



CHAPTER 6

OTHER ELECTRONIC BANKING SERVICES

✿ *Objectives*

After studying this chapter you should be able to understand:

- 6.1 Introduction in the Electronic Funds Transfer - EFT
- 6.2 The banking cards
 - 8.2.1 *General aspects*
 - 8.2.2 *The typology of bankcards*
 - 8.2.3 *The fraud*
- 6.3 Card market infrastructure
- 6.4 Bank Clearing System in the United Kingdom

6.1. Introduction in the Electronic Funds Transfer - EFT

The Electronic Funds Transfer is a very simple electronic method by which it is realised one of the oldest banking functions i.e. the money transfer. We shall describe a lot of methods EFT, such as:

- EFT-POS – the Electronic Funds Transfer to the Selling Points Terminals;
- Cards;
- ATM - Automated Teller Machines;
- Electronic Data Interchange – EDI;
- Internet.

EFT-POS – the Electronic Funds Transfer at the Point of Sale represents a system, which allows the customer to pay for goods and services electronically without any paper vouchers' at the time and place where the customer makes the purchase. Thus, the funds are transferred electronically from the customer's account via computer in the seller's account.

The methods of payment are:

- Electronic;
- Instant;
- Paper-free.

The “key” to operating any EFT-POS transaction is a plastic card, such as:

- Credit cards;
- Store cards;
- Debit cards;
- Charge cards.

The main benefits of using EFT-POS for the consumer are:

Convenience

- An alternative method of payment;
- Less need to carry cash;
- EFT-POS is a system which is easy to use;
- All benefits of non-cash payments.

Speed

Using EFT-POS to make payments quicker than any other non-cash method of payment.

Lower Bank Charges

For consumers who are liable to pay bank charges, there may be a lower rate of charge for electronic transactions as compared to paper-based transactions.

In the United Kingdom, the EFT-POS is a national system, which was founded by 13 banks and building societies under the auspices of the Bank of England. The system has been designed to be flexible and provide On-line and Off-line transactions authorisation to suit all retailer needs.

The EST-POS objective is to operate a national transaction network, which is both secure and uses standard equipment.

The key links in the EFT-POS chain are:

1. **Customers' plastic cards.** The information about the customer, his or her account and other details, are contained in electronic form within the magnetic strip on the back of the card.
2. **The retailer** (via the terminal);
3. **The retailer's bank;**
4. **The customer's bank;**
5. **The EFT-POS central control** (Controls the flow of electronic messages within the system and provides centralised settlement of all transactions).
6. **An automated "network"** carrying the messages and linking the whole system together.

EFT-POS is a new method of payment – the basis of a national electronic shopping system. As such it is a move towards the cashless society – when all payment transactions can take place without the need for any “paper”. But, for the moment EFT-POS is intended as an alternative to existing methods of payment (cash, cheque, credit card, etc.)

The payment procedure is a simple one, following steps¹, such as:

- ◆ Cardholder asks to pay for goods by plastic card.
- ◆ Card is swiped through the terminal.
- ◆ The following data is captured from the magnetic stripe on the plastic card:
 - bank sort code;
 - cardholder's account number;
 - expiry date on the card;
 - card issue number.

¹ Davies Audrey&Kearns Martin – Banking Operations, Pitman Publishing, London, 1994

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- ◆ The amount of the purchase or refunds is keyed;
- ◆ The above data, together with the retailer's special identification number and terminal identification, is coded and then transmitted to the EFT-POS UK Central Computer Switch.
- ◆ From the bank details, EFT-POS UK recognises the destination bank and sends the electronic message to the cardholder's bank computer system for authorisation.
- ◆ The bank decodes the message, checks the card against its own files, checks the account balance and returns in coded form, an approval to the retailer's terminal via EFT-POS UK;
- ◆ When the EFT-POS UK Central Computer Switch receives the approval, it forwards the message to the retailer terminal so that the transaction can be completed.
- ◆ At the same time, it sends a message to the retailer's bank computer system, advising the bank to credit the retailer.
- ◆ At the retailer terminal, the cardholder and cashier are advised of the approval and the cardholder is asked to sign the advice slip.
- ◆ If the Personal Identification Number or signature is OK, the cashier can complete the transaction. If there is a problem, the cashier can telephone a help desk for guidance.
- ◆ At the end of the day, all cardholder transactions are collated, as are retailer payments, and the banks must pay each other the amounts due. This is done via accounts held by each bank at the Bank of England.

As a conclusion, it should be mentioned that the term EFT-POS brings together two separate terms:

EFT: Electronic Funds Transfer

An information technology system by which payments from person "A" to person "B" take place by the use of electronic messages-without the need of the traditional paper vouchers'.

Paper vouchers' covers items such as bank notes, cheques, credit card sales vouchers, bank giro credit forms, etc.

POs: Point of Sale

In other words the place where the goods and services can be purchased.

Automated Teller Machine – ATM represents a “Service till” or “Auto bank” seen in the walls of the high street banks. Each has its own version of the ATM, and a large network to which these and the central computer system are linked.

The ATM is a mean of providing various services to the customer; which can include:

- **Cash dispensing** (the amount requested is checked against the limit for that day or week);
- **Balance enquiry** (the enquiry is transmitted through the bank’s communication network to the central computer; disk holding the account information is accessed; the answer is routed back through the system to the ATM);
- **Statement request**
- **Cheque book request.**

Requests for statement and chequebook are noted and the response produced and posted to the customer.

The customer has a card on which there is a magnetic stripe, which holds the details of their account:

- Account number
- Bank/branch number
- Cash limit (weekly/daily) – this is decided by the bank manager
- Security
- Any other relevant information.

The PIN (Personal Identification Number) which the customer uses is held on the stripe in coded form rather than in the same form as that known to the customer for security reasons.

The use of cards through Automated Teller Machine – ATM has the following steps:

- Customer inserts the card into the ATM;
- ATM reads the stripe and confirms that the card is genuine and accepted by the bank;
- Customer punches in their PIN and this is verified as compatible with the one stored on the card;
- Customer chooses the service he/she requires;

- ATM provides all the information on transactions to the central computer several times a day. Information is processed and any cash withdrawn debited from the customer's account at the next update;
- Customer using the wrong PIN is
 - asked to try again, or
 - card is retained by the ATM, or
 - a stop is made on any further cash withdrawals until customer and bank have clarified the situation.

6.2 The banking cards

6.2.1 General aspects

The origins of the bankcard have been attributed to John C. Biggins, a consumer credit specialist at the Flatbush National Bank of Brooklyn, New York. In 1946, Biggins launched a credit plan called Charge-it. The program featured a form of scrip² that was accepted by local merchants for small purchases. After the sale was completed, the merchant deposited the scrip in a bank account, and the bank billed the customer for the total scrip issued. Not long after, in 1951, the Franklin National Bank in New York issued the first modern card.

The major reasons behind rapid growth must be considered from the perspective of the consumer, the merchant and the bank. For the consumer, the bankcard made purchases of products and services more convenient, especially when credit was desired to fund these purchases. Bank customers could obtain credit for a variety of purchases without repeatedly going to the bank for a loan. The amount owed could be paid in full each month or extended through monthly instalments.

The merchant found the bankcard attractive because sales transactions could be validated easily and payment guaranteed. Heavy promotion of the card by banks and the national associations increased the sales opportunities for merchants who accepted the cards. The associations likewise relieved the merchants of the risk and cost of in-house credit plans.

² Paper money substitute redeemable at face value at participating merchant outlets for merchandise purchased.

Banks found an attractive way to extend credits to consumers through the revolving line of credit attached to the bankcard. Geographic market areas were expanded because banks could issue cards to customers who did not reside near the bank. With these new customers came additional opportunities to sell other banking products. Income from cardholders was complemented with new income sources from merchant discounts and new deposits from sales drafts.

Rapid growth in credit brought new level of credit losses. In many cases, approval criteria were inadequate for numerous lines of unsecured revolving credit. Early authorisation systems were slow and use of the card was difficult to curtail. Nevertheless, these programs survived.

6.2.2 The typology of bankcards

The card represents a payment instrument based on electronics.

A. From the point of view of the technological characteristics, the bankcards may be classified in:

- ❖ Magnetic bankcards;
- ❖ Bankcards with microprocessor.

The magnetic bankcards are manufactured from plastic and have the same size standardised by ISO³. On the front side they have the issuer symbol and denomination and a tri-dimensional hologram, while on the backside they have a magnetic band and a signature panel.

The bankcards with microprocessor are also known as “Smart Cards”. These cards contain a computer chip with memory and interactive capability, so that the data can be updated each time the card is used in an ATM or point-of-sale (POs) terminal.

B. From the point of view of the specific functions they have, the bankcards may be classified in:

- ❖ credit card;
- ❖ debit card;
- ❖ cheque guarantee card;
- ❖ ATM card;

³ International Standards Organization

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- ❖ multifunctional card;
- ❖ point-of-sale card.

The purpose of a **credit card** is to enable the cardholder to purchase goods or services at a shop, petrol station, restaurant or other establishment, which operates the scheme, without paying immediately. The holder presents his card and signs the bill, which is sent by the supplier to the bank or credit company, concerned for settlement. The credit cardholder receives a monthly statement listing all the transactions for that period and he settles for all of them with one payment, or he is possibly allowed to run an overdraft up to a set limit with agreed terms for repayment and the charges he will incur.

The main steps of the process are:

- The customer hands over his credit card to the supplier of the goods or services;
- The supplier then enters details of the sale on the sales voucher (e.g. date, description of goods or services, total cost, etc);
- The customer checks if the above details are correct – and that the total has been filled in – and if so signs the sales voucher.
- The supplier checks that the customer's signature matches the specimen on the customer's credit card, and also the expiry date of the card.
- The supplier hands one copy of the sales voucher to the customer (together with a receipt for the sale) and returns to the customer the credit card.
- The supplier keeps a copy of the sales voucher; this is paid into the supplier's own bank account. The credit card company pays the supplier's bank the amount due for the purchase.

After all these steps:

- the supplier's bank sends the third copy to the credit card company. It is then recorded as a transaction in the customer's computer file.
- at a date fixed for each of its customers credit card companies send out to that customer a monthly statement of what is owed.

A bank or other financial institution issues the debit card and it permits access to a customer's checking or savings account. The debit cards can be used in place of a paper check and the transaction will be automatically guaranteed because funds transfer immediately from the purchaser's account to the seller's.

Debit is, of course, a financial term. Its use in connection with the card implies access to a deposit account, as opposed to the line of credit accessed by the bank credit card.

As noted before, the term debit refers to accessing a deposit account typically a personal checking account, although the card can access a savings or money market account. When used to make a purchase at a store, the debit card takes the place of a personal cheque. The record of the transaction appears on the customer's checking account statement. To validate the sale, the merchant follows authorisation procedures much like those followed for credit card purchases.

In spite of immense attention paid to debit cards in the 1970s and early 1980s, widespread use in the market place was just the beginning. The growth of proprietary debit cards⁴ is accelerating because many supermarkets and other high-volume-cheque-cashing merchants are beginning to accept them. Properly banks participating in regional point-of-sale networks frequently issue debit cards. Transactions are handled outside the national networks, and the cost of interchange, as applied to bank credit cards transactions, is avoided.

One factor that limits the appeal of the debit card involves the consumer's choice to use either personal or bank funds to pay for a purchase. Not only does a debit card access personal funds it also effects immediate transfer of funds from the account, and so the period of processing and collection known as float is eliminated.

Merchants that accept bank credit cards should also be willing to accept debit cards. A merchant that follows routine authorisation procedures for the card validates the sale and guarantees its payment. In addition, the forms and procedures used for handling debit cards are similar to those used for credit cards. Therefore, merchants are already familiar with the routine. However, not all things are equal.

First, some merchants view the cost of interchange as more expensive than the cost of handling a personal cheque. Research studies have indicated that handling personal cheques is more expensive than the cost of interchange, but this research typically comes from banks.

⁴ This card identifies a specific bank or group of banks in a regionally shared point-of-sale network.

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A second issue is that of paper transactions versus electronic transactions. Merchants generally view the latter as less expensive because cheques have to be handled from the store to the bank. In addition, the merchants must pursue collection of the returned cheques. In the case of an electronic transaction, the paper stays on site (the customer gets a receipt and the merchant retains a copy of the transaction).

A third issue, especially for high-volume merchants, involves the speed of checkout. Electronic debit card transactions are usually faster than transactions made with personal cheques.

From the bank's point of view, the debit cards offer convenience to customers and provide a less expensive way to process deposit-related transactions. A bank's identity is also enhanced when cards are presented to merchants. However, most customers enjoy the delayed payment schedule credit cards have to offer. As a result, bankers will have to improve their sales techniques if they want to persuade customers to access personal deposits for their purchases.

Individual banks to permit customers to access transaction and savings accounts 24 hours a day, every day of the year, through automated teller machines issue the ATM cards. ATM is an acronym for automated teller machine. Most ATM cards enable the authorised holder to perform the following functions:

- withdraw cash from checking and savings account;
- deposit to checking and savings account;
- obtain a cash advance from a MasterCard or Visa account;
- make a loan payment, such as to a bankcard, automobile loan, or real estate loan account;
- get balance information on checking and savings accounts or the available credit on a bankcard or other credit account, such as a line of credit attached to a checking account;
- transfer funds from one account to another, such as from savings account to a checking account.

The ATM card extends banking convenience to the customer. because ATM machines are typically on the exterior of the bank or in some cases, at a location away from the bank, they usually operate around the clock, seven days a week. Therefore, the customer can access accounts without having to

go into the bank. Consequently, the ATM card is called sometimes Access card. This means, for example, that a customer can use the ATM to get money without searching for somewhere to cash a cheque. Deposits and loan payments can be made at night or on weekends, and the customer can get his or her account balanced even when the bank is closed.

The cheque guarantee card enables merchants to accept personal cheques, without the risk of recourse, provided the merchant follows accepted authorisation and documentation procedures. Because the cheque guarantee card is frequently attached to a line of credit associated with a personal checking account, it is sometimes not considered a bankcard. However, the cheque guarantee card is plastic, issued by a bank, and presented to a merchant to validate a purchase.

To the consumer, this type of card offers another form of banking convenience. Cheques can be cashed at merchants' stores more easily. These cards offer the merchants some guarantee that the cheque being presented is valid.

The distinctive features of a true cheque guarantee card is that it does guarantee the cheque. If a bad cheque is returned, the merchant may collect the amount of the cheque from the bank that issued the card. However, most cheque guarantee cards may only be used to guarantee first-party personal cheques and not pay roll cheques or cheques made payable to the person holding the card.

The terms of guarantee are generally simple:

- the cheque must be a personal cheque, presented by the cheque guarantee card holder;
- the amount of the cheque cannot exceed a specified amount;
- the expiration date on the card must not have passed;
- the signature on the card must be reasonably similar to the one on the cheque.

Banks typically do not charge a fee for the card or cheque guarantee service. If credit is used, the customer pays interest and fees associated with the personal line of credit. The most customers view the cheque guarantee card as a free service that makes cheque cashing easier.

The point-of-sale card (POs) refers to any card presented at the point of sale, the merchant's store or other location away from the bank. The POs system uses communication lines and is designed to authorise, record, and forward electronically each sale that occurs.

The POs debit card is really a combination of the cheque guarantee card and an ATM card. If a checking account transaction can be performed at an ATM, why not have the same functions performed at a merchant location (provided the merchant has the necessary equipment to accommodate the card)?

The multifunctional card has mix functions and facilities that derive from the above mentioned types of cards.

From the issuer's point of view, the cards may be divided in:

- ❖ cards issued by banks (bankcards);
- ❖ cards issued by merchants (private cards);
- ❖ cards issued by other institutions or organisations (the letter of credit international cards, the cards issued by credit institutions).

1. The bankcards

After the 1980s the holders of bankcards as well as the number of the transactions performed through bankcards have strongly increased. In the developed countries, efforts have been made to unify the offer and eliminate banking competition (we must take into account the fact that some banks issue bankcards for free). The inter-banking⁵ phenomenon appeared as a consequence. This offers to each cardholder the possibility to use it at all cash dispensers and with all the merchants, no matter the issuer.

A classification of the bankcard according to their possibilities of utilisation may be:

- ❑ Cards for cash withdrawal;
- ❑ National cards;
- ❑ International cards;
- ❑ Prestigious international cards.

⁵ In France, six networks have regrouped in 1983 in two economic groups: GIE Carte Blue and GIE Carte Vert, that have merged on 1 November 1985 and constituted GIE Carte Bancaires.

The cards for cash withdrawal usually have two levels of utilisation:

- *Level zero* that allows the card to be used only for the services offered by the issuer. They are issued for free.
- *Level one* that gives the possibility to use these cards at the inter-banking network of cash dispensers. They are issued for a fee.

The national cards, called “level two cards” have the same characteristics as the level one cards. Supplementary, they allow the payment regulation when the purchase is made at affiliated merchants. The card may be personal or professional and offers two options: rapid debit and ulterior debit⁶.

The international cards are defined through the third level of the inter-banking agreements and have a similar importance to those of level two (national cards), but their utilisation is extended to international payments. They are grouped in two networks: VISA and EUROCARD-MASTERCARD⁷. Both networks offer common services and guarantees, being more advantageous than the national ones: insurance against loss or theft, insurance in case of travels accidents, invalidity and death.

The prestigious international cards are defined through the fourth level of the inter-banking agreement and offer various services: cash withdrawal from the country or abroad, the automated insurance of travels, reservation services assured, car renting without guarantees, juridical protection, a wide range of guarantees and insurance accompanied by higher amounts.

Each of the two networks offers its prestigious card: PREMIER for VISA and GOLD for MasterCard.

2. The private cards

Their issuers are usually large distribution networks (supermarkets, the leaders of correspondence sales) that are well known by the customers and have a large market share.

Some cards are used only for some specific markets of products or services, while others are multi-usable.

⁶ For an ulterior debit, the holder’s account is debited monthly, with fixed date, with a term that may be up to 4-5 weeks.

⁷ Besides, MasterCard offers medical assistance and a reservation guarantee in the larges hotel chains based on a simple phone call.

3. The cards issued by other institutions or organisations

The cards may be issued not only by banks or merchants, but also by other partners: credit institutions, transport and telecommunications companies, car renting companies, oil companies, insurance companies, tourism agencies, clubs, professional services performers.

6.2.3 The fraud

Bankcard fraud has been described as a two-man war game between the “good guy” and the “bad guy”. The good guys are the issuing and acquiring institutions, the national associations and law enforcement agencies. The bad guys are dishonest individuals or groups who are always on the lookout for ways to beat the system⁸.

The amounts of dollars lost to fraud in the bankcard industry across the world have drawn significantly since the beginning of 1980s. The American Bankers Association (ABA), MasterCard International and Visa International, and other interested parties in the bankcard business have undertaken many efforts to help financial institutions find more effective ways to prevent bank credit card fraud. These parties work to stop fraud in instances where preventive measures fail. New technologies help in the effort and procedures are continuously being refined.

However, fraudulent transactions actually occur between people. Sometimes a dishonest person fools an honest person in the transaction, such as unsuspecting retail clerk or a bank teller. Other times, the transaction occurs between two dishonest people, such as a person working for the bank in collusion with a merchant. People are involved in every fraudulent bank credit card transaction.

A great deal of time and money are devoted to deterring criminals from altering or counterfeiting cards in an attempt to stop the dishonest user before he or she uses the card.

The fraud losses come directly out of the bank earnings, a concern that reaches the highest level of bank management. Approximately 60% of fraud losses occur before the bank personnel know that customer’s card is

⁸ Michael J Auriemma, Robert S Coley – “Bankcard Business”, American Bankers Association, 1998.

missing. In fact banks post around 40% of the fraudulent transactions to their customers' accounts before the cardholders report their cards missing. Thus, the bank must work harder to reduce the amounts lost to fraud each year.

Criminals employ several methods to obtain and use cards fraudulently. These methods include the use of:

- ❑ Fraudulent applications that result in accounts being set up and cards issued to criminals;
- ❑ Lost and stolen cards used for unauthorised purchases;
- ❑ Counterfeit cards;
- ❑ Lost and stolen cards altered for fraudulent use;
- ❑ Collusive merchants engaged in fraudulent transactions using counterfeit and altered cards, white plastic fraud, and laundered drafts⁹;
- ❑ Employee fraud in which employees steal cards from inside the card centre (bank or third-party processor), give out valid account number to criminals, or set up bogus cardholder or merchant accounts.

Security experts in the bankcard industry continue to evaluate existing and potential security features for the cards to improve the deterrence of credit card fraud. Banks and card manufacturers may use any combination of the following security features in their cards to help deter fraudulent use:

- ❖ Embedded ink, visible only under ultraviolet light, helps detect counterfeit cards –for use selectively with merchants that have a high exposure to fraud;
- ❖ Fineline printing, like that which appears on currency, makes counterfeit more difficult because of the precision of printing;
- ❖ Micro printing of bank identification codes on the cards makes counterfeiting more difficult;
- ❖ Trademarks visible only under ultraviolet light reveal counterfeit cards;
- ❖ Embossed security symbols facilitate the identification of the bank issuing the card (often another bank's customer account number will appear on an altered card) and make the tracking of drafts possible through easier identification.

⁹ Fraudulent transactions that are mixed with legitimate transactions for bank deposits in an effort to hide the fraudulent activity.

- ❖ A printed back identification number (BIN) above the embossed number makes alteration of the BIN on the card readily identifiable;
- ❖ Signature panels on the front of the cards make an erased signature more obvious. It is not uncommon for sales personnel to fail to check the signature on the back of the card with the signature on the sales draft even though merchants agreements require them to do so;
- ❖ Matched indelible account number on the back and front of cards make counterfeiting more difficult and alterations easier to detect.

The banks have adopted their *own security measures* in order to reduce the fraudulently use of bankcards. These include:

- ❖ Limits for the value and number of cash withdrawals;
- ❖ Limits for the trials allowed to the users that wrong introduce the PIN;
- ❖ Observance of the use of the TEF systems in order to detect the fraud;
- ❖ 24 hours phone line that may be used by the customers to announce the loss or theft of the bankcard.

As the profitability of bankcard programs has increased, so too have the incidences of fraud. The parties are taken a much stronger stance in both prevention and prosecution of card abuses.

6.3 Card market infrastructure

This infrastructure include the following:

- 1) Cash Dispenser (CD);
- 2) ATM;
- 3) Selling Points Terminals (off-line, on-line);
- 4) Imprinter.

The Cash Dispenser (CD) is a device that allows the authorised user to withdraw cash-coins or banknotes.

The visible part contains:

- A keyboard that allows the user to communicate his demands;
- A small screen where the instructions and answers can be seen;

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- A hole where the cards can be introduced in order to contact the necessary information to and from the computer;
- A special hole where, by the mechanical move of a trap, the banknotes fall.

The operations of the cash dispenser have the following steps:

- The owner introduces his card in the special hole of the machine;
- Then, the user must type on the keyboard his personal identification number (PIN). The correct PIN allows him to access the information stored in the card.
- The user types the amount of money wanted, but the amount must not exceed the maximum amount negotiated with the bank.
- The dispenser provides the money in coins and banknotes.
- After the transaction, the device gives back the card.

Selling Points Terminals represent working stations at the staples selling points. They are used to take in and transmit information concerning the payments made through them. The terminal consists of a special device- a complete structure terminal, or made by screen, a keyboard and the compatible electronics that can maintain the connection with the banks computer- where the user has his account.

The Imprinter.

A less rapid way to pay using a card involves the telephone connection with the authorisation centre and the use of an imprinter. In this case, the merchandiser formally checks the card; the cashier calls the authorisation centre and sends the identification elements of the card, and the value of the transaction. The processing centre, using the satellite telecommunication system, allows the performing of the transaction. When the authorisation comes, the cashier makes the bill in three copies using the imprinter. The buyer must sign the bill. After comparing the signatures, the seller gives the shopping's and the receipt to the client.

At the end of the day, the seller gathers all the bills, he registers them, and he gives one copy to the bank. The bank has to pay the bills within a period of time established by the contract.

6.4 Bank Clearing System in the United Kingdom

Every single working day all banks receive cheques payable to their customers either across the counter or by post for the credit of their various accounts. The banks as agents for collection have the duty of presenting all of these cheques for payment and having credited the customer's account, then receiving reimbursement themselves.

The clearing system began over 200 years ago, when the clerks of the various banks in London used to take the cheques paid in by their customers, sort them into bank order then walk round each bank, presenting these cheques for payment and taking back to their own bank sums of money given in settlement. Like any other commercial activity, the business of banking increased, not only with the number of cheques in circulation but also the number of banks that opened in the City of London and the West End. Thus, the clerks decided to short-circuit the system and unofficially agreed to meet at some convenient place to exchange the cheques drawn on their own banks: any differences in the amounts due could then quickly and easily be settled. The banks, anxious to improve the system, hired a room for the purpose of exchanging cheques. The system expanded and in 1833, in 10 Lombard Street, the first clearing house was established.

This system continued¹⁰, but until 1854 the membership of the clearing house was restricted to the private banks only.

a) Debit Clearing. The Bankers' Clearing House in London was established in 1833 to facilitate the daily exchange of cheques between banks and a daily settlement. At the beginning, the Clearing House was concerned only with the work of the private bankers but its activities rapidly increased in the second half of the nineteenth century as the joint-stock banks established their networks of branches. The present-day ownership and administration of the London Clearing House is vested in the Committee of London Clearing Bankers, i.e. Barclays, Coutts, Lloyds, Midland, National Westminster and Williams and Glyn's. The Bank of England is also a member of the Clearing House, but takes no part in its administration. On each working day, the Bankers' Clearing House handles more than three million cheques worth on average about 7,000 million sterling pounds.

¹⁰ Whiting D.P. – Elements of banking, Macdonald & Evans Ltd., London, 1985

- b) The Town Clearing.** The work of the Clearing House is divided into two parts, the Town Clearing and the General Clearing. The Town Clearing handles *cheques of 5,000 sterling pounds or more drawn on offices within the City of London*, i.e. within walking distance of the Clearing House which is located in Lombard Street. *All other cheques have to go through the General Clearing.* The Town Clearing is meant to serve the needs of the institutions with the London Money Market, and large companies such as those concerned with insurance and shipping. These institutions deal in very large amounts and must have a speedy system for clearance. There is an understanding that any cheque dealt with through the Town Clearing is cleared the same day. The total value of the Town Clearing usually exceeds 90 % of the total daily clearing but the number of items involved is quite small in comparison with the volume of work handled by the General Clearing.
- c) The General Clearing.** Branch banks sort into bank order all the cheques drawn on other banks that are paid in by their customers and sent them up to their own Clearing Department in London. Each bundle is accompanied by a list giving the total as well as the value of each individual cheque. A Clearing Department of one of the Clearing Banks will receive from each of its branches a bundle of cheques drawn on each of the Clearing Banks. The Clearing Department having checked the totals of the bundles will amalgamate them so as to produce a large “parcel” of cheques on each of the banks. The listing slips will accompany each of these large parcels for all of the bundles and a summary of them. The Clearing Department then delivers the parcels of cheques to the representatives of the other banks at the Clearing House. These are then taken from the Clearing House to the respective Clearing Departments of the banks where the totals are agreed with the listings. After this the cheques are sorted into branch order and dispatched to the branches on which the cheques are drawn. Settlement between the banks for the General Clearing takes place the day after the cheques have actually been exchanged. This is because the cheques do not reach the branches on which they are drawn until that day and they are then either paid or returned unpaid. Unpaid cheques are returned direct to the bank branch where cheques were paid in.
- d) Credit Clearing.** Since 1960 the Bankers’ Clearing House has operated a credit clearing system which works in a rather similar fashion to the General Clearing but the vouchers that are used represent payments due to, and not payments received from other banks. They are the credit

transfers under the Bank Giro system. Each day branches remit bundles of credit transfers to their Clearing Departments in London and these are handed over to the representatives of the other banks to be dealt with in a similar fashion to cheques.

- e) **Computer Clearing.** The Clearing and Scottish banks recently established the Bankers' Automated Clearing Services Ltd., which is a company that operates a clearing system based on the use of computers. Instead of preparing transfer vouchers in order to debit the account of one person and credit the account of another, such as the standing orders, direct debits and salary payments, the items are put on the magnetic tapes. They then pass through Bankers' Automated Clearing Services and in effect pass from the paying bank's computer to the receiving bank's computer. Now that the banks have computerised their customers' accounts it is possible for transfers to be made in this fashion and there is obvious room for rapid developments in the use of the technique. An ultimate possibility is for the larger shopkeepers to be able to debit a customer's bank account directly by a computer link.
- f) **Daily Settlement.** At the end of each working day it is necessary for each of the banks to summarise all of the transactions with each of the other banks that have resulted from the Town Clearing, the General Clearing and the Credit Clearing and the Bankers' Automated Clearing Services. On the daily statement all the balances due from the other banks are listed on the debit side and on the credit side all payments due to other banks are listed. These statements are totalled and the difference between the two sides represents the net balance due from or to all the other banks collectively. All that is then necessary is for the bank's account at the Bank of England to be debited or credited with this sum. Obviously the overall position must be that the total of the debits to clearing bank accounts at the Bank of England must be equal to the credits, and at the end of the day after these transactions have been dealt with nothing is owed by one bank to another in respect of the day's clearing transactions.
- g) **Local Clearings.** In addition to the Town Clearing, the General Clearing, the Credit Clearing and the B.A.C.S. Clearing, there are local clearing arrangements and a bank's own settlements between branches. Banks located within a short distance of each other, in the same High Street maybe, will clear cheques drawn upon one another. A batch of cheques will be handed over in exchange for a single claim form, which

can be passed through the General Clearing. A bank's Clearing Department will receive a batch of cheques each day from every branch that has been drawn by customers of other branches. Likewise, a batch of credit items will be received that are to be paid over to customers at other branches. The accompanying lists are checked and the vouchers sorted out and sent to their respective branches. Each branch is debited or credited accordingly in the Branch Accounts at Head Office. The Clearing Department will also receive a batch of miscellaneous cheques and payments warrants, which are cleared by direct presentation by messengers from the Clearing Department.



Progress test

1. What is the Electronic Funds Transfer?
2. What is the Automated Teller Machine?
3. What are the magnetic bankcards?
4. What are the bankcards with microprocessor?
5. List the steps of the credit card process.
6. What are the cheque guarantee cards?
7. What are the ATM cards.
8. What is the fraud in the cards field? Explain and describe.
9. Describe the infrastructure of cards
10. Who owns the Bankers' Clearing House?
11. Describe the Town Clearing.
12. How does the General Clearing differ from the Town Clearing?
13. Describe the Credit Clearing. What is the fundamental difference between the Credit Clearing and the Debit Clearing?
14. What was the purpose of the establishment of the Bankers' Automated Clearing Services Ltd.? How might its services be developed?
15. How do the London Clearing Bankers settle their daily transactions?
16. Describe the local clearing, and the inter-branch clearing arrangements.