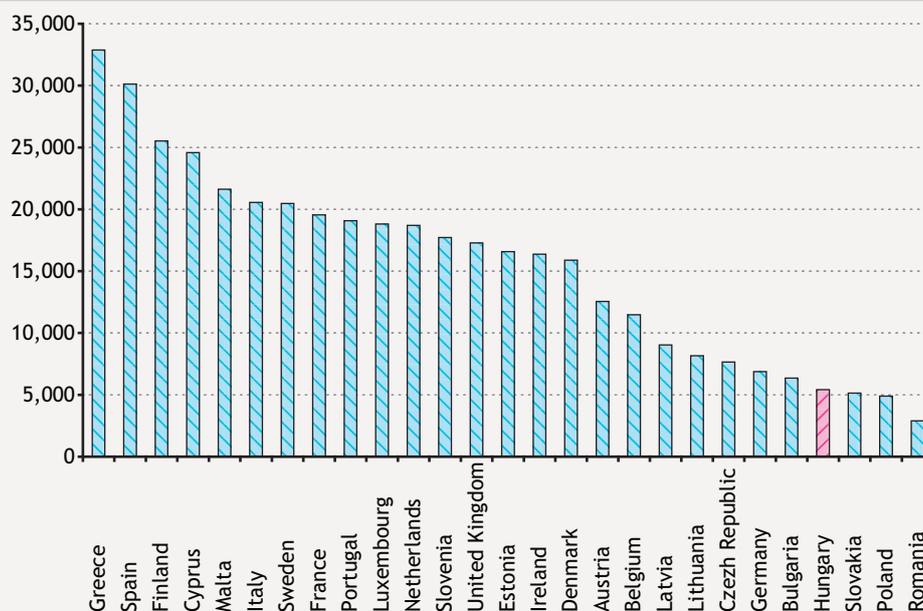
Chart 5
Number of POS terminals per 1 million residents in the individual countries, 2007

Source: Blue Book (ECB publication).

What Chart 5 reveals is that CEE countries lag behind Western Europe. One of the underlying reasons for this is that bank card business has existed for several decades in Western Europe, compared with which, also for historical reasons, CEE countries lag behind. What strikes us as strange is that several Eastern European countries rank better than Germany. It is clear that countries frequented by tourists take the lead, which is in keeping with the fact that POS terminals are mostly in settlements which are tourist destinations. In conclusion, it is safe to say that the use of bank cards is still more strongly linked to tourism than to any other sector in Europe, the likely reasons being bureau de change costs and the dangers involved in carrying cash.

3.2 BANK ACCOUNTS

3.2.1 Spatial distribution of domestic bank accounts

This part shows the spatial distribution of customers of banks. This shows the number of customers that actually use bank branches, if any, in a given settlement.

This survey does not use the term "bank account" in a legal sense. For the purposes of this survey, a bank account is an account which was involved in at least one interbank transaction in September–October 2008, i.e. both dormant accounts and accounts only involved in intra-bank transactions were excluded. The survey also covers transacted credit accounts, technical accounts and sub-accounts, because it was not possible to exclude them. Therefore, due to a different definition, the number of the bank accounts presented in this section differs from the one in international comparisons. Naturally, the MNB also has data which are comparable with international data, which will also be presented.

The maps on the following pages show that an overwhelming share of bank account holders live in towns and cities, which is hardly surprising, as – in line with what has been presented so far – close to two-thirds of the population are concentrated in 140 to 150 settlements.

Relative to the total population, Szekszárd ranks first (2.6 bank accounts per person), followed by Veszprém and Békéscsaba. It should be noted that there is a bias here stemming from the fact that residents of smaller places who do not work or study locally, open, for reasons of convenience or other reasons, a bank account in the neighbouring larger settlement rather than in their place of residence, which should be remembered when data are interpreted. As a result, this study probably identifies a higher number of bank accounts for major settlements and a lower number for settlements located in their conurbation than their actual number is. Their exact number can be established separately for each settlement in a manner that all the relevant factors (e.g. population of and number of bank branches in the neighbouring settlements, number of commuters to work/institutions of higher education) are available and taken into account.

In order for local analyses to be made, we disclose the necessary data in the table referred to in *"7.1.2. Bank account data"* listing all settlements. We wish to note, however, that although the table contains actual data, comparisons between settlements require circumspection and consideration of other circumstances.

Map 8
Distribution of bank accounts in Hungary, September–October 2008
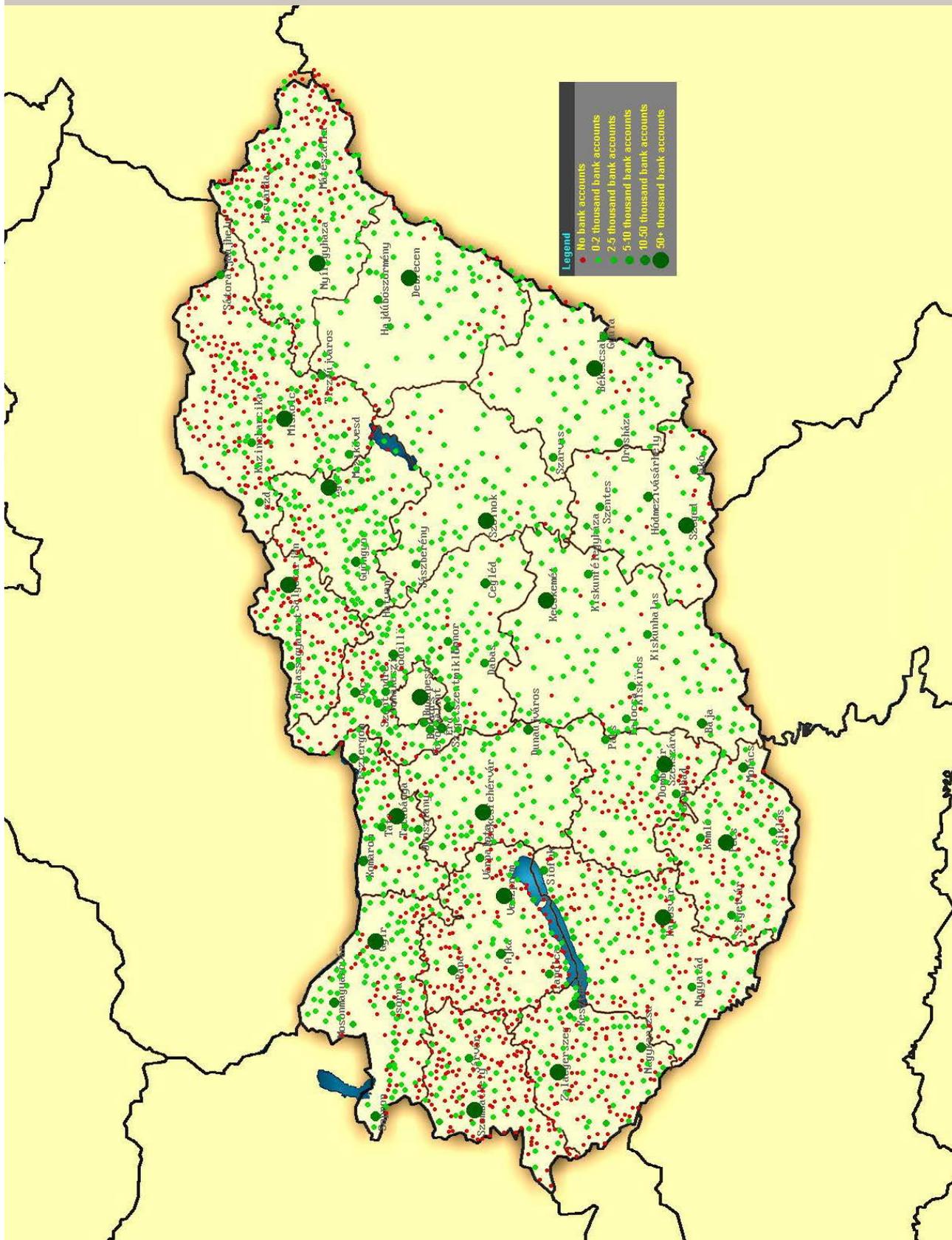
Source: Interbank Clearing System data.

Map 9
Distribution of bank accounts in Hungary relative to the population, September–October 2008
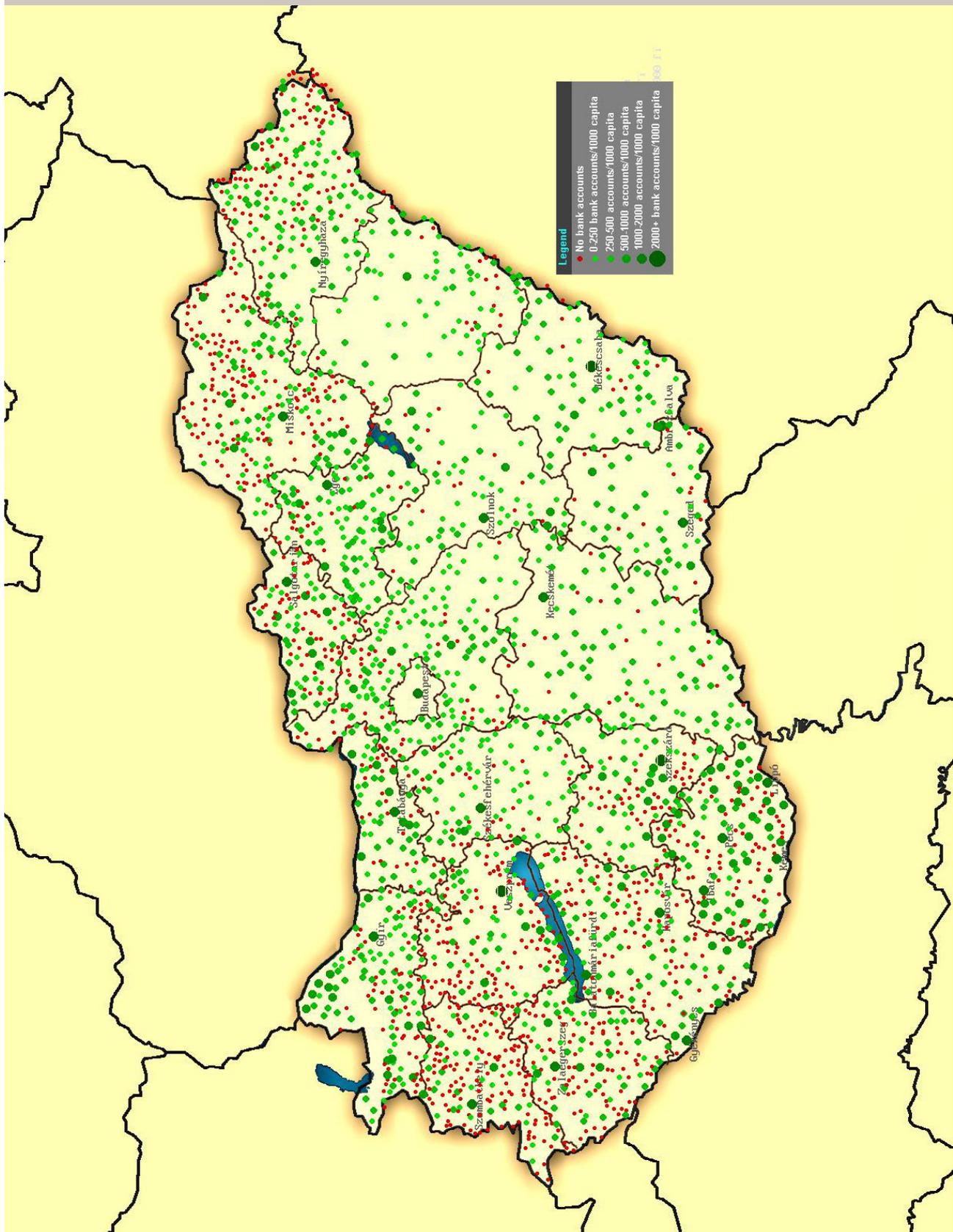
Source: Interbank Clearing System data.

Chart 6
Number of bank accounts per 1,000 persons in proportion to the population of the individual settlements, September-October 2008

Number of bank accounts per 1,000 capita
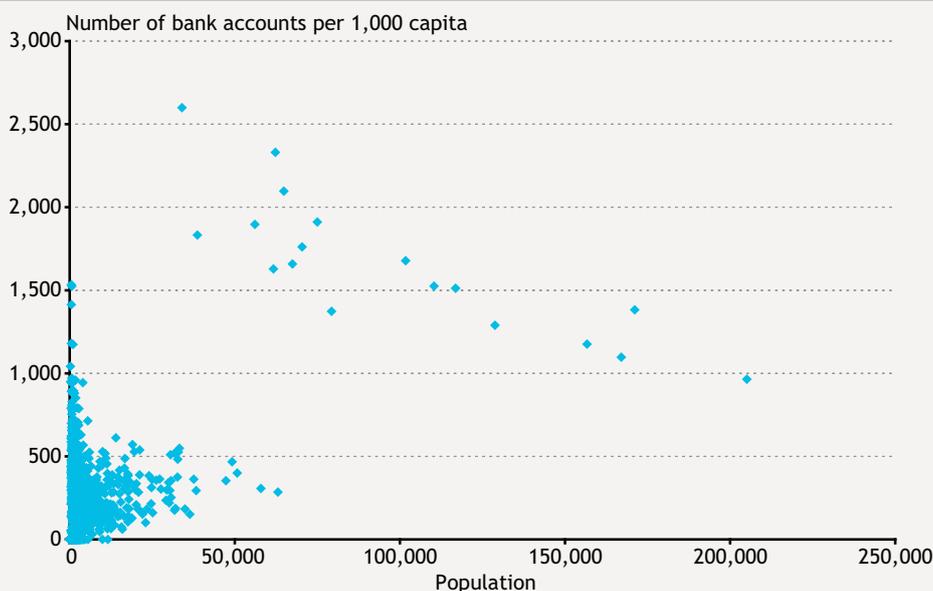
Note: For better visibility, the chart does not include Budapest.
Source: Interbank Clearing System turnover, HCSO.

This impact is reflected in Chart 6, where each dot denotes a settlement, and their position in the chart depends on the population and the number of bank accounts per 1,000 persons.

Although the number of bank accounts per 1,000 persons tends to be higher in large cities and towns than in smaller settlements, this does not apply in all circumstances. The dots in the chart can be included in two clearly different groups. It is clear that, in regard to population, the two groups overlap: there are towns with a population of 30,000 to 50,000 where the number of bank accounts per 1,000 persons is 400 to 500; by contrast, their number in places with a similar population may be even higher. The 18 cities in the other group are each county seats. The existence of these two groups is attributable to the above bias, all the more so, as negative correlation is unmistakeable in the case of the county seats.

If the data are aggregated by counties, biases at a county level can be properly excluded because, as a rule, towns/cities and their conurbation are in the same county. The only exception is Budapest, in which case the neighbouring settlements belong to Pest County, as a result of which this bias is especially conspicuous.

A closer look at the data reveals that the highest number of bank accounts is used in Budapest, as the number per 1,000 persons is significantly higher than in any other county or region.

The capital city is followed by Baranya, Komárom and Tolna Counties, with a considerable gap though. Compared to the population, the number of bank accounts is the lowest in Szabolcs-Szatmár-Bereg, Hajdú-Bihar and Borsod-Abaúj-Zemplén (only two-thirds of the counties in the leading positions). Part of the difference can be ascribed to the fact that many commute to work in Budapest (and open an account there, while, administratively, they live in the provinces).

Table 8
Number of bank accounts in the individual counties, October 2008

County	Number of settlements	Population	Number of bank accounts	Per 1,000 persons ↓
Budapest	1	1,702,297	3,246,207	1,907
Baranya	147	360,849	262,106	726
Komárom	75	312,312	200,465	642
Tolna	103	236,310	146,526	620
Csongrád	60	424,139	255,219	602
Zala	143	270,118	156,591	580
Győr-Moson-Sopron	157	437,634	252,998	578
Veszprém	183	358,140	206,968	578
Heves	116	314,464	179,515	571
Fejér	107	429,707	243,668	567
Somogy	187	309,742	173,907	561
Békés	75	376,657	210,874	560
Vas	170	253,079	139,981	553
Jász-Nagykun-Szolnok	79	400,127	211,590	529
Bács-Kiskun	118	544,042	282,308	519
Nógrád	114	203,927	103,833	509
Borsod-Abaúj-Zemplén	276	690,927	325,307	471
Hajdú-Bihar	81	543,434	254,052	467
Szabolcs-Szatmár-Bereg	221	569,619	257,367	452
Pest	187	1,191,739	251,524	211

3.2.2 Number of bank accounts in an international comparison

We also have aggregate data on the number of bank accounts (however, these statistics only cover accounts that qualify as accounts legally as well), i.e. they are different from the data presented in the previous section, but they are comparable with international data.

Chart 7
Number of bank accounts in the individual countries per 1 capita, 2007
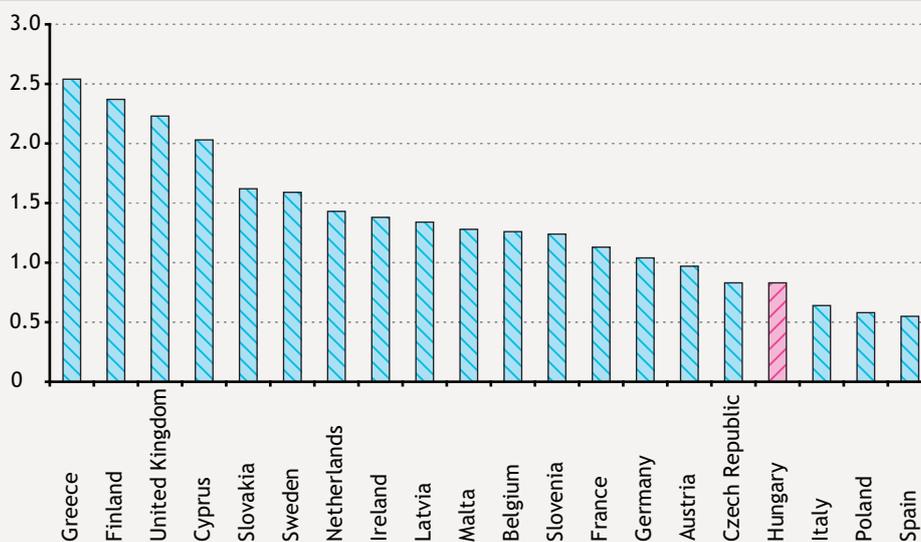
Source: Blue Book (ECB publication).

It is hard to estimate the socially ideal number of bank accounts. Ideally, each citizen who comes of age should hold at least one bank account. In Hungary, legal entities (e.g. businesses) are obliged to hold a bank account, and large corporations often hold as many as 10 to 20 accounts at various banks. In Hungary there are over 1 million legal entities, and therefore the indicator must be interpreted in a manner that this fact is taken into consideration. The same may apply to private individuals. They often hold several bank accounts at several banks. (Unfortunately, in Hungary banks often set opening an account with them as a precondition for loan disbursement.)

Holding more than one account may suggest that the standard of the services received is not adequate. According to a survey conducted earlier, while a number of large corporations open bank accounts with a number of different banks[11] expressly for the purpose of faster and less costly transfers, it may also be the case that foreign citizens/corporations open bank accounts in the given country. Therefore, the assumption according to which "the more accounts there are, the more developed a country is" does not apply in all circumstances.

The fact that Hungary fares poor in the list suggests that **a significant part of the population does not use banking services** (they have no banking relationship). It is safe to say that there is still ample room for improvement in terms of the number of accounts. In order for their number to increase, reasonably priced payment services tailored to the needs of customers and provided at high professional standards should be available across the country.

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[11] In 2006, the MNB conducted a survey among various groups of clients in order to prepare the national introduction of intraday clearing. Half of the corporations in the top 100 identified payment transactions as a reason for their keeping accounts with several banks (50% referred to the low costs of intra-bank transactions and 45% to same-day execution).

4 Map of payment transactions in Hungary

The receivables and liabilities of economic actors are settled mostly through payment transactions between these actors. Payments can take various forms:

• handover of cash (e.g. in small shops),
• depositing cash into a bank account (e.g. paying public utility fees by way of postal orders),
• disbursement of cash (e.g. childcare benefit and unemployment benefit, etc.) from a bank account,
• transfers between bank accounts.

There are three major categories of transfers between bank accounts:

• card payments,
• FX transfers,
• transfers between two resident bank accounts.

The fundamental purpose of payment transactions is to enable economic actors to settle their obligations (purchase of goods and services, payment of wages and taxes) to each other. Cash given as a "gift" is presumably quite infrequent. Fundamentally, payment transactions can be regarded as an imprint of the business relations between households, corporations and the state, i.e. studying payment transactions between bank branches helps to map[12] business relations between the individual settlements and counties, and to draw conclusions about these relationships.

Chart 8
Means of payment in the Interbank Clearing System in a breakdown by number, September–October, 2008

- Credit transfer
- Batch cedit transfer
- Direct debit
- Other

4%
13%
25%
58%

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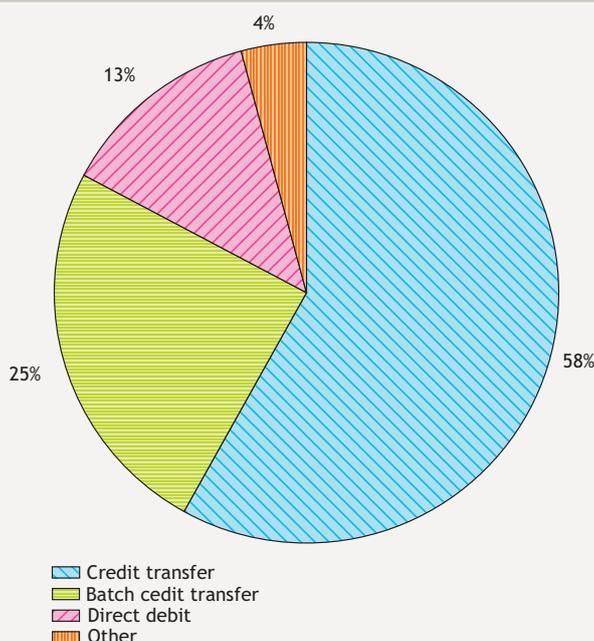
[12] As the volume that serves as a basis for the survey does not contain cash, bankcard-based or intra-bank transactions, the data, though relevant, are not accurate. For further details, see Chapter 6 Methodology.

Financial claims can be settled in several different ways. While a simple credit transfer is a solution that suits practically all situations, customised solutions suitable for handling special situations arising at a mass scale have also been devised. These cannot be used for general purposes, but can manage specific situations more efficiently than a simple transfer does. Customised solutions include *direct debit* designed to settle utility bills, which simplifies the process for both suppler and client.

In creating the map, we strove to identify the extent to which the individual means of payment were common in the individual counties and settlements. With new aspects taken into consideration, this may help make these means of payment even more efficient or enable banks to conduct targeted campaigns.

The most important means of payment between bank accounts in Hungary are as follows:

- **Simple transfer (credit transfer):** The most basic means of payment, in which the account-holder (payer) submits an order to the bank to transfer the amount to the payee's account. Additional features of a simple transfer include same-day execution via the RTGS *(RTGS transfer),* execution at a date specified by the payer *(due date transfer)* or recurrent execution (execution at the same date each month, with the date specified by the payer) *(standing order).*

- **Batch credit transfer:** designed to make payments similar to wage disbursements in an efficient manner. Under this arrangement, the payer pays various sums under the same legal code to a number of payees (beneficiaries). This means of payment is used when social benefits and pensions are transferred to bank accounts.

- **Batch collection order (direct debit):** designed to settle utility bills. (However, due to consumer distrust and technological progress, its characteristics in Hungary differ from those of its Western European counterpart.) Direct debit enables the beneficiary (payee) of the amount involved to collect fees from (typically retail) accounts after account-holders authorise their banks to allow collection.

As the individual means of payment have been developed to fulfil different types of financial obligations, the average amounts of the transactions vary widely. Typically, direct debit is used to settle utility bills: accordingly, the average amount involved is below HUF 10,000. Batch credit transfer is mostly used to pay wages: accordingly, the average amount is much

Chart 9
Major means of payment in the Interbank Clearing System in a breakdown by amounts, September–October, 2008

- Credit transfer
- Batch cedit transfer
- Direct debit
- Other
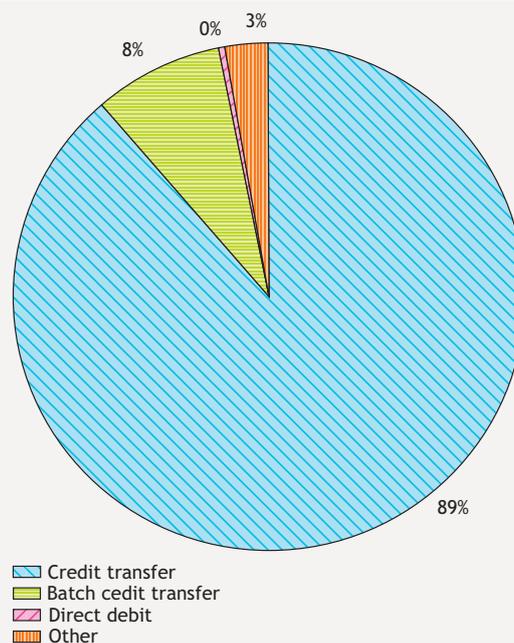
higher. Credit transfers are suitable for executing orders for even very high amount transfers. Therefore, the picture revealed by the chart below showing the means of payment in a breakdown by amounts is significantly different from the above.

4.1 PAYMENTS IN AN INTERNATIONAL COMPARISON

Fundamentally, payments can be intra-bank and interbank. This paper mainly discusses the latter, because our statistics on intrabank payments are not fully comparable,[13] due to methodological differences.

Chart 10
Number of interbank transfers per resident in the individual countries, 2007
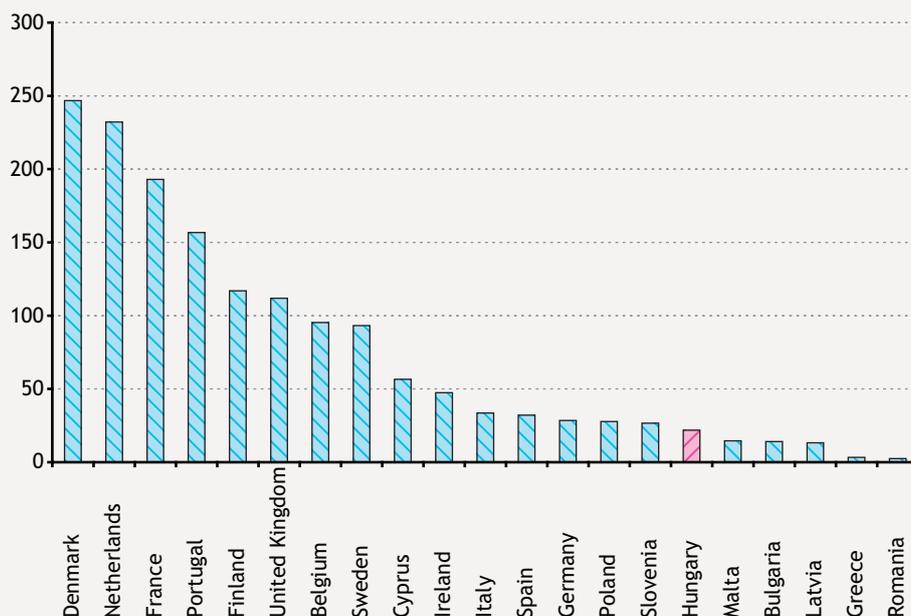
Source: Blue Book (ECB publication).

In respect of the population-proportionate indicator, Hungary is ranked in the lower section in Chart 10; its disadvantage is especially striking relative to Denmark and Holland. On the other hand, compared to Germany, which is an advanced economy, the shortfall (divergence) is not too serious. If account were taken of intra-bank operations, the picture would be somewhat different, but this paper confines itself to analysing data on interbank transactions.

4.2 A MAP OF PAYMENTS

With the help of the Routing Table, the individual bank branches can be clearly linked to the individual settlements and thus, the most important payments-related links can also be mapped. As the number of transfers is enormous, not all inter-settlement relationships can be shown in a straightforward manner on the map. Therefore, the map on the following page only plots the most important relationships.[14]

The map leads to a number of conclusions. The most important one is that even if disbursements by the state are excluded, Budapest is the hub of payments. The underlying reason will be discussed in the section on the distance between payer and payee. A close look at the business relationships between the individual counties reveals that Budapest is the most important partner of each county and that intra-county operations are the most significant. Neither can it be

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[13] Under the common European data collection methodology the term 'payment' has broader interpretation, and thus, the charging of bank fees counts as payment (because cash changes hands). As some banks charge costs/fees only once a month, and others for each transaction, the former group report 10 client orders as 11, the latter group as 20.

[14] Only volume amounting to at least 0.1% of the largest inter-settlement volume is shown on the map; the rest was excluded. The underlying reason for this is that, due to the very large number of the relationships, the chart would have lost its perspicacity. The width of the line on the map depends on the ratio of two-way inter-settlement transactions to the strongest relationship (the stronger a relationship is, the darker is the line).

Map 10
Hungary's map of payments, September–October 2008
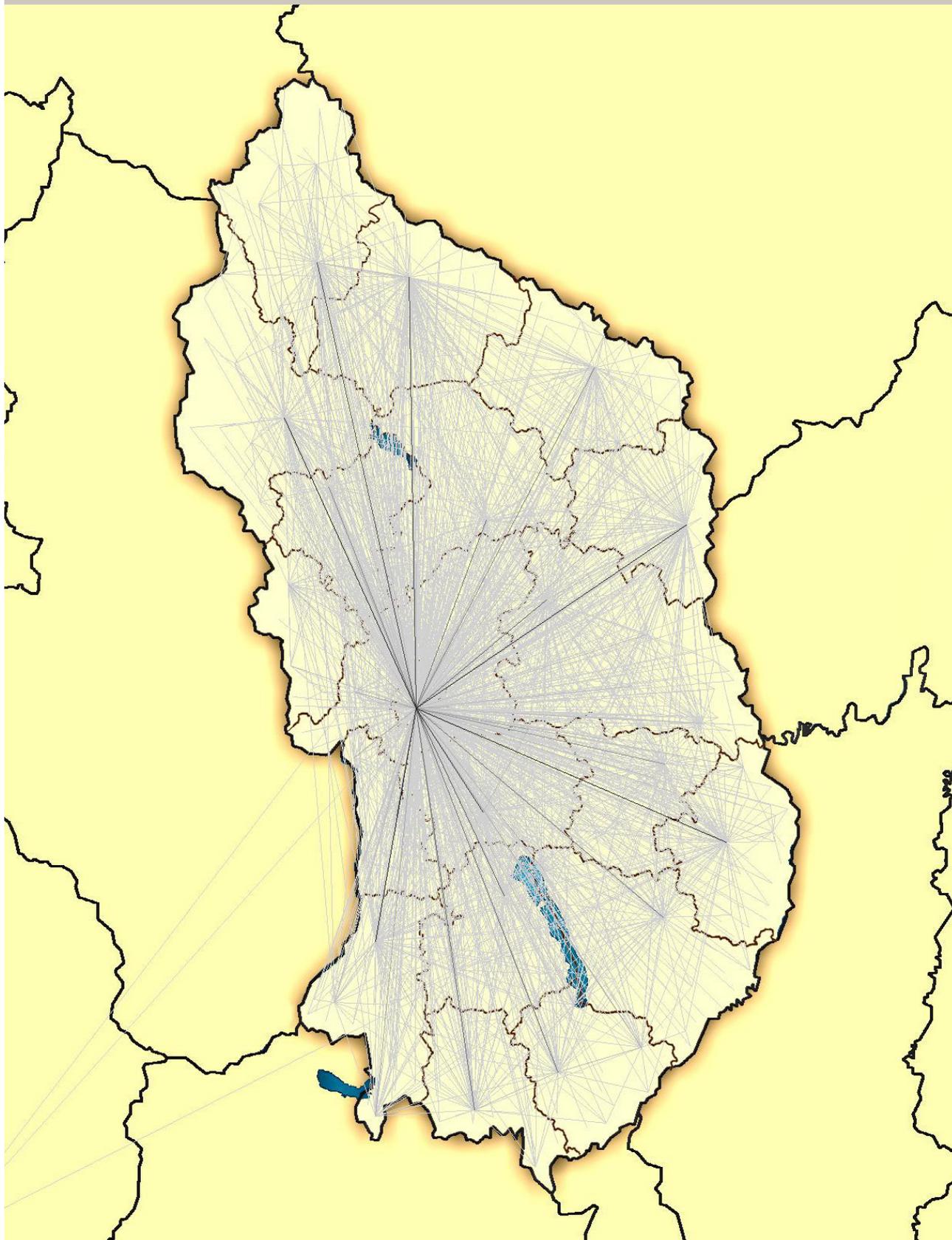
called into question that county seats play an invariably dominant role in the payment operations of the individual counties, and, except for a few (mostly those in West Hungary), they 'overshadow' all other cities and towns.

As a rule, counties have more payments and therefore stronger business relationships with the neighbouring counties than with those in the remoter areas of the country. Exceptions to this rule are remote counties belonging to the same region, which are preferred to neighbouring counties that belong to a different one. On the other hand, however, while county seats are dominant in the payments of the counties, regional centres are not; in Hungary, regions are merely statistical regions (i.e. regions for statistical purposes).

Due to difficulties in visual presentation, the map cannot plot intra-settlement transactions, despite the fact intra-settlement payment transactions account for approximately 40% of the total volume (as is expected, it is the most significant in Budapest, with the capital city accounting for 28.8% of the total national volume).

These data are available and, broken down by settlements and counties, constitute part of this publication in a table format. Data on the individual counties are contained in the tables in section 7.2.3 entitled *'Inter-county transactions'*. Data on inter-urban transactions are included in the tables in 7.3 *'Tables containing inter-settlement transactions'*.

4.2.1 Distance between payer and payee

With the help of the co-ordinates of the individual settlements, the distance between two bank branches and, hence, the distance 'covered' by the individual transfers can be calculated. Naturally, we are talking about virtual kilometres in this sense, as transfers are fully automated and, in fact, only payment messages are exchanged. Nevertheless, this piece of information is more than just interesting because the underlying statistics are actual business relations (which, in a given situation, may mean the purchase of goods that must be delivered).

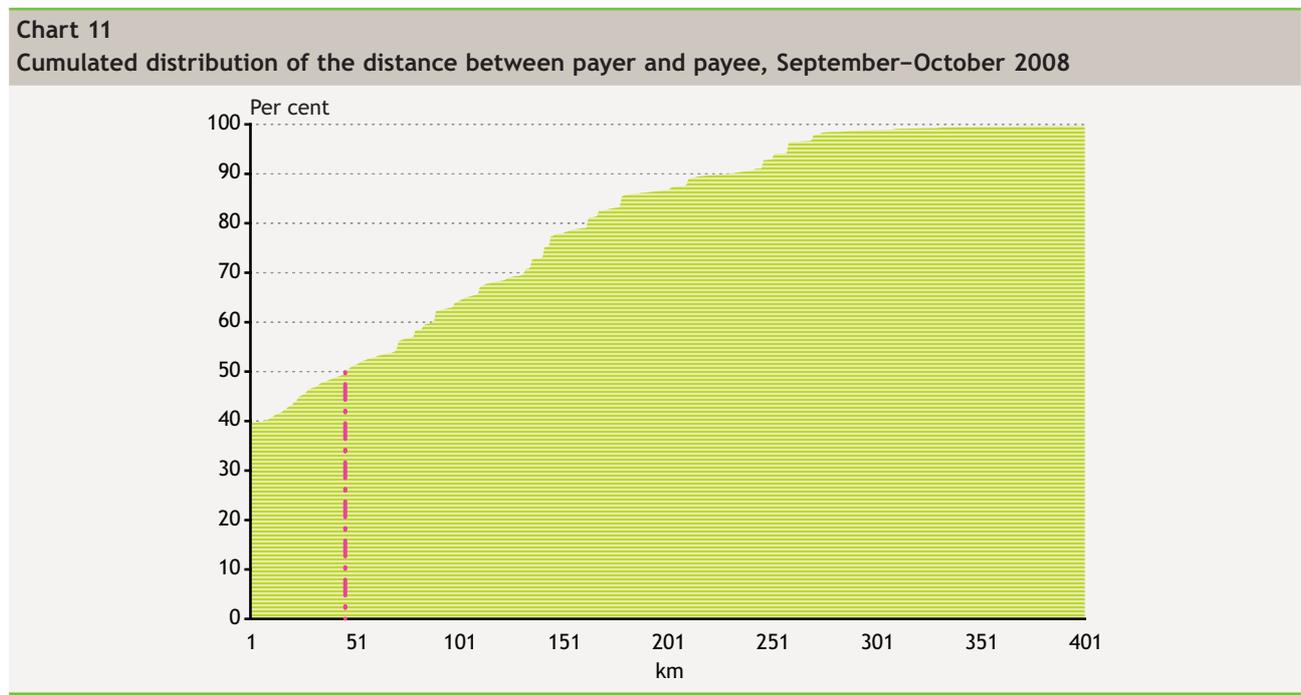Chart 11 shows the proportion of transfers within this given distance.

Chart 11
Cumulated distribution of the distance between payer and payee, September–October 2008

Table 9
Payments in the counties of Hungary, September–October 2008, monthly average

County ↓	Incoming		Outgoing		Within county		Net balance of counties		Share of intra-county payments	
	Thousand transactions	HUF billion	Thousand transactions	HUF billion	Thousand transactions	HUF billion	Thousand transactions	HUF billion	Number of transactions (%)	HUF (%)
Bács-Kiskun	314	89	457	88	158	30	−143	1	50,20%	34,20%
Baranya	294	61	479	76	177	26	−185	−15	60,10%	43,20%
Békés	202	44	293	47	102	17	−91	−3	50,60%	38,40%
Borsod-Abaúj-Zemplén	360	77	423	80	166	30	−63	−3	46,00%	39,00%
Budapest	6,376	1,770	4,727	1,779	3,214	1,259	1,649	−9	50,40%	71,10%
Csongrád	371	73	414	68	168	26	−43	5	45,40%	35,00%
Fejér	313	84	403	76	137	24	−90	8	43,70%	28,90%
Győr-Moson-Sopron	343	78	469	80	165	27	−126	−2	48,20%	34,60%
Hajdú-Bihar	333	86	365	89	125	31	−32	−3	37,50%	35,30%
Heves	180	36	228	36	73	10	−48	0	40,60%	28,30%
Jász-Nagykun-Szolnok	210	50	373	47	103	13	−163	3	48,80%	26,60%
Komárom	215	51	260	46	86	15	−45	5	40,00%	29,00%
Nógrád	91	16	180	16	43	4	−89	0	47,70%	27,80%
Pest	350	120	433	99	73	18	−83	21	20,90%	14,70%
Somogy	192	40	253	41	79	14	−61	−1	41,20%	34,30%
Szabolcs-Szatmár-Bereg	254	59	336	67	120	21	−82	−8	47,40%	36,30%
Tolna	156	35	202	35	70	12	−46	0	45,10%	34,90%
Vas	163	48	232	45	73	18	−69	3	44,90%	37,90%
Veszprém	237	52	377	52	114	19	−140	0	48,30%	36,50%
Zala	205	42	257	43	88	16	−52	−1	42,80%	37,50%

The chart reveals that half of the total number of transfers are from payer to payee located at a distance less than 46 kilometres. Within this, approximately 40% of the total number of transactions involve payer and payee living in the same settlement. Table 9 attests to the fact that typically, transfers are inter-county transfers.

Generally speaking, strong business relationships are established mainly between economic actors in each other's vicinity; as distance increases, the number of business relationships decreases, which is perfectly logical given that the cost of transportation grows in proportion to distance. However, Chart 12 also reveals that this only holds true in general; there are exceptions to the rule.

Like Chart 12, this one also proves that, *in general,* the farther away two settlements are from each other, the lower the number of transfers between them. However, there are also outliers in this chart which are at variance with the above idea. As is clear from Map 10, an overwhelming portion of payment transactions are conducted between Budapest and the county seats. It follows then that in the case of the distances that are identical to the one between Budapest and the county seat, outliers may materialise.

We suspect that there are two reasons for this. One is that regional public utilities (electricity, gas and water) with a large clientele are typically headquartered in large towns/cities; the other is that national service providers (telephone companies and insurance companies, etc.) tend to have their headquarters in Budapest.

A project entitled 'Single European Payment Area' (SEPA) has been launched in the European Union in order for payment transactions to be standardised; another objective is to remove the barriers to the single European market. Based on the above date, we believe that, once the SEPA has been created, mostly the neighbouring regions' relationships may become stronger. Furthermore, transfers by those finding a job in an EU Member State may also lead to growth.

Chart 12
Distribution of the distance between payer and payee,* September–October 2008, monthly average
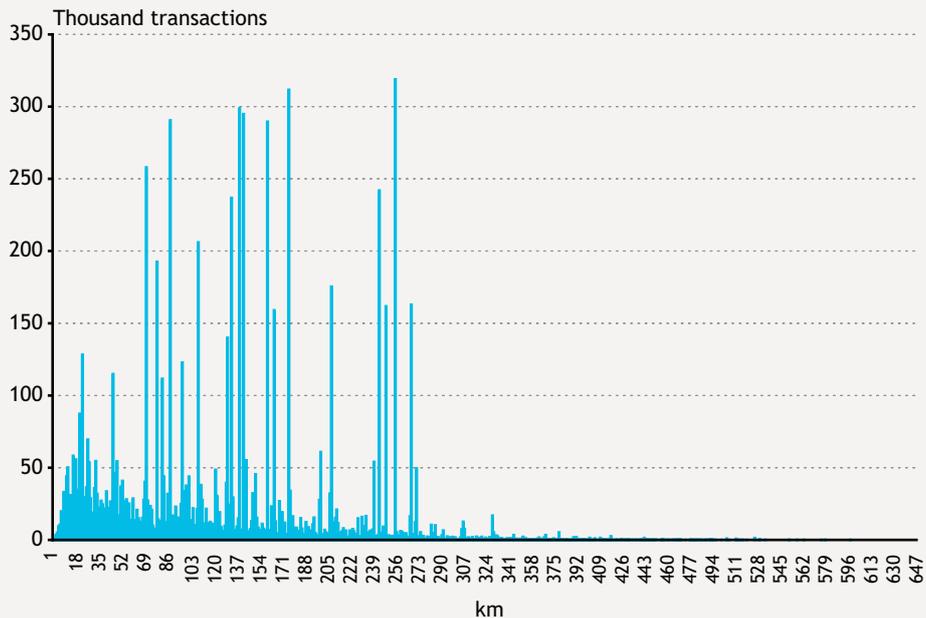
* The chart does not contain transactions within the settlements.

4.2.2 Credit transfers

This is the most frequently used means of payment in terms of the number of transactions and the transferred amount. Therefore, it is hardly surprising that the map of transfers rather closely resembles that of total volume.

Budapest's very strong central role and the dominance of county seats within the counties are unmistakeable in this case as well. Hardly surprisingly, Budapest is far ahead of the counties; counties in the West are in the top section of list and those in the East in the lower one. Pest County brings up the rear: the likely reason for this is that many businesses in Pest County keep their accounts with bank branches in Budapest.

Naturally, county data per 1,000 persons represent an average which also includes settlements with no bank branch. It is clear from the table, that, with Budapest excluded, the difference between the counties in the top section and those in the lower one is two-fold.

Data on the individual counties are contained in the tables in section 7.2.3 entitled '*Inter-county transactions*'. Data on inter-urban transactions are included in the tables in 7.3 '*Tables containing inter-settlement transactions*'.

Table 10
**Number of simple transfers in the individual counties, September–October 2008, monthly average**

County	Population	Incoming transfers		Outgoing transfers		Of them: transfers within county		Number of outgoing transfers per 1,000 persons ↓
		Thousand transactions	HUF billion	Thousand transactions	HUF billion	Thousand transactions	HUF billion	
Budapest	1,702,297	3,857	1,669	3,191	1,668	2,165	1,195	1,875
Baranya	360,849	184	52	229	65	94	20	634
Zala	270,118	131	36	164	39	61	13	608
Győr-Moson-Sopron	437,634	232	69	256	71	100	22	585
Vas	253,079	106	43	145	42	51	16	572
Csongrád	424,139	220	64	232	59	95	21	547
Veszprém	358,140	150	45	191	46	68	16	534
Fejér	429,707	189	75	225	67	77	20	524
Komárom	312,312	130	44	163	42	59	12	523
Tolna	236,310	94	31	121	31	44	10	512
Somogy	309,742	115	35	158	37	51	12	511
Bács-Kiskun	544,042	204	81	252	81	92	27	463
Békés	376,657	117	39	160	42	63	14	424
Hajdú-Bihar	543,434	210	78	230	81	83	26	423
Heves	314,464	105	30	132	32	44	8	418
Jász-Nagykun-Szolnok	400,127	130	44	161	41	53	11	401
Szabolcs-Szatmár-Bereg	569,619	150	51	215	61	79	18	377
Borsod-Abaúj-Zemplén	690,927	197	66	243	70	97	24	352
Nógrád	203,927	48	12	65	13	20	3	318
Pest	1,191,739	288	114	325	94	57	16	272

As regards the volume per 1,000 persons, the list of counties is led by Szekszárd, followed by Budapest and finally the county seats.

Chart 13
Counties using credit transfers most frequently, September–October 2008, monthly average

Outgoing credit transfers per 1,000 capita
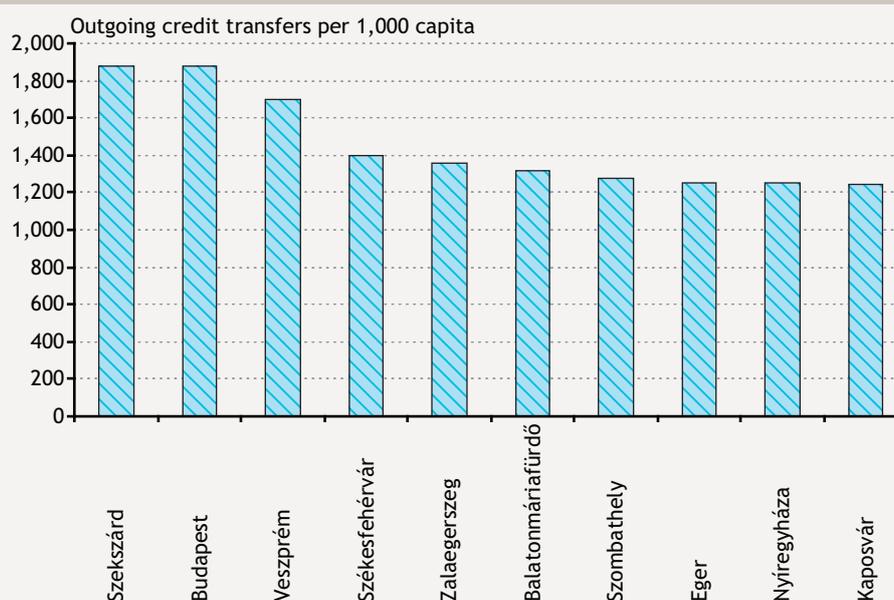
Map 11
Map of credit transfers, September–October 2008
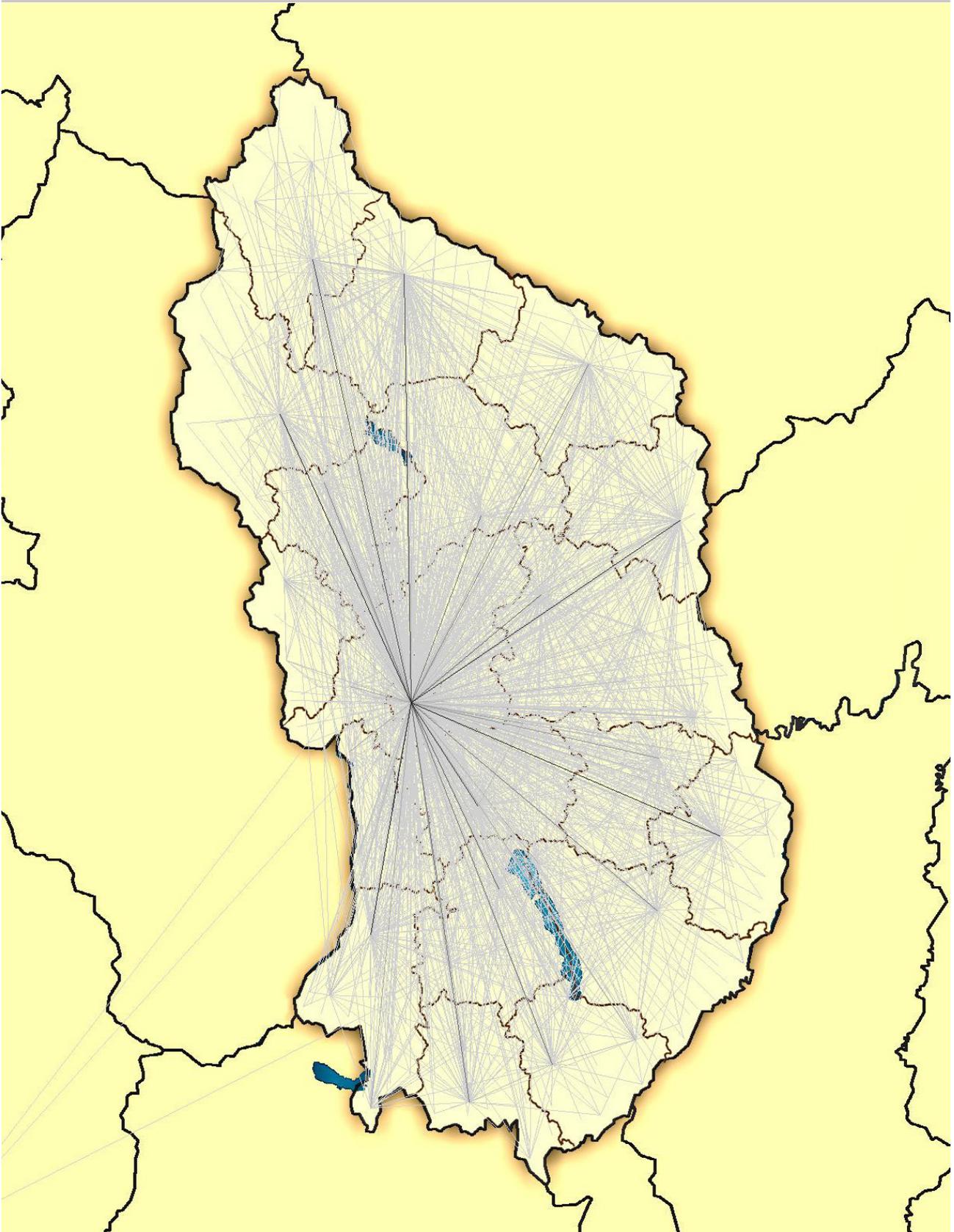
An interesting feature in Chart 13 is Balatonmáriafürdő; similar settlements also fare better in this list than other settlements with a larger population, which is likely to suggest the importance of the availability of the infrastructure, because there are smaller settlements which have better indicators than the county averages.

4.2.3 Batch credit transfer

Typically, this method is suitable for the payment of wage-type remunerations (e.g. wages and pensions); naturally, it is also suitable for a situation where a payer pays a number of payees for similar purposes. Table 11 shows the most important purpose codes. The wage and social transfer category, first in the list, includes wages and other social transfers, e.g. family allowances.

Table 11
Distribution of batch credit transfer transactions by purpose, October 2008

Purpose code of direct credit	Thousand transactions ↓	HUF million	Average amount (HUF)
Wage (including social transfers)	1,778	103,681	58,307
Pension	1,283	107,862	84,034
Wage	1,114	126,743	113,728
"Other" (as purpose code)	394	119,827	303,641
Scholarship	126	4,085	32,348
Unemployment benefit	70	2,435	34,530
Other reimbursement	45	6,514	144,379
Healthcare fund	35	737	21,001
Settlements of accounts payable	28	7,156	247,571
Outward payments by insurance companies	14	2,819	189,409
All other purpose codes, total	71	10,663	149,887

As presented in the section on methodology, redistributions by the state, including pensions (and the wages of public servants) accounting for a significant portion of direct credit transactions were not taken into account in the case of maps and tables which contain regional information. Accordingly, the map on the next page does not contain these despite the fact that, as is illustrated in the previous table, the state uses this means of payment heavily.

Although, based on the map, Budapest's central role is unmistakeable, it is not as marked in respect of this means of payment as it is in the case of simple transfers; moreover, links between the county seats are much stronger. According to the map there is a strong relationship between Miskolc and Salgótarján. Another fact of interest is that the relationship between Szolnok and Nyíregyháza and Szolnok and Debrecen is equally strong, whereas the one between Nyíregyháza and Debrecen is weaker despite the small distance. A similar phenomenon can be identified in the case of Kecskemét and Szeged/Békéscsaba.

According to the indicator per 1,000 persons also taking account of the population, a very high number of direct credit transactions are conducted in Nógrád and Baranya Counties, in fact, five times the number in, for instance, Komárom, Tolna and Szabolcs-Szatmár-Bereg Counties. With Budapest and Pest County excluded, the difference between the county ranked first and the one ranked last is five-fold; in addition, Nógrád County, which ranks first here, is among the counties bringing up the rear.

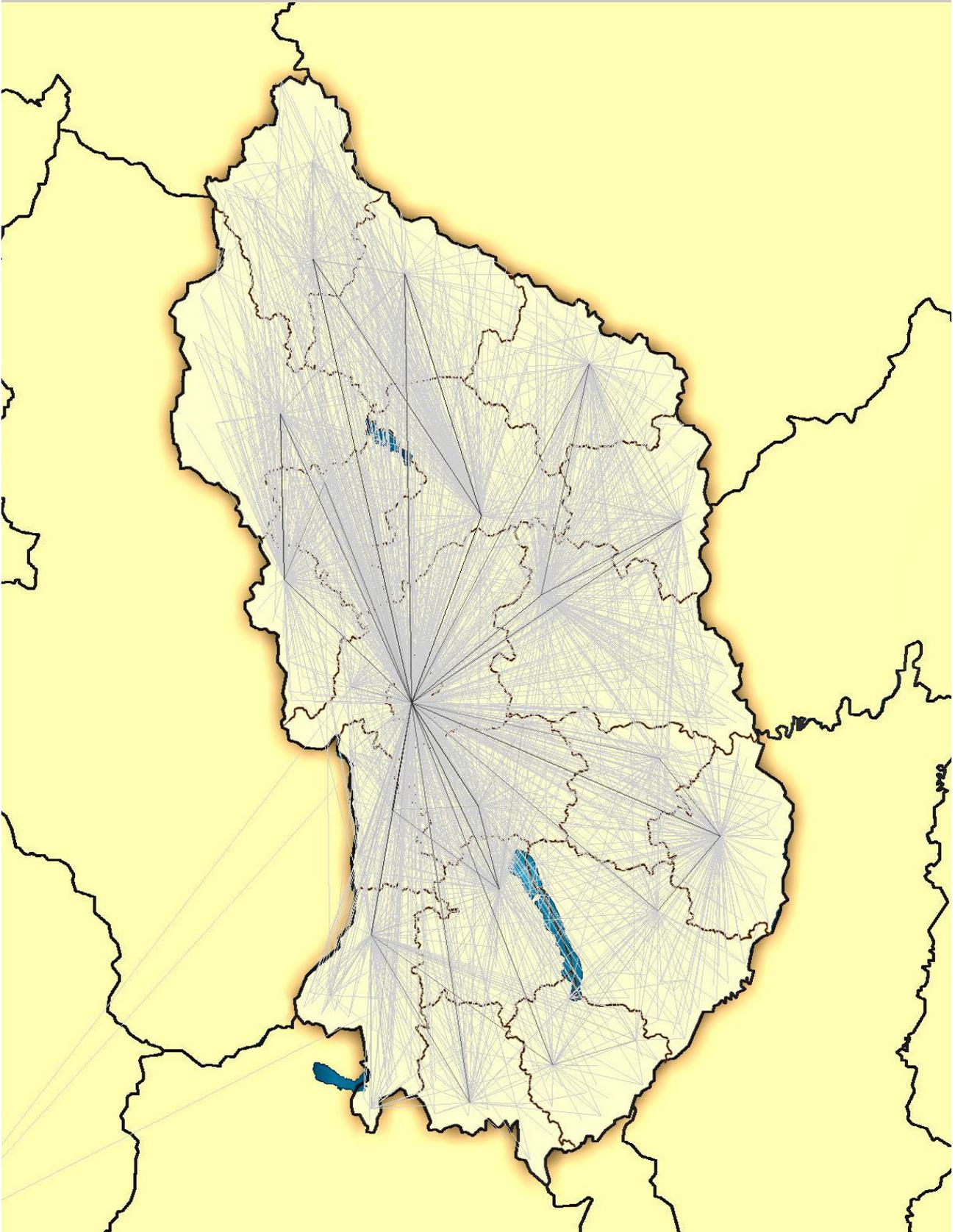**Map 12**
Map of direct credit transactions, September–October 2008

Table 12

Number of direct credit transactions in the individual counties, September–October 2008, monthly average

County	Population	Incoming direct credit transactions		Outgoing direct credit transactions		Of them: direct credit transactions within county		Number of outgoing direct credit transactions per 1,000 persons ↓
		Thousand transactions	HUF million	Thousand transactions	HUF million	Thousand transactions	HUF million	
Budapest	1,702,297	626	74,669	795	96,947	366	52,412	467
Nógrád	203,927	38	2,891	86	3,232	20	1,245	420
Baranya	360,849	88	6,923	135	8,617	64	4,562	374
Jász-Nagykun-Szolnok	400,127	65	4,983	124	5,672	37	2,438	309
Veszprém	358,140	76	5,983	98	4,924	38	2,608	274
Győr-Moson-Sopron	437,634	89	7,765	107	6,822	52	3,852	244
Bács-Kiskun	544,042	93	6,918	117	5,931	51	3,314	216
Csongrád	424,139	95	7,811	72	6,680	44	4,338	170
Fejér	429,707	99	8,721	71	6,843	39	3,988	165
Békés	376,657	73	5,153	55	4,429	29	2,551	147
Borsod-Abaúj-Zemplén	690,927	126	9,767	91	7,942	52	4,939	131
Vas	253,079	48	4,091	30	2,752	15	1,564	119
Hajdú-Bihar	543,434	90	7,407	61	6,280	34	3,639	111
Zala	270,118	58	4,839	29	2,827	19	1,833	107
Somogy	309,742	63	4,509	31	2,980	20	1,915	100
Heves	314,464	64	5,467	30	3,030	19	1,989	94
Szabolcs-Szatmár-Bereg	569,619	95	6,601	52	4,488	34	2,981	92
Tolna	236,310	48	3,464	20	2,826	14	1,486	85
Komárom	312,312	74	6,286	24	2,988	17	2,009	76
Pest	1,191,739	52	5,562	34	3,597	13	1,254	28

Nógrád County is unique in the sense that, in contrast to the other counties, where most direct credit transactions are conducted within the counties themselves or with Budapest as their destination, the number of direct credit transactions with the neighbouring Borsod-Abaúj-Zemplén County is over 1.5 times the number of the transactions within the county.

Chart 14

Counties conducting direct credit transactions most frequently, September–October 2008, monthly average
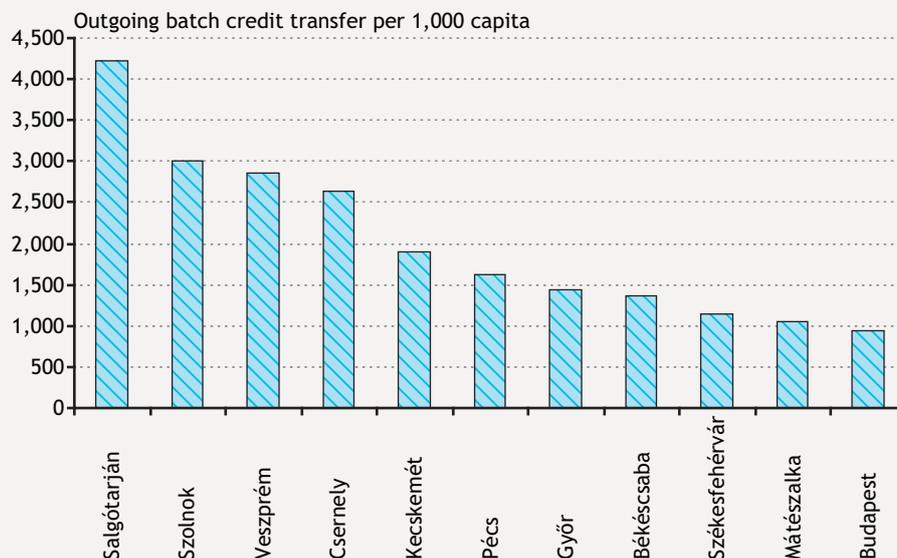
Data on the individual counties are contained in the tables in section 7.2.3 entitled *'Inter-county transactions'*. Data on inter-urban transactions are included in the tables in 7.3 *'Tables containing inter-settlement transactions'*.

It is hardly a surprise that in the case of *'the number of direct credit transactions per 1,000 persons indicator',* Salgótarján ranks first in the list of settlements, with a significant lead over the cities/towns that follow it in the list.

4.2.4 Direct debit

Direct debit is a means of payment used to effect payments between corporations with a large number of clients and their clients. Typically, these entities are public utility (electricity, gas, water and telephone, etc.) companies, but, as is shown in the table below, it is a preferred means of payment of other service providers such as insurance companies.

Based on Table 13, the financial sector (insurance companies and building societies) is (are) the main users of this means of payment; in fact, the volume that they handle exceeds that of the public utility sectors. We assume that this is also attributable to the take-off in residential lending seen in the past decade, because banks require home insurance as a precondition for granting a loan. However, home loans themselves were not included in the table, the underlying reason for which is that banks insist on collecting installments/loans from the current account opened with them; therefore, these transactions/loans are not registered in the interbank system. Another reason why direct debit is more common is that the bargaining position of banks is much better when it comes to the selection of the means of payment (for instance, they may require it as a precondition for the provision of a service or granting a loan, whereas traditional public utility companies do not wield similar power).

As a rule, the primary place of business of these entities is Budapest, and as a result, direct debit is concentrated in Budapest as regards the beneficiary side, which is shown on the map on the next page.

The map reveals that direct debit within the individual counties is of lesser importance. Naturally, this follows, in part, from the imperfections of the chart; nevertheless, it fundamentally reflects the dominance of Budapest.

As public utility service providers are regional in nature, in respect of this means of payment, the dominance of the capital city cannot be regarded as 'normal'. Table 11 clearly proves that this is attributable to the fact that a larger proportion of the clients of financial services providers use direct debit than the clients of other services providers.

Therefore, it seems that it is local public utility companies where there is still room for the further spread of this means of payment.

Table 13
Distribution of direct debit transactions by purpose codes, October 2008

Purpose code	Thousand transactions	HUF million	Average amount HUF
Insurance	1,504	11,515	7,657
Building society	266	3,305	12,426
Electricity	236	2,309	9,776
Mobile phone	114	1,058	9,261
Telephone	180	968	5,380
Water	131	882	6,721
Loan repayment	135	1,951	14,488
District heating	140	1,458	10,386
Gas	135	1,932	14,274
Cable television	90	451	5,027
Other purpose codes, total	438	7,391	16,878

Map 13
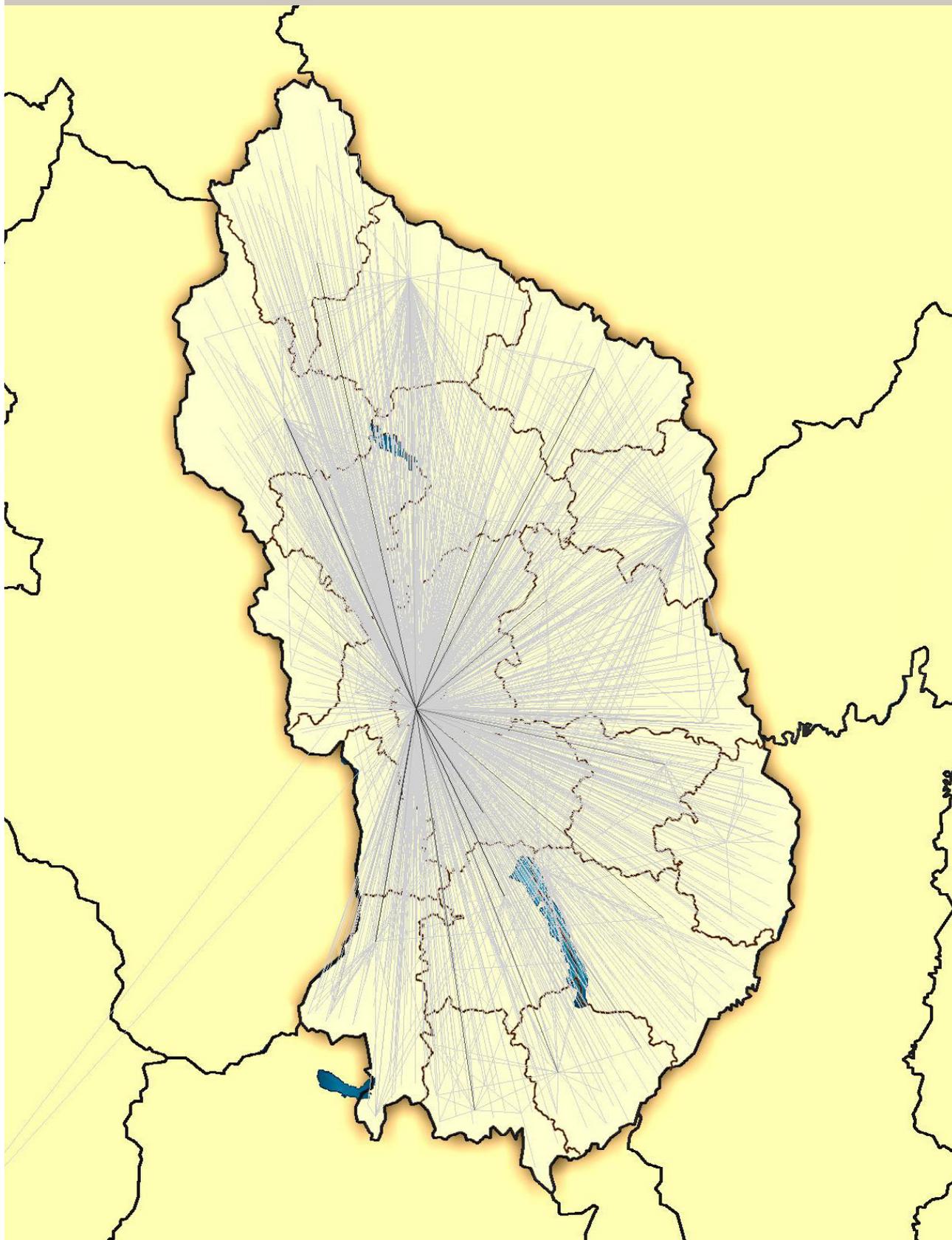**Map of direct debit transactions, September–October 2008**

Table 14
Number of direct debit transactions in the counties, September–October 2008

County	Population	Direct debit transactions credited in the given county		Direct debit transactions debited in the given county		Of them: direct debit transactions within county		Number of outgoing direct debit transactions per 1,000 persons
		Thousand transactions	HUF million	Thousand transactions	HUF million	Thousand transactions	HUF million	
Budapest	1,702,297	1,879	15,575	727	6,880	677	6,449	427
Baranya	360,849	19	194	112	868	16	156	311
Tolna	236,310	12	59	59	419	10	47	251
Csongrád	424,139	51	419	105	787	26	219	248
Fejér	429,707	22	154	104	776	19	129	242
Veszprém	358,140	9	55	85	632	7	43	238
Győr-Moson-Sopron	437,634	19	91	103	778	11	59	236
Zala	270,118	14	60	62	491	6	37	231
Komárom	312,312	10	59	71	525	9	54	227
Vas	253,079	8	58	55	418	7	51	218
Jász-Nagykun-Szolnok	400,127	14	49	87	624	11	37	217
Heves	314,464	9	82	64	513	8	75	204
Somogy	309,742	13	89	63	470	7	42	202
Békés	376,657	10	46	76	489	9	41	201
Bács-Kiskun	544,042	14	69	84	636	12	59	154
Nógrád	203,927	3	15	29	193	3	13	140
Hajdú-Bihar	543,434	30	435	72	553	5	47	132
Borsod-Abaúj-Zemplén	690,927	32	281	85	679	13	119	124
Szabolcs-Szatmár-Bereg	569,619	6	43	66	500	5	37	117
Pest	1,191,739	10	85	72	685	3	29	61

Table 14 substantiates our conclusions in a more precise manner, insofar as transactions in the given county account for a mere 8% to 25% of all direct debit transactions, and approximatey 86% are credited to accounts in Budapest.

Chart 15
Settlements conducting direct debit transactions most frequently, September–October 2008, monthly average
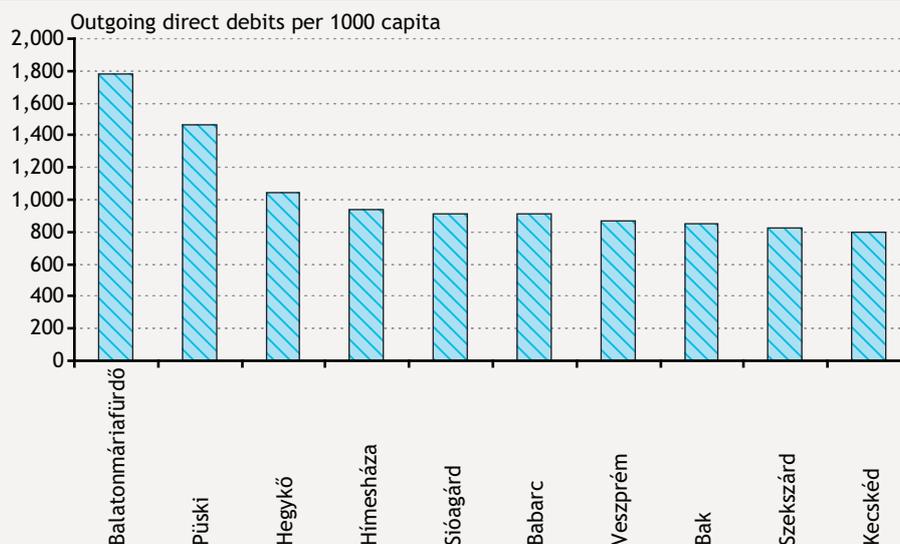
This clearly confirms the assumption that there is still ample room for improvement. Based on the distribution by legal codes, it is obvious that public utility companies rely on direct debit to a lesser extent than they could. Naturally, this is not entirely their decision, because it is the client who selects the means of payment.

When we look at the debit-side ranking of settlements presented in the case of other means of payment, surprisingly, Budapest only ranks 76th, with both relatively small-size settlements (such as Balatonmáriafürdő, which tops the list) and county seats preceding it in the list.

As average income is higher in Budapest than elsewhere in the country, we expected that Budapest will lead this chart and we were suprised that there are relatively more users in smaller settlements. We had to draw the conclusion, that in places where financial infrastructure (e.g. a bank branch) is available, clients can be convinced to chose direct debit as their means of payment.

5 Temporal distribution of payments

As is clear from the previous sections of this publication, the spatial distribution of the infrastructure of payments and transactions is far from homogeneous. Although this publication mainly focuses on spatial distribution, it is worth pointing out that the temporal distribution of transactions is not homogeneous either. Currently, in Hungary small-value interbank clearing/settlement takes place on T+1 day, which means that a bank forwards an order submitted on Wednesday to the Interbank Clearing System on Wednesday evening, and the payee receives it in the early hours of Thursday. Accordingly, in this section, data on volumes and amounts are allocated to the date of financial settlement, i.e. the date when the payee receives the transferred amount, and not the date when the transaction is initiated or the order is submitted.

Chart 16 shows the distribution of September–October 2008 data in a breakdown by settlement dates.[15]

Chart 16
Distribution of the number and amount of transfers, September–October 2008
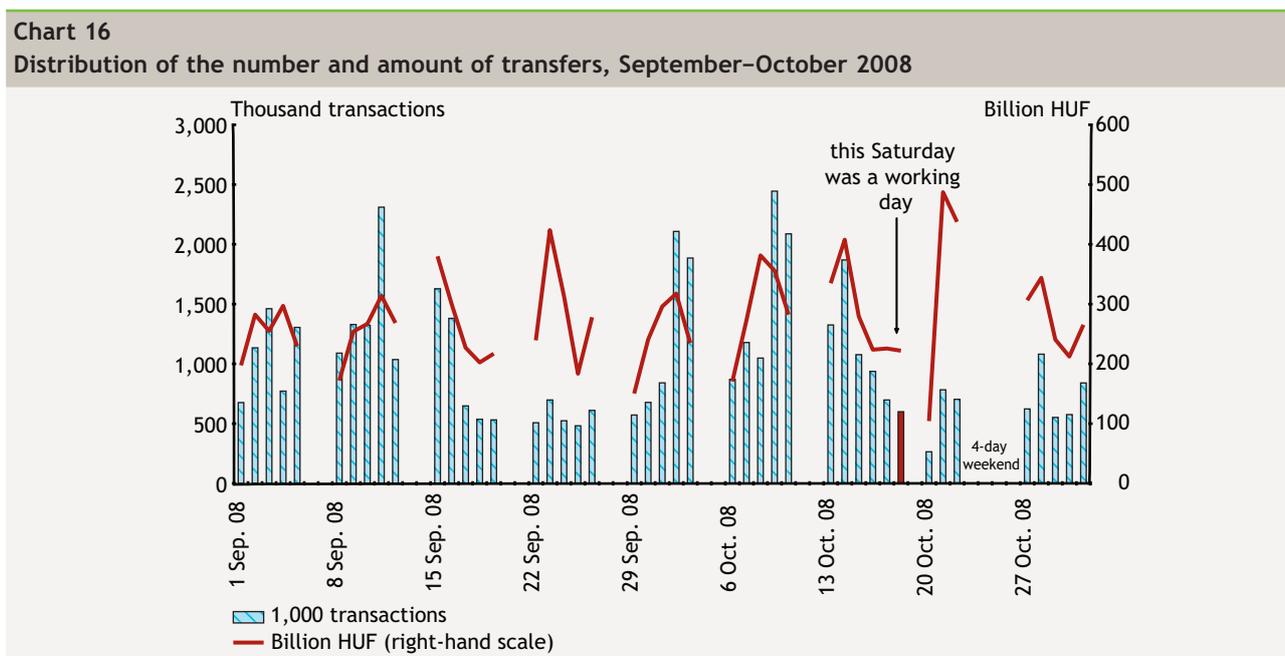

Fundamentally, the daily volume of payments depends on two things:

• Some transactions take place on (nearly) the same date each month. There are a number of such transactions, e.g. wages, pensions, tax payments to the state, public utility bills and standing orders.

• Another part of the transactions is the financial settleement of the price of goods and/or services. In the case of corporations, there may be a significant time lag between the date of purchase and that of the financial settlement.

Chart 17 shows the distribution of the turnover handled by the Interbank Clearing System (ICS) between 2004 and 2008 in a breakdown by settlement dates. ICS operates with a T+1 day settlement procedure, i.e it processes the transaction submitted by a client on Monday night, and banks receive the result on Tuesday. Accordingly, most transactions are

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[15] Note, that in Hungary, when a national holiday is on Tuesday or Thursday, the Government declares a Saturday as a working day and the Monday or Friday next to the national holiday as a non-working day, thus creating a four day weekend.

Chart 17

Transfers in a breakdown by the days of the week, 2004–2008

(date of settlement)
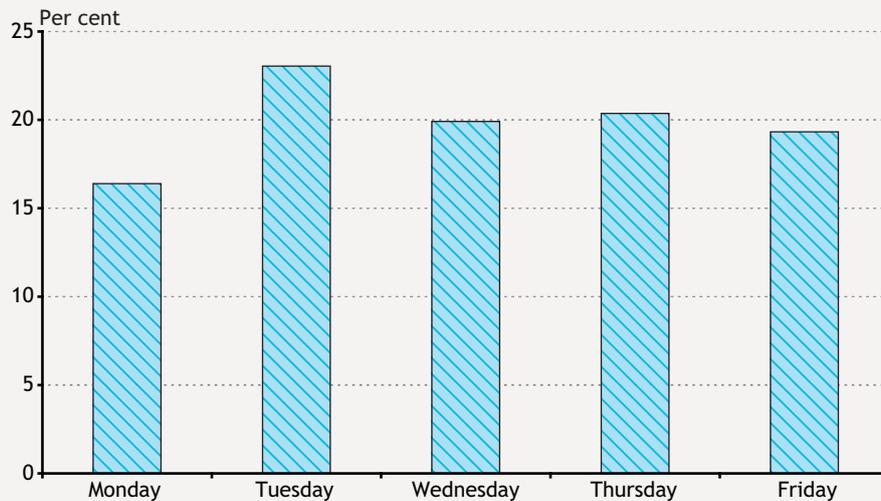
initiated on Monday and the fewest on Friday; the number of the transactions is average on the other days of the week. We think that a decline in the number of the transactions initiated on Friday is attributable to the fact that it does not count as a full working day[16] in the case of a number of companies, and that a transaction launched on Friday reaches the payee only on Monday; therefore, payers usually postpone the launch until Monday, thus avoiding a bank float that would last longer (3 days rather than 1) than it otherwise would.[17]

5.1 INTRADAY DISTRIBUTION OF PAYMENTS

The MNB has long been urging the ICS to switch over to intraday operation so that clients can receive the transfers on the same day as they are launched in the case of interbank transactions as well. To this end, the MNB has conducted a detailed analysis of the impact of such a system on banks' intraday liquidity management. As banks are obliged to register the hour and minute when orders arrive,[18] in order to be able to prepare the study, the MNB requested data from 10 banks that handle the largest volume of payment transactions on the total number of the transactions, in a breakdown by hours and minutes, submitted by their clients in March 2007.

Accordingly we have, at our disposal, both the number and the amount of transactions launched by clients in a breakdown by minutes.

In order for Chart 18 to be interpreted, it should be noted that, as a rule, corporate customers submit their orders in batches, i.e. hundreds of them at a time. This is exactly why there are several outliers in the chart.

The chart is also interesting for other reasons: it plots the daily dynamics of economic actors (which is also shown in charts depicting the temporal distribution of e.g. money market transactions).

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[16] E.g. shorter working hours or more lax dress codes.

[17] Float means the interest earned by banks that stems from the fact that in order to prevent misdemeanour (i.e. duplication of debiting), the amount of the transaction is blocked and the bank is in the possession of such an amount until the following working day. Banks only debit the account of key account customers only on the following day as value date, and therefore, such customers do not incur this loss.

[18] There are customer protection reasons for this, in this way it can be decided later whether the bank made an error or not (i.e. whether the client submitted the order before or after the deadline for acceptance).

Chart 18
Intraday distribution of customer transfer initiations in March 2007
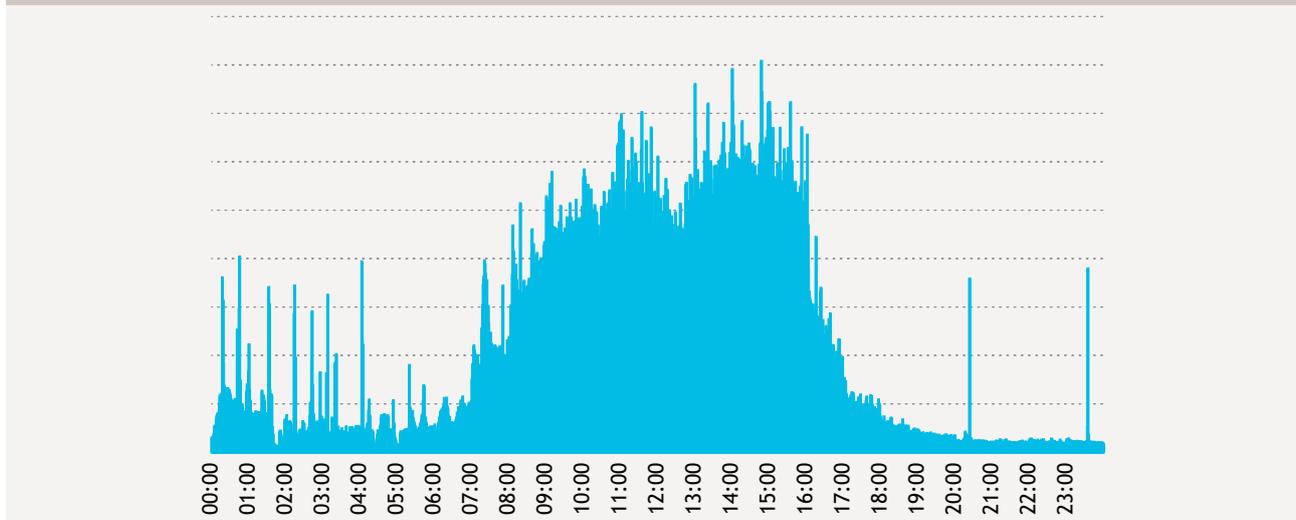
Relative to daytime, the early hours (00:00–07:00) is usually a sluggish period; only rarely do most banks receive transactions at this time of the day. (Based on the information received from banks, it is mainly private individuals or small businesses that tend to submit their orders in the early hours of the day.)

It is clear from Chart 18 that work mostly start at 07:00 and many get to work by 08:00. Lunch break is between 11:00 and 14:00 (with a trough at 12:30). From 16:00 hours, there is a marked decline, which can be put down, in part, to the fact that work is over, and, in part, to the deadline that banks set for the acceptance of orders.

In the period between evening and midnight, clients tend to submit fewer transactions than they do after midnight. The most plausible explanation is that, as orders are only executed on the following working day anyway, in order to avoid float, clients submit their orders after midnight.

5.2 CREDIT TRANSFERS

As credit transfers are a general-purpose means of payment, transacted amounts may range from HUF 10 to several billion. Naturally, the latter is rather rare (and it is not always linked to an economic event; rather, it is a book transfer from one bank account of a company to another). Chart 19 plots transfers in a breakdown by amounts (in the chart the amount in the individual ranges grows in conjunction with an increase in the range).

Although the average transferred amount as a 2-month average was approximately HUF 451,000, 56% of the total number of payments were below HUF 40,000 (i.e. the mean value ranged from HUF 30,000 and HUF 40,000), and 75% of the transacted amounts were below HUF 100,000. At the same time, however, transactions with a single transactional value of over HUF 10 million shown on the right-hand side of the chart account for nearly two-thirds of the total transaction volume.

Chart 19
Distribution of credit transfers in a breakdown by amounts (bands) as a September–October 2008 average
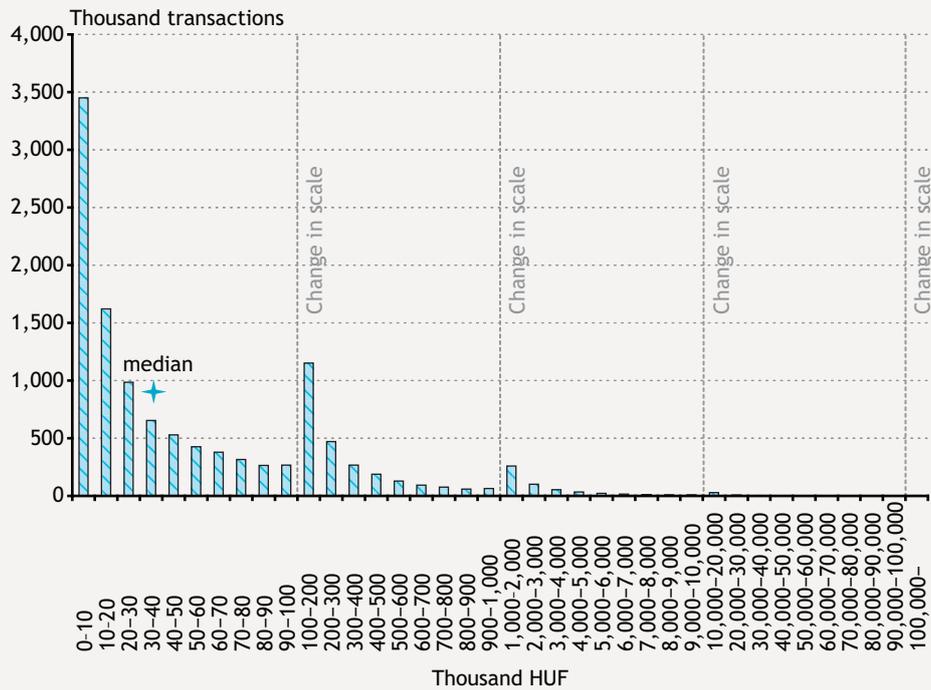
5.3 BATCH CREDIT TRANSFER TRANSACTIONS

By nature, batch credit transactions are typically conducted once a month as shown by Chart 20.

Typically, there are two days a month when sizeable volumes are handled: one is the early days of the month, when wages are transferred and the 10th of each month when pensiona are disbursed. The only exceptions to this are the months when

Chart 20
Intra-month direct credit transactions,* September–October 2008
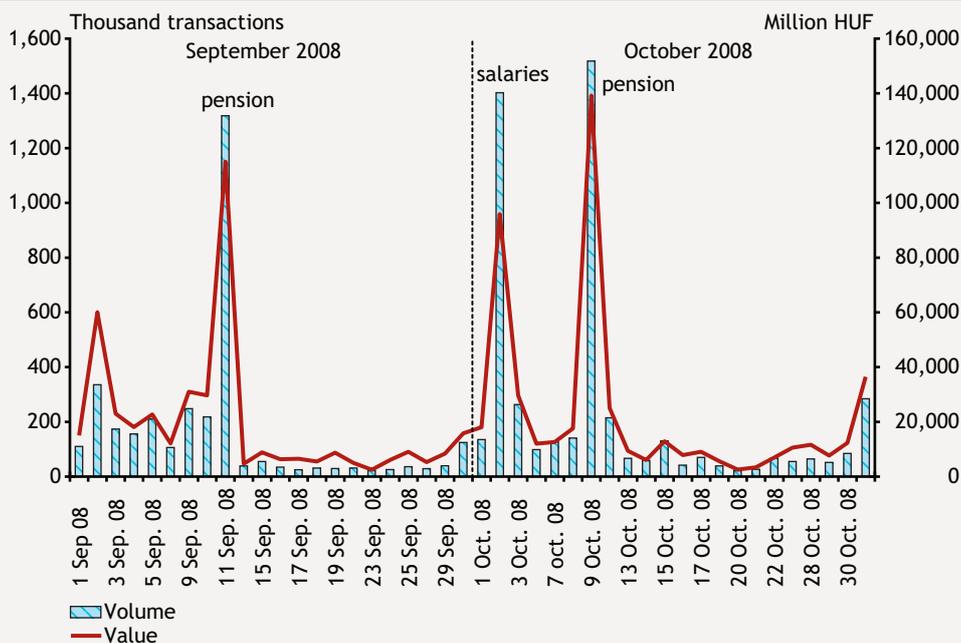
* The chart also contains state transfers.

Chart 21
Distribution of batch credit transactions in a breakdown by amounts (bands)* as a September–October 2008 average
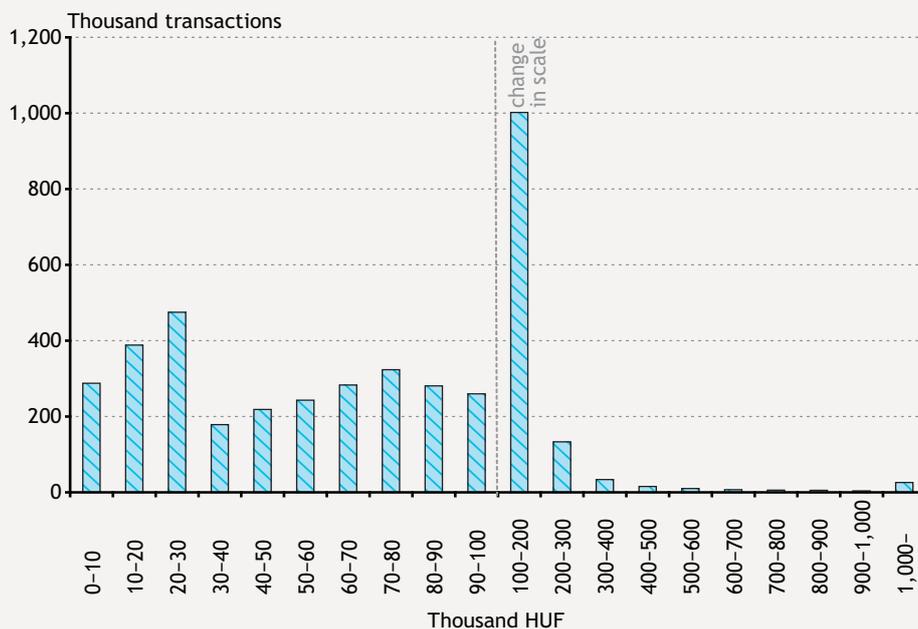

Thousand transactions

change in scale

Thousand HUF

0–10 10–20 20–30 30–40 40–50 50–60 60–70 70–80 80–90 90–100 100–200 200–300 300–400 400–500 500–600 600–700 700–800 800–900 900–1,000 1,000–

* The chart also contains state transfers.

– because of the impact of non-working days – most employers transfer wages on the last day of the preceding month (as is likely to have been the case in September 2008).

The average amount transferred in direct credit transactions is approximately HUF 109,000, with a mean value of HUF 70,000. As was presented at the beginning of this section, the nature/type of orders varies widely, ranging from wages, pension, damages paid by insurance companies to stipends, which explains why distribution is radically different from that of simple transfers.

5.4 DIRECT DEBIT TRANSACTIONS

As regards the temporal distribution of direct debit transactions, they are concentrated in the first half of the month, whereas in the second half, the number of direct debit transactions is proportionately higher than that of transfers.

The proportion of rejected transactions is unfortunately very high in the case of direct debit transactions: approximately 16% of the total number of the transactions and approximately 23% of the total transacted value. Not surprisingly, most rejections occur in the second half of the month when accounts no longer have sufficient funds and it is still a long time until the next pay day (this problem could be solved by wider use of overdraft lines of credit). As is obvious from the next chart, typically only items representing very small amount are involved, and thus the credit lines and risks run by banks should be very low indeed.

The average amount involved in direct debit transactions is HUF 8,700 and approximately 73% of the transactions involve amounts below HUF 10,000. Direct debit transactions involving higher amounts are rare (though their occurrence cannot be totally ruled out, their number is so low that they can hardly be detected in the chart). Based on this, it is safe to say that it is almost exclusively retail clients/households which use this means of payment to settle their financial obligations.

Chart 22

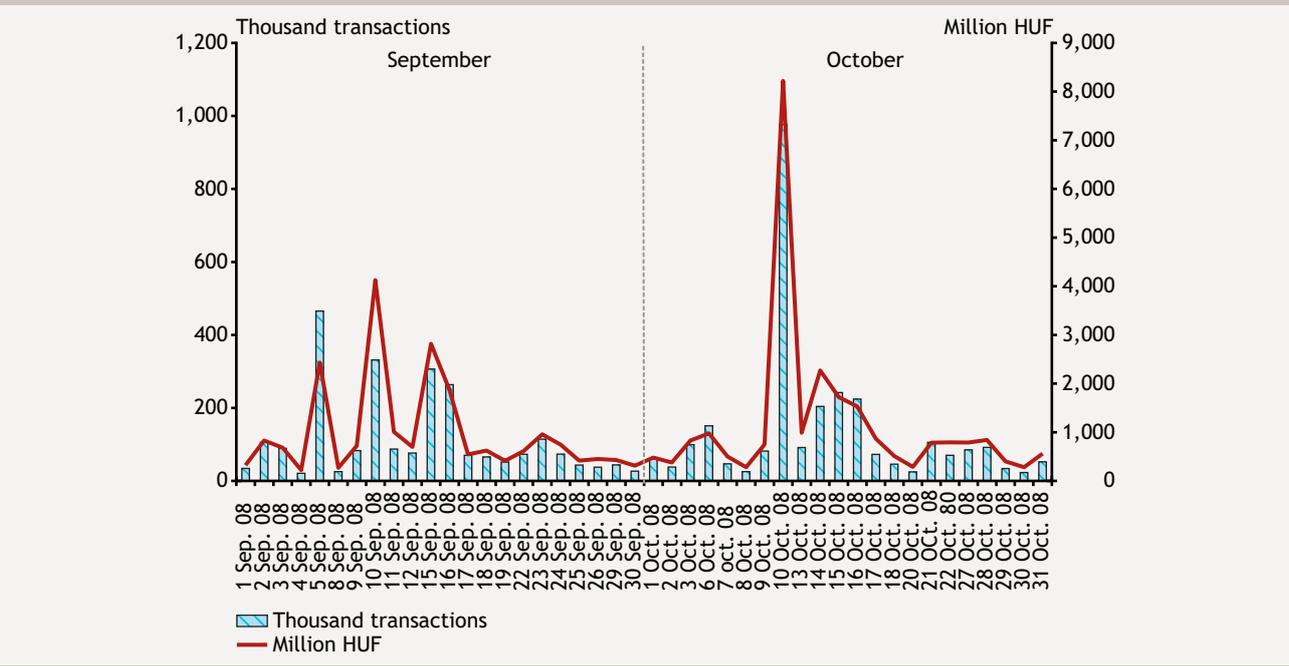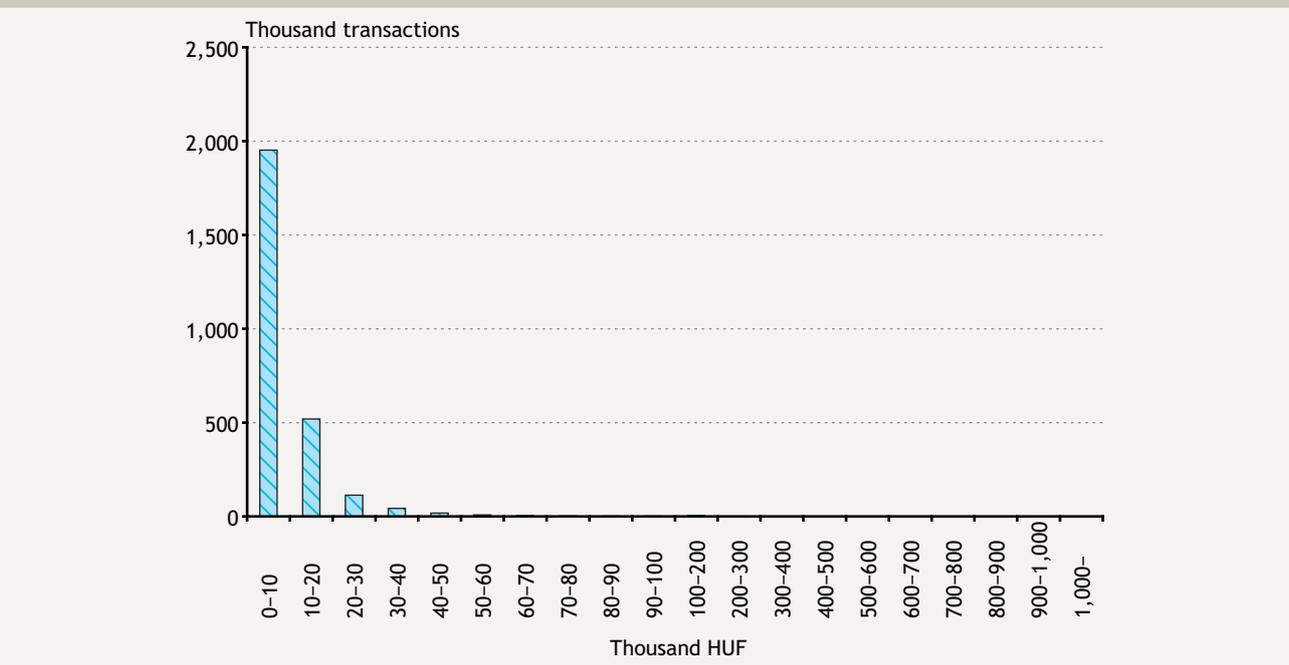**Intra-month distribution of direct debit transactions, September–October 2008**

Chart 23

Distribution of direct debit transactions in a breakdown by amounts (bands) as a September–October 2008 average

6 Summary and conclusions

This publication presents the payment infrastructure of Hungary, for intra-county and inter-urban payment transactions as well as the temporal distribution of payment transactions. The following section provides a summary of the main conclusions.

GEOGRAPHICAL DISTRIBUTION OF THE INFRASTRUCTURE

The past decade has seen an upsurge in bank branch openings, as a result of which **the availability of bank branches in Hungary can be regarded as average in an international comparison.** A close look at the detailed data reveals, however, that **there are no bank branches** in approximately one-third of the settlements (mostly in small settlements). Moreover, **there is a significant difference between the individual regions.** In some counties as much as 25% of the population lives in settlements without a bank branch; the corresponding figure in other counties is a mere 2 to 3%. Residents of settlements in this category must travel 3.7 km point-to-point on average to the nearest bank branch.

As regards the number of ATM's in proportion to the population, Hungary lags behind other Member States of the EU. In respect of the distribution of ATM's in Hungary, there are significant differences depending on the population of the individual settlements: there are no ATM's in most settlements, as banks mainly install them in larger cities. As regards points of cash withdrawals, overall, the situation is better, as cash can also be withdrawn at the branch offices of the savings co-operatives and post offices with POS terminals (however, they cannot fully make up for ATM's, as availability is restricted to their business hours).

POS terminals suitable for purchases (shopping) are even more concentrated than ATM's. Data reveal that a relatively satisfactory number of POS's are only available in tourist destinations (e.g. Lake Balaton and environs), Budapest and its immediate environs and the county seats. This is in line with the finding that, according to international statistics, the number of POS terminals in proportion to the population is higher in countries which are tourist destinations.

Due to the high concentration of ATM's and POS terminals, **residents of small settlements encounter difficulties in accessing banks' payment services (e.g. bank accounts and bank cards).**

GEOGRAPHICAL DISTRIBUTION OF PAYMENTS

A geographical perspective on payment transactions reveals that approximately 40% of the total number of transactions involves payer and payee living in the same settlement; generally speaking, **payment-related relationships weaken as distances grow. Settlements conduct payment transactions primarily with settlements in their vicinity.** The only exception to this is relationship with the capital city, where distance does not seem to play a role at all. **Even if payments made or received by the state are excluded, Budapest is still the hub for domestic payments.** Budapest accounts for nearly one-third of all payment transactions, and for each settlement Budapest is a payment-related partner on a par with county seats. The distance related to the transfers cleared in the Interbank Clearing System (i.e. the distance between payer and payee) was approximately 13,608 million kilometres, which is 90 times the distance between the Sun and the Earth.

A close look at regions reveals that neither the volume nor the turnover of payment transactions is higher between counties constituting a region than between the other counties. **The relationship between two counties belonging to the same region is not markedly stronger than the relationship with other counties.** The only exception to this is the Central Hungarian Region comprising Pest County and Budapest, where Budapest has a central role similar to the one that county seats have.

Budapest's dominance is also indisputable in the case of batch credit transfers; at the same time, the amount transferred between the individual counties is often on par with the amounts in relationship to Budapest. **Direct debit is more common in the financial sector (insurance companies and building societies) than the traditional public utilities sector** (gas, electricity, water and district heating), although direct debit was designed specifically for them. In addition to the financial sector, most of non-traditional public utility companies (e.g. telephone, mobile phone, cable and Internet services providers) – which also handle a sizeable direct debit volume – have their headquarters in Budapest. It is hardly a surprise that Budapest's dominant role is reflected in the maps and tables alike. **Regarding direct debit, traditional public utility companies have the largest growth potential,** but the barriers to realising this growth potential require a more detailed analysis.

Population-proportionate indicators do not suggest an unequivocal dominance of the capital city, which would logically follow from differences in income, for example. Settlements of smaller size fare better in regard to a number of indicators (e.g. number of bank accounts, direct credit transactions and direct debit transactions) depending on clients' choice. It seems **that the availability of a satisfactory infrastructure of payments affects the use of banking services beneficially,** but this impact is not a linear one (i.e. twice as many bank branches does not double transactional volume).

TEMPORAL DISTRIBUTION OF PAYMENTS

Fundamentally, a look at the temporal distribution of payments reveals the following types of transactions:

- There are special days (e.g. dates of tax payment, wage payment, disbursement of pensions, and execution of standing orders and direct debit transactions) when transfers are made, in a predictable manner, on the same day each month; on such days the number of the transactions grows markedly.

- Corporations often specify a due date (deadline) for payments, within which the payer may choose the date of the transaction.

A look at payments in a breakdown by the days of the week reveals that **there is an attempt to avoid bank float,** i.e. clients initiate more transactions on Mondays and fewer on Fridays. Similarly, a look at transactions in a breakdown by parts of the day also reveals practices aimed at avoiding float.

7 A guide to the interpretation of the data stock

In compiling this publication, we had data at our disposal that were more detailed than those presented. We believe that such detailed data may be of interest for both experts specialising in areas other than payments and the layman, and may even assist them with their work. Therefore, we have decided to publish these data as an attachment to this publication.

The complied tables, which are text files containing figures separated by commas, '.csv', can be divided into three major groups: national, county and settlement-level lists.

7.1 TABLE CONTAINING NATIONAL DATA

7.1.1 Data on the infrastructure of payments

The table contains data on the infrastructure of payments (e.g. bank branches, ATM's and POS terminals) of all the settlements in Hungary.

File name: Table01.csv

Name of field	Content of field
Név	Name of settlement
Lakosság	Population of settlement (as at 1 January 2008, data source: CSO)
Fiók db	Number of bank branches in a settlement as reported for the purpose of the Routing Table as at October 2008 (along with some adjustments, e.g. bank branches at the same reported address count as one branch, Erste branches on the basis of their original addresses, etc.)
1000 főre jutó fiók	Number of bank branches per 1,000 persons in a settlement, a figure calculated from the previous two data (= number of bank branches/population*1,000)
ATM db	Number of ATM's (data source: Banking Association)
1000 főre jutó ATM	Number of ATM's per 1,000 persons in a settlement (calculated data)
fiók.Pos db	Number of POS terminals in bank branches and/or post offices that can be used for cash withdrawals (but not purchases); Source: MNB ad hoc data collection (commercial banks, Magyar Posta Zrt.)
1000 főre jutó fiók.POS	Number of POS terminals that can be used for cash withdrawals (calculated data)
ker.Pos db	Number of POS terminals in a settlement that can be used for purchases; Source: MNB ad hoc data collection (commercial banks)
1000 főre jutó ker.POS	Number of POS terminals per 1,000 persons that can be used for purchases (calculated data)

7.1.2 Bank account data

For all the settlements of the country, the table contains the numbers of the bank accounts that were involved, either as payers or payees, in at least one inter- (not intra-) bank transaction. As the database we used does not give an indication of the types of bank accounts concerned, credit accounts, technical accounts and sub-accounts are also included. Accordingly, the table contains data with a definition different than the definition of P04 data or the one published in the Blue Book; therefore, the former cannot be compared with the latter.

File name: Table02.csv

Name of field	Content of field
Név	Name of settlement
Lakosság	Population of settlement (as at 1 January 2008, data source: HCSO)
Bankszámla db	Number of bank accounts (data collected on the basis of the above definition and transactions in September and October 2008)
1000 főre jutó bankszámla	Number of bank accounts per 1,000 persons (calculated data)

7.1.3 Aggregate transaction data of settlements, national list

The data tables show the payment transactions in all the settlements of the country in September and October 2008. Each table shows a means of payment.

File names:

városok_ÁTUTAL.csv	=	Credit transfer data
városok_CSOPÁT.csv	=	Batch credit data
városok_CSOPBESZ.csv	=	Direct debit data
városok_INKASSZÓ.csv	=	Prompt collection data
városok_EGYÉB.csv	=	Data on means of payment other than those above
városok_ÖSSZES.csv	=	Aggregate data calculated from those above

Name of field	Content of field
Név	Name of settlement
Lakosság	Population of settlement (as at 1 January 2008, data source: HCSO)
Be.db	Number of incoming transactions (credited to the bank account kept in the settlement) in September and October 2008
Be.Ft	HUF amount of incoming transactions (credited to the bank account kept in the settlement) in September and October 2008
Ki.db	Number of outgoing transactions (from the bank account kept in the settlement) in September and October 2008
Ki.Ft	HUF amount of outgoing transactions (from the bank account kept in the settlement) in September and October 2008
Intra.db	Number of intra-settlement transactions in September and October 2008
Intra.Ft	HUF amount of intra-settlement transactions in September and October 2008
Be.db/1000fő	Number of incoming transactions/1,000 persons (calculated data)
Be.Ft/1000fő	HUF amount of incoming transactions/1,000 persons (calculated data)
Ki.db/1000fő	Number of outgoing transactions/1,000 persons (calculated data)
Ki.Ft/1000fő	HUF amount of outgoing transactions/1,000 persons (calculated data)

7.2 TABLE CONTAINING DATA ON COUNTIES

7.2.1 Aggregate transaction data of settlements, county list

The data tables show the payment transactions in all of the settlements of the individual counties in September and October 2008. Each table shows a means of payment. The tables are different from the national tables insomuch as they only contain data on a county each. As a result, it is easier to arrange them.

File names (example):

Bács-Kiskun_ÁTUTAL.csv	=	Credit transfer data (for Bács-Kiskun county)
Bács-Kiskun_CSOPÁT.csv	=	Batch credit data
Bács-Kiskun_CSOPBESZ.csv	=	Direct debit data
Bács-Kiskun_INKASSZÓ.csv	=	Prompt collection data
Bács-Kiskun_EGYÉB.csv	=	Data on means of payment other than those above
Bács-Kiskun_ÖSSZES.csv	=	Aggregate data calculated from those above

Name of field	Content of field
Név	Name of settlement
Lakosság	Population of settlement (as at 1 January 2008, data source: HCSO)
Be.db	Number of incoming transactions (credited to the bank account kept in the settlement) in September and October 2008
Be.Ft	HUF amount of incoming transactions (credited to the bank account kept in the settlement) in September and October 2008
Ki.db	Number of outgoing transactions (from the bank account kept in the settlement) in September and October 2008
Ki.Ft	HUF amount of outgoing transactions (from the bank account kept in the settlement) in September and October 2008
Intra.db	Number of intra-settlement transactions in September and October 2008
Intra.Ft	HUF amount of intra-settlement transactions in September and October 2008
Be.db/1000fő	Number of incoming transactions/1,000 persons (calculated data)
Be.Ft/1000fő	HUF amount of incoming transactions/1,000 persons (calculated data)
Ki.db/1000fő	Number of outgoing transactions/1,000 persons (calculated data)
Ki.Ft/1000fő	HUF amount of outgoing transactions/1,000 persons (calculated data)

7.2.2 Aggregate transaction data of counties

The data tables contain the payment transactions of Budapest and Hungary's counties in September and October 2008.

File names:

fizforg_megye_ÁTUTAL.csv	=	Credit transfer data
fizforg_megye _CSOPÁT.csv	=	Batch credit data
fizforg_megye _CSOPBESZ.csv	=	Direct debit data
fizforg_megye _INKASSZÓ.csv	=	Prompt collection data
fizforg_megye _EGYÉB.csv	=	Data on means of payment other than those above
fizforg_megye _ÖSSZES.csv	=	Aggregate data calculated from those above

Name of field	Content of field
Név	Name of county
Lakosság	Population of county
Be.db	Number of incoming transactions (credited to the bank account kept in the county) in September and October 2008
Be.Ft	HUF amount of incoming transactions (credited to the bank account kept in the county) in September and October 2008
Ki.db	Number of outgoing transactions (from the bank account kept in the county) in September and October 2008
Ki.Ft	HUF amount of outgoing transactions (from the bank account kept in the county) in September and October 2008
Intra.db	Number of intra-county transactions in September and October 2008
Intra.Ft	Number of intra-county transactions in September and October 2008

7.2.3 Inter-county transactions

The data tables contain a position matrix each that shows monthly inter-county transactions conducted in September and October 2008 in a breakdown by means of payment, number of transactions and amount of transaction.

File names:

megye_mátrix_ÁTUTAL_db.csv	=	Credit transfer, volume
megye_mátrix_ÁTUTAL_ft.csv	=	Credit transfer, value

The names of the other files are created under the method also used for the other data files.

Interpretation of data table:

The lines of the matrix denote the county of the payer (where the account is debited), and the columns contain the county of the payee. For example, the data at the point of the intersection of row 4 and column 9 denote the number or amount of the transactions from Hajdú Bihar County to Pest County.

The data tables contain abbreviations rather than the full name of the counties. The meaning of the abbreviations are as follows:

Abbreviation	Name of county
Sza	Szabolcs-Szatmár-Bereg
Bor	Borsod-Abaúj-Zemplén
Haj	Hajdú-Bihar
Nóg	Nógrád
Hev	Heves
Jás	Jász-Nagykun-Szolnok
Bék	Békés
Pes	Pest
BUD	Budapest (capital)
Bác	Bács-Kiskun
Cso	Csongrád
Kom	Komárom
Fej	Fejér
Tol	Tolna
Bar	Baranya
Győ	Győr-Moson-Sopron
Ves	Veszprém
Som	Somogy
Vas	Vas
Zal	Zala

7.3 TABLES CONTAINING INTER-SETTLEMENT TRANSACTIONS

The tables show the transactions that a settlement had with another in September and October 2008. The name of the settlement affected is in the file name, while counterparty data are contained in the data table. Naturally, if there are intra-settlement transactions, the settlement concerned is also included in the counterparty list.

File name: településnév.csv
(E.g.: Nyíregyháza.csv)

Name of field	Content of field
Név	Name of counterparty settlements, the figures in the given line contain the transactions between the settlement in the file name and this settlement
ÁTUTAL Be.db	Number of simple transfers (number of simple transactions credited to the bank account managed in the settlement in the file name that are from the settlement in the 'name' field
ÁTUTAL Be.Ft	Amount of incoming simple transfers
ÁTUTAL Ki.db	Number of outgoing simple transfers
ÁTUTAL Ki.Ft	Amount of outgoing simple transfers
CSOPÁT Be.db	Number of incoming direct credit transactions
CSOPÁT Be.Ft	Amount of incoming direct credit transactions
CSOPÁT Ki.db	Number of outgoing direct credit transactions
CSOPÁT Ki.Ft	Amount of outgoing direct credit transactions
CSOPBESZ Be.db	Number of incoming direct debit transactions
CSOPBESZ Be.Ft	Amount of incoming direct debit transactions
CSOPBESZ Ki.db	Number of outgoing direct debit transactions
CSOPBESZ Ki.Ft	Amount of outgoing direct debit transactions
INKASSZÓ Be.db	Number of credited collections
INKASSZÓ Be.Ft	Amount of credited collections
INKASSZÓ Ki.db	Number of imposed prompt collections
INKASSZÓ Ki.Ft	Amount of imposed prompt collections
EGYÉB Be.db	Number of other incoming transactions (i.e. means of payment other than those listed above)
EGYÉB Be.Ft	Amount of other incoming transactions
EGYÉB Ki.db	Number of other outgoing transactions
EGYÉB Ki.Ft	Amount of other outgoing transactions
ÖSSZES Be.db	Number of all incoming transactions
ÖSSZES Be.Ft	Amount of all incoming transactions
ÖSSZES Ki.db	Number of all outgoing transactions
ÖSSZES Ki.Ft	Amount of all outgoing transactions