REPORT

CHEQUE OPTIMIZATION

September 2012

EFMA

PANINI®

Contents

Preface

Efma and Panini are proud to present this report on cheque optimization which brings together some very interesting findings from across the globe.

In this report you'll find insight from the eight countries that provide the best examples of cheque use and innovation, looking at those which have the highest cheque volume, those who have already discussed solutions around cheques, associated costs and alternatives and those who have followed the US example of image-based cheque truncation. This information is supported by a wealth of information from central banks, payments councils, financial institutions in each country and cheque clearing providers.

In addition to this you'll find the results of our survey, which was distributed among financial institutions, IT companies, professional associations and payment service providers from the eight countries described in the report during the first half of 2012. Through a series of online surveys and telephone interviews we sought some fascinating perspectives on the evolution of cheque usage, trends in cheque processing and clearing, the costs associated with cheques and opinions about trends surrounding cheque frauds.

We hope you find the report both informative and useful.

Patrick Desmarès
Secretary General
Efma

Kety Frachey
International Marketing Manager
Panini

Introduction

Over the past decade banks have been confronted with shrinking profits, increasing costs, organizational issues and re-engineering of internal processes. In this context, the capabilities to improve operational efficiency and identify opportunities for cost reduction are crucial. The number of cheques used has decreased significantly in the most advanced economies during the past few years. In spite of this downward trend, cheques are still used frequently today – especially for specific purposes and by specific markets and this represents a challenge for most financial institutions. Remarkably, the decline in cheque volumes did not decrease operational costs. On the contrary, an increase in cheque processing costs has been observed, as there are significant fixed costs involved regardless of the volumes processed. Furthermore, the cost of maintaining this infrastructure has become more expensive over time. The increasing cost of processing a declining number of cheques has been driving countries and financial institutions to explore the feasibility of decommissioning cheques and/or reorganizing the national clearing model.

This global cheque community has been initiated to bring together key players in the cheque industry in order to achieve four main objectives:

- To exchange information, knowledge and best practices regarding cheque processes
- To share ideas and trends on the optimization of the cheque value chain
- To elaborate on improving the cheque truncation process, and
- To provide a networking platform for individuals with similar responsibilities and concerns.

In order to initiate discussions, Efma and Panini have commissioned research from AGIS Consulting. The research results are presented in this report which encompasses:

- An overview of cheque volumes (in quantity and value) per country
- A description of the 'cheque truncation process' with image exchange or electronic clearing among banks
- A definition of the 'mixed clearing system' which involves standard and electronic clearing, and
- A discussion on government actions with a benefit versus cost analysis and future developments, for instance,
  - the movement towards decommission cheques;
  - the proposal of image-based cheque truncation as in the USA
  - the emphasis on alternative payment instruments, and more…

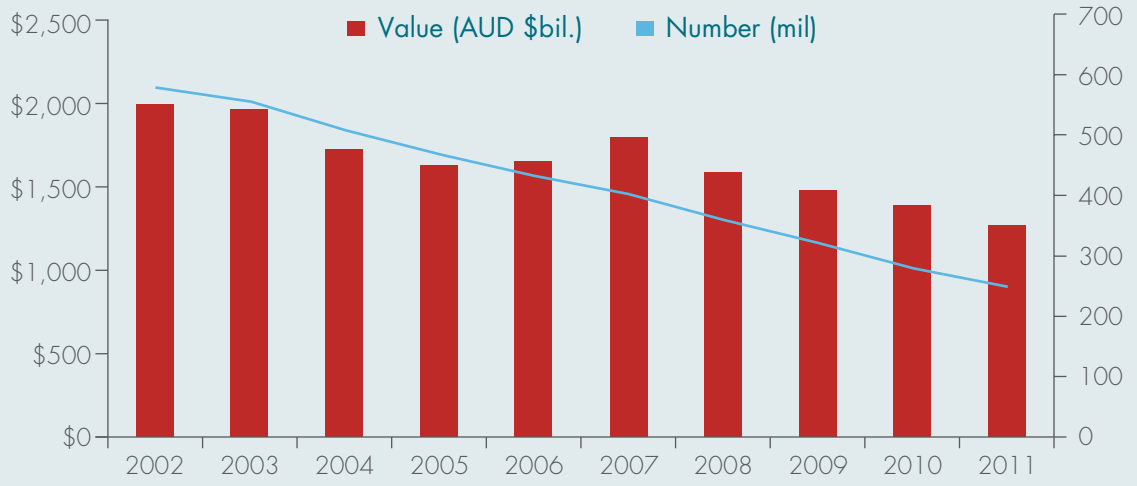
Countries that are described in the report are: Australia, Brazil, France, India, Italy, South Africa, Turkey and the UK.

The Australian cheque market

Cheque usage

Cheque usage has been decreasing in Australia steadily since 2002, both in volume and in value though at a slower pace. This means that the average value of cheques has been increasing over the years. In 2011, the number of cheques decreased by 11.9% and the total value by 9.8% compared to 2010 (RBA, 2012). The cheque value has decreased from 291 million in 2010 to 256 million in 2011.

FIGURE 1: TOTAL VALUE AND NUMBER OF CHEQUES IN AUSTRALIA (RBA, 2012)[1]



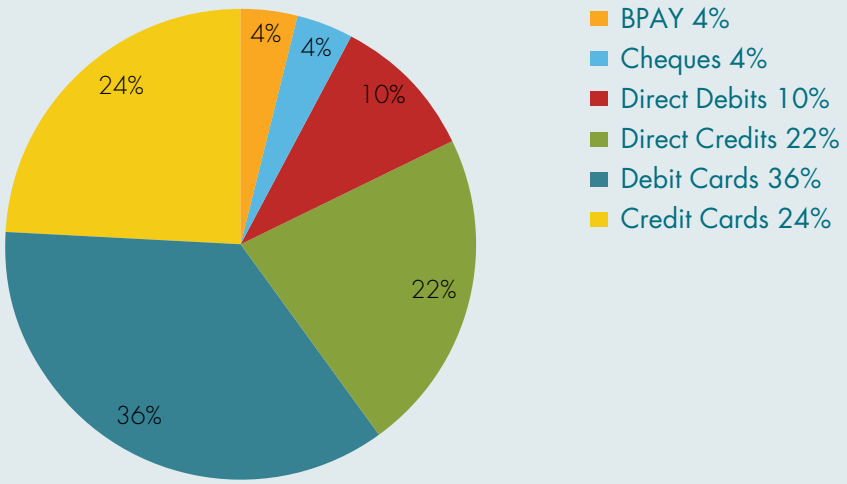
In Australia, cheques account for 4% of the total value of non-cash payments in 2011. On average, Australians write 12 cheques per year.

Only 25% of the entire population still use cheques to some degree, and of these, 5% depend on cheques as a method of payment. This means the people who do use cheques, use 50 cheques per year on average. 52% of the people who depend on cheques are 60 years or older. Cheques are issued mostly to pay for welfare expenses, school activities and charities, with an average value of AUD $4,991, equivalent to €4,060. Cheques are typically used to make ad hoc payments by mail, to pay when cash is not required immediately and to pay when an electronic payment option is unavailable or there is no access to computers. This explains why not-for-profit organisations such as educational institutions and charities rely on payments by cheque. Private usage of cheques is mainly explained by habit and lack of familiarity with other payment options and some people indicate that cheques allow for easy tracking of their expenses (APCA, 2011)[2]

[1] Reserve Bank of Australia, May 2012 (http://www.rba.gov.au/statistics/tables/xls/c06hist.xls)

[2] APCA. (2011). ***The Role of Cheques in Evolving Payment System.*** Sydney: The Australian Payments Clearing Association.

FIGURE 2: NON-CASH RETAIL PAYMENT (RBA, 2011)[3]



Users of cheques

Some cheque intensive business sectors are the real estate industry, the services sector, the insurance sector, the legal sector and accounting professionals (APCA, 2011). These sectors write cheques for dividend payments, court fees, lawyers, insurance refunds and settlement of properties. Cheques are rarely accepted by retailers but customers do not use them often. Some retailers may still accept cheques for the small percentage of customers who rely on them, and a cheque is also a valid payment instrument when the retailer's technology infrastructure is not up-to-date to allow electronic transactions.

A few facts about the usage of cheques at government institutions are listed below:

- The Social Security Payment Services declare a decline in cheque usage to 15,000 cheques per month with a total value of AUD $5 million. They encourage electronic payments but still allow cheques for unbanked and disabled people
- The Taxation Office claims that 30% of their issued payments and 40% of their incoming payments are performed by cheque
- The department of Foreign Affairs and Trade issues 2.6 billion cheques per year for tens of million Australian dollars
- Although the local government agencies encourage electronic payments, they represent the most cheque intensive representatives of today.

[3] RBA. (2011). *Developments in Retail Payment Systems.* Perth: RBA.

Cheque clearing system

The cheque clearing system in Australia usually requires 3 business days. On Day 1, the user deposits the cheque at the negotiating bank. The funds are credited to the user's account that day, however users are not able to withdraw or 'use' these funds until the negotiating bank is reasonably sure that the cheque will be paid. Cheques are not considered paid until the paying bank has had time to validate the cheque and the payer's capacity to cover it. A cheque may be dishonored for a number of reasons, including:

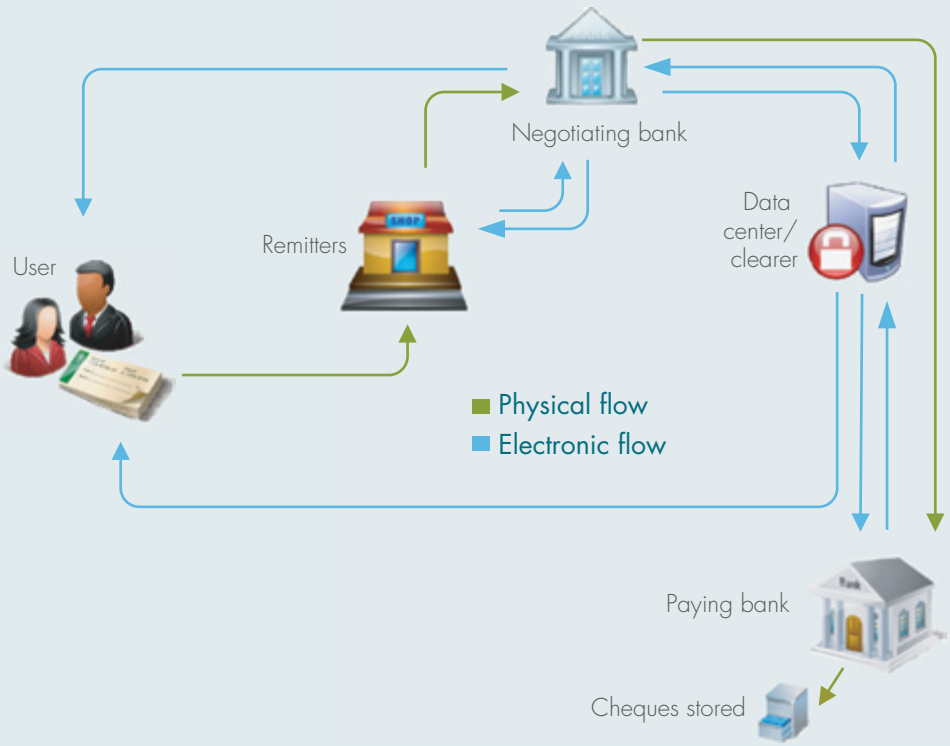
- The negotiating bank becomes a failed financial institution
- A cheque has been deemed fraudulent
- Or the payer has insufficient funds to meet the payment obligation.

At the end of day 1, the negotiating bank sends all cheques deposited at their branches to their data centers or clearers. Cheques are then sorted into those drawn on the negotiating bank itself and those drawn on other banks. Settlement for the bulk of paper items drawn on other bank (around 99%) is based on bilateral exchange of electronic files containing cheque details. Electronic files are sent to each clearing center and paying banks must inform the clearing center by no later than Day 2 if the cheque is to be dishonored. MICR line is captured automatically and other details are added to be transmitted to the paying bank (amount, account number, institution, branch, etc.). The physical exchange of cheques does still occur, either bilaterally or at regional clearing centers, but this is normally only done such that paying institutions can examine and store their cheques, rather than as an exchange of value, since value has already been exchanged based on electronic information.

On day 2, once the user has deposited a cheque at the negotiating bank, where appropriate, interest accrues from Day 1. In most cases, the paying bank posts debits to the payer's accounts on the night that the cheque data is exchanged. This means that payer's accounts are almost always debited on the same day as user's accounts are credited, so there is very little institution/customer float generated in the cheque clearing cycle. Daily interest adjustments are made between institutions to reflect the fact that, although the negotiating bank pays interest to their users from Day 1, they do not receive funds from the paying bank until settlement on a later day, usually Day 2.

On day 3 – if a cheque is not dishonored – the negotiating bank will generally make the funds available to the user for 'use' on Day 3. However, as mentioned, this may depend on the internal systems and procedures of individual financial institutions. For example, if the customer's institution does not directly clear or settle its own cheque obligations – but rather nominates an "agent" to clear and settle on its behalf – the customer may not have 'use' of its funds until later than Day 3.

FIGURE 3: CHEQUE TRUNCATION PROCESS OF AUSTRALIA



Cheque optimization

For the Australian Payments Clearing Association, the gradual decline of cheques will be addressed by market forces and there is no need to close the cheque clearing system. One key challenge however, is the increase in unit costs for cheque providers. The Reserve Bank of Australia has expressed concerns that costs will be passed on to the consumer. As a result, the APCA has made three key recommendations to manage the decline of cheques:

- A working group has been established to examine truncation models and develop a business case with a view on reducing the marginal cost of cheque processing
- APCA is working with stakeholders to foster migration towards electronic payments, either by promoting the use of electronic payments or by developing alternative instruments in specific cheque intensive segments, e.g. one initiative aims at providing a platform for the electronification of property transactions
- APCA will monitor cheque decline and will establish milestones and metrics to measure this.

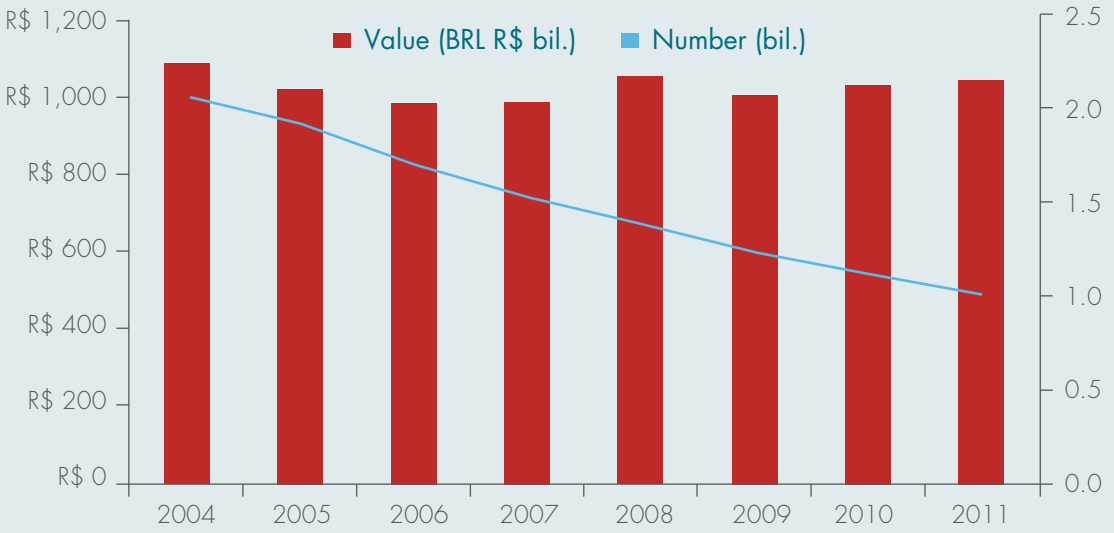
Glossary
BPAY: INTERNET AND TELEPHONE BASED PAYMENT INSTRUMENT

The Brazilian cheque market

Cheque usage

Brazil still highly depends on cheques despite a decreasing trend in usage. In 2011 approximately 1.01 billion cheques were cleared with a total value of BRL 1,044 billion (BRL), equal to €457 billion. The value of cheque usage has been quite stable during the past eight years. However, the number of cheques used decreased by half in 2010 when compared to 2004. This means that the average value per cheque has doubled during this period. In 2011 the number of cheques dropped another 9.6% when compared to 2010.

FIGURE 4: TOTAL VALUE AND NUMBER OF CHEQUES IN BRAZIL (BCB, 2012)[4]

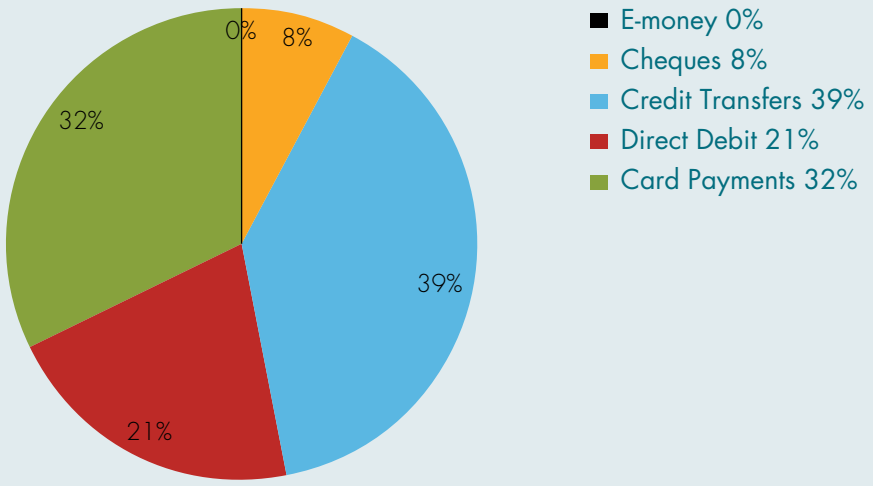


Brazilians write on average 9 cheques per year, especially for expensive expenditure such as household appliances, electronics, and furniture with an average value of BRL 1,031, equivalent to €451.

Cheques accounted for 8% of non-cash payments made in Brazil in 2010. Cheques are frequently used for business to business transactions in small and medium-sized enterprises, especially in small cities. However, a decline in cheque usage is expected here as well since credit and debit cards are becoming more popular as new payment instruments for businesses.

[4] Banco Central Do Brasil, May 2012 (http://www.bcb.gov.br/pom/spb/Estatistica/Port/Tabela_Pais.ASP)

FIGURE 5: NON-CASH RETAIL PAYMENT (CPSS, 2012)[5]



Cheque clearing system

Febraban, the Brazilian Banks Association, in agreement with the major financial institutions in the country, decided to implement the "Truncagem de Cheque" system (Cheque Truncation) to lower operational costs and improve efficiency among banks. Therefore at the end of 2010, tests on the exchange of cheque image took place. Febraban emphasized the need to find a secure system to transfer the image and reduce fraud. With the approval from the Banco Central do Brasil[6] in the "Circular n. 3.532" dated April 25, 2011, the final and official implementation of the electronic cheque truncation was proposed on May 20, 2011.

On June 12 2012, the Brazilian Chamber of Deputies approved the PL n. 11/2007 that focuses on the electronic acquisition and archiving of documents witch was than authorized by the President of the Republic.

Today, banks are free to choose which type of process and infrastructure to implement. The primary objective of the new law is to reduce costs of transport and archiving, foster automated flow management, identify and prevent fraud, and reduce manual errors. The new system is based on the following mandatory guidelines:

- Read and capture MICR codeline CMC7
- Acquisition of the front and back side of the cheque
- Compliance of the scanned image (with international IQA standard)
- Front and rear virtual or real stamp on the cheque (printing of 4 lines on the back of the cheques) to prevent the same document from remaining in the system and being paid twice.

[5] CPSS (2012).Statistics on payment, clearing and settlement systems in the CPSS countries. CPSS Publications No 99

[6] Brazilian Central Bank.

FIGURE 6: CHEQUE TRUNCATION PROCESS

Today, the cheque truncation process starts at the bank branch. The truncation process can be done at the teller, at the branch back office (negotiating bank) or centralized. Some banks use all three channels in their truncation process. The cheques are scanned - front and rear - and printed with a bank stamp on both sides of the document simultaneously. The stamp certifies it has already been handled and avoids the risk of double payment. The digital images of cheques are sent through the secure system to the cheque compensation executor, who passes it to the paying bank. For additional security a digital signature is used along the process (negotiating bank and paying bank). The paying bank informs the negotiating bank about the validity of the cheque and provides for payment. The physical cheques are kept for maximum 60 days at the bank – depending on the financial institution where it was deposited – before being destroyed.

INTERVIEW WITH WALTER TADEU PINTO DE FARIA, DIRETOR ADJUNTO DE SERVIÇOS FEBRABAN

1. Why did Febraban decide to implement cheque truncation throughout Brazil?
FEBRABAN followed the indications of the Central Bank of Brazil. They were willing to implement electronic cheque clearing to reduce costs, improve security of the transaction process and last but not least to reduce air pollution.

2. Can you please explain the main phases of the project
The project started in 1995 and it took six years to create an infrastructure and program that would allow all banks to process and exchange data uniformly, without preventing financial institutions from participating in electronic cheque clearing for any reason.

3. What role did Febraban have in the implementation of the project?
FEBRABAN coordinated the technical working groups responsible for evaluating and executing the cheque truncation initiative. We also drafted the technical documentation and specifications.

4. Is electronic cheque clearing implemented throughout Brazil?
Yes, the electronic cheque clearing system has been deployed throughout the country.

5. What feedback have you received from financial institutions after the roll-out?
Considering the pressure on financial institutions to clear cheques electronically, they are now very satisfied with the results.

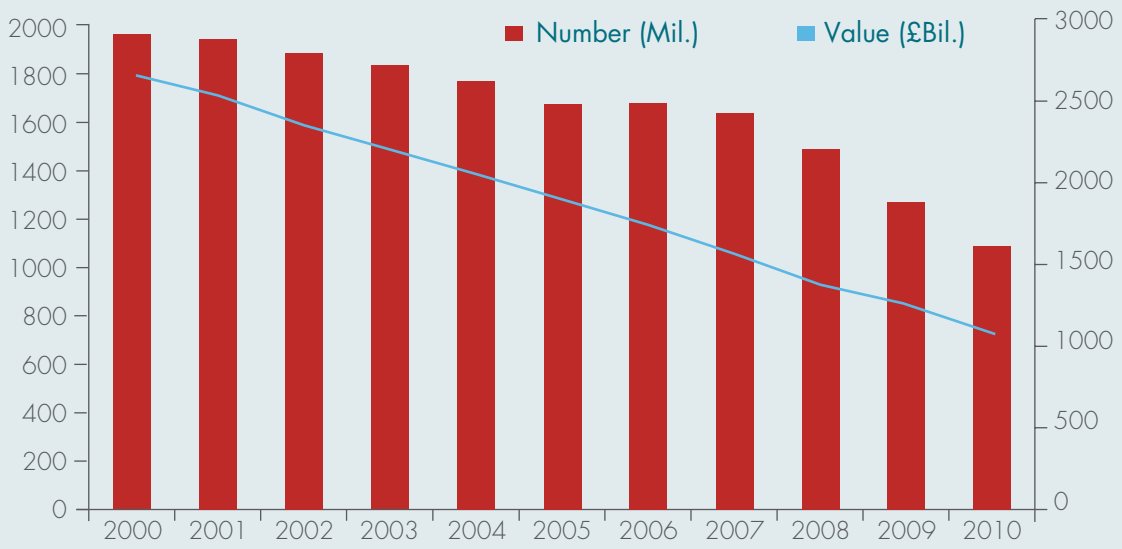
6. What have been the results in terms of:
a. Fraud prevention
The central bank developed different processes to prevent fraud and avoid any risks with electronic cheque clearing.

b. Efficiency
The implementation of electronic cheque truncation has had a significant impact on reducing the amount of time it takes to process cheques refunds. Moreover, the new system dramatically reduced compensation times. For example, in faraway cities, it could take up to 20 days for a cheque to be cleared

c. Cost reduction
The most significant savings occurred in the reduction of transportation costs related to the physical cheques.

The British cheque market

FIGURE 7: TOTAL VALUE AND NUMBER OF CHEQUE USAGE (ECB, 2012)[7]



Cheque usage

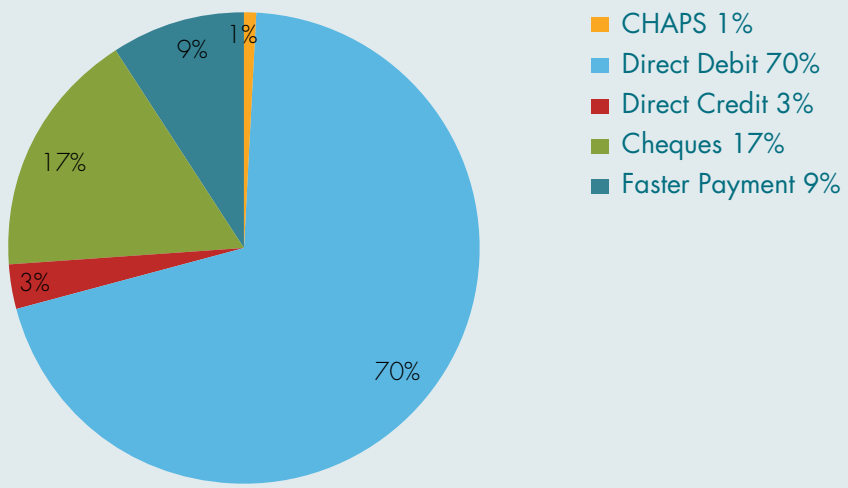
The value and number of cheques used in the United Kingdom has been decreasing steadily since 2000. 1,113 million cheques with a total value of £1,094 billion were cleared in 2010, which is a decline of 13% in volume and 14% in value when compared to 2009. Cheques accounted for 17% of the total non-cash payment volume in 2010; the second most popular type of non-cash payment in the UK. The British wrote 21 cheques per capita on average in 2010 with an average value of £983, equivalent to €1,171.

Cheques made the headlines in the past years in the UK. In December 2009, the Payments Council announced that cheques would be phased out by October 2018, claiming they were in "terminal decline". Due to solicitations from several associations and stakeholders, the Payments Council Board announced on July 2011 that "cheques will continue for as long as customers need them" (UK Payment Council, 2011)[8] and has cancelled the cheque replacement programme. Meanwhile, the council is currently evaluating if alternatives to cheques exist. The study is consulting members of the most cheque intensive segments - charities, businesses and private consumers – and evaluating alternative payment methods (for instance, payments of share dividends with electronic payment or to allow donating to charities through ATM machines).

[7] European Central Bank. May 2012. Statistical Data Warehouse. (http://sdw.ecb.int)

[8] UK Payment Council. (2011, August). Payments Council to keep cheques. communique, p. 2.

FIGURE 8: NON-CASH RETAIL PAYMENT (UK PAYMENT COUNCIL, 2011)[9]



Users of cheques

According to a recent study by the Cheque and Credit Clearing Company (2011), the proportion of people writing cheques decreased by 8% between 2007 and 2011, to 52%. The proportion of people receiving cheques declined by 9% in 2011 compared to 2010. The study also revealed that people aged 65 years and older tend to write more cheques (Jones, 2008)[10]. Younger people perceive cheques as old fashioned.

Private cheque usage is declining at a faster pace than business usage. The most common purpose for which cheques are written is to pay a bill by post (36% of the total number of cheques written in the UK in the past 5 years), to pay for in-house services (24% of cheque numbers) and charity donations (14% of the total number of cheques written(Cheque and Credit Clearing Company, 2011)[11]. People frequently receive cheques as gifts and refund of taxes from the government as well as from businesses and organisations (e.g., when accounts are transferred from one service provider to another and the closed account is in credit).

[9] UK Payment Council. 8 November 2011. Quarterly Statistical Report

[10] Jones, P. (2008, March/April). Losing The War on Cash. European Card Review , pp. 26-28.

[11] Cheque and Credit Clearing Company. (2011). ***Cheques Market Research 2011: Consumer.*** London: Cheque and Credit Clearing Company.

From a business perspective, cheque usage has remained steady over the past three years. On average 76% of the companies in the UK write 19 cheques every month and 78% of UK businesses received on average 22 cheques per month in 2012[12]. This proportion is significantly larger than the businesses that accept card payments (45% of the businesses). Larger companies receive and write more cheques than SMEs. Businesses use cheques with the intention to better manage their cash flow or because it is requested by payees. Cheques are mainly issued for B2B transactions (i.e., paying suppliers or other businesses).

Cheque clearing system

The cheque and credit clearing process involves the exchange of items and settlement of payments for customers whose accounts are held either at different banks or at different branches of the same bank. The term bank is used in this context to describe any bank or building society, which offers customers a payment account facility.

The cheque clearing operates within a 48-hour period over three days. The clearing does not operate on Saturdays, Sundays and bank holidays as settlement across Bank of England accounts can only take place Monday to Friday. At the end of each working day (day 0), every branch sends all the cheques it receives from customers to its bank's clearing centre, to arrive by the early hours of the following working day. The clearing centre processes the cheques through its reader/sorter machines, which capture the code-line and amount details of the cheques. The electronic files thus created are sent to the relevant recipient (paying) banks later that morning (by 11 a.m. on day one). This is done by means of a secure network known as Inter-Bank Data Exchange (IBDE) network. The physical cheques are then batched up together with all other cheques drawn on accounts at the same bank and are handed over to the paying banks at the English exchange (also by 11 a.m. on day one), or at the Scottish exchange in the case of cheques drawn on accounts held at branches in Scotland.

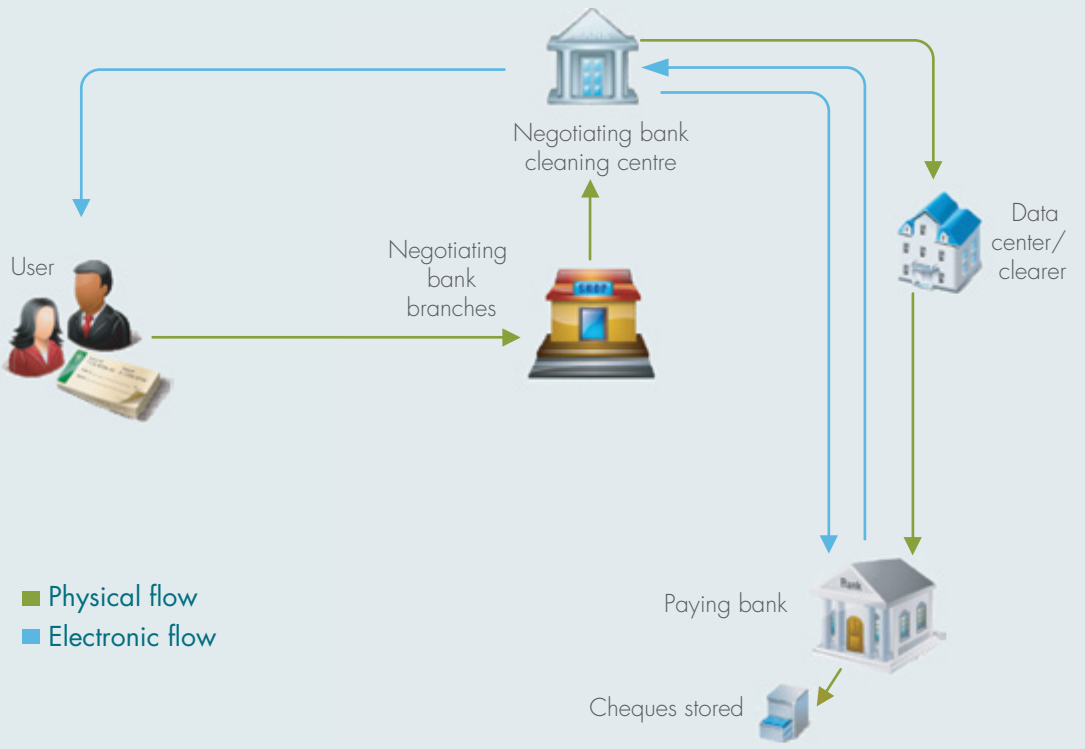
The Northern Ireland banks do not participate in IBDE but operate to the same timeframe as the banks in Great Britain. Cheques drawn on banks in Northern Ireland are sent to Northern Ireland for local processing. The Northern Irish clearing is managed by the Belfast Bankers Clearing Company.

On the morning of day two, the paying bank updates its customers' accounts. Following the Deregulation Bills Act 1996, cheques no longer have to be returned to the drawee branch as a matter of course, but can be examined for irregularities at a central paying bank point. Also on the morning of day 2, the Cheque & Credit Clearing Company calculates the net amount the banks must pay to or receive from each other in Great Britain on the basis of the value of all the cheques exchanged on the previous day. The net Sterling balances are then settled across accounts held at the Bank of England. In Northern Ireland each pair of the four clearing banks agrees bi-laterally the net sum due to or from each bank and a CHAPS payment is sent to settle the account owed.

In November 2007, 2-4-6 timescales for clearing cheques came into force. The timescales provide increased clarity and, for the first time, certainty for customers paying cheques into their bank or building society accounts. After paying in a cheque, the customer can be sure that at the end of six working days the money is theirs to keep. The customer is protected from any loss should the cheque subsequently be found to be fraudulent unless he is a knowing party to a fraud. The

[12] *Cheques Market Research – Businesses (June 2012); Cheque & Clearing Company*

FIGURE 9: CHEQUE TRUNCATION PROCESS



CHEQUE PROCESSING IN THE UK

Written by EFMA

Cheques may be in decline, but they're still maintaining a determined grip in the UK. There can be no doubt that, especially among younger generations, automated payments and cards are becoming increasingly popular, especially as loyalty and money-back schemes add benefits to the convenience offered by these methods. But a wide variety of businesses and consumers still rely on cheques, and this centuries-old payment method is proving surprisingly tenacious.

According to the UK Payments Administration, just over 3.1 million cheques were issued each day in 2010, compared to 11 million in 1990. By 2018, that figure is expected to fall to 1.6 million cheques per day. But recent attempts to phase out the cheque in the UK were notable for their failure. In July 2011, the UK Payments Council announced the cancellation of its 2018 target for the closure of cheque clearing, saying that, while it will remain focused on security, efficiency and innovation in payments the cheque will continue for as long as customers need it.

Consumer usage

According to the Cheque & Credit Clearing Company report Cheques Market Research 2012: Consumers, consumer use of cheques is falling, with older people tending to write more cheques per year than younger people. Of the 2,000 consumers interviewed, 93 percent had a personal bank or building society account, with 50 percent of account holders making payments by cheque and 49 percent receiving cheque payments. Cash was often seen as a convenient alternative to cheque payments, particularly when it came to paying an individual, society, charity donation or payment for a child's school or leisure activity. However, internet banking, debit cards and direct debit were also seen by many as convenient alternative ways to pay. Significantly, 35 percent of UK account holders said that they had neither made nor received a payment by cheque within the past year. Clearly, the cheque still has a role to play for consumers, particularly when it comes to paying individuals and small organisations – but the lower use of cheques among younger people (the UK's 16-24-year-olds wrote an average of 0.6 cheques per year, compared to 8.6 for those over 65), suggests that this payment method is much more relevant to older generations and might therefore be expected to gradually die out.

Business usage

Cheque use seemed considerably stronger among UK businesses, with the Cheque & Credit Clearing Company's Cheques Market Research 2012: Businesses report stating that 76 per cent of UK businesses had made payments by cheque in the past month while 78 per cent had received cheque payments. There was, however, a fall in the number of cheques both written and received by businesses per month compared to the previous year. More businesses now prefer not to use cheques, with a growing number requesting that payments are made by other means. Larger businesses wrote and received more cheques than smaller ones, as may be expected due to their higher turnovers. Larger firms are also more likely to accept cards than smaller ones, but while the increase in card acceptance was small compared to 2011, it was particularly notable among smaller businesses. So it seems that while the use of cheques is on the decline among businesses – and small businesses are beginning to move towards alternative methods of payment – cheques are still very much an acceptable currency.

The clearing process

Cheque clearing in the UK takes place within a 48-hour period over three days, excluding Saturdays, Sundays and bank holidays.

While some electronic files are used in cheque clearance, the process is primarily paper-based and, in the absence of investment in an electronic clearing system, improvements in speed are unlikely. The UK Payments Administration says that, due to the decline in volumes of cheque usage, "it makes more sense to target investment toward card and electronic payment systems where growth is consistent" than to invest in a faster, electronic cheque clearing process.

Clarity and certainty

Until 1 July 2011, UK cheque payments were supported by the Cheque Guarantee scheme, which meant that sums of up to £250 would be guaranteed if the account holder produced card bearing the scheme's logo. The scheme was abolished shortly before the announcement that cheques would continue as a method of payment, and calls for it to be reinstated have been unsuccessful since independent research commissioned by the Payments Council found that its abolition had little effect on cheque usage.

However, efforts have been made to clarify and introduce certainty into the cheque clearing process, with the introduction of the 2-4-6 clearing system in November 2007. The regulation means that, two days after a customer pays a cheque into their bank, they will begin receiving interest on the amount (or interest due on outstanding overdraft balances will be reduced accordingly). On day four, the customer can withdraw money paid in by cheque, and on day six, they can be certain that the money won't be reclaimed from their account without their consent. At this point, the customer is protected from any loss if the cheque is subsequently found to be fraudulent – unless the customer is knowingly involved in the fraud.
This means customers can be sure that when they pay a cheque into their account, the money will belong to them within a maximum of seven days. However, five years after the 2-4-6 system was introduced, some confusion remains: the Cheque & Credit Clearing Company research noted above found that knowledge of the precise timings of the 2-4-6 system remains limited among businesses and consumers alike.

Checking ahead

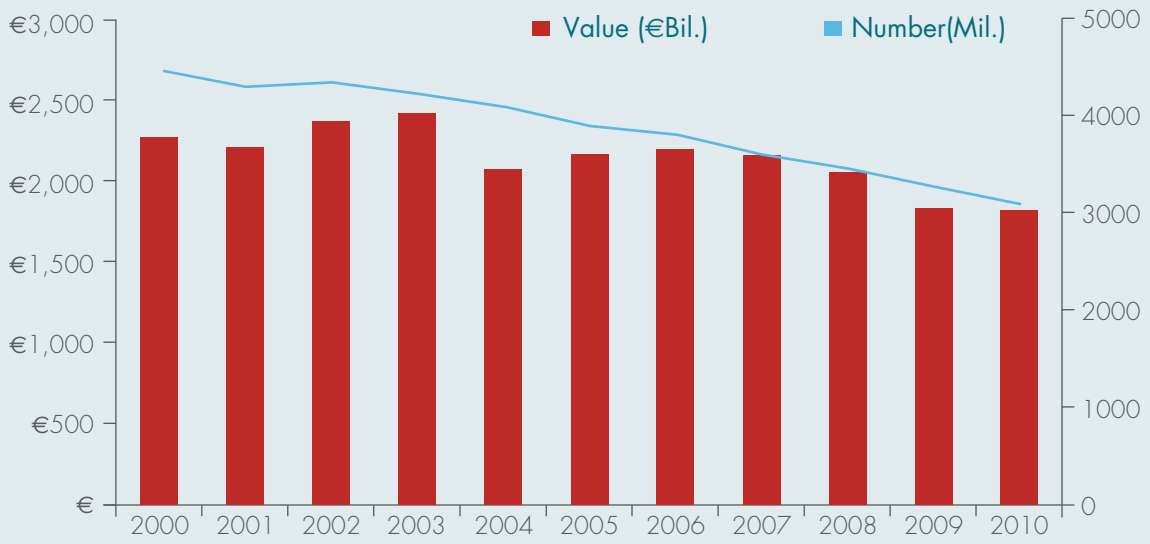
So, what does the future hold for the UK cheque? Right now, this payment method finds itself in a somewhat contradictory position. As cheque volumes continue to decline in the UK, issuing, handling and processing them is likely become increasingly expensive. Notably, a small but growing number of businesses are now refusing to accept cheque payments; fewer people among the younger generations are using cheques; and many banks now issue chequebooks for current account holders on a request-only basis. But at the same time, the demand for cheques is clearly strong enough to have fended off the threat of a phase-out for the foreseeable future.
In addition, while the UK Payment Council has no plans to decommission the cheque altogether, it has stated its intent to encourage innovation to develop viable alternatives. The Capgemini World Payments Report 2011 notes a need for "proactive strategies" in the UK, among other countries, if the use of paper-based cheques is to be significantly reduced and eventually eliminated. Thus, the Payments Council will continue to monitor cheque usage closely, and with investment firmly focused on developing alternative payment methods, it seems likely that cheques in the UK will rumble on in much the same way until their processing is no longer economically viable. When that happens, the Payments Council will have to think again about how it supports cheque processing, whether to charge for it, and what effect any changes would have on the wide variety of stakeholders who rely, to varying degrees, on cheque payments.

The French cheque market

Cheque usage

After the United States of America, France is the second largest user of cheques per capita in the world. According to the European Central Bank (ECB, 2012), cheque usage accounts for 18% of all non-cash payments and despite a constant decline over the last ten years, they are still widely used. In 2010, the ECB recorded that 3.12 billion cheques were cleared in France for a total amount of EUR 1,828 billion, with a negative of 5% when compared to 2009.

FIGURE 10: TOTAL NUMBER AND VALUE OF CHEQUES USAGE (ECB, 2012)[13]

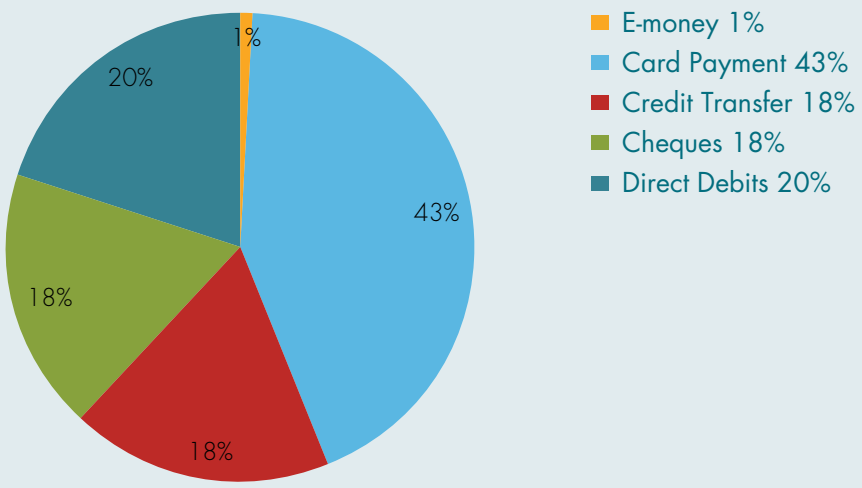


91% of the French population own a cheque book and on average they issue 5 cheques per month. 82% of the cheques written are used within France (Edgar Dunn, 2011)[14]. The majority of users range in age from 35 to 49 years old. This is a major difference when compared to other countries. For instance, in the UK and Australia the majority of cheque users are senior citizens. In France consumers mainly use cheques to purchase expensive products, food at supermarket stores, pharmaceuticals, house rental, etc. French people prefer cheques as a payment instrument, especially for amounts over EUR 500.

[13] European Central Bank. May 2012. Statistical Data Warehouse. (http://sdw.ecb.int/)

[14] Edgar Dunn. (2011). L'utilisation du chèque en France. Paris

FIGURE 11: NON-CASH RETAIL PAYMENT. SOURCE: ECB (2012)



Users of cheques

Personal/Private consumers prefer cheques for tracking their expenses and users are not favourable to cheque replacement. If cheques were to disappear, users would most likely use their debit card. Cheque usage is particularly commonplace in some segments. In the following markets, the volume of cheques written is more than 150 million per year: car dealers/repairs, supermarkets; pharmacies; taxes; restaurants. Private citizens receive on average one cheque per month, mostly from other people (68%), for refunds (26%) and from an employer (salary - 18%). This accounts for 18% of the cheque volume in France (Edgar Dunn, 2011).

88% to 98% of all French businesses use cheques, compared to 58% using debit cards. The average monthly cheque volume received by businesses differs based on the type of market. Professionals write on average between 11 and 147 cheques every month and SMEs write on average 76-418 cheques every month. In the year 2011, the business sector issued a total of 500 million cheques, i.e., 15% of all cheques in France, while the number of professionals using cheques for payments is 81%. On average, the number of cheques accepted by professionals is 87%. With SMEs it varies between 31-46% (Edgar Dunn, 2011).

Cheques are written by companies for several reasons: to purchase office equipment, IT products, raw materials, or to pay taxes. Craftsmen and professionals primarily use cheques for scheduled and important spending (e.g.: office furniture) and less for travel expenses and utilities. In the business sector the cheque acceptance rate is still high, around 89-100%.

Cheque clearing system

Nowadays, the truncation process is becoming more streamlined, secure and efficient. In 2002, the government approved the "Echange Image Chèque" (EIC), an innovative system to accelerate cheque clearing and reduce processing costs. The new system replaced 108 clearing centers and CREICs (regional centers for cheque image exchange). The system was created to clear 17 million cheques every day. Previously, the negotiating bank had to present the cheque to the paying bank and the paying bank was responsible for archiving the physical cheque. Today, all cheques in France are cleared via SIT (Système Interbancaire de Télécompensation). 98% of cheques are no longer circulating among banks. The negotiating bank is responsible for conducting cheque controls, scanning/creating an image of the cheque, transmitting the cheques to the paying bank and archiving the cheques both physically and electronically for at least 10 years. The EIC has very strict guidelines on archiving cheques and has set clear standards for cheque image quality (rear and back). Two percent of all cheques still follow the traditional clearing process and often involve a high amount or a special request from the paying bank. The cheque clearing system in France requires on average 2 business days for clearance of local cheques and 21 to 28 days for international cheques.

The cost of cheques

In a study commissioned by the French Banking Federation[15], Edgar Dunn concluded that the average overall cost of processing a cheque for a large retailer is EUR 0.49 per unit. With 3.3 billion cheques processed in 2009 that equals processing costs of over EUR 1.3 billion. Based on cost analyses conducted in the US and the UK, it is estimated that the cheque handling costs to the banking industry vary between EUR 700 thousand and 4 billion.

The future of cheques

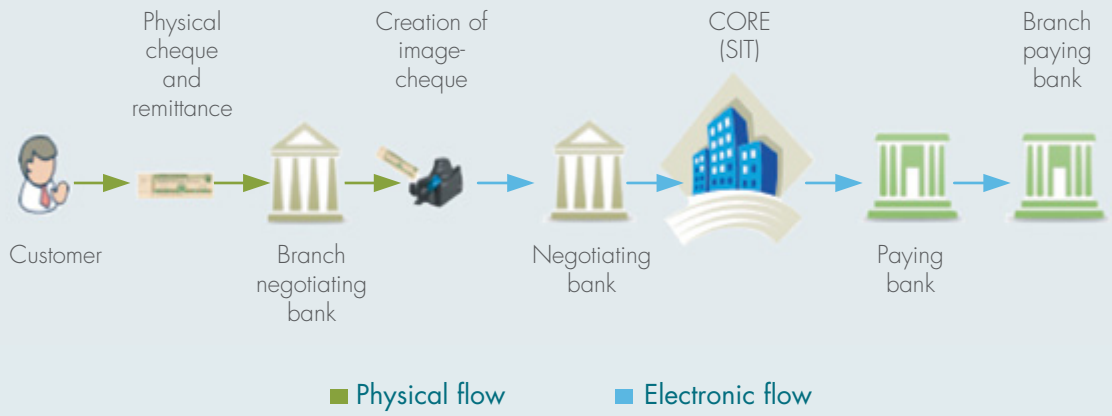
In March 2012, a report commissioned by the Ministry of Finance on the future of payment instruments was published[16]. The report stresses the exceptional weight of cheques in France compared to other European markets with an 18% share of non-cash payments. It also focused on the costs associated with the free delivery of cheques to the public, which are estimated to represent EUR 2.5 billion yearly. The report recommends accelerating the decline of cheques but clearly states that that the elimination of cheques is not on the agenda. Several key proposals were put forward:

- Aim to halve the volume of cheques by 2017 which represents a 10% yearly reduction instead of 5% today
- For each segment of cheque users, facilitate the migration to alternative payment instruments
- Proceed with the dematerialisation or truncation of other paper-based payments instruments such as lunch and holiday vouchers.

[15] L'utilisation du chèque en France; report by Edgar Dunn & Company (EDC) for the Consulting Committee for the Financial Industry (CCSF) – Pascal Burg & Grégoire Toussaint- Mars 2011

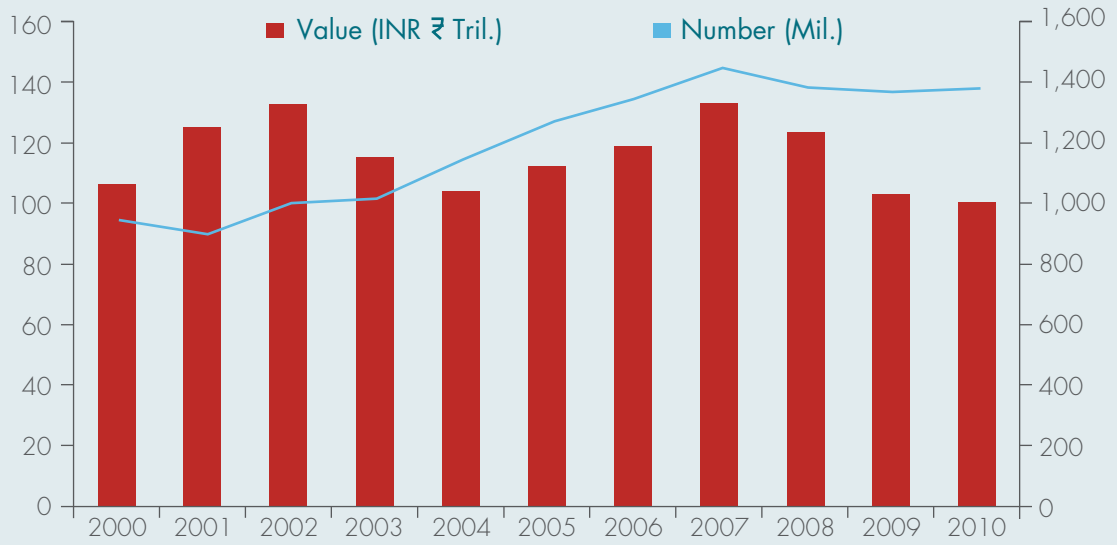
[16] L'avenir des moyens de paiements en France – March 2012; Georges Pauget and Emmanuel Constans

FIGURE 12: CHEQUE TRUNCATION PROCESS OF FRANCE: ECHANGE IMAGE CHÈQUE (E.I.C.)



The Indian cheque market

FIGURE 13: TOTAL NUMBER AND VALUE OF CHEQUES USAGE (RBI, 2012)[17]



Cheque usage

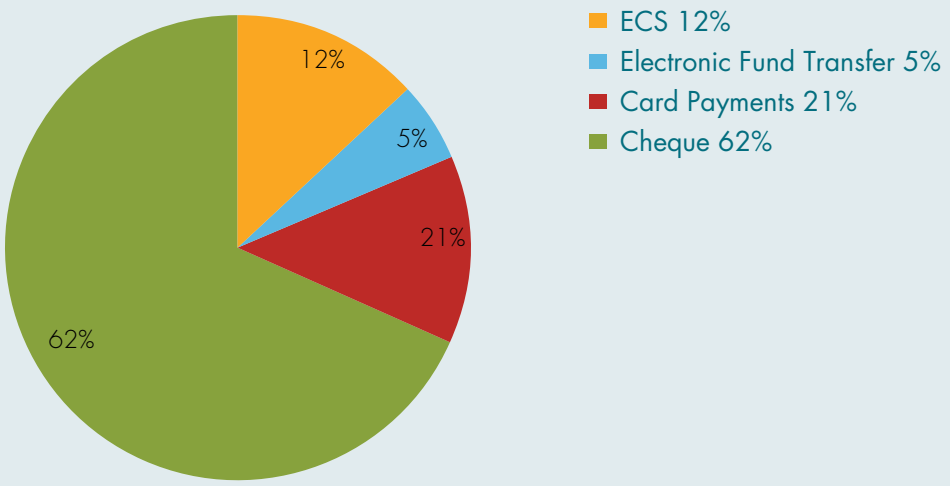
Despite a worldwide declining trend, the number of cheques used in India is still increasing year over year. However, there is no clear trend regarding the value of cheques used in India. The Reserve Bank of India (RBI) recorded 1,387 million cleared cheques in 2010, representing a total value of INR 101,341 billion (Reserve Bank of India, 2011) equivalent to EUR 1,678 billion. There is a 1% increase in the number of cheques used in 2010 compared to 2009, although the value of cheque usage decreased by 3%. The number of cheques used accounts for 62% of all non-cash payments in India.

Cheque usage is increasing rapidly in metropolitan areas. On average, each customer writes 1 cheque per year with an average amount of INR 75,434, equal to EUR 1,059. The use of personal cheques is also encouraged by banks which offer free cheque-books to their individual account holders. Private consumers typically use cheques to pay for utility bills.
In India, cheques are produced with and without MICR. Both are still widely used, although 83% of the cheques are produced with MICR (Committee on Payment Settlement System, 2011).[18]

[17] Reserve Bank of India. May 2012. Yearly Cheque Clearance Statistic Data. (http://dbie.rbi.org.in/DBIE/dbie.rbi?site=statistics)

[18] Committee on Payment Settlement System. (2011). Payment, clearing and settlement systems in India. Bank for International Settlement.

FIGURE 14: NON-CASH RETAIL PAYMENT, SOURCE: RBI (2012)[19]



Cheque clearing system

Image based cheque truncation was implemented in India in 2008. The RBI provided each bank that participates in the Cheque Truncation System (CTS) with a software solution called Clearing House Interface (CHI). In order to clear cheques electronically, banks must be direct or indirect members of the CHI. Banks with electronic truncation installed in their systems can connect and interchange data with the clearing house. Smaller financial institutions frequently rely on larger banks to participate in the electronic clearing due to the lack of infrastructure capabilities. To further encourage the usage of the Cheque Truncation System, a penalty cost has been implemented for banks that still apply traditional cheque clearing.

Since 2008, image based cheque truncation has been implemented in New Delhi and Chennai by the RBI. In these two regions the MICR based processing has been deployed. Due to its success, the RBI has decided to implement the cheque truncation system all over the country. Starting in 2013, India will use a grid based implementation system starting with the Chennai grid, which includes the states of Coimbatore, Bengaluru, Tamil Nadu, Kerala, Karnataka, Andhra Pradesh and the Union Territory of Pondicherry. The first implementations will be in the states of Coimbatore and Bengaluru in March 2013 (Reserve Bank of India, 2012).[20]

[19] Reserve Bank of India. May 2012. Retail Electronic Payment Systems - Monthly. (http://dbie.rbi.org.in/DBIE/dbie.rbi?site=statistics

[20] Reserve Bank of India. (2012, April 30). Faq on Cheque Truncation System. Retrieved May 14, 2012, from Reserve Bank of India: http://www.rbi.org.in/scripts/FAQView.aspx?Id=63

The RBI, in cooperation with a working group composed of professionals from commercial banks, has established guidelines to support the electronic truncation process of cheques by focusing on:

- Standardization of the physical cheques for easier image capture
- Usage of UV ink for the logo of the bank on all cheques (compulsory since 2010) for fraud prevention
- Reading and capturing the MICR code line and UV bank logo (UV logo capture is not compulsory but advisable for fraud prevention)
- Capturing the front and back sides of the cheques and creating an image of the cheques for clearing purposes
- Compliance of the cheque image with the standard IQA, and
- Addition of a digital signature on cheques that are being transmitted for improved security in the clearing process.

There are two types of truncation processes that can be adopted by banks:

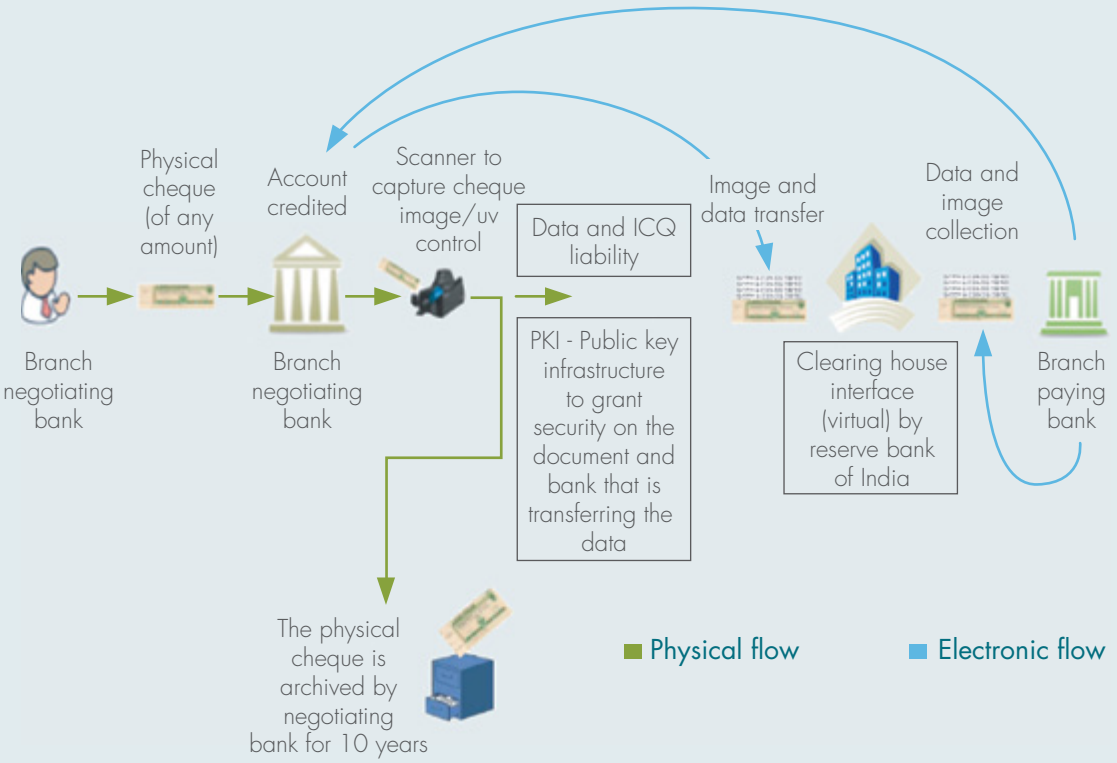
1. Branch back-office
2. Hub & Spoke. A hub is a mid-sized branch that acts as the central point and does the truncation of cheques for other smaller banks (spokes).

When a negotiating bank receives a cheque from a customer, the negotiating bank scans the cheque to capture a digital image. If all standard requirements are met, the digital image along with required information is sent to the clearing house through the Clearing House Interface (CHI). The CHI is standardized software provided by the clearing house to ensure a safe connection to transmit data (encrypted with the Public Key Infrastructure) via the Internet. The Clearing House processes the data and sends the required data to the paying bank for processing at their end. The paying bank starts the payment process when the images and data are received from the Clearing House via the CHI. If the paying bank has unpaid instruments from the negotiating bank, a notification is returned automatically by the CHI to the paying bank (Reserve Bank of India, 2011)[21]. The physical cheque is kept by the negotiating bank for 10 years and may be retrieved if required by the customer.

Glossary
ECS: An an electronic mode of payment / receipt for bulk transactions that are repetitive and periodic in nature.
MICR: Magnetic Ink Character Recognition

[21] Reserve Bank of India. (2011). CHEQUE CLEARANCES. Mumbai: Reserve Bank of India.

FIGURE 15: CHEQUE TRUNCATION PROCESS



CHEQUE PROCESSING IN ASIA

by Richard Hartung for EFMA

Cheque usage varies greatly in Asia, from countries where cheques are widely used for consumer payments to others where cheques are used only for a relatively small number of corporate or inter-bank payments.
While practices do vary, consumer usage of cheques is more common in Commonwealth countries such as Australia, New Zealand, Hong Kong and Singapore. Consumer cheque usage is significantly less common in countries in North Asia such as China, Japan and Korea that have had a long history of using cash and then moved more towards electronic payment channels such as the Zengin system in Japan, and they are also less common in some of the emerging markets.

Regardless of how widely cheques are used, usage is declining in virtually all countries in the region. Capgemini found in its World Payments Report 2011, for example, that cheque usage had dropped from 20 percent of payments in mature markets in Asia in 2001 to just 6 percent of payments in 2009.

There are more than 60 countries or territories in the Asia Pacific region, and each has its own practices relating to cheques. Capgemini found, however, about 60 percent of non-cash payments in Asia Pacific are in the mature markets of Australia, Japan, Korea and Singapore while about 15 percent are in the Asian BRICS countries of China and India. Since these 6 markets account for the vast majority of payments within the region, then, it is useful to focus on practices in these countries.

The table below shows cheque usage over the 5 years in major markets in the region, and the number of cheques has continued to decline in most of these countries on through 2012.

	Population	GDP	2006**	2007**	2008**	2009**	2010**
Australia	22.3M	$1.38T	491	418	371	333	291
China	1.34B	$5.9T	1,189	977	882	875	896
India	1.18B	$1.75T	1,367	1,460	1,397	1,379	1,387
Hong Kong	7.1M	$223B	132	141	122	115	116
Japan	127M	$5.9T	134	123	112	96	NA
Korea	48.8M	$1.03T	1.152	1,186	1,104	831	752
Singapore	5.1M	$236B	34	85	83	79	78

*Number of cheques per annum, in millions
**Population is in millions (M) or billion (B). GDP is in US$, in billion (B) or trillion (T). Both are for 2010.
Source: Bank for International Settlements

Regulatory frameworks

While regulators around the Asia Pacific region have taken a strong interest in ensuring the stability of the cheque clearing system and do have regulations in relation to cheques, banking associations have also played an important role in establishing guidelines or common practices for cheques.
More recently, central banks in a significant number of countries have stepped in to promote electronic payments, with the rationale for the push ranging from cost reduction and transparency to efficiency and customer service levels.

Cheque truncation

While small markets like Singapore as well as the emerging markets of China and India have shifted towards cheque truncation or implemented it, banks in larger markets like Australia and Japan have legacy infrastructure and have not implemented cheque truncation so far. Cheque truncation seems less likely to happen in some of these markets, then, because the resources required for a shift to electronic payments may outweigh the cost of implementing cheque truncation at a time when payments are moving towards electronic channels and there are fewer cheques.

Cheque elimination

Even though the number of cheques in the region has continued a steady decline, there has been relatively little serious discussion about eliminating them entirely in markets in the region.
With that background, we'll then focus on the mature markets as well as the two Asian markets among the BRICS.

Australia

Over the past decade cheque use in Australia has dropped by more than 60 percent. With such a steep drop underway, the Australia Payments Clearing Association (APCA) undertook a study in 2011-2012 to look at how to manage the steady decline. In study results released in May, APCA said it saw no need to force the elimination of cheques. Instead, it encouraged the payments industry to use a combination of industry collaboration, support for emerging payments, Cheque Truncation System, engagement with government and consumers, and efforts to boost public awareness of the benefits of electronic alternatives. With Reserve Bank of Australia statistics showing bank processing costs of A$7.69 for cheques and A$1.21 for electronic payments as well as 75 percent of Australians no longer using cheques, cheques seem likely to disappear in the coming years.

Australia is also exploring the feasibility of cheque truncation, though its moves towards electronic payments could supersede moves in that direction.

China

While the number of cheques in China has shown a gradual drop, headline numbers from BIS show that the volume of cheques in China is several times GDP and cheques account for nearly half of payments. However, the vast majority of the volume is inter-bank payments via cheques. Actual consumer and business usage of cheques is low.
In late 2006 China launched a pilot of its Cheque Imaging System (CIS), which enables banks to exchange cheque images electronically and cheques to be used for payment nationwide rather than just in the city where the cheque was issued. Usage of the CIS is gradually expanding.

India

While nearly 90 percent of all banking transactions are done electronically in value terms, according to the Reserve Bank of India (RBI), only about 35 percent of the number of transactions is electronic. Companies in India have long relied on cheques for business-to-business (B2B) payments, though Capgemini did find that cheque usage dropped from 93 percent of B2B transactions in 2001 to 65 percent in 2009.
Even though RBI acknowledges that cheques will be a significant portion of payments for some time to come, it is pushing towards electronic payments. In 2010 it specifically told the country's largest banks to increase the usage of electronic payment channels by consumers. And in 2011, RBI told non-banking financial companies to take proactive steps towards the "gradual phase-out of cheques in their day to day business transactions."
Over time RBI plans to phase in cheque truncation, and it has implemented automation software called the 'Express Cheque Clearing System' as well as "speed clearing."

Japan

As the Bank of Japan said in 2009, cheque usage has been in a steady decline since as far back as 1990 and there is a long-term shift away from cheques in favor of credit transfers via the electronic Zengin system as businesses seek to avoid the costs of stamp tax as well as processing costs for cheques. Government and businesses have been the primary users of cheques in Japan, though they are gradually shifting towards electronic payments, and consumer cheque usage in Japan has been extremely low.
While the Japanese Bankers Association has considered cheque truncation, the concept is still being evaluated and paper cheques are cleared at regional clearing houses.

Korea

Cheques remain a widely-used payment method in Korea, with a combination of cashier's cheques and current account cheques used for payments. The relative usage of cheques has declined, however, as companies have gradually started shifting towards electronic payments. It's important to note, though, that the actual value of the cheques has actually risen slightly over the past several years at the same time that the number of cheques has been declining
Since late 2010, Korea has used cheque truncation rather than clearing paper cheques, which has resulted in faster settlement of funds.

Singapore

Companies and consumers alike continue to use cheques extensively in Singapore, and the drop in usage has not been as dramatic in other markets. However, the government's initiatives for electronic payments may speed up the shift to electronic payments. One of the first steps towards efficiency was the establishment of the Cheque Truncation System in 2003 for cheque clearing, and all cheques are now processed using Cheque Truncation System. Singapore's G3 initiative, which is intended to enable real-time processing of low value payments as well as bulk file processing, will be rolled out within the next couple years and may produce more incentives for a shift from cheques to electronic payment usage.

Conclusions

Throughout the region, for reasons ranging from efficiency to customer service, payments are shifting towards electronic channels. Despite the shift, most observers expect cheques to be around for at least the next decade or longer. While the number may continue to fall, there's clearly a role for cheques in payments in Asia.

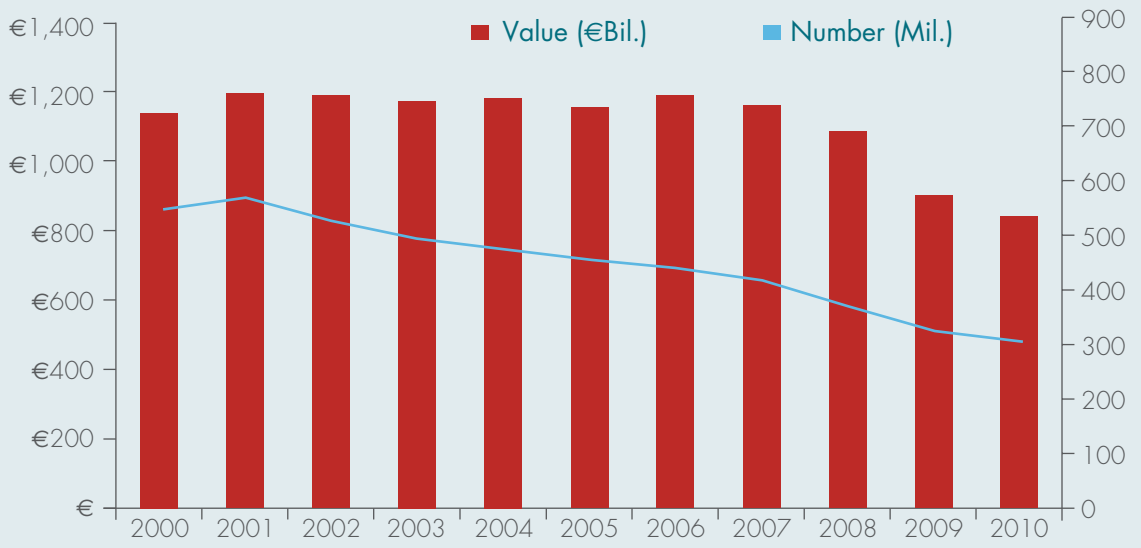
The Italian cheque market

Cheque usage

In Italy the number of cheques used and the total cheque value has been declining gradually since 2001. However, volumes are still among the highest in Europe with 315 million cheques cleared with a total value of €845 million in 2010. The CAGR is negative both in terms of numbers (6%) and value (7%) when compared to 2009 usage.

In Italy, cheques accounted for 7% of the total value of non-cash payments in 2010. On average, Italians used 6 cheques per year with an average value of €2,680 per cheque.

FIGURE 16: TOTAL VALUE AND NUMBER OF CHEQUES USED (ECB, 2012)[22]

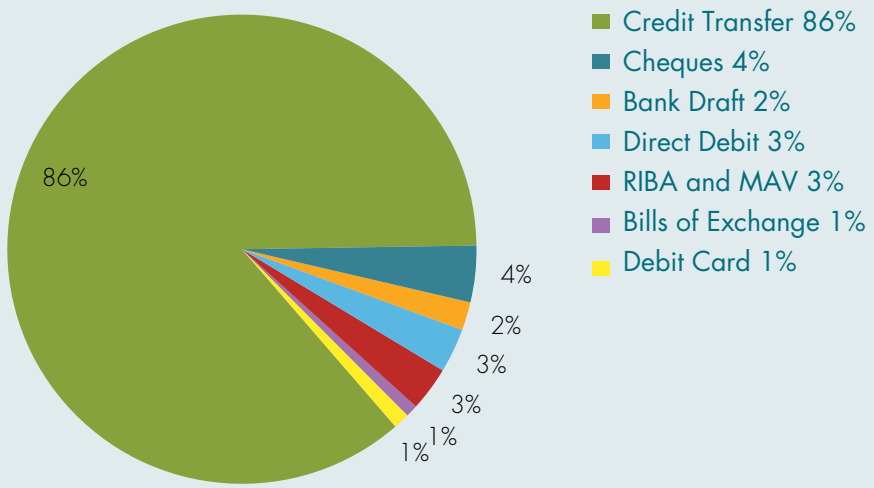


Cheque clearing system

In July 2011, the Italian Government promoted the law 106/2011 that gave legal value to electronic images of cheques. This law is similar to the US Check 21 legislation. Against the backdrop of these positive innovations, the Italian banking industry launched an interbank project to implement a cheque-image based clearing system so that Italy could be one of the first countries in Europe to implement electronic cheque clearing. ABI (the Italian Banking Association) is currently evaluating different scenarios to allow for the exchange of electronic cheque images and analyzing the electronic cheque clearing impacts at the interbank level (since the physical exchange at the Clearing House will no longer be done) and the impact on the bank's internal processes, operations and organization. In particular, banks will now have to focus on these issues: implication of the paper

[22] European Central Bank. May 2012. Statistical Data Warehouse. (http://sdw.ecb.int)

FIGURE 17: NON-CASH RETAIL PAYMENT.[23]



destruction, electronic storage, image requirements and image quality assurance, anti-fraud measures and remote deposit capture.

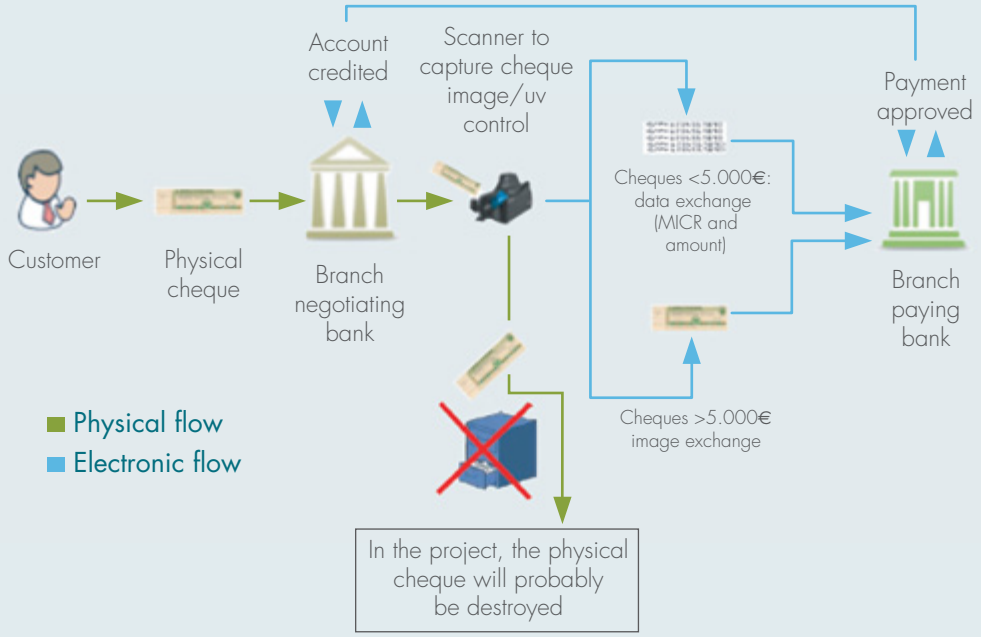
At this stage of the analysis, the cheque image clearing system could be as follows:

- Payees deposit cheques at their own bank (negotiating bank)
- The negotiating bank will be responsible for the cheque image capture (front and rear) and the digital signature of the cheque image
- Bank cheques with a value above €5,000 will be submitted electronically by exchanging the image of the cheque between the negotiating bank and the paying bank
- All the draft cheques and the bank cheques with a value below €5,000 will still be cleared electronically but only the data will be transmitted to the paying bank (such as MICR codeline and amount) and not the image
- The paying bank approves/denies the transfer of funds to the payee
- For unpaid cheques the paying bank will be responsible for sending the cheque image (the law 106/2011 allows banks to electronically manage dishonoured cheques). At the moment, the physical destruction of cleared cheques is under evaluation, therefore it might be possible that there will be no archive at all (see figure 18).

Banks are extremely willing to cooperate in this evaluation because the opportunity to reduce costs is significant. The timeframe for implementation of the full electronic clearing process is about 2 years. Banks are now waiting for Ministry of the Economy's secondary legislation and Bank of Italy's technical rules.

[23] Banca D'Italia. (2011). *Supplements to the Statistical Bulletin : Monetary and Financial Indicators.* Rome: Banca D'Italia.

FIGURE 18: CHEQUE TRUNCATION PROCESS



IMPACTS AND EXPECTATIONS CONCERNING THE AMENDMENTS MADE TO THE LAW ON ELECTRONIC CHEQUE CLEARING "DL 70/2011"

By Barbara Pelliccione, Project Manager of the Payments Systems and Services Department, ABI (Italian Banking Association)

The Italian banking industry has favorably welcomed the changes introduced by the law on electronic cheque clearing [24]) which, besides allowing the payment of cheques in electronic form, electronic copies of cheques and declaration in lieu of protests made in electronic form are now valid for all legal intents and purposes.

To seize the opportunities arising from the new provisions, the ABI has launched a project to revise the current structure of cheque clearing based on image exchange:

- In order to submit the payment and, more generally, in all inter-bank relations (retaining, however, the ability to submit payment requests by simply transmitting accounting data (instead of the cheque image) for cashier cheques and cheques up to 5.000 euro)
- To request the dispute (in electronic form) of dishonoured cheques, and to fulfill the requirements provided by law regarding penalties on cheques
- To perform any recourse action and to resolve disputes in or out of court.

The new operating structure will enable banks to meet the objectives of innovation and efficiency and to obtain special advantages in terms of:

- Reducing the cost of logistics/material management (courier costs, service costs, costs of archival research, and improvement of management of lost paperwork)
- Automatic management of unpaid cheques, through the transmission of digital images that will replace the current procedure for central cheque clearing at the Clearing House
- Reduction of operational risks typically related to theft/loss of paper cheques and the occurrence of events that, given the current setup of the system, can cause significant delays on the process of collection, such as events of force majeure and other natural disasters
- Additional items outside the scope of efficiency related to the dematerialization of interbank phases of declaration in lieu of protests/substitute declaration, in particular relating to the electronic management of contacts with public officials and prefectures.

The electronic cheque clearing will also enable banks to play a more timely and flexible role when a dispute arises, resulting in a possible and hopeful improvement at the service level, and in regards to protecting the customers (beneficiaries of payments) in case these cheques end up being unpaid.

The new procedure may also facilitate the implementation of RDC (Remote Deposit Capture) and then meet the organizational and operational needs of customers (especially, but not only, businesses and corporate customers that frequently deposit a large number of cheques) that will in the future be able to yield these titles electronically.

[24] Royal Decree 21 December 1933 n. 1736 modified by art. 8, paragraph 7 of the decree law D.L. 70/2011 (officially converted into the law art. 1, paragraph 1, n. 106 on 12 July 2011).

An in-depth examination is currently being coordinated by ABI, to help define the characteristics of this new service and to examine its impact on the organizational, operational, and commercial side of the banking industry. The main points that are currently being analyzed are:

- The responsibility of negotiating bank during image capture (image quality assurance) and the addition of the bank's digital signature
- The implications regarding the possible destruction of the physical cheque (responsibility of the banks in case of any dispute/litigation)
- The mode of preservation of electronic document
- The definition of anti-fraud measures to be taken on a mandatory basis at the banking industry level
- The definition of electronic mode of interaction between banks and public officials to deal with disputes
- Remote Deposit Capture (therefore electronic management between the bank and its corporate customers during the transmission of cheque image for payment).

We expect the enactment by the Ministry of Economy and Finance (MEF) and the Bank of Italy (BI), respectively, of the implementing provisions of Decree Law 70/2011 and its technical regulations.

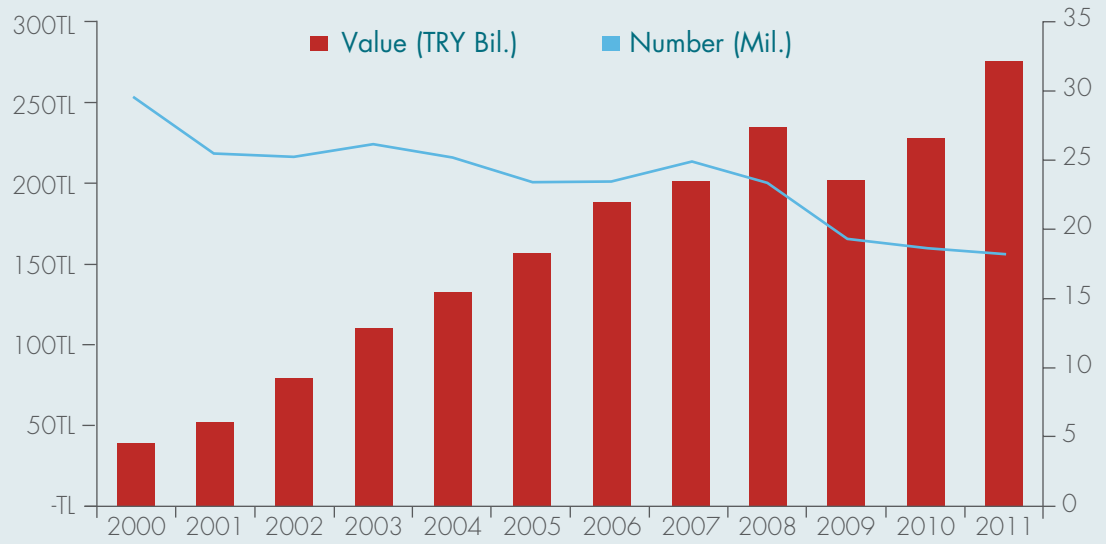
We would welcome the start of the project by the end of 2013 (consistent with the enactment of the provisions of secondary legislation of the MEF and the BI).

The Turkish cheque market

Cheque usage

The trend of cheque usage in Turkey has not been stable over the past decade. The total number of cheques in Turkey has been decreasing slowly. On the contrary, the value of cheques has increased significantly over the years, with the exception of a small drop in 2009. In 2011, 18 million cheques were cleared by the Interbank Cheque Clearing Houses Center with a total value of TRY 275 billion (€118 billion). In 2011, the number of cheques decreased by 2%, while the total value increased by 21% when compared to 2010.

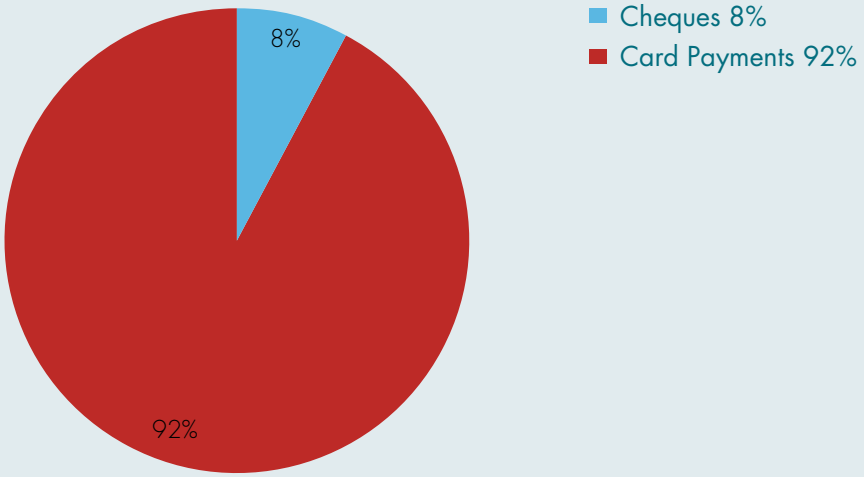
FIGURE 19: TOTAL VALUE AND VOLUME OF CHEQUE USAGE (TCMB, 2012)[25]



Turkish people write 1 cheque on average per year, especially for expensive purchases with an average value of 12,213 TL, equivalent to €5,233. Cheques accounted for 8% of all non-cash payments made in Turkey in 2010.

[25] Central Bank of The Republic of Turkey. May 2012. Statistical Data. (http://evds.tcmb.gov.tr/

FIGURE 20: NON-CASH RETAIL PAYMENT[28] SOURCE: CPSS (2012)[26]



Cheque clearing system

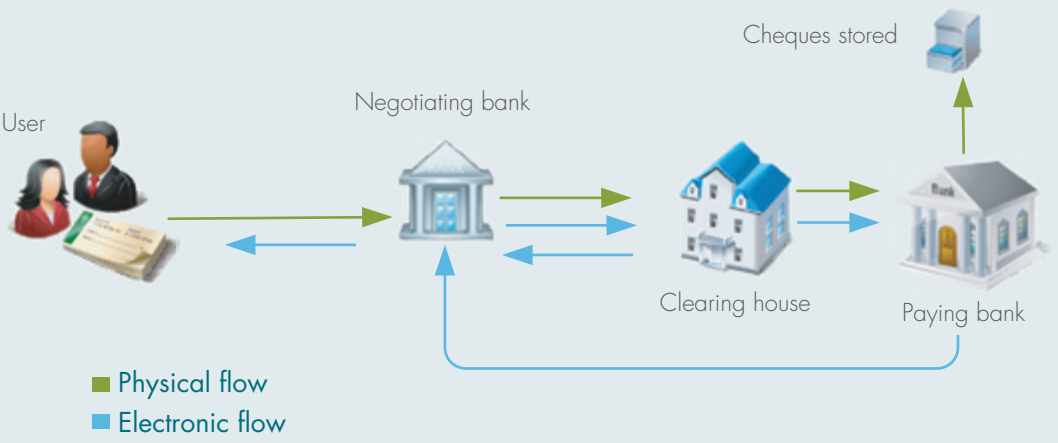
To facilitate electronic processing, cheques are coded with Magnetic Ink Character Recognition (MICR) codeline in E13B format. The cheque clearing process is controlled and supervised by the Interbank Clearing Houses Centre (BTOM) empowered by the Central Bank of Turkey (CRBT). Currently, there are two central clearing houses in Turkey, one in Ankara and the other in Istanbul.

A cheque truncation law was introduced in 1998 and allows cheques to be cleared without physically presenting them to the clearing house. Since September 2006, new electronic clearing systems have been implemented to improve the efficiency of the cheque clearing process. A fee applies only to users who present a cheque to a bank where the user has no account(s).

The cheque truncation process starts at the negotiating bank where the cheques are being deposited. The negotiating bank sends the cheque information through an electronic clearing system to the clearing house. The clearing house stores the cheques in their central computer and then transmits the information to the paying bank. Based on the electronic information, the negotiating bank starts authorising the outgoing payments and physically delivers the cheques to the clearing house for presentation to the paying bank. The paying bank matches the electronic data received with the physical cheques. Once matched, the cheques are paid directly or through a clearing house. The cheque clearing system in Turkey requires on average four to six business days. The user's account is credited with the interest after two business days. After four business days, the user is able to withdraw funds for current accounts and after six business days for saving and deposit accounts.

[26] CPSS (2012).Statistics on payment, clearing and settlement systems in the CPSS countries. CPSS Publications No 99

FIGURE 21: CHEQUE TRUNCATION PROCESS



AN INSIGHT ON THE TURKISH CHEQUES MARKET

by Mr. Koray Kaya, Executive Vice President of the Turkish Credit Bureau

Cheques have been a widely accepted type of payment in the Turkish economy. Especially during the times of strict fiscal policies, trade companies have preferred to make payments via post-dated cheques rather than cash. However, the number of cheques used has been declining for the last 3-4 years because more sophisticated payment options have been introduced by the banks.

Although previous cheque laws did not allow post-dates on cheques, the market practice has always been to accept the date on the cheque when presenting it to the bank for payment. Since it has largely replaced cash as a form of payment, it has been a very common market practice to use the cheque before the posted date for another transaction by the cheque holder signing the back of it.

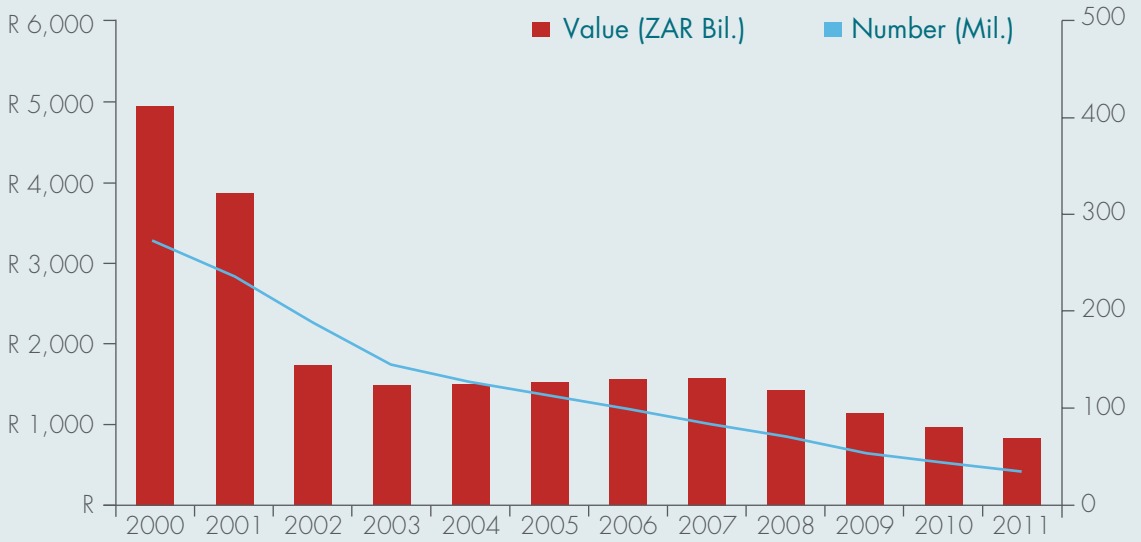
After the global crisis in 2008, a change to the Cheque Law finally accepted postdates on cheques. Since the postdated cheques were not legally accepted by the Law before, they were treated as cash by the government and subject to heavy punishment including imprisonment of the cheque writer. This was related to the fact that it was treated the same as counterfeiting money. However with the change in law, post-dated cheques, are treated as a form of credit granted by the beneficiary to the issuer. In parallel to this change, a second change in the Cheque Law was passed in Feb 2012. This change removed the risk of imprisonment of the cheque writer. The Government acknowledged that cheque writing and accepting is a financial issue and cheque takers must decide whether to accept the cheques or not by assessing the writer themselves. But since the takers have been protected by the Law until now, there is no information available for the takers to use to make such a decision. KKB has introduced the Cheque Reporting System to fulfill this gap in the market. With the Cheque Reporting System, cheque writers can ask for their cheque payment history from any Bank and present it to the cheque takers. The report includes all the positive and negative cheque information from any Bank about the writer. We believe the Report will protect the market in the long term. Cheque writers will know that if they fail to pay their cheques, it will be reported and their cheques will not be accepted in the market. This will definitely be a stronger sanction than imprisonment in the future.

The South African cheque market

Cheque usage

As in many other countries, the number of cheques used in South Africa has been decreasing steadily since 2000 and the value has been decreasing at a slower pace. This means the average value of cheques has been increasing over the years. From 2000 to 2010, a decline of 84% in volume and 81% in value of was observed. The number of cheque used has decreased from 270 million in 2000 to 42 million in 2010, while the value has decreased from ZAR 4,933 in 2000 to ZAR 943 in 2010.

FIGURE 22: TOTAL VOLUME AND NUMBER OF CHEQUES USAGE (SARB, 2011)[27]



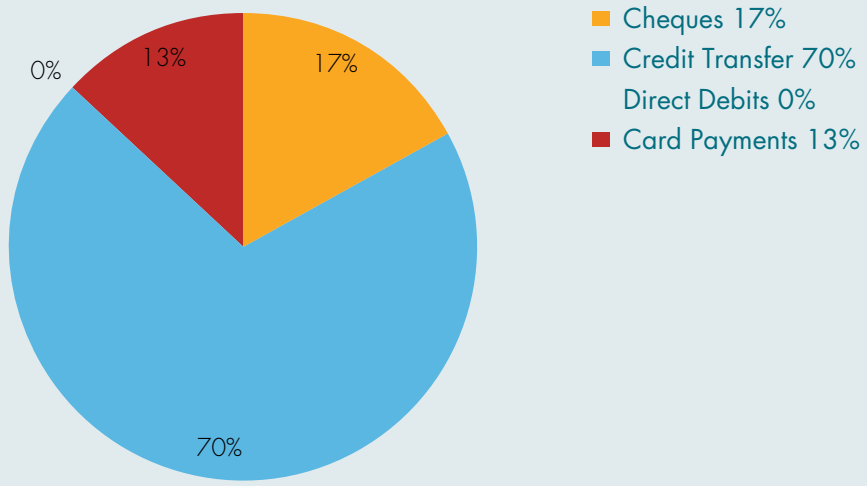
South Africans wrote on average 2 cheques per person in 2010 with an average value of ZAR 22,435, equivalent to €2,211.

Cheques account for 17% of non-cash payments made in South Africa. 67% of all cheques are used to pay for primary needs and the other 37% used for salaries and shopping payments. The government is also an intensive user; they use cheques primarily for pensions, salaries and wages. 75% of cheques are written by business users and 25% by individual customers; these are typically elderly people who are used to writing cheques for charities. According to PASA (Payment Association of South Africa), three factors drive cheque usage:

- Resilience: users have adopted the habit of writing cheques and continue to do so
- The lack of education around electronic payments
- A perception that cheques are compulsory in certain cases.

[27] South African Reserve Bank. May 2012. (http://www.resbank.co.za/Research/Statistics/Pages/OnlineDownloadFacility.aspx)

FIGURE 23: NON-CASH RETAIL PAYMENT (CPSS, 2012)[28]



Due to the significant decline of cheque usage, PASA is now considering measures to further reduce usage (Griffiths, 2010)[29]. PASA took some initiatives such as capping the maximum value limit of cheques to ZAR 500,000, equivalent to €49,279 effective as from July 2012. However, the frequent usage of cheques by senior citizens and various businesses prevents PASA from decommissioning cheques in the short term.

Cheque clearing system

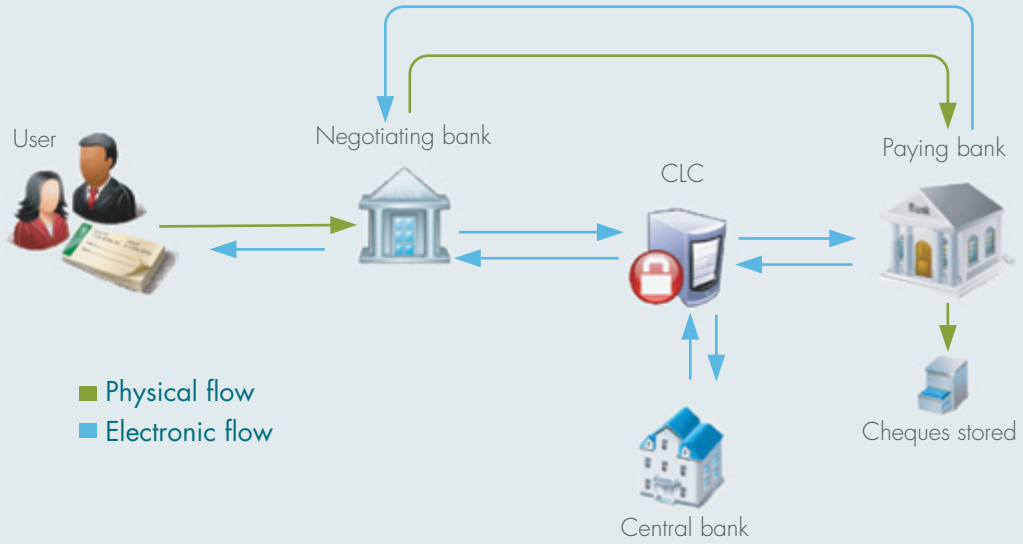
Most cheques in South Africa are MICR encoded and must comply with the standards of the Cheque Standard Committee: position of the bank code, the payee, the payer, the amount, etc. Similar to India, the participation to the clearing system can be direct or indirect. The indirect participation is facilitated by sponsorship agreements with other clearing banks.

The cheque clearance system in South Africa is done in two ways: electronic and physical. The customers receive their money on the same day when they deposit a cheque at their bank. The negotiating bank that receives the cheque sends the information of the cheque electronically to the paying bank first for clearance. Cheques are cleared between banks using Code Line Clearing (CLC), which enables banks to capture deposited cheque code line data electronically and transmit the information to the paying bank and the Central Bank for settlement purposes. On the same day, physical cheques are delivered to the paying bank to be matched with the electronic data and for final approval. When cheques are returned, the same steps are followed in reverse from the paying bank to the negotiating bank. The cheque clearing system in South Africa requires a period of up to seven working days for domestic cheques and up to 35 days for international cheques.

[28] CPSS (2012).Statistics on payment, clearing and settlement systems in the CPSS countries. CPSS Publications No 99

[29] Griffiths, P. (2010, 13 January). ***SA: Banks to scrap cheques.*** Retrieved 2012, 16 February from AfricaNews: http://www.africanews.com/site/list_message/24700

FIGURE 24: CHEQUE TRUNCATION PROCESS IN SOUTH AFRICA



According to PASA, there is no need to migrate to full truncation; considering the decline in volumes, there is no business case to justify the investments required in changing the processes. Instead, the focus of PASA is to promote the use of electronic payments and foster the development of alternative payment instruments such as mobile payments. No deadline has been set to decommission cheques but PASA believes the decline is irreversible.

Findings from survey

This section presents findings from a survey which was distributed among bankers from the eight countries under consideration in the first half of 2012. The main objective of the survey was to understand cheque usage and its evolution, the processing and clearing of cheques and the cost structure within each of the eight countries.

Survey results are categorized into several subsections. In the first subsection, we describe the profile of the respondents (number of respondents per country and type of organization they work for). The second subsection addresses the evolution of cheque usage. In the third section, we highlight cheque processing and clearing and in the fourth subsection, we offer an overview of costs associated with cheques (e.g., handling) and opinions about trends of cheque fraud.

Respondents overview

Figure 25 describes the type of organizations respondents work for. We targeted retail banks and therefore the biggest survey sample is from financial institutions. IT companies, professional associations and payment service providers are included in the Others category.

FIGURE 25: RESPONDENTS' ORGANIZATION TYPES

Please define the type of organization you work for:

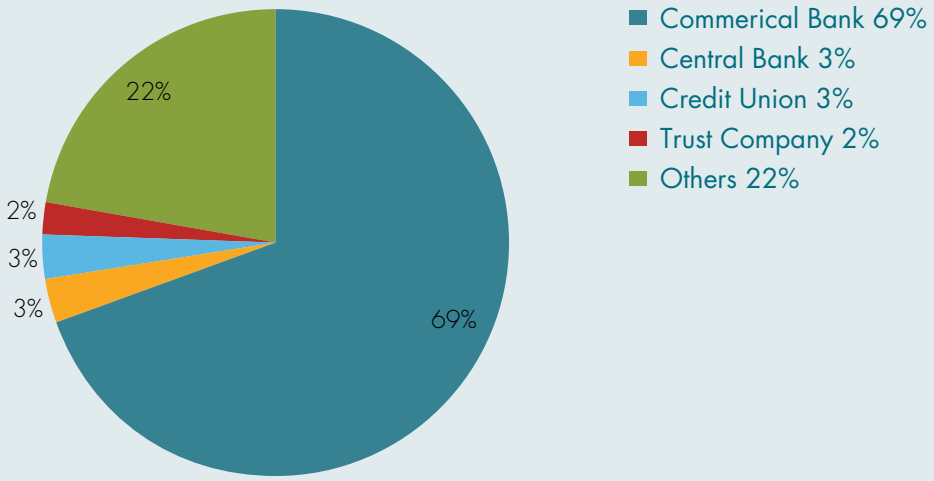


Figure 27 shows whether banks charge their customers for cheque books. In France, Brazil and Australia, respondents indicated that cheque books are free of charge. According to our market study and by comparing data, this correlation appears related to the widespread cheque usage in these countries. Some countries, such as Turkey, do not have an overall fee approach. This results in cheque book being offered to customers by some banks and not by others.

The largest number of respondents work in Turkey, followed by India, Italy and South Africa.

FIGURE 26: GEOGRAPHICAL ORIGIN OF RESPONDENTS
Please specify in which country you are based:

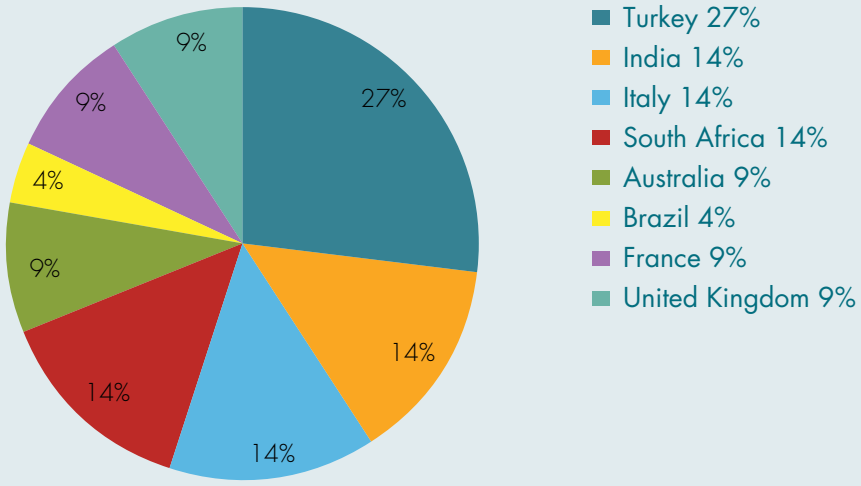
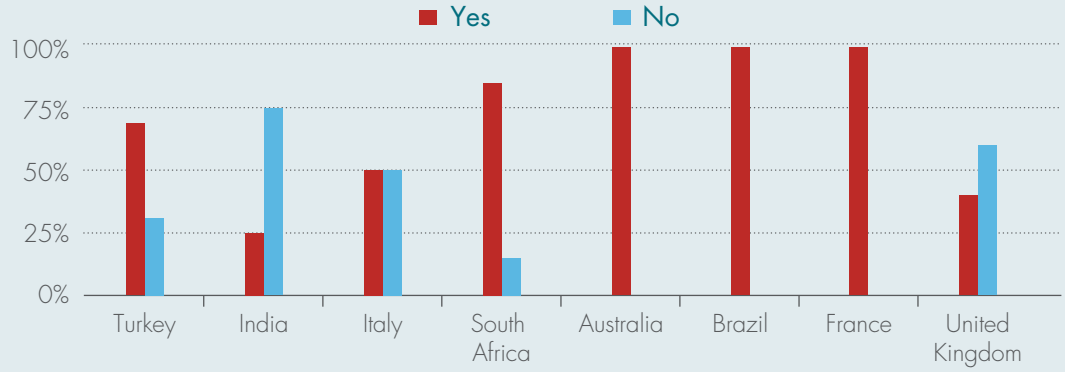


FIGURE 27: PROVISION OF FREE CHEQUE BOOK
Does your organization offer the cheque book free of charge?



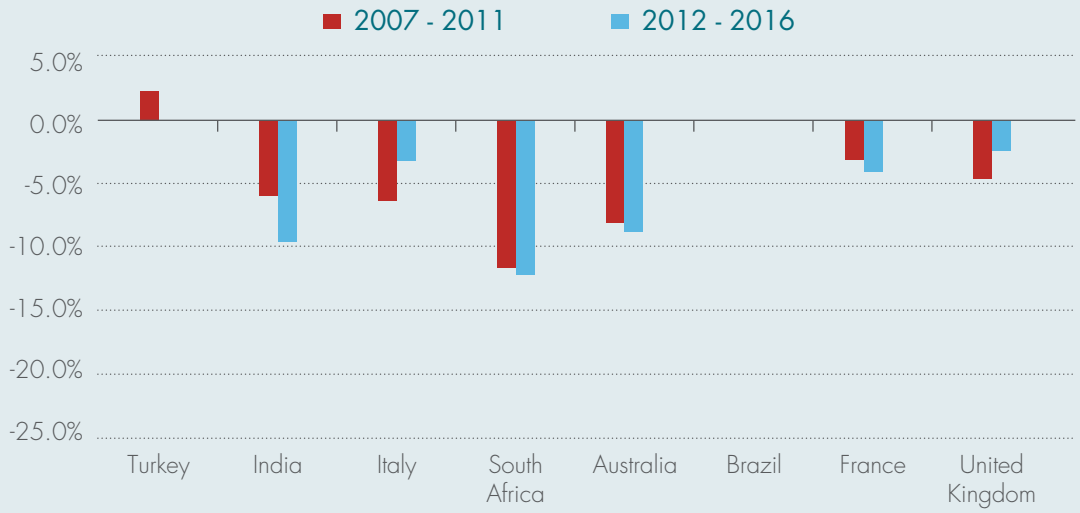
Evolution of cheque usage

Regarding the evolution of cheque usage, respondents were asked to provide feedback about annual growth rate in the previous five years and in the coming five years. If we compare the cheque market analyses of the previous section with the results depicted in Figure 28, we may conclude that most respondents were well informed about the cheque developments of the past 5 years. Based on information from the central bank and survey's respondents, we found some inconsistency with India. As a matter of fact, in the past 5 years, the total value of cheques in India declined about 8 percent per year, but the total number of cheques used was stable (opposite to what was declared by respondents).

Most of respondents think the trend will continue at the same pace in the coming 5 years. In India, South Africa, Australia and France, they pointed out that the decline will accelerate.

FIGURE 28: ESTIMATED CHEQUE USAGE TREND PAST AND FUTURE 5 YEARS

What has been in your opinion the annual evolution in cheque usage in your organization in the past 5 years, and how do you think cheque usage will develop in the future in your country?



In order to understand the importance of cheques, respondents were asked to rank the importance of cheques in relation to other banking and commercial activities. The results are presented in Figure 29. It was observed that that the respondents from countries with high cheque volumes – Italy, Australia, Brazil and France – also find cheques important in relation to other banking and commercial activities.

FIGURE 29: IMPORTANCE OF CHEQUES

On a scale of 1 to 10 , please indicate the importance of cheques in relation to other banking and commercial activities in your primary markets?

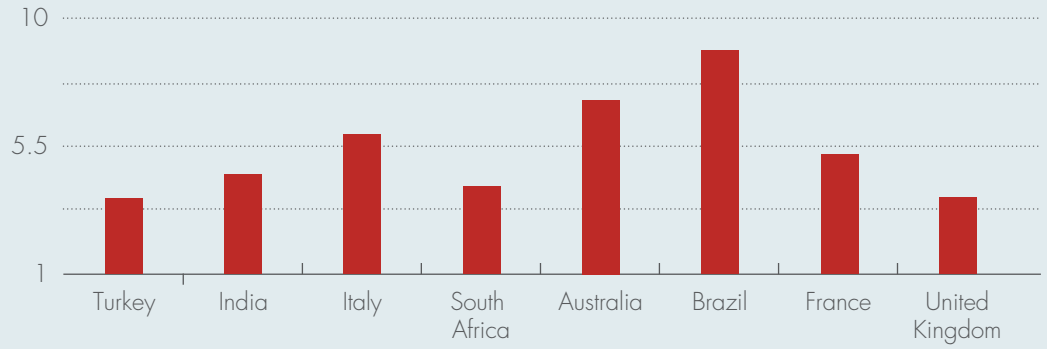
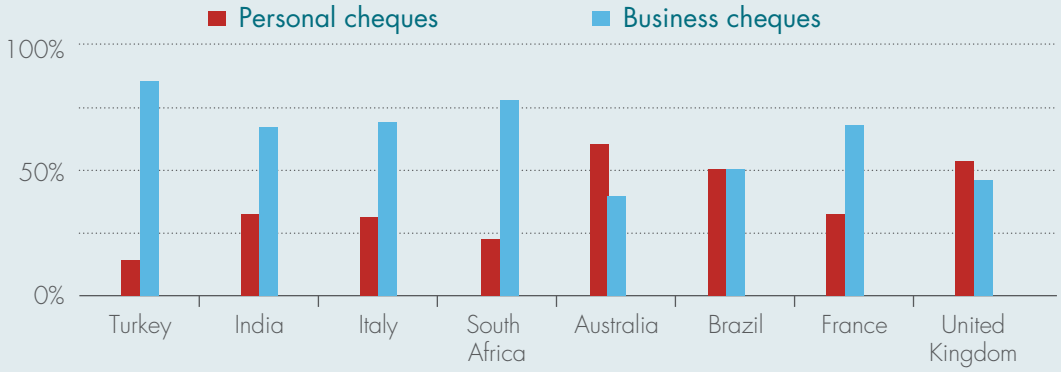


Figure 30 depicts the proportion of business cheques versus personal cheques. This is consistent with the outcome of the previous section. In Australia, Brazil and United Kingdom approximately the same percentage of business and personal cheques are processed. In other countries, business cheques exceed the volumes of personal cheques, particularly in Turkey, South Africa and Italy.

FIGURE 30: PROPORTION OF PERSONAL VERSUS BUSINESS CHEQUES

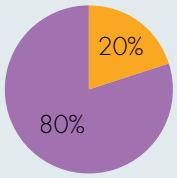
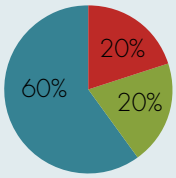
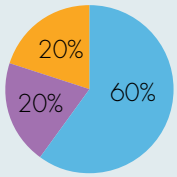
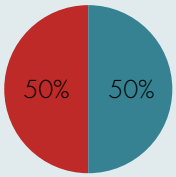
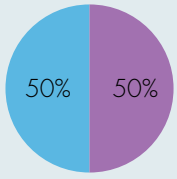
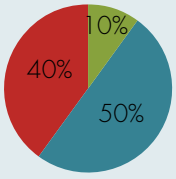
For cheques processed by your organization, please indicate the % of personal cheques vs business cheques:



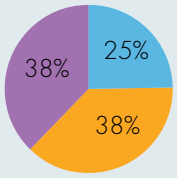
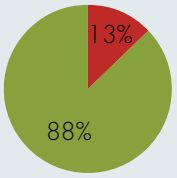
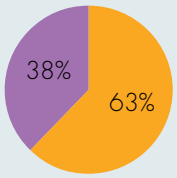
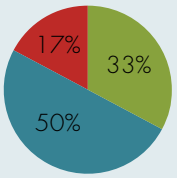
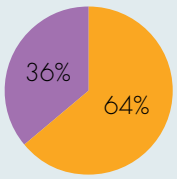
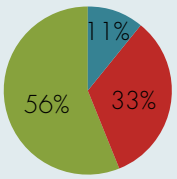
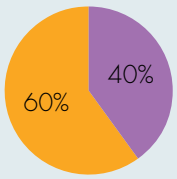
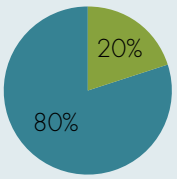
Cheque processing and clearing

This section gives an overview of the cheque clearing infrastructure in place in each country as well as details about the type of cheque truncation that was adopted (e.g., physical clearing, image-base clearing, etc.). Finally, we also emphasized whether the cheque is managed at the teller, bank branch office or others. Related to the national cheque processing infrastructures, we asked respondents which type of cheque truncation they apply in their organizations. Results are indicated in Figure 31.

FIGURE 31: TYPE OF CHEQUE TRUNCATION

Country	National Processing Infrastructure	Type of cheque truncation	Cheque processing model (mostly depending on the bank)
Australia			• **Physical clearing:** Cheque is delivered to a central box inside the branch or an ATM and processed afterwards at the branch back office • **Image-based:** Cheque is managed at the teller but the image is captured and processed at a central location • **Exchange of cheque data:** Cheque is delivered to a service outsourcer for clearing purposes
Brazil			• **Image-based:** Cheque is managed at the teller but the image is captured and processed at the branch back office
France			• **Physical clearing:** Cheque is delivered to a service outsourcer for clearing purposes • **Image-based:** Cheque is managed at the teller but the image is captured and processed at the branch back office
India			• **Physical clearing:** Cheque is delivered to a service outsourcer for clearing purposes • **Image-based:** Cheque is managed at the teller but the image is captured and processed at the branch back office or central location • **Exchange of cheque data:** Cheque is managed at the teller and data are captured in the branch back office afterwards

- Automated clearing house
- Processing centre
- Electronic cheque clearing (image-based/codenline-based)
- Physical clearing
- Image-based
- Exchange of cheque data

Country	National Processing Infrastructure	Type of cheque truncation	Cheque processing model (mostly depending on the bank)
Italy			• **Image-based:** Cheque is managed at the teller but the image is captured and processed at the branch back office or central location • **Exchange of cheque data:** Cheque is managed at the teller and data are captured in the branch back office afterwards
South Africa			• **Physical clearing:** Cheque is delivered to a service outsourcer for clearing purposes • **Image-based:** Cheque is managed at the teller but the image is captured and processed at a central location • **Exchange of cheque data:** Cheque is managed at the teller and data are captured in the branch back office afterwards
Turkey			• **Physical clearing:** Cheque is delivered to a central service from the bank for centralized management and processing • **Image-based:** Cheque is managed at the teller but the image is captured and processed at a central location • **Exchange of cheque data:** Cheque is managed at the teller and data are captured in the branch back office afterwards
United Kingdom			• **Physical clearing:** Cheque is delivered to a service outsourcer for clearing purposes

Automated clearing house
Processing centre
Electronic cheque clearing (image-based/codenline-based)
Physical clearing
Image-based
Exchange of cheque data

We asked respondents to indicate the real or potential importance of image based cheque clearing to their organizations on a scale from 1 to 10 (10 being the most important). Results show that digital cheque clearing vs physical paper clearing is very important in Brazil, South Africa and Australia. Scores in other countries are average.

FIGURE 32: IMPORTANCE OF IMAGE BASED CHEQUE TRUNCATION

On a scale from 1 to 10, please indicate the real or potential importance of image based cheque clearing to your organization:

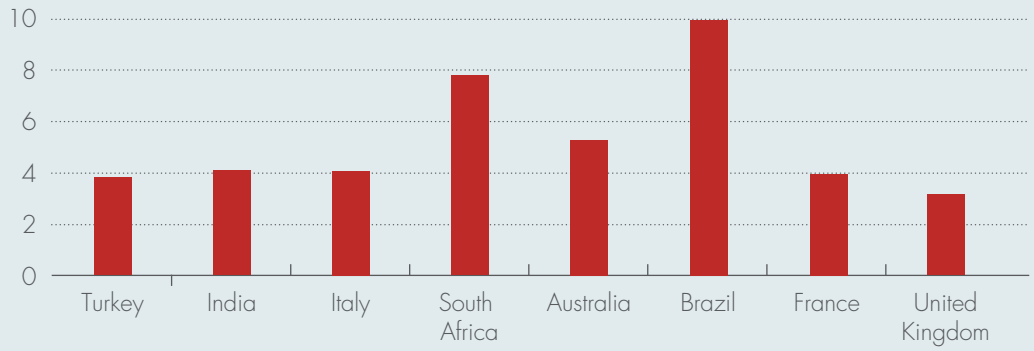
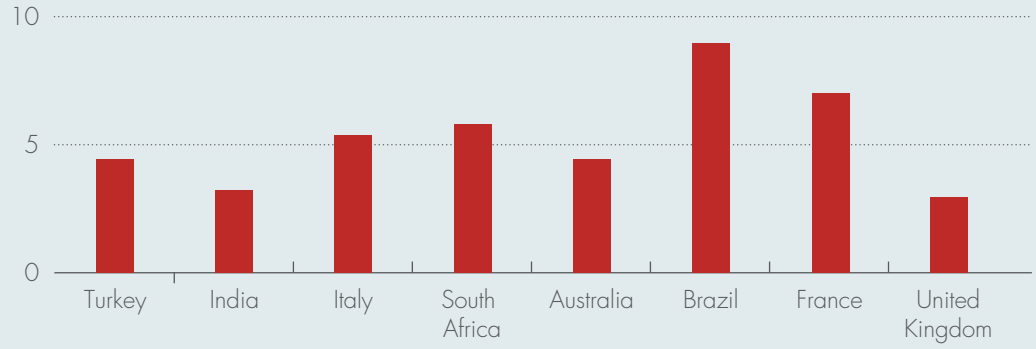


FIGURE 33: IMPORTANCE OF DIGITAL CHEQUE CLEARING FOR THE RESPONDENTS' ORGANIZATION

If you have or could have the ability to clear cheques based on a digital image vs the physical paper, how important could this be to your organization?

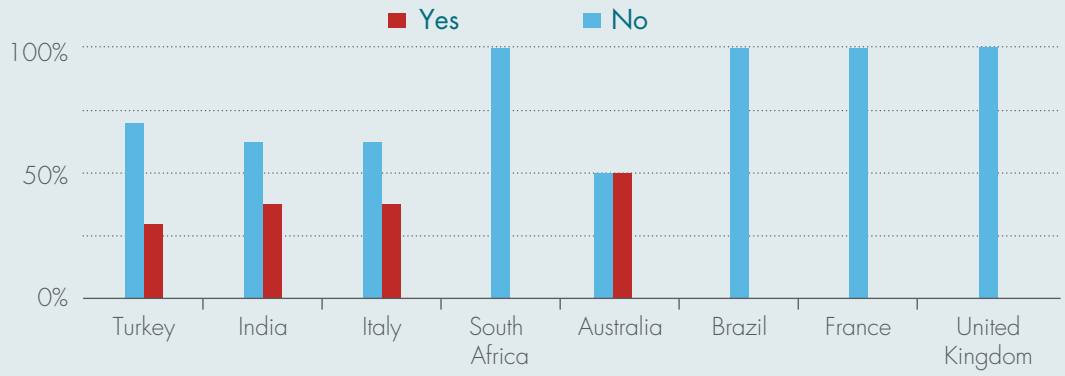


When respondents are required to indicate the importance of electronic clearing (data or image exchange) vs physical clearing, the highest scores are in Brazil and France and less important for India and the United Kingdom. A possible explanation is that France and Brazil are among the most intensive users of cheques with the highest associated costs involved. Digital clearing is strictly linked to cost reduction.

Remote Deposit Capture is known in the countries that were analyzed in the report and it is offered to customers by some retail banks in Turkey, India, Italy and Australia. The results show that organizations in Australia offer Remote Deposit Capture most frequently. This is related to the fact there is a large number of business users. Particularly the government is one of the most cheque intensive segments.

Some countries, such as South Africa, Brazil, France and United Kingdom do not offer Remote Deposit Capture.

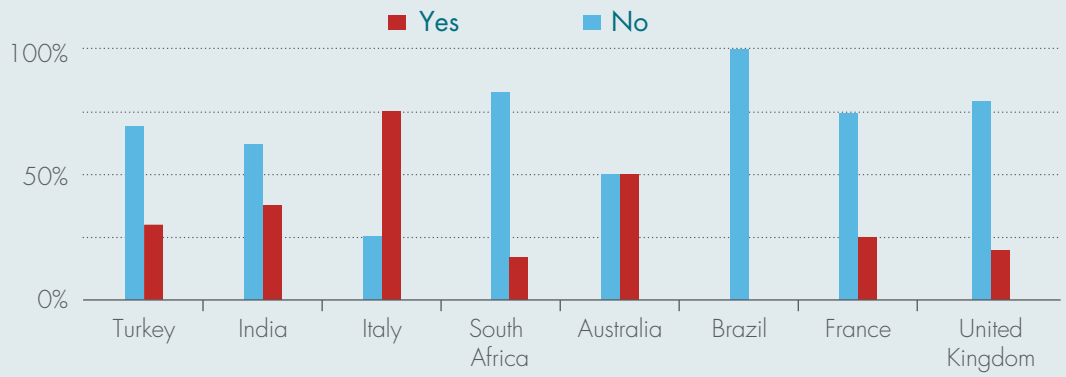
FIGURE 34: REMOTE DEPOSIT CAPTURE PROVISIONING TO CUSTOMERS
Do you offer Remote Deposit Capture to your customers?



However, when we asked if they would consider offering it, we noticed that most of the respondents point out that Remote Deposit Capture could be an added value to their business, including in countries that today are not considering Remote Deposit Capture in their strategy. For instance, apart from Brazil, countries like France (25%), UK (20%) and South Africa (17%) are considering including it in their offering. We need to emphasize the high percentage (75%) of respondents from Italy that indicated they consider offering the service to customers, although they expect only 5% to be early adopters. Remote Deposit Capture is considered a strategic advantage over competitors and an opportunity to reduce costs related to physical transportation of cheques to the bank. It is likely that we will see a growth in Remote Deposit Capture in Italian banks.

FIGURE 35: AVAILABILITY OF REMOTE DEPOSIT CAPTURE

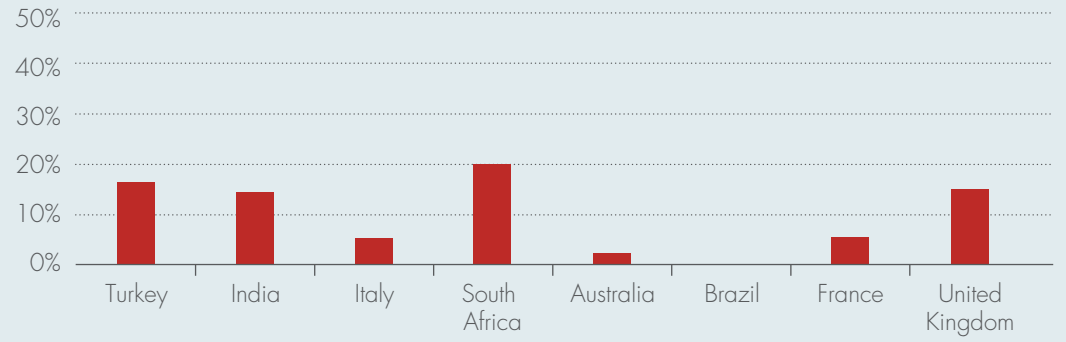
Are you considering offering your customers Remote Deposit Capture?



Once again, it is interesting to notice that expectations on adopters are high in countries like South Africa (20%), Turkey (16%), UK (15%) and India (14%).

FIGURE 36: THE PROPORTION OF CUSTOMERS WHO WOULD ADOPT REMOTE DEPOSIT CAPTURE IF OFFERED

If you offer or might offer Remote Deposit Capture to your business customers, what percentage of your customers base do you think would adopt the solution?

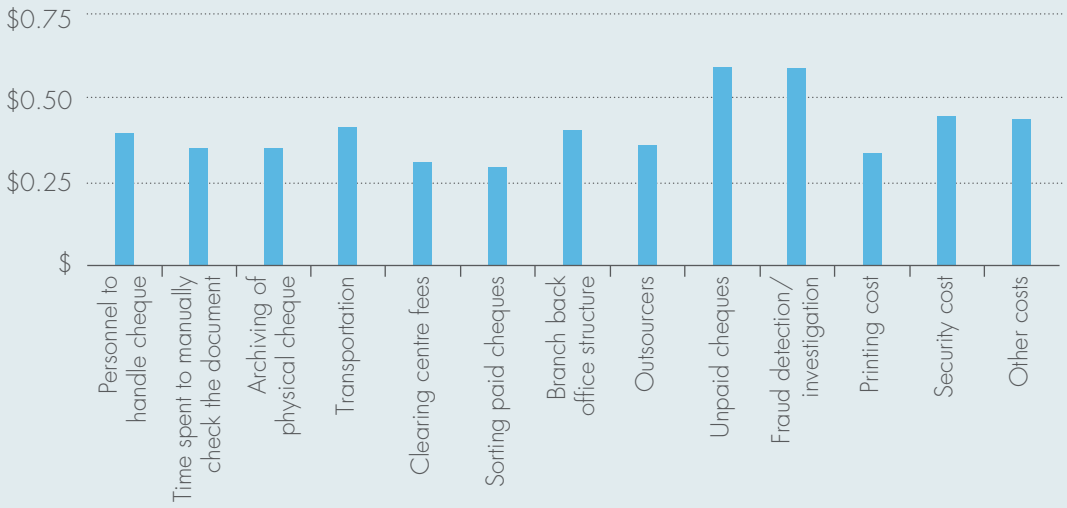


Cost of cheque processing

This section addresses the cost related to cheque processing. We listed the most frequent costs associated with cheques and asked respondents to choose the most appropriate cost range among the ones provided in the survey.

In Figure 37 we aggregated the results from all countries to show which activities account for the highest and/or lowest costs. Survey results show that unpaid cheques and fraud detection/ investigation are the most expensive. This is related to the high percentage of fraud that is linked to cheques as well as to the fact that the volume of unpaid cheques is still high in many countries. This represents a problem for financial institutions. Physical transportation and security are other sensitive costs for our respondents and are very often correlated (i.e., security of transported items that have not be cleared yet and therefore could be stolen).

FIGURE 37: COST PER CHEQUE ACTIVITY; RESULTS AGGREGATED FOR ALL COUNTRIES
What (do you think) is the average cost in USD to process a single cheque? (aggregated for eight countries)



Along with the aggregated costs in Figure 37, we analyzed the cost per activity per country in Figure 38 and Figure 39.

You will notice that in some countries there are concerns with physical transportation (i.e., Australia). Australia is the country with the highest costs for cheque processing, transportation, fraud detection and unpaid cheques. In most countries, banks face high unit costs for fraud detection and unpaid cheques and their cost levels are similar. It is interesting to note that in Italy, South Africa and Australia we have an average cost of $0.60 USD for branch back office structure.

FIGURE 38: COST OF CHEQUES PER ACTIVITY PER COUNTRY (1/2)

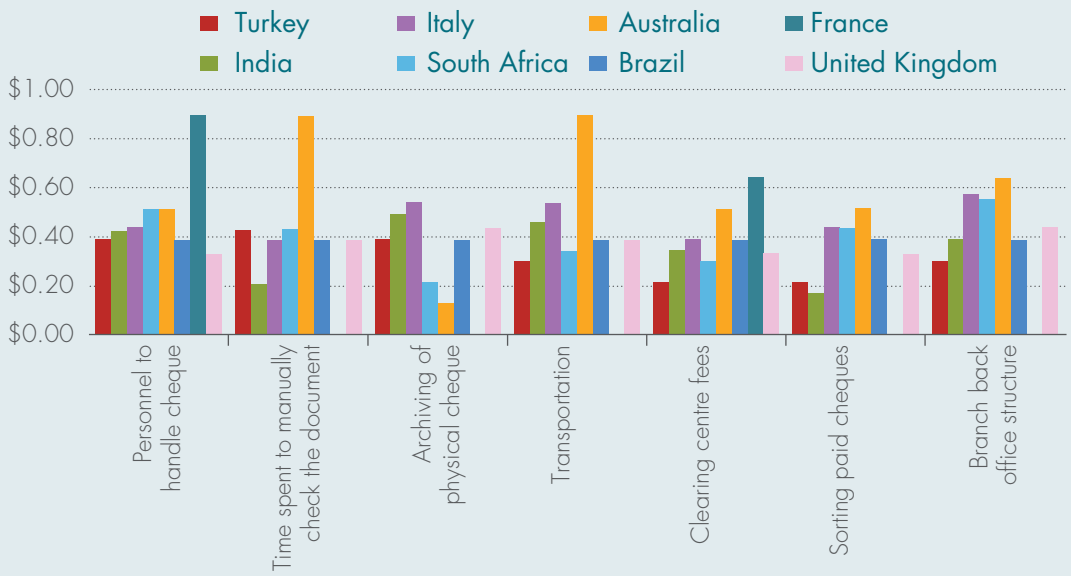
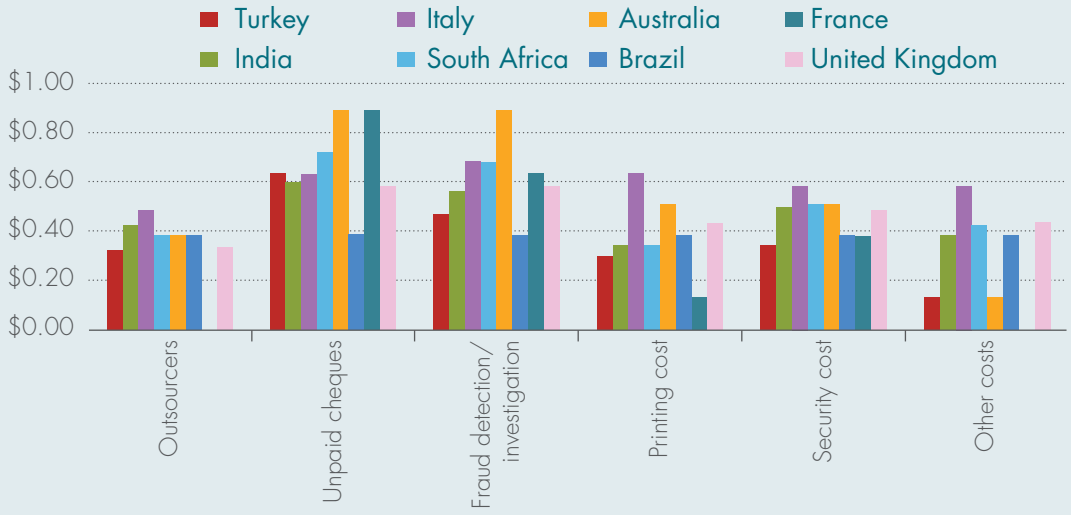


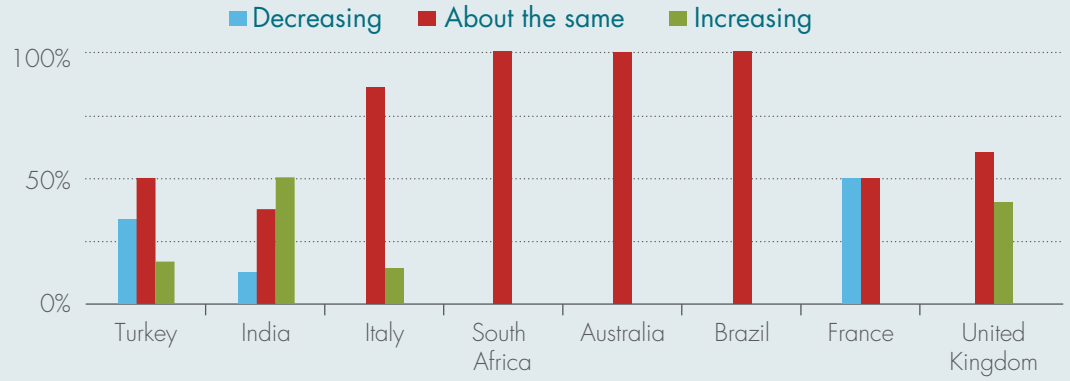
FIGURE 39: COST OF CHEQUES PER ACTIVITY PER COUNTRY (2/2)



Considering the importance of frauds from a cost standpoint, we asked respondents to indicate their experience related to cheque fraud over the past five years. We noticed that on average most banks expect it to be the same in all countries with the exception of India (expect an increase of 50%) and UK (40%).

FIGURE 40: CHEQUE FRAUD DEVELOPMENT OVER THE PAST 5 YEARS IN THE RESPONDENTS' ORGANIZATIONS

Describe your organization's experience related to cheque fraud over the past 5 years:

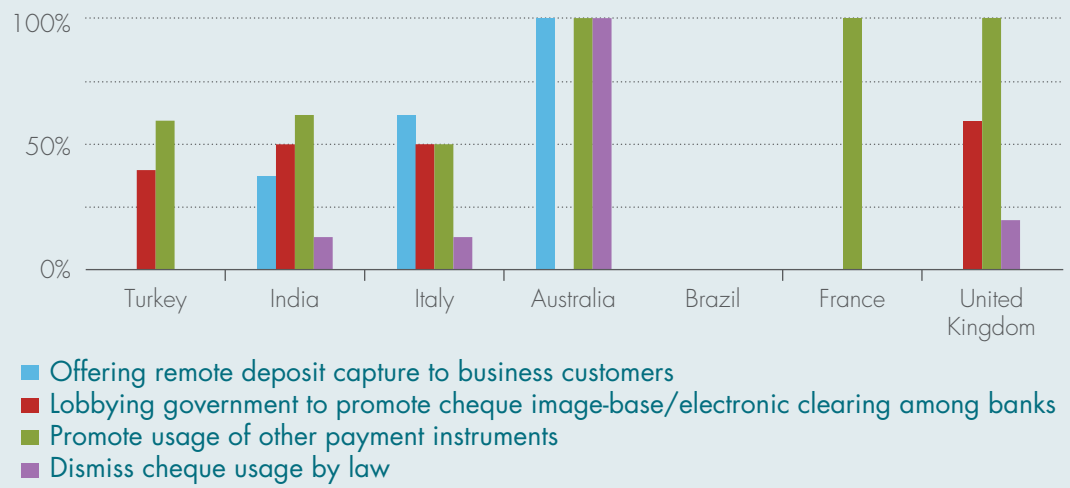


In relation to the previous question, we also asked respondents which key drivers should be considered to reduce cheque processing costs in the future. The highest percentage relates to promoting usage of other payment instruments. We expect this result to be associated with the fact that there is a general decline in cheque usage while unit costs continue to grow. There are a significant number of respondents that see image-base cheque truncation as a possible solution, both as branch capture or Remote Deposit Capture (see increased usage of image-base/electronic clearing as a key-driver to reduce cheque processing costs). Remote Deposit Capture is mentioned only by three countries: India, Italy and Australia.

Some banks have been working with their local governments in the past few years to promote image-base/electronic cheque clearing, such as in France. As shown in Figure 41, French respondents indicate "other payment instruments" as the only possible way to reduce costs. Considering the volumes of cheques that are still circulating in France and a clearing process that still considers physical archiving and transportation of cheques, as well as the cheque book given to customers free of charge, it is clear that banks aim to promote other payments. (It will be impossible to dismiss cheque usage by law in a country where cheque volumes are second only to the United States).

FIGURE 41: KEY-DRIVERS TO REDUCE CHEQUE PROCESSING COST

What are the key drivers to reduce the costs for cheque clearing?



Conclusions

In the last decade, the banking industry went through different organizational changes and was strongly affected by the financial crisis of 2008-09 and the recent impact of the fiscal crisis of several governments. Particularly, Western Europe had to face slow growth and increasing public debt of most high-income countries. Middle Eastern countries experienced political tensions with the Arabian Spring, North Africa suffered from oil supply disruption. Japan and USA are still fighting high deficits and debts, although the latter shows signs of recovery. Political and economic uncertainty had an impact on the banking system. Moreover, the technological evolution of the last years influenced retail banking on a global scale. For instance, there is a growing trend of contactless payments through NFC (Near Field Communication). In addition to internet banking, there are a growing number of customers that use mobile phones for banking operations and online payment networks such as PayPal. Electronic transactions are replacing paper instruments.

In such an environment, cheques look "old economy", obsolete and too much tied to paper-based culture. However, the number of cheque users is still high with more than 3 billion cheques cleared in France in 2009 or over 1 billion cheques cleared in UK in 2010.

Our research was focused on the most cheque intensive countries and the outcomes from the primary research emphasize the need for banks to find a viable alternative to cheques. In fact, although new payments are gradually replacing traditional transactions, banks are more and more concerned about costs associated to cheque clearing. Evidence shows that in the last years, most international banks registered an increase in single cheque clearing costs due to the decline of its usage. It seems very difficult to find an appropriate alternative to convince users to choose other payments, both from private and corporate customers. Mostly cheques are used for expensive purchases (e.g., car), to avoid paying transaction fees (e.g., credit cards), because of a lack in technology infrastructure for some categories (e.g., payments to dentists, lawyers, etc. are usually paid by cheques in most countries because professionals do not have a POS device) to be compliant with law and regulations in some countries (e.g., insurance payment or notary) or because of habits (especially for senior citizens). Besides of its usage, in many countries cheque- books are offered for free to their customers and this adds cost to a clearing process that is already very expensive for banks, making the cheques business a loss.

It seems there is no way out to such a situation, however the information obtained with the secondary and primary search showed us that there are best practices in other countries to learn from and that an expensive and obsolete payment method such as cheques could still represent a revenue generator for banks.

Instead of "fighting against cheques", many international central banks had a different reaction. Working groups were created to evaluate and eventually follow the US example of image-based digital cheque clearing among banks. The recent examples of India and Brazil show that electronic clearing has a direct influence in cutting costs associated with transport, storage and handling. The quality of the image capture for clearing process allows easier recalling for any purposes (e.g., in case of disputes) instead of physically searching for the original item. The electronic image represents the original item and so there is no need to store it. This report highlighted some interesting examples of countries, such as Italy, that are currently undergoing this evaluation process for image-based cheque clearing. On the opposite, there are countries, such as UK, that are trying to push for alternative payments methods while waiting that cheque decline to an irreversible point.

As aforementioned, banks located in those countries that are oriented to image-based cheque clearing found an opportunity to increase revenues thanks to new services that could be offered to cheque users. For instance, Remote Deposit Capture for corporate customers is a service proposed from several banks to retain and win new customers (e.g., multi-banking customers). Business customers can easily credit their payments by cheques thanks to a special device that captures the image of the cheque to be sent to the bank. This offers advantages for both customers and banks and doesn't require investments for the infrastructure.

Besides a global decline, cheques are still widely used and represent a cost for most banks. Dismissal by law had very negative effects for countries that were oriented in this direction. Therefore, today the only possible solution seems to be a soft approach were other payments are proposed as alternatives. Of course, banks should carefully revise their fee structure to be successful.

Alternatively, banks could team up to evaluate the opportunity to process cheques electronically (exchange of the cheque image) and eventually propose new services to the most cheque intensive corporate customers (e.g., lawyers, dentists, insurance companies, car dealers, travel agencies, etc.) and take advantage of revenues generated until cheques are definitely replaced by other payments.

Acknowledgements

Arun Kendall, **APCA** (Australia)
Walter Tadeu Pinto, **Febraban** (Brazil)
Maria Smyth, **UK Payments** (UK)
Barbara Pelliccione, **ABI** (Italy)
Koray Kaya, **Turkish Credit Bureau** (Turkey)
Dave Mitchell, **National Payment System Department** (South Africa)
Romeo Goncalez, **Panini** (Brazil)
Jamie Heinemann, **Panini** (USA)
Michael Pratt, **Panini** (USA)
Guillaume Lepecq, **Agis Consulting** (France)
Roel Van Anholt, **VU University Amsterdam** (Netherlands)
Rhintany Rara Putri, **VU University Amsterdam** (Netherlands)
Richard Hartung, **Transcarta** (Singapore)
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The VU University Amsterdam

The VU University Amsterdam, located in The Netherlands, contributed to the research that underpins the findings of this report. Roel van Anholt (PhD candidate in cash logistics) and Rhintany Rara Putri (Master student in Business Administration - Transport and Supply Chain Management) have applied scientific methods and tools to ensure a high quality report with neutral and objective outcomes. The collaboration with EFMA and Panini has been mutually beneficial. From an academic point of view, participating in conducting this research has been favorable for Roel and Rhintany as well.

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CHEQUE OPTIMIZATION

September 2012