



Payment Solutions for Modernising Economies





Payment solutions for modernising economies, September 2004

A white paper published by the Commonwealth Business Council and Visa.

'Payment solutions for modernising economies' was developed and presented in conjunction with the Commonwealth Banking and Financial Services Conference 2004. It is one of a series of white papers sponsored by Visa exploring the social and economic benefits of electronic payments. See also 'The Virtuous Circle: Electronic Payments and Economic Growth,' published by Global Insight, Inc. and Visa, June 2003.

Select photos courtesy of FINCA International, WAY Systems Inc. and Visa.

Cover image: Complex and intricate, yet at the same time simple and elegant, the art pictured on the cover comes from India where flowing linear patterns are worked into the floor with rice paste. Whether called Alpana in Bengal, Rangoli in Gujarat and Maharashtra or Kolam in South India, the complex patterns have local meaning yet also evoke the complex interlinkages of economies and payments.

Inside cover image: A Berber woman in Tinerhir, Morocco combing wool for weaving rugs.

Table of contents

TABLE OF CONTENTS	i	SECTION 3: INNOVATION IN ACTION: EMERGING EXAMPLES	18
FOREWORD	ii	Making government payments and collections efficient	18
INTRODUCTION	1	Banking the unbanked	21
OVERVIEW	2	Enabling cost effective funds transfer	23
		Supporting small business growth	25
		Promoting foreign travel	28
SECTION 1: ELECTRONIC PAYMENTS AND THEIR VALUE	4	CONCLUSIONS	31
Understanding payment systems	4	APPENDIX 1: THE WAY FORWARD	32
Lower transaction costs	6	Define the initiative	
Higher consumption and GDP	7	Establish who can lead, who can help, and how	
Increased efficiency of government	8	Conduct an audit and gap analysis	
Boost to financial intermediation	8	Plan, develop and deploy the system	
Improving financial transparency	9	APPENDIX 2: FOR MORE INFORMATION	34
SECTION 2: ESSENTIAL INFRASTRUCTURE AND INSTITUTIONS	10	Selected references	
Essential infrastructure	10	Institutional resources	
An effective institutional framework	13		
Public oversight	15		

Foreword

By Rt. Hon. Paul Boateng MP
Chief Secretary to the Treasury, United Kingdom

Two years ago, in the aftermath of the United Nations Financing for Development meeting in Monterrey, Mexico, I attended the 2002 Commonwealth Finance Ministers meeting, in which we discussed a new course for global development and inclusion.

Now, as then, leaders throughout the Commonwealth and all over the world have the opportunity to take concrete actions to boost economic growth, tackle poverty and so attain the benefits of globalisation for an ever greater proportion of the world's population.

Many of these actions need to address long-term, structural challenges within and between developed and emerging market economies. Technology, together with changing public sector working practices and better procurement, can provide all governments around the world with radical opportunities for freeing up resources and reducing the costs of providing public services – thus contributing to better efficiency within the economy as a whole.

One such example is the concerted drive to move away from a cash and cheque-based economy to electronic payment initiatives. I am a firm believer in electronic payment initiatives and the gains that follow, partly because of the significant results I have personally witnessed through implementation of the Government Procurement Card (GPC) programme in the UK.

Introduced in 1997, GPC usage has expanded across the entire UK public sector, with more than 800 sector-specific programmes from local government to health and education. With around 50,000 active GPC users, total savings to the public purse are now exceeding GBP5m per month. For the taxpayer this is obviously very important, but the GPC has also enabled us to open up the marketplace for small businesses and the communities in which they operate, which is important for promoting diversity in procurement practices.

In addition to the GPC, the United Kingdom has utilised a large number of electronic payment applications, providing a broad range of valuable lessons and models of best practice that we are able to share with our Commonwealth partners. While each country will need to customise solutions so they are appropriate for particular conditions, there are commonalities that can prove helpful.

In global economic terms, with at least two billion of the world's population possessing some form of precious funds 'under the mattress,' there is now the opportunity for electronic payment instruments to help transmit and safeguard these funds. By bringing them into the banking system, cash will be introduced into the formal economy.

In addition to government cost savings, an electronic payment system is programmed to self-record the particulars of every transaction made. The traditional 'paper trail' is replaced with an 'electronic trail,' which can be managed with greater transparency and accountability within both government and the private sector.

No economic innovation can guarantee an end to poverty, financial crisis or recession. However, for every developed or emerging market economy, modernisation is an essential pre-condition for growth, jobs, inclusion and a better quality of life. I encourage all in positions of leadership in government to consider how electronic payments may be able to shape economic growth and opportunity around the world, and I welcome the contribution made by this paper.

Introduction

**By Dr Mohan Kaul, Chief Executive
Commonwealth Business Council**

There has been a growing interest in financial services modernisation in recent years. All Commonwealth countries, irrespective of wealth, have experienced difficulties in this area, and member nations are actively seeking an engine to stimulate economic recovery and also to address barriers hindering development. The modernisation process is an essential element of addressing a wide range of policy issues for fostering a good environment to promote economic growth, from improving public and private sector financial management, to creating new products for those who may not, historically, have had access to finance and banking systems.

Policy makers and corporate leaders need to understand and address these issues. Payments are the lifeblood of economies, yet there is more to be learnt and much to be accomplished in assisting policy makers' understanding of the costs involved in the reliance on cash and paper-based payment systems. Similarly, lenders need to realise how the value of electronic payment technologies can assist economic growth and individual empowerment.

The Commonwealth Business Council (CBC) is pleased to play a leading role in promoting dialogue between business and governments in order to achieve these objectives.

As a bridge for co-operation between the public and private sectors, our role is to help achieve the development and implementation of new policies and processes. In forming a strategic partnership with Visa International, the CBC feels strongly that Visa's expertise and global banking network can be applied to stimulate new approaches and financial services throughout the Commonwealth.

Through the strategic partnership, the CBC and Visa International will be working together on analytical materials, practical tools, and focused meetings to educate Commonwealth heads of government, finance ministers, and central banks on the direct linkages between adopting payment technologies, economic growth, financial empowerment, and public sector efficiency.


This white paper, prepared in collaboration with Visa International, provides an important resource to help raise awareness and understanding in the area of electronic payments. It deconstructs and highlights the real issues involved in the transfer from a cash/paper-based economy into an electronic one. With chapters on the value of electronic payments, infrastructure and institutional considerations, and practical examples of electronic payment initiatives, I hope that this white paper provides an effective overview of real challenges and practical advice on implementing this technology.

We look forward to consolidating our relationship and, through continued partnership with Visa International, to promoting economic growth throughout the Commonwealth.

Overview

The search for safer and more convenient forms of money has spanned the ages. Coins were circulated beginning some 3000 years ago. Paper money appeared around the 9th century. Cheques date back at least to the 14th century. It took until the first half of the 20th century before wire transfers and card-based systems came into limited use. But even then they were not widely useful for everyday spending by business or government, let alone the general public.

Experience has shown that electronic payment systems can drive many forms of economic modernisation and foster economic growth. From their origins in the last century, card-based electronic payment networks now process more than US\$5 trillion.¹ This rapid growth in electronic payments represents a significant structural change to the global financial services industry. In the US, the total number of electronic payments has increased almost five-fold in two decades, and



‘Effective and efficient payment systems are vital for the economic development of emerging countries...to promote the development of commerce, enhance economic policy oversight, reduce the financial, capital and human resources devoted to the transfer of payments and control the risk inherent in moving large values.’

— World Bank Policy Research Working Paper number #1336

The world’s first revolving credit card for the general public was market-tested in Fresno, California, in 1958. By the 1970s, credit cards were increasingly available to the public worldwide, thanks to the development of the card association business model. In the 1980s came the introduction of cash-access, debit, and prepaid cards, which could be used by virtually anyone. The growth of cards accelerated the growth of acceptance locations and spawned a network of automatic teller machines (ATMs). Simultaneously, card-based solutions began to be adapted for commercial needs such as procurement and payroll. And finally, in the last few years, the Internet has made e-commerce a mainstream and global economic activity.

As a result, we live in a new age of electronic payments. This paper summarises the benefits and requirements of electronic payment systems and shows how governments around the world are harnessing them to strengthen government, build economic strength and help their citizens.

now exceeds cheque-based transactions.² Similar trends away from cash and paper systems are evident throughout the Commonwealth, from Canada to Singapore and the United Kingdom. Many developing countries are also making the move from cash, facilitated by new products and new technologies such as smart cards and mobile phones.

The global shift from paper-based transactions toward electronic payments has far-reaching implications. As outlined in the next section, studies indicate that electronic transactions cost less than cash or cheque equivalents, stimulate real consumer spending and increase the volume of banked deposits in an economy — thereby supporting economic growth and related jobs.

Electronic payment products can also act as gateways, increasing access to the banking system among individuals who cannot or do not maintain deposit accounts with mainstream financial service providers — a group referred to as the ‘unbanked.’ In addition to empowering people, these products also catalyse economic development. An increase in the volume of deposits in the financial system leads to greater credit

¹ This counts American Express, Diners Club, JCB, MasterCard, Visa International and other payment brands. Volume using Visa products in 2003 exceeded US\$2.9 trillion. The Nilson Report provides regular data on payment industry volume and trends.

² The Federal Reserve System’s recent retail payments research suggests that the number of cheques written in the United States has been declining since the mid-1990s. See Geoffrey R. Gerdes and Jack K. Walton II, ‘The Use of Checks and Other Noncash Payment Instruments in the United States,’ Federal Reserve Bulletin, vol. 88 (August 2002), pp. 360–74. (The article is available on the Board’s web site at www.federalreserve.gov/pubs/bulletin/default.htm.) See also remarks by Paul M. Connolly, Chief Operating Officer of the Federal Reserve Bank of Boston ‘The Changing Retail Payments System: Remarks at New England Banker Forum’ 26 September 2002 (www.bos.frb.org/news/html/speeches/2002/092602.htm).

expansion, and thus increases lending to businesses and households. Finally, electronic payment systems can help a government understand its own economics better. When payments are made electronically, finances become more transparent. Moreover, when more of its money supply is accounted for, a country's position in the international lending community is strengthened.

The question for policymakers is how to attain these economic results. A starting point is to understand the overall value of electronic payments in an economy. The next step is to create an environment that encourages the move away from cash payment. This means focusing on key infrastructure needs and establishing the basic rules and sound institutional framework that instil public confidence.

With these foundations in place, a government has a wide range of options for using electronic payments. First, as the single largest purchaser of goods and services in most countries, a government can swiftly move travel and basic procurement spending to payment cards. By employing best practices, governments can also reap significant gains in administrative efficiency, cost savings and transparency. The Government of the UK alone reports savings in excess of GBP5m per month as the result of its purchasing card programme.

Second, government can play a direct role in bringing the safety, convenience and efficiency of electronic payment to the unbanked and those without regular banking relationships. Payrolls, pensions and public assistance benefits can be efficiently administered through electronic payment systems – and governments are doing so around the world. Among the many examples, the Government of South Africa recently launched a debit card for the electronic delivery of pensions, as well as child and disability benefits, in four South African provinces.

Third, governments can use card-based electronic systems to create safer and more cost-effective channels to deliver worker remittances and other kinds of person-to-person funds transfers. With both domestic and cross-border transfers amounting by some estimates to nearly US\$4 trillion, it is in the clear interest of any economy to bring a greater portion of these funds into the formal banking system.

Fourth, governments can use electronic payments to support the success of entrepreneurs and small businesses – an item on the agenda of most policymakers. New products and models are emerging to stimulate small business growth, such as innovative development bank programmes in Brazil and Puerto Rico. Efforts are even underway to help microfinance institutions reach more people and improve services by

delivering small loans electronically, and thus more cost-effectively.

Finally, electronic payment systems can support tourism, a key economic activity for many countries. The World Travel and Tourism Council (WTTC) considers electronic financial services to be essential infrastructure for expanding inbound tourism. Electronic payment systems make it easier for international tourists to enjoy remote destinations and participate in local economies. Electronic payments also give travel operators an assured and cost-effective way to provide services to travellers who use different currencies.

This paper is intended as a primer. It provides an overview of global developments in electronic payment systems, key public policy issues relating to their development, and the costs and benefits of these systems. We hope it will act as a catalyst for discussion about the potential contribution electronic payment systems can make to economic development in the Commonwealth and beyond.



Electronic payments and their value

Over the last few decades, the use of electronic payments has grown significantly and rapidly. For example, in the US, retail automated clearinghouse transactions grew 15% to 19% per year from 1979 to 2000, and debit card transactions grew 41.8% per year from 1995 to 2000.³ Concurrently, annual cheque transactions in the US fell from 49.5 billion in the mid-1990s to 42.5 billion in 2000.⁴ Research shows that similar shifts in payment methods have occurred in many other established economies.⁵

These changes have been driven by improvements in telecommunications and computer technology. Now, thanks to new technologies such as smart cards, wireless communications and advanced mobile telephones, electronic payment is becoming more possible in developing economies, as well.

Electronic payment transactions help to take friction out of an economy. Appendix 2 lists a selection of papers written by the World Bank and others. This research shows that electronic payment systems have clear advantages over cash or paper-based payment systems. They can generate a number of significant, positive economic benefits, specifically:

- Lower transaction costs
- Higher consumption and GDP
- Increased government efficiency
- Boost to financial intermediation
- Improved financial transparency

On the other hand, weak payment systems can lead to inefficient use of financial resources, inequitable risk-sharing, and actual loss of value. As such, they can threaten economic stability and drain developmental capacity.

Understanding payment systems

Before examining the economic benefits of electronic payment systems, it is useful first to review what payment systems are and how electronic payment systems work.

Wholesale and retail payments

In simple terms, a payment system makes possible the exchange of payment transactions for both buyers and sellers. This system includes institutions, people, rules, and technologies. It delivers authorisation, clearing and settlement services between the buyer's and seller's banks.

There are two types of electronic payments systems today, 'wholesale' and 'retail' systems, as shown in Figure 1.

Wholesale payment systems support both domestic and international interbank funds transfers and central bank operations. They generally involve large-value transactions, made primarily by financial institutions, businesses and governments. Such large transactions are generally settled in real time on the gross amounts, rather than at the end of the day on a net basis. This process is called real-time gross settlement.

Retail payment systems, by contrast, mainly involve smaller value payments made by individuals, businesses and other participants in the economy. This paper focuses on retail payments.

Anatomy of an electronic payment

Whenever two individuals or parties use money in exchange for goods and services, they have made a payment transaction. Payments can be made with currency, paper, or electronic products such as cards or wire transfers. In this paper we focus on electronic transactions.

Some Definitions

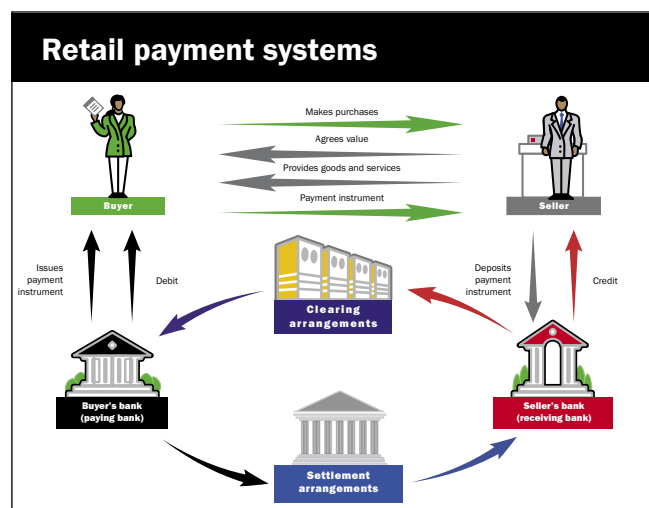
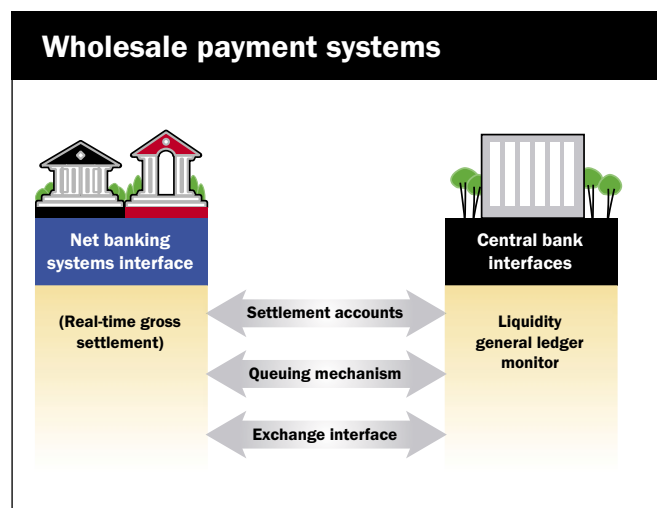
In this paper, the term 'electronic payment' refers generally to any payment processed electronically, rather than using cash or a paper-based system. However, the reader should note that some statements and data are specific to card-based transactions (credit, debit, prepaid and commercial, both branded and private-label). The term 'electronic payment network' refers to the processing, clearing and settlement systems that underlie all electronic payment systems. Finally, the term 'payment system initiative' is used broadly to refer to any focused programme to realise government objectives using payment instruments. Such initiatives can be deployed society-wide or to address a specific need, such as government purchasing or distribution of public assistance.

³ Gerdes and Walton.

⁴ Ibid.

⁵ Gerdes and Walton note that compared with other industrialized economies — Japan, the European Monetary Union (EMU), the United Kingdom, and Canada — the number of noncash payments of any type per capita is considerably higher in the United States, but that 'the number of electronic payments per capita in some countries of the EMU, such as Finland, Germany, and the Netherlands, is higher than in the United States (similarly, the use of electronic payments may be greater in some regions of the United States than in others).'

Figure 1



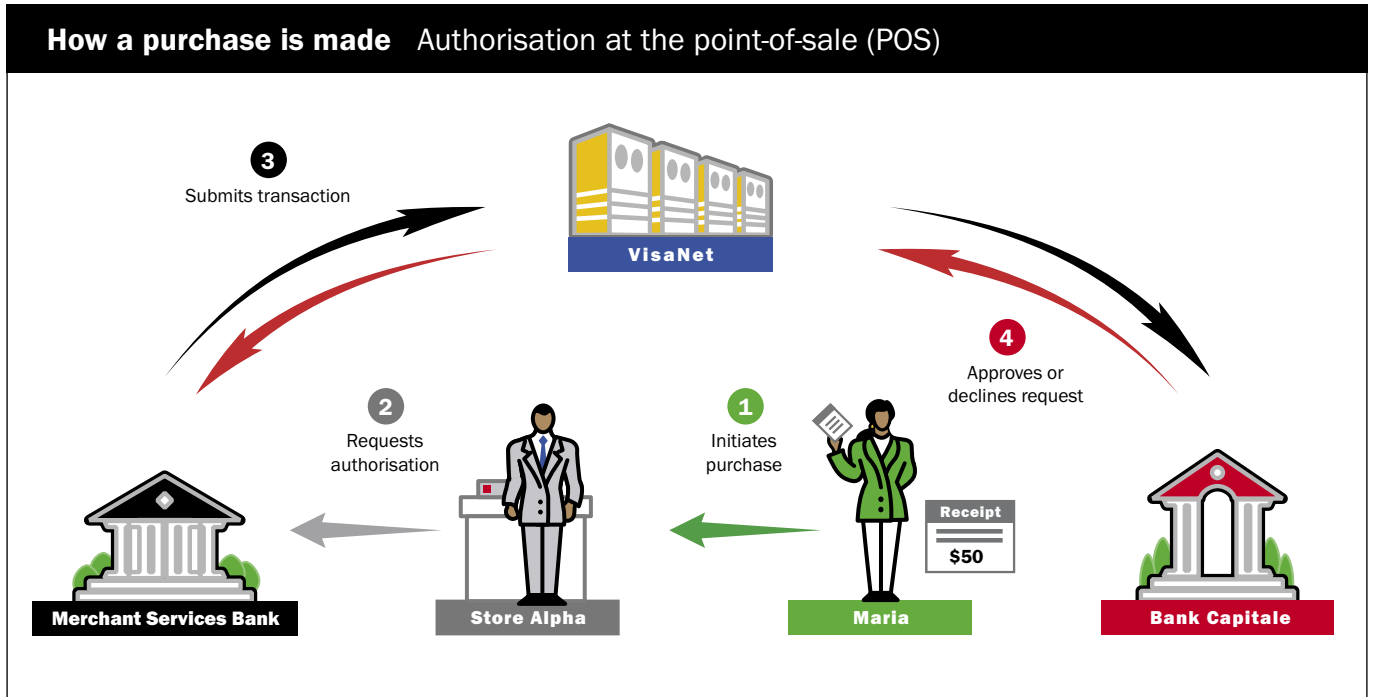
Issuance. Before the first electronic transaction can be made, a buyer or a payer must be issued a payment instrument such as a card or account. These payment instruments can be based on a line of credit (charge or revolving credit), funds on deposit (debit), or cash that has been deposited (prepaid or stored-value). The card-payment infrastructure can support not only point-of-sale transactions but also purchases using Internet-based person-to-person or business-to-business systems, mobile phones and bill payment systems. Of course, the institution that issues the card must have the confidence of both buyers and sellers; we address this point in Section 2, below.

Acceptance. Buyers or payers need to be able to use their payment instruments at a variety of locations, or acceptance points. Depending on the goals of the government involved, the range of acceptance points can be greater or smaller. They can include physical world merchants, mail-order catalogue businesses, telephone vendors or Internet merchants. They can also include bank branches or cash dispensers (also called automatic teller machines or ATMs) enabling cardholders to obtain cash for subsequent buying. Acceptance points, other than bank-owned branches and ATMs, generally need to rely on a merchant bank, also known as an acquiring bank, to process electronic transactions.

Typical transaction flow. Every buyer needs to pay, and every seller needs to be paid. Different electronic payments systems manage this transfer of funds differently. One successful model, used by the Visa system, is illustrated in Figures 3 and 4. It is sometimes called the 'four-party system' in recognition of the buyer, seller, and their respective banks. In the first phase, called 'authorisation,' the customer presents his payment tool (for example, his card) to a merchant. The merchant needs to authorise the purchase request. Figure 3 shows how this works at a merchant location, also called a point-of-sale (POS). At the end of the day, in the 'clearing and settlement' phase, the merchant needs to receive the funds for the transaction via his financial institution and ultimately from the customer's issuing bank. The specifics will vary depending on transaction type, complexity, technology and processing services. A typical flow is illustrated in Figure 4.

Figure 2
Retail payments can be classified as currency/cash, paper-based, or electronic card-based or digital transactions. Some are based on formally established individual accounts, while others are based on an exchange of cash.

PAYMENT TYPE	PAYMENT INSTRUMENT	
	CASH BASED	ACCOUNT BASED
Currency	Banknotes and coin	
Paper	Bank drafts Promissory notes Money orders Travellers cheques Bill of exchange	Cheques Credit transfers (paper Giro)
Electronic Card	Pre-paid cards Stored value cards	Debit cards Credit cards Charge cards
Electronic Digital	Digital cash	Account transfers Direct debits Direct credits Domestic wire transfers International wire transfers Bill payments Remittances Person-to-person



1

Maria presents a Visa card (credit or debit) at Store Alpha.

2

Store Alpha uses an electronic terminal or the telephone to request an authorisation from its financial institution (Merchant Services Bank).

3

Merchant Services Bank checks to see if the account is valid and has sufficient funds. It sends an authorisation request message, including account and transaction details, through Visa's global transaction processing network (VisaNet) to Bank Capitale, Maria's Visa issuer.

4

Bank Capitale's system reviews the request and transmits the decision to approve or decline the request back through VisaNet to Store Alpha in seconds.

Let us now turn to the benefits of electronic payment systems.

Lower transaction costs

The total costs of a cash payment system are not always readily apparent. Merchants have labour costs, for counting, bagging and transporting cash to the bank, and for reconciling accounts. Errors and pilferage by employees raise these costs further. At the central bank level, cash is cheap to print, but expensive to manage. Cash is expensive to transport, insure, and distribute. Large volumes of cash enable shadow economies to thrive, depriving the government of tax revenues. And cash economies can support criminal activities such as counterfeiting, as well as encourage a culture of bribes and special favours. Some observers estimate that the total cost to

an economy of maintaining a cash-based payment system can be as much as 5% of GDP.⁶

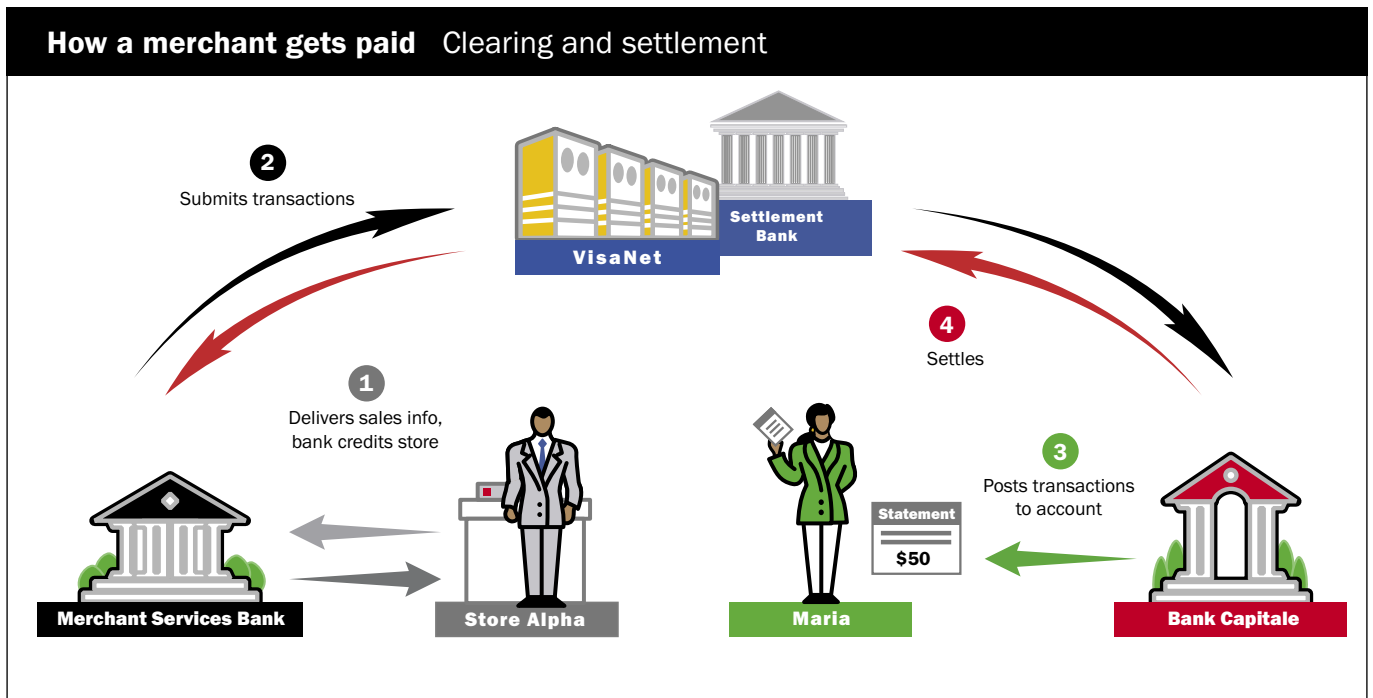
Several studies have compared the total costs of transactions in cash- or paper-based systems, versus electronic payment systems. These show that electronic payments offer significant savings.⁷ Savings per transaction differ from country to country,

The overall impact of lower transactions costs and economic efficiency gains can translate into substantial growth for economies as a whole. In addition, convenient access to funds through debit products and through credit lines tends to stimulate consumption.

⁶ Donges, William R., 'Retail Payment Systems – A Vision for Egypt,' 2002, p. 4.

⁷ According to Global Insight in 'The Virtuous Circle: Electronic Payments and Economic Growth,' June 2003, (pp. 5, 10-11) 'Electronic payment networks have the potential to provide cost savings of at least one per cent of GDP annually over paper-based systems through increased velocity, reduced friction and lower costs.' In addition to its own analysis, Global Insight drew on the work of David Humphrey, et al. 'What Does It Cost to Make A Payment?' Department of Finance, Florida State University; Paul De Grauwe et al. 'The Costs of Cash and Cards Compared – The Cases of Iceland and Belgium,' University of Leuven, 2000. The University of Leuven study, for instance, showed that in Iceland, the cash system costs US\$2.57 per transaction while card-based systems cost only US\$0.61.

Figure 4



1

At the end of the day, Store Alpha delivers all its sales draft information (including Maria's purchase) to Merchant Services Bank. Merchant Services Bank credits the account to Store Alpha for the net amount of all its sales. This settlement is how Store Alpha obtains its funds from Maria's purchase.

2

Next, Merchant Services Bank's processing centre creates an electronic version of all drafts for all the merchants it supports, including Store Alpha. The electronic drafts, which may include transactions from numerous Visa account holders in various countries, are sent through VisaNet to one of Visa's data centres.

In the process of clearing transactions, Visa routes these drafts to the financial institutions of the Visa account holders.

3

For instance, Maria's transaction is sent to her issuer, Bank Capitale. Visa consolidates all transactions for each issuer into an electronic file that includes currency conversions, fees, net settlement amounts and required reporting information.

Bank Capitale's processing centre receives the file and prepares the transactions for posting to its cardholders' accounts — including Maria's.

4

Bank Capitale transfers all the funds owed that day by its cardholders, including Maria, to a settlement bank, which is responsible for delivering the funds to the merchant acquirers such as Merchant Services Bank. This is how Merchant Services Bank gets paid for, or receives settlement on, the amount it paid Store Alpha in step number 2. At the end of the billing period, Bank Capitale produces a statement for Maria. If this were a credit transaction, Maria's payment would be how she settles with Bank Capitale.

but in general an electronic payment system costs in the range of one-half to one-third of a paper-based system.⁸

These savings are distributed among several stakeholders, including a country's central bank. Taken together, they provide a major boost to economic efficiency and the efficiency of financial systems.

Of course, capturing these savings requires an initial investment in infrastructure. Governments have options for financing this investment. They may choose to build the infrastructure themselves, purchase the components, or

partner with a payment organisation. In any case, they need to adjust the rules and regulations governing financial services to encourage the use of the payments system by all parties. This is discussed further in Section 2.

Higher consumption and GDP

The greater economic efficiency of electronic payment systems can lead to substantial growth for economies as a whole. In addition, these systems stimulate consumption. Consumers with debit and prepaid cards tend to spend more because their funds are more accessible. Consumers with credit cards spend more because: (1) they receive credit through a more efficient

⁸ Humphrey.

process; (2) they can more easily spend the credit they have been issued; and (3) they often feel more confident about spending during personal or economic downturns, knowing they have a credit 'cushion.'

Global Insight Inc, a leading global economic consultancy, has found a direct correlation between the growth of electronic payments and the growth of GDP. Recognising that many factors contribute to economic growth, Global Insight developed models that isolate the effect of electronic payments.⁹

Global Insight analysed data from 1993 to 2002 for a sample of 50 countries at various levels of development. Across the board, there was a positive relationship between growth of electronic payments and GDP over the decade. The extent of the relationship varied from country to country, but was always positive. And the relationship existed regardless of whether the electronic payment system in a particular country is predominantly credit or debit based.

Global Insight also applied its models to detailed data for the US and Canada from 1980 to 2000. In Canada, personal consumption growth of C\$60 billion and GDP growth of C\$107 billion was attributable to the growth of electronic payments. During the same period, Canada's overall GDP grew by C\$437 billion. Thus, electronic payments accounted for nearly 25% of the cumulative growth in the Canadian economy.¹⁰

Global Insight used its models and its country-specific data to quantify the future growth in GDP that would result from future shifts from cash to electronic payments in the US, Canada, and 12 other countries. The consultancy argues that the individual multipliers it developed for each country are reliable because they are consistent historically and grounded in known economic benefits. For example, in South Africa, 2002 personal consumption totalled US\$91.5 billion and spending on cards was 12.6% of that figure (US\$11.5 billion). Global Insight used its multipliers to calculate that, based on historical performance and all other factors held constant, a shift from cash to cards where card share grew to 13.9% of spending would result in additional spending of US\$540m, which would in turn add US\$830m to GDP.¹¹

Increased efficiency of government

Globally, government departments and agencies are finding that an electronic transaction infrastructure can deliver large-scale savings.

In some countries, government purchasing has already been improved greatly through electronic payments. In the late 1980s the US government pioneered the use of purchasing cards, and in 1996, the US Congress passed a law requiring most federal agencies to make their payments electronically. By fiscal year 2003, 74% of the government's payment transactions were electronic. The US government now estimates it is saving US\$1.2 billion per year on purchasing and vehicle fleet costs alone by using electronic payments for any expense under US\$10,000.¹² The UK government has also decided to shift to electronic payments for purchasing and travel. It estimates the potential cost savings at US\$600m over five years.¹³

A recent study of North American businesses in 2003 helps explain these savings. It shows that the average cost of paying for a product or service through a traditional purchase order process was US\$91. Conversely, the average cost associated with administering a purchasing card transaction was US\$21, representing cost savings of US\$69 per transaction, or 76%.¹⁴ Clearly, such savings are also available to businesses that shift to electronic payments for purchasing.

Governments that use electronic payments for payroll and social benefits are also seeing cost savings. By not having to administer these systems by hand or transport cash, governments save on each payment – and these savings add up when millions of people are receiving payments. See Section 3 for some examples.

Boost to financial intermediation

In advanced economies, 10% to 25% of the money supply (M1) is currency in circulation, and 75% to 90% is in banks. In developing countries, the proportions are reversed, with only 10% to 50% of the money supply in banks. The rest is in pockets, cash boxes and under mattresses.¹⁵



'An efficient payments system enhances savings mobilisation and financial intermediation.'

— Paul Acquah, Bank of Ghana

⁹ Please see methodology notes in the Visa and Global Insight 'Virtuous Circle' paper. The model relates real (inflation-adjusted) consumer expenditure to the adoption of expenditure on payment cards after stripping out other influences on spending (such as income and interest rates), and it measures the country-specific responsiveness of personal consumption to changes in the relative percentage of consumption on payment cards. Additional country-specific analyses are available from Visa for Central and Eastern Europe, Middle East and North Africa, and the country of South Africa.

¹⁰ Visa Canada Association and Global Insight. 'The Benefits of Electronic Payments in the Canadian Economy,' June 2004.

¹¹ For more information, please see: Visa CEMEA and Global Insight, Inc., 'The Impact of Electronic Payments on Economic Growth,' 2004. Copies are available with specific versions for South Africa, Middle East and North Africa, and Central and Eastern Europe. Projections are supplied for Egypt, Kuwait, Morocco, Saudi Arabia, UAE, Czech Republic, Hungary, Poland, Romania, Russia, and Ukraine.

¹² US General Services Administration estimates.

¹³ UK Office of Government Commerce.

¹⁴ Palmer, Richard and Mahendra Gupta, 'The 2003 Purchasing Card Benchmark Survey Results,' 2003.

¹⁵ Composition of M1 from Bank for International Settlements, 2000. See also International Monetary Fund for data on the shadow economy as a percent of official GDP 1988-2000.

Switching from cash to electronic transactions encourages people to put more of their money into the banking system. Banks lend based on a proportion of their reserve deposits, so as deposits grow, more businesses and households can receive loans. These loans in turn generate a ripple effect of initial and subsequent economic activity. In fact, Global Insight estimates that the multiplier is from ten to 15 per money unit of deposit. That is, every extra dollar on deposit can translate into ten to 15 more dollars of lending and subsequent economic activity.

The governor of the Bank of Ghana, Paul Acquah, has described the difference a payment system can make: 'An efficient payment system enhances savings mobilisation and financial intermediation. Inadequate savings in the economy results in lower investment or a gap that has to be financed through borrowing from foreign sources and also inhibits the development of viable and sustainable money and capital markets. The underdevelopment of money and capital markets compromises the effectiveness of monetary policy.'

Improving financial transparency

Finally, electronic payment systems can help reduce the size of the informal economy. According to IMF estimates, the 'shadow' economy can account for between 35% and 44% of GDP in developing economies, compared with a range of 21% to 30% in transition economies and just 14% to 16% in countries that are members of the Organisation for Economic Cooperation

and Development (OECD). Shadow economies make little if any contribution to the formal economy. Thus, as noted above, they deprive governments of the tax revenues they need to provide services and develop national infrastructures. Shadow economies also encourage bribery. A European Bank for Reconstruction and Development (EBRD) survey for 2002 reports that, in transition economies, up to 44% of firms pay bribes frequently and the 'bribe tax' can amount to as much as 3.7% of their annual revenues.¹⁶

Within a government, cash transactions are difficult to document and track — and subject to dishonesty. Further, a large informal economy or lack of strong financial management within government may make international financing more difficult or costly to obtain. When a government moves to electronic payments, its own finances become more transparent and payments can be better understood. Moreover, it can track a higher proportion of financial flows in the economy as a whole. This improves both the nation's monetary controls and its revenue-collection base for both direct and indirect taxes. It reduces the possibility of tax evasion and other fraudulent activities. And it strengthens the country's position in the international lending community.

The value of banking funds The case of Dominic and \$100bn in assets

Let's take an example of Dominic, citizen of Country X. Dominic earns \$15,000 a year, most of which he spends, but 10% of which he saves. Dominic does not have a bank account, so he hides his money in his house and makes all of his payments in cash. Country X has seven million consumers like Dominic.



If Dominic had an account such as a payroll account or card into which he received his salary, within a year he would deposit \$15,000 into the banking system. He would withdraw \$13,500 for expenditure, but leave \$1,500 in savings. If each of the other seven million citizens of Country X did likewise, they would create new deposits of \$10.5 billion, just with their savings alone. This money could be put to economic use by their banks and used to provide loans.

If these accounts were tied to a card that could be used for payment at the point of sale, these citizens would leave more of their salary in their accounts for longer, using their payment cards to make purchases as needed rather than withdrawing and

holding daily spending as cash. The actual deposits then available to banks in Country X would far exceed \$10.5 billion per year, and lending and economic activity from these banked assets could exceed \$100 billion per year.

In addition to helping the economy, both Dominic and his bank like this arrangement. Dominic benefits from a secure place to store his money and the convenience of a payment card, removing the need to carry cash around with him. Dominic is also able to make remote payments over the telephone or Internet in a way that he was unable to do with cash. Dominic's bank benefits from having his salary deposits in an account and held there for longer.

¹⁶ EBRD, Transition Report, 2002. See also Cheryl Gray, Randi Ryterman, and Joel Hellman, Anticorruption in Transition 2: Corruption in Enterprise-State Interactions 1999-2002, World Bank, 2004.

Economic development is a complicated challenge. It requires attention to economic cycles, technology advances and globalisation. An electronic payment system is not a complete solution, but it can help — and help efficiently. Emerging economies can use technology and expertise developed by others. They do not have to invent a payment system themselves.

Emerging economies can adapt successful systems and practices from other countries to suit their market needs. They can partner with experienced commercial financial institutions. They can use the established systems developed by card associations, which are applicable to all forms of retail payment mechanisms. Today, all countries can use new

Smart cards, in conjunction with appropriate terminals, offer the flexibility for a merchant to authorise transactions in an environment where telecommunications are unreliable or have poor availability.

telecommunications technologies to implement or expand payment systems more flexibly and economically than was possible before.

Furthermore, they do not have to implement a prohibitively expensive, nation-wide electronic payment system all at once. Although economies of scale play a role in the economics of payment systems, this is a scalable enterprise. A country can reap some of the benefits described in Section 1 by investing first in a selected government activity or market segment. Later, it can expand the reach of electronic payments, and benefits, over time.

Essential infrastructure

To some extent, the infrastructure needed to support the new payment system will depend on the government's objective — that is, the activity or market segment it decides to tackle first. But in general, the infrastructure will have four components: telecommunications, an acceptance network, credit bureaux, and education. For the sake of illustration, let us consider these infrastructure requirements for two very different types of electronic payment systems:

- A government purchasing system, similar to those described above in the US and UK, where purchases under a given monetary amount are processed electronically.
- A system aimed at inbound tourism, where the purchasers have already obtained their payment instruments in other countries and want to use them in the developing country.

Telecommunications

As discussed in Section 1, telecommunications are needed for electronic authorisation, clearing and settlement of transactions.

Most banks prefer real-time authorisation. It reduces the risk of buyers spending beyond their available funds or credit line, and it can protect against fraudulent use of cards. On the other hand, clearing and settlement tend to be end-of-the-day, batch transactions, so they do not have the same minute-to-minute availability requirements as transaction authorisation. However, they do require a robust, secure method of transferring data.

Landlines. Until recently, telecommunications usually meant voice and data calls over fixed telephone landlines. But in developing markets, availability of landlines is poor. In some locations, merchants or businesses wait several years to obtain a landline connection. Once they have it, the service may not be reliable enough for the merchant or business to meet the needs of its customers. And even when it is reliable, the service is often prohibitively expensive. As a result, weak or expensive telecommunications systems have prevented many countries from establishing sustainable payment systems.

The telecommunications challenge

A bank in Cameroon sought to set up a call centre with 100 phone lines. After one year, they had seven lines. After two years, they had 14 lines, of which only seven worked reliably. Remote locations and rural areas pose a big challenge in that landline deployment is scattered and limited. However, availability

issues continue to be a problem even in urban locations within developed countries. While there are 0.65 landline connections per 100 inhabitants, there are almost five mobile phones per 100 inhabitants. Mobile phone subscribers continue to grow at a rate of more than 100% per annum. Instead of relying

on a traditional POS terminal connected to a phone outlet, a merchant is now able to deploy a wireless POS terminal to enable payment card acceptance or utilise a smart card terminal to provide offline authorisation capability when telephone connections are unreliable.

New technologies. The introduction of smart cards and the rapid growth of wireless technologies are changing the game. Until recently, real-time authorisation required an immediate, real-time voice or data connection with the buyer's bank; today's smart card systems can track available funds. With smart cards and the appropriate terminals, a merchant can authorise transactions even where telecommunications are unavailable or unreliable. A smart card transaction may be authorised via a telecommunications connection when it is available, but can also be electronically authorised 'offline' based on information contained on the smart chip. Thus, governments now have the option of using the offline capabilities and rigorous security capabilities of smart card technologies to extend electronic payments to a wide array of people and locations.

Wireless technologies can also expand the range of electronic payment systems, in both developed and developing markets. Certain environments, such as outdoor markets, can be connected via wireless POS products. Temporary connectivity can also be established, cost-effectively, for one-time or periodic uses, such as sporting events. In their portable forms, mobile and wireless POS terminals can expand payment acceptance into new merchant segments, including taxis, home delivery (e.g., grocery or food delivery), and professional home services such as plumbers.

Tailoring telecommunications to the objective. Let's consider the telecommunications requirements for the two objectives described above. In the case of a government purchasing system, a centralised group of buyers deals with a specific number of key suppliers. Most developing countries already have telecommunications infrastructure to support this kind of focused network. On the other hand, a government that wishes to support electronic payments for inbound tourism, and thus grow its tourism industry, may need to build telecommunications infrastructure. In that instance, everything depends on travel patterns. In a particular country, foreign tourists may want to use their cards (many of which are not smart cards) in selected remote destinations, as well as in towns. Some investment would be needed to utilise remote card terminal technologies and communications links to extend the network to these specific locations. However, the overall costs of this kind of system would be far lower than for a countrywide system that serves an entire resident population.

Acceptance Networks

In any electronic payment system, buyers react most positively when the acceptance infrastructure is robust. The more you can buy with electronic payments, the less need you have for cash, and the more likely you are to leave funds within the banking system.

Options. At the same time, meeting core demand does not necessarily require transaction terminals everywhere. Depending on the target segment, some or all of the following acceptance points could be useful:

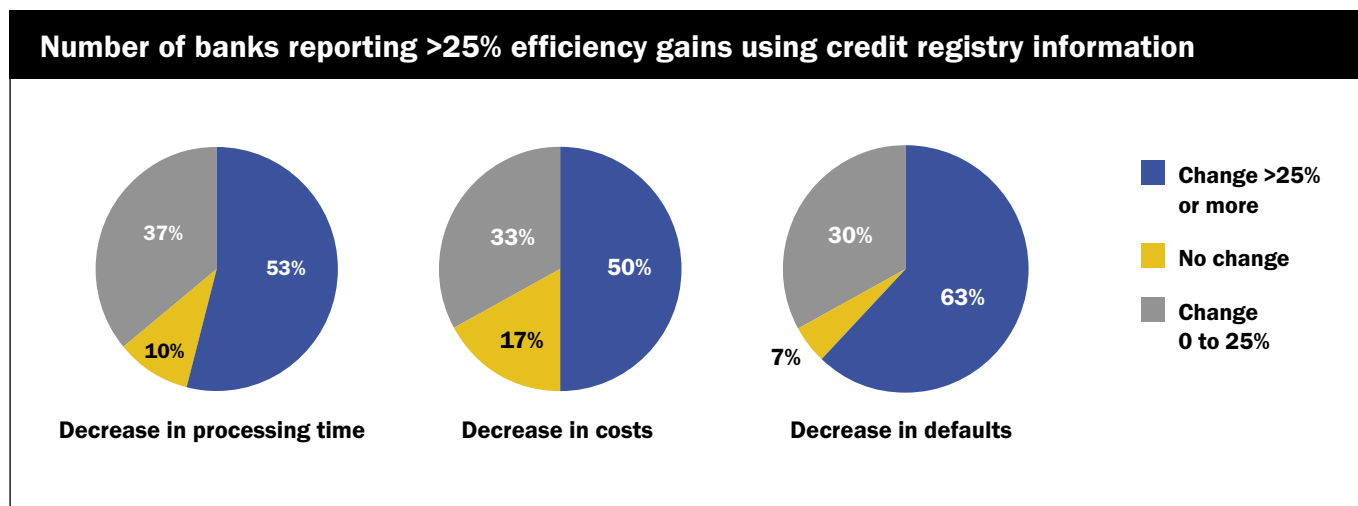
- **POS terminals.** These can be in individual merchant locations in remote tourist destinations or in major community shopping centres to meet the needs of a local population.
- **ATMs.** These can be located in shopping centres or at a major employer or institution, such as a medical centre or public transit system or farmers co-operative. This kind of centralised acceptance point can reach a significant number of individuals.
- **Bank branches.** These can disburse funds to cardholders on demand like ATMs, and they may be more plentiful than ATMs in some countries.
- **Internet, mail order, or telephone merchants.** These merchants can centralise their order processing operations in a single location, creating electronic payment utility even without widespread deployment of terminals. Remote locations do not need a local POS terminal for these types of transactions. Cardholders simply need to be able to make a phone call or use an Internet connection outside their home or even just mail a catalogue order.

Tailoring acceptance to the objective. Clearly, a government needs very different acceptance networks for a government purchasing system, versus one aimed at inbound tourists. In the former, POS terminals or Internet sales systems would be concentrated within a small network of suppliers. As the system expanded, possibly to include electronic salary disbursement to government employees, the government might add ATMs within government buildings — and/or POS infrastructure in the neighbourhoods where most employees live. For an electronic payment system aimed at inbound tourism, the acceptance network should encompass providers of products and services used by tourists, as well as ATMs in important destinations.

Credit bureaux

When an electronic payment system extends credit to buyers as individuals or as companies, risk enters the system. Credit-based systems encourage consumer and business spending, as described above, and thus stimulate the economy. However, as the lending business grows, credit risk (the risk of borrower default on a loan) must be actively managed. This is critical to the health of the financial system and the economy as a whole. Individual financial institution systems are partly responsible for risk measurement and management. But lenders need objective information to make informed lending decisions. Credit bureaux are needed to provide this accurate and timely credit information to contributing members.

Simplicity versus sophistication. Credit bureaux typically provide data concerning the identity of the borrower (name, address and contact telephone numbers); account details from the lender; the delinquency status of the account; and the current outstanding balance. However, some credit bureaux limit themselves to sharing basic negative data (delinquencies, bankruptcy, tax liens), while others also share positive data (years of credit history, credit limit for each account, credit card balances, on-time payment of credit accounts, and employment/income confirmation). They may even provide additional information (citizen numbers, motor vehicle registrations). Finally, some credit bureaux use standardised scoring models to quantify the risk of consumer default on the loan.



Source: Mylendo, N., Strengthening Infrastructure for Financial Systems – Credit Bureaus. World Bank Report 2002.

In its 2002 report on strengthening financial systems infrastructure, the World Bank stated that more than half of the institutions participating in a credit bureau reported decreases of 25% or more in defaults, in costs, and in processing time for lending decisions. It is generally believed that effective credit bureaux are essential for responsible lending and preventing over-issuance of credit. In addition, banks benefit by being able to offer credit to more consumers and businesses, to improve assessment of credit risk, and in turn, to offer more competitive prices (interest rate and fees). A safer lending environment also improves the long-term profitability of issuers.

In locations where a private entity alone would find it difficult to gain access to the necessary data, government and a private organisation can jointly own a credit bureau. For example,

Education

Financial literacy is as important as reading literacy when it comes to creating the foundation for a healthy economy. Financial literacy initiatives will help to promote safe and responsible banking habits as new payment instruments are introduced.

Depending on the government objective, financial literacy programmes should be developed for buyers and/or merchants.

- Individual buyers, especially those to whom credit will be extended, need to understand setting budgets; responsible saving and spending; safe shopping practices; safeguarding personal information; and consumer rights and protections.

'More than half of the institutions participating in a credit bureau reported decreases of 25 per cent or more in defaults, in costs, and in processing time for lending decisions.'

— World Bank 2002

TransUnion ITC and the Botswana Development Corporation jointly own the Botswana credit bureau. In other countries, a government body, such as the central bank or a specific ministry, can set up the credit bureau and manage its day-to-day operations. For example, the Indian Reserve Bank set up India's bureaux.

Tailoring credit bureaux to the objective. Again, our two objectives have different needs. In the case of the government purchasing system, no credit bureaux might be needed at all, depending on how the cards were issued. In the case of inbound tourism, the credit bureaux would be located in the tourists' home countries. However, if the government were trying to stimulate consumption by expanding credit to consumers or businesses domestically, credit bureaux would become essential.

- Institutional buyers, for example those working within a government purchasing system, need to understand procedures and limitations on purchasing.
- Merchants need to understand the electronic devices they are using and the procedures they should follow so payments are posted efficiently and correctly. This education is essential, but takes on added importance for the success of focused initiatives such as an inbound tourism campaign.

These programmes require delivery channels such as schools, employers and civil society. They also require training of teachers and instructors.

A variety of financial literacy materials exists from sources such as www.practicalmoneyskills.com, developed in the US, and www.mymoneyskills.com, designed for Asia Pacific, with country-specific versions including Australia, Hong Kong, South



‘Payment systems are critical to the effective functioning of financial systems worldwide. . . . A fundamental requirement for a stable and secure payment system is that it should operate in a well-defined legal environment.’

– International Monetary Fund/the World Bank,
Financial Sector Assessment Program, 19 April 2002

Korea, Malaysia and Taiwan. This growing body of content is being adapted for use throughout the developing world.

An effective institutional framework

A sound infrastructure is necessary, but not sufficient, for a successful electronic payment system. In addition, both the government and the payment system itself need a set of rules and principles. These should define how the different institutions and individuals that comprise and use the payment system should work together to achieve their goals. This is what we mean by an institutional framework.

Participants within a payment network have different, and sometimes competing, goals. So those making the rules should seek expert input and carefully consider the interests of all stakeholders. They need to achieve a balance between market-driven competition, co-operation, and public good considerations. And they must enable the institutions that invested in the payment system to earn enough to justify their investment, as well as to maintain and improve the system over time.

An effective institutional framework has three key components: operating regulations, precepts that support infrastructure sharing and encourage competition, and robust risk management principles.

Operating regulations

First, a payment system needs common, effective operating regulations that are understood and adhered to by all participants. The rules should clearly outline the roles and responsibilities of each player. Buyers and sellers must know that the operations of the payment system are consistent and trustworthy.

To that end, any multi-party system should specify minimum standards that any financial institution must meet in order to participate. For example, standards should define reserve requirements and specify how to transmit and store transaction data securely. Regulations should also address issuing and acquiring requirements, acceptance rules, transaction dispute processes, and technical requirements. The goal is twofold: govern the activities of the institutions in the system and give merchants and consumers confidence that the system will always work as it should.

Key precepts to support scale and competition

Any payment system should maximise the convenience, security and reliability of the exchange of value between parties. At the same time, it should also minimise the expense to those parties relative to the benefits received. To this end, the institutional framework should support economies of scale while encouraging competition.

- **Support scale.** Once an electronic payments system is established — whether broad or targeted — it requires significant ongoing investments. Computer and other technology for authorisation, clearing and settlement must be maintained. As the system expands, new payment products need to be developed and managed. Support services, such as risk management (see below), must be maintained. Therefore, the institutional framework should define processes or cost allocations that allow all stakeholders to contribute to the maintenance and growth of the system. It should also encourage economies of scale, which minimise costs per transaction. Common standards help to drive scale; so does shared infrastructure.
- **Allow beneficial co-ordination.** System-wide consistency helps create a trusting working relationship among all parties. However, a process for agreement and co-ordination of standards is also needed to help member institutions work together efficiently for the good of the system.
- **Create room for competition.** At the same time, vigorous competition stimulates improved service, innovation and customer focus. So while cost sharing and co-ordination tend to ‘level the playing field,’ there should also be opportunities to compete by differentiating and customising services.

It is useful to examine the card association structure, as an example of how multiple stakeholders can work together to support scale, create competition, and run a payment system that benefits all. In this structure, many banks can compete for business, but they can share costs for new technology development and security systems. Allowing stakeholders to compete while sharing payment-service infrastructure enables as many participants as possible to offer their services to the public, optimises transaction efficiencies, and taps the benefits of shared technology development.

Visa, for instance, effectively operates as a not-for-profit membership association. Member financial institutions pay

Roles and responsibilities

It is essential for a payment system to have clear roles and responsibilities for all stakeholders. An international payment system uses a wide range of operating regulations through its regulated financial institution members. Here are some examples:



Cardholder

Cardholders: A cardholder must use the payment card in accordance with the terms and conditions of use as set out in the cardholder agreement signed with the issuing bank. This includes settling any transactions in a timely manner.



Merchant

Merchants: A merchant must accept payment products in accordance with the terms of the merchant agreement signed with its acquiring bank. The merchant must submit those transactions for clearing in a timely manner and must take steps to minimise the potential for fraud.



Issuing banks

Issuing banks: The issuing bank must agree to abide by the payment system's operating regulations in relation to card production, card personalisation, and card account management – including fraud control and risk management – and the timely settlement of all transactions effected by its cardholders.



Acquiring banks

Acquiring banks: The acquirer must agree to abide by the system's operating regulations in relation to merchant recruitment, merchant account management, fraud control, risk management, and the clearing of all transactions.



Payment system

Payment system: Visa has performance obligations in terms of the speed and reliability of transaction processing, switching, clearing and settlement on behalf of its member financial institutions. Its activities are overseen by an international board and regional boards comprised of these members, to ensure quality of operation throughout the system.

the association to participate in the Visa system. They are also assessed fees based on such things as transaction volume, the number of accounts they are licensed to issue, and risk management considerations. These fees support shared transaction processing and other infrastructure costs. At the same time, the association structure encourages competition. Members can differentiate based on what products and services they offer and how they market and price those offerings. Members can also choose from a broad range of a la carte services from Visa that can help them manage their portfolio and manage risk.

Risk management principles

Electronic payment systems are subject to a number of risks. Countries wishing to implement a domestic payment system should thoroughly evaluate these risks and reflect them in their planning, rules and oversight. Again, they can benefit from the experience of existing, successful models around the world. Experience shows that a stable, secure payment system addresses three primary risk challenges: financial risk management; network stability and business continuity planning; and fraud, security and privacy concerns.¹⁷

Financial risk management. The payment system should have clearly defined procedures for the management of credit and liquidity. They should specify the respective responsibilities of

all participants and provide appropriate incentives to manage and contain those risks. 'Counterparty' and financial risks exist because a payment system is made up of a number of parties who transact with each other. At the banking level, transactions are based not on a physical movement of currency but an electronic 'promise to pay.' If a banking institution (or 'counterparty') defaults, the result is not only financial loss to the parties involved but also loss of confidence in the system. This type of settlement risk can be limited in various ways. For example, a central payment association could indemnify all members against loss. To protect itself, the payment association would hold capital and reserves against settlement risk exposures as required by Bank for International Settlement rules.

Network stability and business continuity planning. 'Systemic risk' refers to the chance that the payment system could fail temporarily or permanently as a result of malfunctioning technology or systemic attack. Since September 11, 2001, governments and businesses around the world have been increasingly aware of the need to plan for business continuity,

The institutional framework for payments will be most effective to the degree it can accommodate scale, co-ordination and competition while supporting effective risk management.

¹⁷ An excellent general resource is the May 2001 Basel Committee on Banking Supervision report entitled 'Risk Management: Principles for Electronic Banking.'

especially in their data systems. Accordingly, electronic payment systems need a comprehensive set of staffing and communications plans, security requirements, and systems capabilities — including backup power, network connections, hardware, applications, and data storage — to ensure that the system operates reliably in the face of virtually any contingency. Because trust is essential to building confidence and usage in a payment system, reliability should come as close to 100% as possible. But it is not enough to write the plans. The members of the system should constantly rehearse, assess and update business continuity plans as issues arise. Further, operating regulations should include similar requirements for other participants (such as telecommunications vendors, merchants, and third party processors) that will help ensure network stability and business continuity throughout the payment system.

Fraud and security concerns. Fraud costs innocent parties money and reduces the level of trust in the overall payment system. Within card-based systems, the top concerns are unauthorised use of the card (or other account access device) and counterfeiting.

Despite common perceptions, the payment card associations report that the fraudulent use of payment cards as measured by volume is low. For instance, Visa reports that fraud on a global basis represents less than ten cents of every US\$100 of Visa transactions — a notable decrease from just ten years ago. Identity theft, which is a specific form of fraud, is rare despite attention in the media.

Counterfeiting refers to both cards and devices such as ATMs. Criminals may also create fictitious businesses and try to use payment networks to launder funds.

Security is a bigger concern than fraud, since electronic payment networks must fight intrusion and compromise every step of the way. System designers must work to secure every data repository and every electronic payment transaction from start to finish. This is complicated because payment systems can include numerous types of transaction channels (e.g., point-of-sale terminals, Internet, mail order, telephone order, wireless networks, ATMs, bank branches, inter-bank settlement systems, and merchant networks), as well as different payment devices (from magnetic stripe card to smart card to mobile phone). Leading financial institutions and payment networks routinely work with government on best practices for security and make major investments in security technology.

Because criminals constantly find new ways to exploit vulnerabilities, payment systems must constantly invest in detecting and preventing new types of fraud and intrusion. They must continuously secure the core technologies of the payment system from tampering or modification; authenticate all parties to a transaction; develop increasingly secure procedures for processing payment transactions; and evolve effective procedures and technologies for detecting fraud and catching potential perpetrators. This task is never complete; systems must be continually re-evaluated and refined.



Public Oversight

Creating an environment in which electronic payments will be broadly adopted requires public oversight functions in both the legal and financial services regimes. Action will likely be needed to update the laws, regulations and rules that apply to payments and financial institutions in general.

Updating the law books

In many countries, legal systems were developed at a time when payments were made in cash, via commercial paper such as cheques, or commercial instruments such as letters of credit. They do not always reflect the evolution of payment systems over the past 30 years, let alone the challenges of e-commerce and wireless technologies.

Payment systems need clear rules, for both smooth internal operations and public confidence. A country that partners with an existing international payment system will have the advantage of proven, existing rules. But it should also audit its commercial, civil and criminal codes to ensure that the legal basis for electronic and non-cash payments is sound, and that existing regulations do not conflict with payment system rules.

In many cases, electronic payments can be built into law simply by updating existing laws and definitions to include the newer systems. Here are some items for review:

- **Update definitions and references to transactions.** Wherever the law defines or refers to monetary transactions, it should specify whether non-cash or electronic payments are subject to similar rights and protections. Where the law makes provision for civil or criminal action on cash transactions, it should be explicitly extended to electronic payments as appropriate. For instance, in updating its criminal code, the EU incorporated definitions for non-cash payment instruments and payment transactions. It discussed device-making equipment used for the production or alteration of payment instruments or transactions. And it updated the regulations that refer to money laundering and other criminal activities.
- **Consider the need to legally recognise specific payment instruments.** In some instances, the laws should include definitions of the payment instruments (e.g., charge cards, revolving credit cards, debit cards, and prepaid cards) and transaction technologies (e.g., wireless systems) used within a country.
- **Evaluate existing general consumer protections.** Most legal systems have a basic regime for consumer protection with respect to marketing, advertising and business practices. These bear examination in light of electronic payment systems.

Reviewing the financial services regime

In addition to updating codes, countries need to confirm that their regulations will encourage the growth of and confidence in the electronic payment system. Again, they can benefit from the work that has already been done by multinational financial institutions and in countries with well-established electronic payment and consumer credit instruments.¹⁸

For instance, the World Bank, International Monetary Fund, and others have built a range of guidelines for effective financial services frameworks.¹⁹ Some of the key themes include these:

- **Examine financial services regulations.** Financial regulations are designed to prevent failure of the banking system and mitigate improper use (such as money laundering). They ensure public confidence in the economic infrastructure, particularly the monetary system. Because

the international payment brands depend on public confidence and integration with local frameworks, they require all member institutions to be regulated. Some general regulations specify adequate financial resources, define proper standards of market conduct, and require that customers be treated fairly and their interests considered. Others, particularly relevant to payment systems, focus on money laundering, terrorism, crime and security, and proceeds of crime. Most countries have some form of regulatory authority for financial services, and resources exist to evaluate their effectiveness. For example, The International Monetary Fund Financial Sector Assessment Program provides detailed resources and specific assessments on nearly 50 countries.

- **Evaluate consumer credit rules.** Consumer credit legislation should define a regulatory, oversight and enforcement system for issuing consumer credit. Its goal is to contribute to a healthy economic system in which all stakeholders have confidence. Therefore, as they develop rules, governments need to balance the rights and responsibilities of all parties, the need to protect consumers, and the reality that over-regulated institutions are not motivated to innovate. Consumer credit law may, for instance, set forth specific definitions, requirements for licensing, elements and protections of consumer credit agreements, provisions for consumer education, and credit advertising rules. It may also support the development, operation and importance of credit bureaux, which are described above. In some countries, such as the UK, responsibility for this legislation is invested in the departments of fair trade and economy. In others, a dedicated financial services authority is responsible. Appendix 2 lists a number of sources of information about consumer credit legislation.
- **Consider the role of voluntary codes of conduct.** An advantage of working with international payment systems is that they produce and strictly enforce codes of conduct. Governments interested in avoiding over-regulation can also consider promoting adaptation or development of voluntary codes, such as the UK's Banking Codes, which aims to 'allow competition and market forces to operate to encourage higher standards of banking practice.'

Establishing a legal basis for use of electronic payment products directly by individuals and businesses to some extent involves simply updating existing laws and definitions to include the newer systems.

¹⁸ The Financial Services Authority in the United Kingdom has an excellent set of resources available at www.fsa.gov.uk. Among the documents is the FSA Principles for Businesses, September 1998, and its handbook for regulated entities at www.fsa.gov.uk/handbook. The World Bank and International Monetary Fund have also assembled a wide range of helpful research and country and area-specific studies, including their Financial Sector Assessment Program (<http://www.imf.org/external/np/fsap/fsap.asp>), and the Western Hemisphere Payments and Securities Clearance and Settlement Initiative (www.ipho-whpi.org).

¹⁹ See Appendix 2 for various sources.

Government role in fighting fraud

- Prohibit counterfeiting of any payment instrument or device.
- Prohibit the use of technologies that might interfere with electronic transactions or produce counterfeit versions of any device or technology that moves money electronically.
- Update fraud laws to reflect electronic transactions and online activities.
- Establish civil and criminal offences for stealing of an individual's or a business name for purpose of creating a new identity and/or utilising a fraudulent identity for any transactions using any payment instrument.
- Protect citizens from fraudulent or deceptive advertising or marketing, including fraudulent email or Internet solicitations.
- Provide recourse for retailers and Internet merchants who do not receive payment for transactions for which they delivered goods or services in good faith (so-called consumer fraud).
- Invest in hiring and training sufficient investigation and enforcement officials to work with financial institutions to apprehend and prosecute perpetrators of fraud.

- **Consider consumer data privacy concerns.** Approaches to privacy vary globally. When it comes to payment transactions, the protection of individual information starts with effective security controls. Beyond that, international privacy conventions, laws, guidelines and policies generally incorporate the following three basic principles:
 - The right of an individual to inspect his own file in any organisation and to have false, misleading or erroneous information deleted or corrected, or a note added to the file if such corrections are not made.
 - Specific administrative principles, or fair information practices, regarding the collection, storage and dissemination of information. These include guidelines on how information is collected, how the system must be secure from non-authorised use, how information is shared and used, and when individual consent is required.
 - The right of an individual to appeal to a body independent of government if the individual believes one of the principles has been violated.

Governments today have many development goals. They need to drive economic growth and modernisation while also reducing bureaucracy, increasing efficiency, enhancing transparency, fighting corruption, and ultimately improving services and quality of life for citizens. In a growing range of countries, electronic payment solutions are proving surprisingly useful in reaching these goals.

This section describes how electronic payment systems are being used in specific countries to:

- Make government payments and collections efficient
- Bank the unbanked
- Enable cross-border remittances
- Support small business growth
- Promote international travel

Government purchasing and travel

For government, as for business, more than 90% of the number of payments for operational expenses are either employee travel expenses or so-called ‘maintenance, repair and operating’ purchases such as industrial and office supplies, office and computer equipment, and software. The sheer volume makes these relatively small transactions a top expenditure, a major administrative cost and a challenge for oversight.

In Section 1, we compared the costs of paper-based and electronic purchase transactions. The high cost of paper-based purchasing results from the process: approve the expense, obligate the budget, initiate the order or transaction, substantiate receipt of the goods or service, make payment,

‘We are now seeing savings in excess of GBP5m per month. For the taxpayer this is obviously very important. . . . Equally important, the Government Procurement Card makes it easier for government and all suppliers, both large and small, to do business together.’

— Rt. Hon. Paul Boateng, Chief Secretary to the Treasury, United Kingdom

Making government payments and collections efficient

In most economies, government is the single largest purchaser of goods and services, as well as one of the primary collectors of funds. In 2002, governments worldwide disbursed roughly US\$9 trillion to businesses and citizens, and collected about the same amount in taxes, tolls, citations, permits, payments for health, educational and other services, and miscellaneous fees. Governments spent an additional US\$1 trillion in the form of inter-government transfers, such as international aid.²⁰

With volumes like these, when a government moves to electronic payments for its own operations, a large portion of the economy can become more efficient. Let us examine how this works in the areas of purchasing; distribution of payrolls, pensions and other benefits; and collection of taxes and fees. We will see that in many cases greater efficiency comes with better oversight and a higher level of service.

reconcile the payment, and track overall spending against budget. At each step of the way, people expend effort and time — and use a lot of paper.

Clearly, the goal of this process is to assure proper management, oversight and expenditure of public funds. But for many purchases, the administrative process can cost more than the purchase itself. Moreover, it is time-consuming to audit a paper trail and often difficult to spot problems. As a result, it is not clear that all the paper really supports the government’s goal.

In 2002, governments worldwide disbursed roughly US\$9 trillion to businesses and citizens, collected about the same amount in taxes and fees, and spent an additional US\$1 trillion in the form of inter-government transfers.

²⁰ Estimates by Visa. Modelling and estimates for 2002 based on BCG data. The government-to-government payment estimate does not include intra-government transfers.

Using cards for government efficiency

The UK has been a leader in using cards for government efficiency and modernisation. In October of 1997, the UK government launched its Government Procurement Card (GPC) Programme to modernise the processing of small purchase transactions.

The Office of Government Commerce manages the GPC programme across all departments. The programme includes both purchasing and travel cards, and has been expanded to local government and other local public sector agencies

including education, health and emergency services.

Utilising a consortium of seven banks²⁶, the programme eliminates paper from major portions of the administrative process and simplifies the monitoring and tracking of expenditures. More importantly, GPC saves the agency time and money by greatly reducing the need for requisitions, approvals, purchase orders, invoices and checks. This in turn gives staff time to focus on more value-added activities.

Programme savings over traditional invoices have been extensively researched. KPMG estimates that each transaction made via GPC saves taxpayers an average of 70% in process costs. The UK National Audit Office's official efficiency savings number is GBP28 per transaction. Since its launch, total savings to the public purse now exceed GBP140m, and with approximately 50,000 active GPC users, the government reports savings in excess of GBP5m per month. In all, there are now more than 800 UK public sector programmes using cards.

Travel management has additional challenges: a large percentage of employees in some agencies are required to travel (consider, for instance, a government's foreign ministry). It is time-consuming to obtain travel advances and complete expense reports, especially for longer or foreign trips, and the process is error-prone.

Purchasing and/or travel cards offer a relatively simple alternative. A bank, on behalf of the government agency, issues cards to authorised individuals. Restrictions and limits may be established for each cardholder. Occasional travellers can be issued a temporary purchasing capability in the form of a prepaid card product that is loaded with a specific per diem allowance. Card-based transactions can now take place in person, on the Internet, or by telephone or mail order. Research into government card programmes — from city administration and universities to national ministries — shows that these programmes can yield seven kinds of benefits:

- **Cost savings.** By streamlining steps, eliminating cash handling and paper, and automating data management, card programmes can cut administrative costs in half. The UK National Audit Office²¹ and the US General Services Administration report savings of GBP28 and US\$54 for every purchase card transaction, respectively.²²
- **Efficiency.** Various national and local governments report significant decreases in administrative time when they move to electronic purchasing systems. In fact, the amount of time spent processing transactions can drop by 70% or more,²³ in terms of both the actual time workers spend processing a purchase and overall elapsed time. On average, a paper-based purchase can eat up nearly two-and-a-half hours of labour and take nearly a month to complete, whereas an

electronic purchase takes as little as half an hour of effort, and is completed within days. One department within the UK National Health Service²⁴ reported that paper-based purchase orders had used one person-day per month, but their purchasing card solution had reduced that time to 45 minutes per month.

- **Supplier Management.** Card programmes enable governments to identify and negotiate potential pricing deals with suppliers, better enforce pricing, and expand spending among small business vendors. Suppliers are paid more quickly with payment cards, which in turn often makes them more willing to negotiate pricing or other deals with government organisations.
- **E-commerce savings.** Consolidating approved vendors with negotiated rates into government e-commerce portals can further reduce costs and boost convenience.
- **Better oversight.** By utilising best practices, which include integration of electronic transaction data into the agency's financial tracking systems, employee compliance with spending policies can be improved dramatically. Properly implemented, the improved audit functions of card programmes increase transparency and can help in the fight against corruption.
- **Empowerment.** Reducing administrative burdens and enabling employees to do their jobs with improved oversight allows for a far better performance environment. Emergency response personnel such as firefighters, for instance, comment that cards boost their effectiveness by allowing for the immediate purchase of equipment repairs and supplies.
- **Environmental Savings.** Electronic systems save paper. The UK Office of Government Commerce estimates that its GPC Programme (see box) eliminates six sheets of A4 paper per transaction, or one million pieces of paper per month.²⁵

²¹ UK National Audit Office. Results detailed in KPMG, GPC Visa Annual Report, 2003.

²² US General Services Administration estimate.

²³ Palmer and Gupta.

²⁴ South Durham NHS Trust.

²⁵ These savings also referenced in the GPC Annual Report by KPMG. Some estimates are higher, including one local council that identified 23 sheets of paper that were removed per transaction through the use of a purchasing card.

²⁶ The current agreement was won competitively by Visa and a consortium of its UK member banks including Barclays, The Co-operative Bank, HSBC, Lloyds TSB, NatWest, The Royal Bank of Scotland and Ulster Bank following an open tendering process.

To date, government purchasing or travel programmes number in the thousands.²⁷ Their experience shows that these programmes can be established relatively quickly and easily. Results are especially dramatic when electronic payments systems are overlaid on existing, automated internal financial systems — so that purchasing and accounting become a seamless process.²⁸

As they plan their strategy, governments can draw on a wide array of analyses, best practices, and advice from banks and international payment systems providers. The website www.purchasingcard.info can help public sector agencies quantify many of these benefits for their own operations.

Distributing payrolls, pensions and other benefits

Nearly half of government expenditure takes the form of direct payments to individuals or households.²⁹ Some of these payments are for payrolls, pensions and related benefits. Most of the remainder is for public assistance — that is, anything from aid to low-income households and students to disaster assistance.

Governments have used a variety of instruments to distribute these funds, and encountered problems. Cash is vulnerable to theft and mismanagement, and expensive to count and manage. Cheques can be used only when the recipient can cash them. Coupons, food stamps and other scrip schemes can be cumbersome to administer, prone to abuse and disliked by both recipients and the merchants who accept them. In some countries, 'direct deposit' into an employee or recipient bank account is an option, but it requires the recipient to have a stable bank account.

Recently, governments have begun to use prepaid card solutions. Such cards can be either 'single-load' or 'reloadable.' They are efficient to administer and distribute, safe and convenient for recipients, attractive to banks and merchants, and usable whether or not the recipient has a bank account. And to the extent that a prepaid card has an international payment card brand, it can be used directly for purchases at a wide variety of merchants and on the Internet, and can be used to withdraw cash at ATMs.

Recipients usually respond positively to prepaid cards. They like the utility of a card with an international payment brand. They are pleased to receive disbursements within hours of government posting to the account, without having to queue. And they find payment cards a safer and more discrete way to receive and hold funds. On their side, governments appreciate the speed, control and low cost of making disbursements with such products and the ability to retain a greater portion of funds within the formal banked economy.

'When fighting a wildfire, a credit card makes it a lot easier for us. It allows us to readily procure things like fluids and food. If we have parts that break down on the rig or we have an emergency and need to go to a parts store to get something to keep an apparatus running we can do that without going through paperwork. You did a lot less then, when you didn't have a credit card. You really just had to wait and rely on the good will of people who had homes that you were protecting to help you out until the resources came in from the federal government and the state government to take care of you.'

— Captain, local government fire and rescue crew, Oregon USA

Transforming public benefits in Moscow

As part of a massive overhaul of the public benefits system of the City of Moscow, 1.7 million smart cards known as the 'Moscow Social Card' have been issued to students, pensioners, armed forces personnel and public employees as of May 2004. The collaboration between the City of Moscow, the Bank of Moscow and an international payment system is an example of how a public-private partnership works to the advantage of both government and the citizens.

The Moscow Social Card initiative, spearheaded by Dmitry Gaev of the Moscow Metro, sought to simplify and systematise

delivery of 350 different public benefits from 60 agencies to 2.5 million Moscow residents, with full control and accounting. It ultimately entailed creating a common identification system and electronic register for all beneficiaries and integration with a Visa payment application and card delivery system.

The Moscow Social Card, now rolling out with a dual-interface chip that also allows contactless transactions with a wave of the card, contains personal identity and benefit eligibility details, metro ticketing, health and medical insurance details, and the ability to use Visa for payment

using the card. Recipients use the card for public transit, health and medical insurance, access to government subsidies, and discounts from participating retail stores and can be used at over 45,000 card acceptance locations across Russia. The programme has helped to improve services and reduce fraud: the Moscow Metro, for instance, has had more than a 20% increase in revenues from use of the card by reducing fraud and maintenance costs and increasing fare collection. Similar projects are now underway in Kiev, with a state pension fund in Azerbaijan, and with schoolchildren in Moscow and St. Petersburg.

²⁷ One association, Visa, reported over 2,000 government departments and agencies using its solutions in 2004.

²⁸ This site was sponsored by Visa EU and endorsed by 'OGCbuying.solutions' at the UK Office of Government Commerce.

²⁹ Visa estimate.

Here are some current uses of electronic payment instruments:

- **Payroll.** The payroll of most governments is a significant force in the economy, and an electronic payment programme can start as simply as with a single agency. For instance, the Egyptian government implemented a salary card programme for its Ministry of Foreign Trade staff. This was part of a broad initiative to introduce universal modern payments launched by His Excellency the Prime Minister of Egypt Dr Atef Ebeid.
- **Pensions.** Pensioners generally receive their government pension cheques by post or queue at a pension office. Pension cheques are susceptible to fraud (false applications, stolen cheques, forged signatures). Delivery of pensions via reloadable prepaid cards is a fast and attractive option that is now being used by governments including Russia and South Africa.
- **Healthcare.** Disbursements for healthcare can be loaded onto a dedicated card or a single combined benefits card. Using smart cards for such a programme could allow secure storage of additional data and functions beyond payment, such as personal details, medical histories and medications.
- **Tax refunds.** Electronic payment solutions can be a cost-effective way for the treasury to deliver refunds to taxpayers who have overpaid their tax.
- **Child support payments.** In some countries, when a single parent or legal guardian is entitled to funds for child support due to court order or other mandate, government makes provisions to deliver these funds. For instance, after divorces involving children in the United States, state governments often take the role of collecting court-mandated child support payments from one parent and distributing them to the custodial parent. Distribution of funds is costly, and the challenge is compounded when the recipient parent does not have or use a bank account or are not living near government offices. Reloadable prepaid cards have proven to be an effective means to manage these disbursements.
- **General assistance.** Social welfare benefits can also be distributed with prepaid cards. Provisions for food and accommodation, public transit and disability assistance are just a few of the kinds of assistance governments distribute. From Brazil and South Africa to the United States and Russia, cards are being used to deliver benefits. Once again, this approach improves government efficiency, lessens the possibility of fraud and improves utility.
- **Disaster assistance.** When natural disasters strike, government emergency management and aid agencies generally need to disburse funds either to field organisations for supplies or directly to individuals. Non-reloadable prepaid cards are an effective and rapid means of making one-time disbursements in the field, without the risks associated with cash or the delays of cheque issuance.

In many instances, individuals receiving public assistance or pensions are eligible for multiple benefits, such as food support, housing subsidies, transit allowances and healthcare support. When different agencies are involved, with duplicate administrative structures, the cost and labour of managing and disbursing these funds multiplies. As the sidebar on public

benefits in Moscow describes, it is possible to combine various government programmes onto a single card, reducing costs and rationalising benefit administration.

Collecting taxes and fees

Tax collection is still considered one of the most onerous government activities. Anything that can make the process less time-consuming and easier to track will directly improve government operations.

Improving tax compliance and collection. Some may argue that certain tax regulations are so burdensome that it is better to have a vibrant informal sector (that is, a thriving cash economy) than a stultified formal economy. Yet the fact remains that, when a payment system allows for better tracking of funds flows and economic activity, governments can reduce tax evasion. As shown in Section 1, the shift toward electronic payment instruments can help accomplish this goal.³⁰

For countries with a significant number of taxpayers with computer access, electronic submission of taxes may also be a welcome opportunity. Compared to laborious paper systems, electronic tax-form preparation is extremely efficient, is more accurate, and, when coupled with a payment system, can allow efficient payment of refunds or taxes owed. All of these benefits, in turn, lower costs for government. Many governments are now encouraging electronic filing and payment. Advances in technology have addressed privacy challenges and confidentiality. Some even provide sophisticated database management and error-checking functionality.

Payment of government fees. In some countries, citizens can make utility payments, renew vehicle licenses, and pay traffic violations online. For the public, these are some of the most popular electronic services provided by government. For in-person transactions, such as tolls or the purchase of government-distributed pharmaceuticals, payment systems installed at the point-of-service can eliminate the costs and risks of cash handling and improve government efficiency. The model for such systems is the same as for private sector merchants. However, some governments have experimented with innovative programmes to reduce the problems of cash or vouchers in unlikely situations. In Brazil, for instance, tolls for transportation of cargo on federal highways were paid historically by cash and then through a voucher system, both of which were open to abuse. In 2001, a reloadable prepaid card for commercial truck-drivers was launched to ensure that funds were paid and reported, to minimise long queues and to improve tollbooth security.

Banking the unbanked

Most of the world's population lives without a telephone, a computer, or a bank account. At least 3.5 billion people worldwide are 15 years of age or older, but it is estimated that 1.3 billion have bank accounts. That leaves more than two billion individuals age 15 and over 'unbanked.'³¹ Electronic payment systems can help the unbanked join the banking system, with significant benefits to them and to the societies in which they live.

³⁰ With security of personal information a top concern for most consumers and the limited data stored through payment networks, governments have generally focused on bringing merchants into the formal economy as a way to improve tax compliance. Visa, for instance, while it clears and settles transactions, does not typically maintain personal information that can track individual spending — such as cardholder name, address, social security number, and other cardholder information.

³¹ Visa and Global Insight data.

In his well-regarded book, *The Mystery of Capital*, Hernando de Soto argues that the significant percentage of real estate and business assets held in the informal economy of many developing countries reduces the size and productive capacity of their overall official economies.

Similarly, a cash-based society is a diminished society. The informal economy runs on cash outside of the banking and official economic systems. When cash remains outside the banking system, the possibilities for supplying productive capital to the economy are muted. Data from Global Insight shows a direct correlation between a specified shift of currency into lendable reserves and increases in GDP.

Bringing cash into the banking system produces an equal increase in bank reserves, enabling banks to facilitate more

unbanked an important option for bringing cash into the formal economy. Prepaid cards are particularly interesting, because the funds are actually on deposit at a regulated financial institution, but the process of establishing and managing accounts is much more cost-effective and less risky than traditional debit accounts for smaller levels of deposit.

Payroll, pensions and benefits revisited

In many countries, employees and recipients of cash benefits do not have bank accounts but collectively can constitute a significant economic force. The previous section highlighted specific ways in which cards can deliver such institutional disbursements. It is important to highlight their benefits for banking the unbanked, particularly in markets where large proportions of the population do not qualify for or maintain a bank account because of a low or irregular income, an inability



‘The biggest challenges our programmes face are the high transaction costs to process loans and capture data, and safety issues for our clients and staff as they carry cash.’

— Rupert Scofield, FINCA International

consumer and commercial loans, thereby stimulating business growth and consumption. Typically, the total value of the loans is several times that of the original deposits — a multiplier estimated at ten to 15 times the amount of the deposit.³²

The banking habit is essential to support economic health, and as Figure 6 shows, the range is startling.

Living in an informal economy without a bank account, individuals keep their limited wealth as cash ‘under the mattress’ or hoard valuables such as gold. When borrowing is necessary, the unbanked turn to relatives, friends or private moneylenders, the latter charging interest rates that can reach 100% or more. Since so much cash is untracked, the shadow economy may equal 50% to 75% of the official economy.³³ This deprives governments of tax revenue needed for investment, and can also facilitate money laundering and other criminal activity.

The growth of debit and prepaid card systems, and the development of the associated infrastructure, gives the

to provide a fixed address, or personal choice. For cardholders, the advantages are manifold. There are no queues for cash, there are no large quantities of notes or coins to contend with, the disbursement is kept private, and cards are replaceable in the event of loss or theft, making them more secure than cash. Importantly, the use of a card establishes a relationship with a financial institution and familiarity with basic banking procedures. Payroll, pension and benefit cards can be effective entry-level instruments for banking and subsequent mainstream financial services — and they allow a greater proportion of funds to remain within the banking system until they are spent.

Banking services for young adults

Teenagers and young adults are often ineligible to open a bank account. But because of employment, stipends or transfers from their parents or guardians, they may possess a sizeable amount of money.

Prepaid card products for young people can teach them vital money skills, while keeping their funds in the banking system. One such solution is a re-loadable prepaid card that features

Colombia, cards and tax collection

From 2003 to 2004, tax authorities in Colombia have been working to improve tax collection, with the move from cash to cards as a key element in their strategy. The context for the action, and motivation behind a new tax

law, was that nearly a third of tax revenue in the country went uncollected. As a result, Colombia officially encourages consumers to use credit or debit cards when buying goods and services, bringing more merchant activity into the

formal economy and making tax evasion by merchants more difficult. As part of the effort to encourage the transition among consumers, value-added tax (IVA) on purchases made with credit or debit cards was reduced by two per cent.

³² Visa and Global Insight. See the ‘Value of electronic payments’ section for further information on this subject.

³³ International Monetary Fund, data on the shadow economy as a percent of official GDP 1988-2000.

Figure 6
Banked population in selected countries

COUNTRY	TOTAL POPULATION	% POPULATION 15 YEARS AND OLDER WITH BANK ACCOUNT
Germany	81,915,000	98%
Singapore	4,325,000	95%
United Kingdom	59,855,000	91%
United States	293,580,000	88%
Japan	127,857,000	85%
Canada	31,765,000	85%
Australia	19,921,000	85%
Ireland	3,950,000	63%
Malaysia	23,824,000	55%
Argentina	38,852,000	49%
South Africa	44,813,000	46%
Mexico	104,726,000	35%
Poland	38,460,000	30%
Egypt	72,649,000	23%
India	1,065,070,607	20%

Source: Visa International and Global Insight, 2004 data

financial literacy tools and allows parents or guardians to monitor transactions online.³⁴ First launched in the US, it has since been customised for use in Brazil, Mexico, and Puerto Rico. Similar products are being used in Indonesia, where parents can send funds to a student’s e-Wallet using the post office, and in Jordan, where the Bank of Jordan offers a prepaid OK-card.

Increasing the efficiency of microfinance

Microfinance involves the provision of financial services to low-income persons and businesses, and encompasses a

community that includes upwards of two billion people. The barriers to financial services for these segments of business and the public have been so entrenched in the past as to seem insurmountable. In a very real sense, the ultimate challenge for the global financial system is to bring these large segments of the business and social sectors into the world’s financial system. It is a challenge that has major implications for global stability and modernisation.

Microfinance is working well today. With repayment rates often in excess of 98% and programmes enabling individuals to increase earnings in their communities, microfinance represents the ideal intersection of good business and development. But microfinance programmes today serve less than 100 million of the two billion people who could benefit from them.³⁵ A key question is how to attain and manage the scale necessary to reach its full potential.

In a variety of ways, microfinance institutions such as FINCA International and ACCION are actively exploring information and communications technology, along with payment technology, in partnership with technology leaders such as Visa and HP, and with economic development agencies such as the US Agency for International Development and the United Nations.

However, technology is not the only approach to scale. Traditionally, microfinance organisations are not regulated financial institutions in the countries in which they operate. As such, their programmes are to great degree within the informal, rather than the formal, economy. Many of these organisations are taking steps to become regulated financial institutions, with the ability to offer a broader array of services, including true deposit accounts for savings and even payment cards. An interesting example of such an institution is Mibanco in Peru, which successfully became a commercial bank in 1998 and obtained membership into the Visa community to develop electronic payment products to meet the needs of its clients. At the end of 2002, Mibanco reported nearly 100,000 active borrowers with total loan disbursements for the year exceeding US\$150m. By March 2004 Mibanco had issued 44,000 cards.

Enabling cost effective funds transfer

In the past, people sent money by sea, road and rail. The risk involved was one of the forces behind the development of the insurance industry. Today, inter-bank messaging such as SWIFT, clearinghouse systems such as BACS, and international wire

Financial equality and social benefits in South Africa

Four South African provinces now distribute social benefits via direct payments into a bank account accessed with a card called the ‘Sekulula’ card, meaning ‘It’s easier.’ The programme was developed by Absa bank and the Department of Social Development so that pensioners and people receiving

child and disability benefits would no longer need to queue for cash or worry about keeping their payments safe. The card is also intended to open up banking to many thousands of people in the Eastern Cape, Free State, Gauteng and the Western Cape who did not have access to the benefits of modern financial management

and payments. Israel Skosana, Absa group executive director states: ‘Every citizen in this country has the right to choose how they conduct safe, secure and convenient payment transactions anywhere in this country. This new method of distributing grants is a major step towards financial equality.’

³⁴ See www.visabuxx.com

³⁵ The Microcredit Summit Campaign compiles statistics and analysis on the microfinance industry. More information is available at www.microcreditsummit.org.

transfers have made funds transfer far more reliable. However, the following groups can still encounter problems:

- Immigrants wishing to send money home
- Expatriates and migrant workers on temporary contracts abroad
- Small business operators and online auction bidders
- Students receiving subsidies from parents or other benefactors
- Travellers receiving emergency cash
- People sending money as gifts

The most common reason why many of the existing options are not helpful to these groups is that the senders, the recipients, or both are either unbanked or infrequent users of banks. As a result, senders must carry large sums of cash or use expensive financial outlets to cash payroll cheques and send money. Many recipients must then travel and wait in long queues before collecting cash or a cash-payable warrant. They then face the stress of protecting the money while travelling and at home. More and more governments are seeking ways to reduce the expenses and fees of wire transfer services, and are aware that they generally result in cash payouts rather than banked deposits at the recipients' end. In addition, concerns regarding funds tied to criminal and terrorist activities now require greater diligence than ever before.

Significance

Person-to-person remittances have an impact on all economies, but can have a major role in developing countries. The total volume of remittances is difficult to track, partly because of the widespread use of informal remittance methods that are invisible to the banking system. According to the World Bank, person-to-person, cross-border remittances being sent by migrant workers through formal channels to developing countries amounted to an estimated US\$93.0 billion in 2003.³⁶ Many observers point out that migrant remittances outstrip flows of official international aid. Looking more broadly at all person-to-person cross-border remittances using formal non-cash instruments and official third-party intermediaries, most analysts conclude the amount may approach US\$150 billion, although some suggest the total may exceed twice that amount. The numbers are large in any case, and do not even count domestic remittances.³⁷

For many developing countries, remittances represent the primary source of foreign exchange and generate a major engine for consumer spending. For example, foreign remittances to Nicaragua are estimated to total nearly 30% of GDP.³⁸ Yet remittances often remain held in cash once they reach their destination. And as much as 51% of person-to-person transfers happen by handing someone cash directly, or using informal networks such as hand-carrying by family members or business associates.³⁹ These payments are made in cash and generally remain circulating as cash in the informal economy.

With much of this money circulating within the informal economy and therefore being kept outside the banking system, these remittances do not contribute as strongly to formal economic growth as they could. In addition, the recipients of these remittances risk loss, and may become the target of criminals, by holding their funds as cash.

As a result, finding better solutions for initiating and managing remittances now tops the agenda for economic development policy makers, from finance ministers through to multilateral organisations such as the United Nations, the World Bank and regional development banks.

New remittance options

The confluence of existing banking infrastructure with new products and technologies such as the Internet is providing new options for more cost-effective and convenient fund transfers. As policy makers examine initiatives for moving from inefficient cash-based systems, opportunities should not be missed to explore electronic payments systems for person-to-person remittances. This is particularly true, since in many cases the majority of remittances can be narrowed to one or two major source cities, or a few 'corridors' between specific locations. As a result, a relatively focused system could bring a large percentage of remittances into the formal economy. Here are three new options that make use of international card payments systems in an innovative way to deliver remittance services across borders.

Funds transfer to a card. When the recipient possesses an international bankcard, one cost-effective approach is to allow transfer of funds onto that card. Such systems can significantly lower costs by making use of existing global authorisation, clearing and settlement infrastructure.

Bank branches serve as intermediaries for this service. Individuals can send money from a bank branch directly to a recipient's card account. Payment from the sender is received in the form of cash, a debit to his own bank account, or an acceptable bankcard. The funds are then delivered directly to a card held by the recipient. Such a service can be expanded to allow bank customers to access the service at any bank ATM with a bank-issued payment card and PIN.

One such service allows member financial institutions to offer a full-service money transfer system to their customers over the Internet, by telephone or in person. The sender can pay from either a bank account or a card account held at the service provider's bank. The service contacts the recipient on behalf of the sender's bank and manages all the communications needed to authenticate the recipient and arrange for payment to the recipient's card account.

³⁶ World Bank, Global Development Finance, 2004.

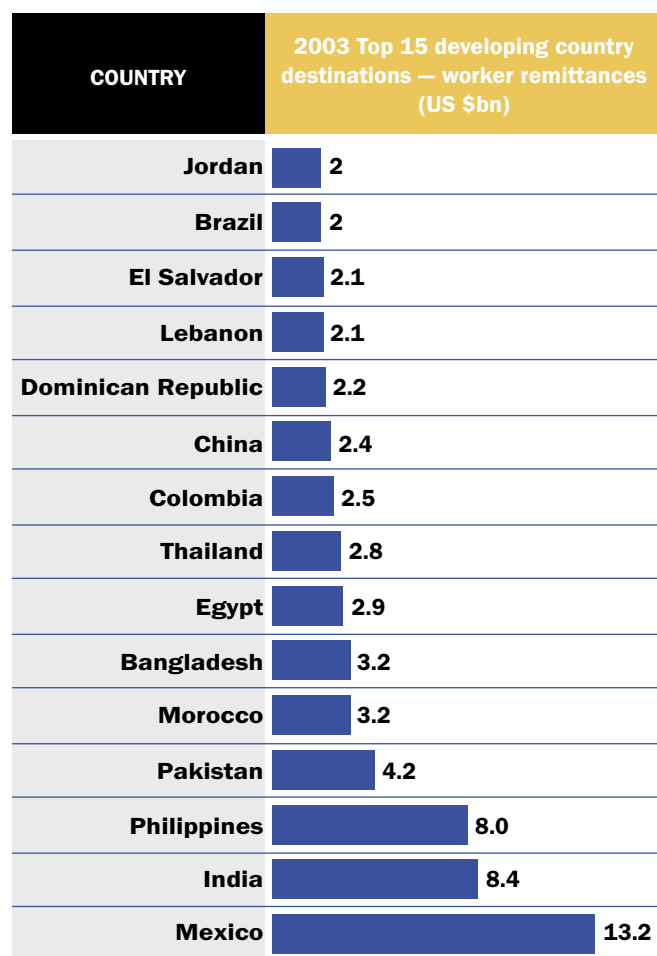
³⁷ A variety of sources were drawn upon to develop these estimates, including the BCG Global Payments report 2001, Visa research and modelling, Accenture analysis, Celent Communications, Inter-American Development Bank, Bendixen Associates, Datamonitor, and the Nilson Report Issue 746. Some estimates include the informal passage of cash, wire transfer and bank services, and small service providers and others, which may involve passing funds through mail, travel agents, post offices, hand-carrying, money orders, and credit union services.

³⁸ Inter-American Development Bank, 2004.

³⁹ See footnote 37.

Prepaid money transfer card. As noted above, in ‘banking the unbanked,’ financial institutions that are part of an international payment system can issue prepaid cards to customers, including those who currently do not have a banking relationship, enabling them to receive funds safely and conveniently. Depending on the type of card, recipients can withdraw cash at an ATM or buy goods and services at merchants.

One such programme was developed for remittances into Latin America.⁴⁰ The sender, using a bank or agent financial institution in their country of residence, can send money to a prepaid card account held by the recipient. The card may be issued by a financial institution in the sender’s or recipient’s country. The recipient can then use the card at merchants and ATMs accepting the brand, and affiliated bank branches. The sender can reload the card with additional funds at any time, with immediate access for the recipient. Very importantly, the recipient benefits from privacy when receiving funds, and the funds are protected if the card is lost or stolen. Similar programmes developed for ATM-only use include Bank of America’s SafeSend for transfers from the US and the Travelex Cash Passport Money Transfer system, launched with the UAE Exchange and Al Ansari Exchange.



Source: World Bank, *Global Development Finance*, 2004. Amounts are estimated and only include worker remittances.

Internet-based money transfer service. Internet-based services are a rapidly growing phenomenon that can utilise banks or private service providers. For instance, financial institutions that are members of an international card association can offer money transfer through Internet channels using that association’s security and risk management systems and processing economies of scale. Third-party money transfer service providers are also growing rapidly, including eBay’s PayPal and a service called iKobo, which offers domestic and international money transfer virtually worldwide via the Internet and presents a single-use, reloadable pre-paid Visa debit card called the i-Kard.

Supporting small business growth

There are two good reasons to encourage the use of electronic payments systems in small businesses: to strengthen small business in its own right, and to realise the goals of the initiatives described elsewhere in this paper.

To the first point, it is widely known that small business growth is a major driver of the economy. In many countries, small and medium-sized enterprises (SMEs) represent more than 95% of all enterprises and generate over half of private sector employment. Even these statistics are conservative, as they count only the formal economy. Therefore, any country seeking to generate a significant improvement in economic performance through the use of electronic payments systems should carefully consider opportunities in the small business sector. To the second point, consumers with payment cards will grow the formal economy only if their needs are met by merchants who accept those cards. Small businesses, as well as smaller retailers, are needed to create an acceptance network.

Electronic payments systems can help achieve both goals by:

- Building small business revenues through sales growth
- Improving small business profitability by reducing operational costs
- Financing small business growth, including the microfinance initiatives mentioned in the previous section

Benefits from expanding small business acceptance

To encourage widespread consumer adoption of electronic payments for purchases, particularly for everyday purchases, small businesses need to play a key role in establishing the acceptance infrastructure. In encouraging small businesses to accept electronic payments, it is helpful for government to understand the benefits of acceptance for small businesses.

Small businesses grow when they can sell their goods or services more frequently to more customers. By accepting electronic payments, small businesses can provide greater choice and convenience for consumers; more easily sell to government or other business customers, and potentially

Estimates of cross-border remittances range from nearly US\$100 billion to more than US\$300 billion per year.

⁴⁰ Visa Giro (named for the Spanish word for ‘transfer,’ pronounced ‘hero’) is currently issued in seven countries, including the Brazil, Colombia, Dominican Republic, El Salvador, Mexico and Peru.

expand sales channels through the Internet, mail order sales or telephone orders. Accepting international card payments can enable sales growth not only domestically but internationally as well by allowing a small business to sell to a foreign buyer and receive guaranteed payment internationally.

At the same time, real or perceived barriers to establishing acceptance are diminishing, for instance as lower-cost payment terminals become available and wireless connectivity and smart card solutions deliver flexibility for when, where and how a business can sell its offerings.

Policy makers can directly encourage small business acceptance in some sectors specifically by looking at the role of small business and electronic payment in supply chains. With paper-based purchase order systems at government agencies and large enterprises, payment often takes 30 to 60 days or more to process. Small businesses often lack the cash flow to be able to sell with such extended payment terms. When small businesses accept electronic payments in conjunction with use of purchasing or travel cards by government or large enterprise, they find it easier to become suppliers for these institutions. With an electronic payment transaction, a small business can secure payment in days if not hours. To the extent government embarks on deploying travel and purchasing cards, it can actively utilise small businesses as a supply network and set swift payment goals such as those that were developed by the UK Office of Government Commerce requiring payment within four business days.

Small business cost management

For many small businesses, cash is the most frequently used medium of exchange.

However, cash presents a range of hidden costs, from labour-intensive counting, reconciliation and transport, to the risk of loss and theft. Various studies have shown the cost of accepting cash to be from 4% to 9% of the value of a purchase transaction.⁴¹ In addition, owing to its physical nature, it

requires buyers and sellers to be in the same location when they transact, making cash a poor option for any remote sales channel.

Small businesses can use payment cards to reduce the operational costs of purchasing goods and services and travelling. One small consulting enterprise of six people in the United Kingdom, for instance, conducted a 24-month cost study comparing their standard administrative processes to travel and purchasing expenditures using a charge card, and assessing how the card brand affected usefulness. The company, called Manifest, reported that their use of the card resulted in time savings worth €340 annually per cardholder. They also saw lower transaction costs, reduced time for completing expense claims, and faster receipt of goods.⁴²

Such benefits are not contingent upon a line of credit. For instance debit cards, tied to deposit accounts, are available to small business. Debit cards not only offer services such as the ability to make withdrawals, transfer funds, check account balances and make deposits; they can also be used at merchants wherever the appropriate card acceptance mark is displayed. Debit cards could also be used to make recurring bill or utility payments, and since they can be issued with zero liability protection, small businesses are not liable for unauthorised use if the card is lost or stolen.

Payment cards deliver transaction data that provides not only visibility into spending but also improved financial management of a business. This and other banking and business support services are helpful for business owners in developing and developed countries alike. Viewing business account activity, managing accounts in the same bank and paying bills online can all add up to better control over cash flow, increased efficiency, cost savings and long-term business success.

More efficient models in small business finance

The greatest challenge in growing a small business, after building a viable business plan, is obtaining venture capital



⁴¹ See Donges and also Humphreys for cost analyses.

⁴² Visa, 'Visa Business Card Case Study,' May 2004.

to cover start-up and growth expenses and securing working capital to cover cash flow shortfalls between closing a deal and obtaining payment.

Small businesses everywhere find it difficult to secure the kind of financial services that larger, more established enterprises receive. The primary hurdles, cited by banks, include the inability to assess the creditworthiness and credit risk of a small business, concern about overspending and cash flow impairing repayment, and the overall lack of assets to secure the bank's risk in lending.

Typically, the entrepreneur is forced to borrow from friends or family or utilise personal credit and assets to produce sufficient capital and to cover cash flow shortfalls. Entrepreneurs who have no credit history or assets find it difficult to launch a business. In short, the old conundrum of finance particularly applies to small business: the businesses that most need credit are least likely to qualify for it.

cumbersome, inefficient and expensive credit line disbursement system. To issue a credit line to a small business and make a disbursement on the line took up to 90 days. Moreover, any time a customer needed an advance on the credit line, they were required to physically present paper copies of all working capital expenses and other transactions, which took from seven to ten days for all validation and approvals. As part of a re-engineering of its small business credit products, the bank partnered with an international electronic payment system provider and Banco Popular to issue credit lines using branded credit cards. Now the EDB receives applications for credit in the form of an application for the provider's branded business card. Within five business days the bank makes the credit decision and the customer receives his card. The card can be activated by a free telephone call and the credit line advance is immediate.

Francisco J. Rodriguez Castro, President, of the Puerto Rico EDB explains: 'Development banks today need to look to new models and new partners to get away from bureaucracy



'We are issuing Visa Business Electron to attract small and medium-sized enterprises, as well as bigger companies that want to retain complete control over expenses. The 100 per cent authorisation makes the product safe for everybody – the cardholder, the employer and the issuer.'

– Tomasz Romanowski, Bank Zachodni WBK, Poland

In recent years, new approaches are beginning to facilitate the financing of small business. The development, mentioned above, of debit products for small business has allowed banks to establish a banking relationship with new businesses and build a track record of financial activity as a precursor to issuing a credit line. By using payment cards to draw on a deposit account or line of credit, the issuing bank increases visibility into the rate and type of spending, thereby improving its ability to assess and manage risk.

Other payment solutions enabling more effective issuer risk management have been developed. For instance, a relatively new type of payment card that uses an international system but is always electronically authorised allows banks to minimise risk while serving small businesses that might not previously have qualified for a card. The card protects the issuer against overspending or fraud, and it gives the small business an opportunity to establish financial credibility and qualify for other financial products and services such as loans and lines of credit.

Very importantly, development banks are beginning to be more innovative. In 2001, the Puerto Rico Economic Development Bank (EDB) determined that it had a very

and fulfil their mission swiftly and efficiently. The speed and customer satisfaction we have attained with our card-based small business lending products is gratifying.'

In Brazil, the National Bank of Economic and Social Development (BNDES) wanted an even more targeted and controlled approach. The bank selected three different small business industry segments and developed a web-based supplier portal of BNDES-approved suppliers. Working with Bradesco bank, BNDES then issued small business lines of credit using card accounts managed by an international payment system. The accounts can only be used by the small businesses to purchase inventory at the government supplier portal. BNDES gains by being able to issue credit lines swiftly and efficiently, as well as being able to tightly control usage of the loan proceeds. The small businesses benefit by having a line of credit pre-approved for use with essential suppliers of inventory. The programme has recently expanded to include Banco do Brasil and additional industry segments, with 5,000 cards issued to date.

Both the EDB and BNDES examples are operational models that have the potential to be effectively applied to numerous other locations in developing countries.

Promoting foreign travel

For most countries, travel and tourism represent both a significant sector of the economy and a factor in managing foreign exchange reserves. Both domestic and international travel are economically important, but of the two, international travel presents significantly greater challenges and opportunities.

As a result, we will focus on foreign travel in this section, although some of the observations can be applied to all travel and tourism. Specifically, we will look at inbound and outbound travel, and we will outline how international electronic payment systems can play a positive role in promoting growth.

Growth projections

As shown in Figure 8, every region of the world stands to benefit from international travel and tourism growth. International travellers currently spend up to US\$728 billion worldwide, which could reach US\$1.4 trillion by 2014.⁴³ The numbers in Figure 8 are simply projections, however. Countries will need effective tourism promotion strategies if they want to capture or exceed the revenues that these numbers suggest. This is where international payment networks may play a role.



Figure 8
International tourism 2004 to 2014 based on destination country receipts

REGION	2004 total spending estimated (US\$bn)	10-year forecast annualised real growth	2014 total spending projected (US\$bn)
Europe	401.0	*	694.0
European Union	323.5	5.5%	536.2
Other Western Europe	31.5	6.0%	61.1
Central and Eastern Europe	46.0	6.4%	96.7
Americas	159.3	*	334.6
North America	125.5	5.5%	263.9
Latin America	14.8	5.3%	30.0
Caribbean	19.0	4.4%	40.7
Asia-Pacific	120.6	*	289.7
Northeast Asia	55.2	7.2%	140.0
Southeast Asia	33.6	6.4%	78.4
South Asia	6.6	8.1%	15.0
Oceania	25.2	7.6%	56.3
Africa	26.4	*	50.1
North Africa	14.2	2.7%	23.8
Sub-Saharan Africa	12.2	6.0%	26.3
Middle East	20.5	5.1%	40.8
Worldwide Total	\$727.8	5.8%	\$1,409.2

* Aggregate regional growth rate not reported or calculated.

Source: World Travel and Tourism Council. The figures shown are based on the WTTC methodology for calculating 'visitor exports.'

⁴³ 'World Travel and Tourism Forging Ahead: The 2004 Travel and Tourism Economic Research,' World Travel and Tourism Council, 2004. For access to the complete set of definitions, methodology, global analysis and individual country data, go to www.wttc.org and click 'TSA Research.'

Attracting foreign travel and tourism spending

Electronic financial services not only respond to the preference of travellers, but also make the travel industry more efficient.

Travel and tourism growth can be constrained by limited payment options. International travellers increasingly depend on international payment networks to access funds, conduct transactions in foreign currencies and avoid the risks of carrying cash. In most countries, given the cost associated with even domestic travel and tourism, the majority of consumers prefer deferred payment options such as credit, charge and debit cards.

Further, electronic payments can give the travel industry itself an assured way of receiving funds from travellers using various currencies and reduce costs for expensive processes such as paper ticketing and invoicing.

As with the other opportunities in this paper, an acceptance network that supports tourism can be highly targeted. The Indonesian government, for instance, recently wanted to promote tourism in Surabaya, the capital of East Java and the country's second-largest city. The government worked with Visa to boost the number of merchant acceptance locations there from 2,300 to 3,000, with a focus on restaurants, hotels, supermarkets and fast food. The goal is to bring an additional 25% sales volume from international and domestic cardholders to Surabaya's card-accepting merchants.

Building partnerships for tourism growth. A strong acceptance infrastructure makes a destination convenient and attractive for travellers, and tourism promotions are proven drivers of travel decisions. Governments can work with the local travel industry and international payment networks to create an integrated promotional campaign that enables leading hotel



‘Development banks today need to look to new models and new partners to get away from bureaucracy and fulfill their mission swiftly and efficiently. The speed and customer satisfaction we have attained with our card-based small business lending products is gratifying.’

— Francisco J. Rodríguez Castro,
President of the Puerto Rico Economic Development Bank

Therefore, policymakers should expand payment choices and develop promotional strategies for international travellers. They should pay special attention to international acceptance infrastructure, promotional partnerships and data sources.

Developing international card acceptance infrastructure.

Infrastructure considerations were covered in Section 2. They are critical here, as the ability to accept foreign payment cards will impact a country's ability to capture and maximise tourism spending.

There is great disparity between countries in the number of merchants and cash machines that accept international payments — ranging from more than 50 merchants and one cash machine per 1,000 banked adults to as few as one merchant and 0.05 cash machines at the low end.⁴⁴ Government officials can work with international payment brands to bring merchants into international networks, accelerate acceptance infrastructure deployment, and explore low cost card terminal technology that will enable more merchants to accept electronic payments more cost-effectively.

chains, airlines, retailers and entertainment companies to offer cardholders better value when they travel.

Large-scale international sporting events are also valuable in attracting tourists and boosting their spending in the host cities and their business communities. For instance, when Sydney partnered with Visa for the 2000 Olympic Games, it generated more than US\$40 million in marketing value for Australia over a four year period, with a 7% increase in tourism. The China National Tourism Association is making similar plans in anticipation of the Beijing Olympics in 2008.

⁴⁴ Visa internal estimates.

Using data wisely. Tourism officials can find that tracking spending by travellers and accessing comparable data for other countries can be a challenge due to differing methodologies and the reliance on surveys. While valuable comparative analysis is available from such organisations as the CBC, the World Tourism Organisation and the World Travel and Tourism Council, data from international payment systems may prove an increasingly valuable tool. For example, these providers could provide detailed data on the country of origin of tourists, a breakdown of their spending by merchant segment, an analysis of changes over time, and an assessment of the extent to which major promotional programmes have attracted tourists from the target countries.⁴⁵

Addressing outbound travel and foreign exchange

Outbound travel does not contribute to a country's GDP the way that inbound travel does. However, most countries see direct benefits for foreign travel – from taking advantage of foreign business, academic, or sporting opportunities to promoting a well-travelled citizenry. Travelling can be difficult for individuals without bank accounts, such as students or migrant workers. Similarly, travel can be difficult when there are restrictions on carrying hard currency out of the country. Usually such

travellers must go to a bank to obtain currency and then carry the full amount of cash with them when they travel abroad.

In countries as diverse as China and Morocco, card systems have eliminated the risks associated with cash for such travellers. And in instances where there is public sector desire for control over foreign exchange, they have been configured to respond to that need. China's International Travel Card, which runs on a prepaid card platform, is expected to serve ten million outbound Chinese travellers who otherwise carry an average of US\$1,000 in cash for each trip. The Moroccan Foreign Exchange Office has extended the use of international charge cards from a highly restricted list of specific uses and conditions – at export companies, foreign private individuals, Moroccan expatriates and international organisations – to citizens on a much broader basis.



⁴⁵ Visa Asia-Pacific has issued detailed reports for Australia and Thailand that are available at <http://www.visa-asia.com/newsroom/research.shtml>. The payment association says that analysis of other Asian destinations such as Japan, Hong Kong, Singapore and Malaysia will be rolled out progressively in 2004 and 2005.

Conclusions

Finding effective, proven approaches to foster economic development and growth is a challenge for every government. The good news is that electronic payment systems can help in many ways.

Electronic payments drive friction out of economic systems. They generate major value in terms of economic growth, cost savings, efficiency, transparency, and access for all sectors of society. They can make government a more effective buyer of goods and services, improve tax collection and help public servants deliver services more efficiently to citizens. They can help informal economies shrink and formal economies expand. They can bring the unbanked into the banking mainstream. They can make cross-border remittances a part of the formal economy. They can foster success in the small business sector. And they can make it easier for foreign visitors to participate in the local economy.

The process of establishing an electronic payment system is straightforward: determine the goal, find a champion, select a solution, prepare or refine the foundation, educate, execute and promote. Simplicity and convenience are important considerations for the ultimate products and services envisioned. Commercial banks can be key allies in working through these steps and building an action plan.

Two points bear an additional word. The first is the importance of promotion. The more extensive the initiative and the habits it is attempting to change, the more care and imagination must go into promotional efforts, including appropriate incentives. Consider the Government of Colombia in its efforts to boost tax collection and reduce the informal economy using credit and debit cards — public education and publicity were accompanied by a reduction in value-added tax for purchases made with cards to boost adoption and usage.

The second is leadership. Experience has shown that leadership from within government is essential. It can be at the top, at the cabinet level, or within a specific department. His Excellency the Prime Minister of Egypt Dr Atef Ebeid decided to take action on economic modernisation by launching a vision for modern payments in his country. The Rt. Hon. Paul Boateng, Chief Secretary to the Treasury, extended card payment efficiencies across the entire public sector in the United Kingdom. Francisco Rodríguez Castro transformed the product and service culture of the Economic Development Bank of Puerto Rico. And Dmitry Gaev at the Moscow Metro showed that the catalyst can be a visionary within a single department. He had the audacity to see a better way for government to operate and to use his vision to transform an entire function of government. He drove an overhaul of public benefits for 2.5 million Muscovites and produced a model that others are copying now.

As this paper has shown, many successful models exist around the world. Governments can adapt these models to their own objectives and implement them nationally or locally, society-wide or just for particular, strategic segments of the economy. In so doing, governments will boost efficiency, foster growth and enhance economic opportunity.



Appendix 1: The way forward

Electronic payment initiatives driven by government require leadership and planning. Governments will need assistance in preparing for change, promoting that change, agreeing on solutions, and laying the foundation for success. What follows is an approach to the issues, activities, and outcomes that can move commitment forward in the transition from a cash-based economy to an electronic one.

1. Define the initiative

An electronic payments system replaces paper money so that the purchases and payment of bills can be accomplished electronically. A variety of electronic payment instruments and options outlined in the body of the paper.

It is certainly possible to launch a project to establish an electronic payment system for an entire country. A faster and easier course may be to work by policy objective or market, focusing on the essential infrastructure, institutional framework, and solutions for the specific goal.

The key question is what can or should be accomplished? Is the goal to reduce the amount of time government employees spend on processing administrative paperwork for purchases and travel expenses? *Focus on a purchasing and/or travel card programme.* Are incoming foreign remittances getting lost in the informal economy? *Investigate remittance solutions for the local community of recipients.* Are merchants avoiding taxes by conducting a portion of their business informally? *Look at strategies to promote use of electronic payments by consumers across the economy.*

Each of these initiatives has specific considerations and resources. Assessing government purchasing as an initiative, for instance, can draw upon results and best practices from other governments and tools such as www.purchasingcard.info.

A remittance programme should identify the primary sources, destination locations, and types of remittance (e.g., worker remittances, gifts, transfers to students) and consider requirements for cross-border capabilities. A tourism programme should identify the primary originating points for tourists and business travellers, prioritise the destination locations, and determine the types of travel that would have the desired impact.

All potential initiatives should consider the importance of small business, and plan for co-ordination. This could include the role of small business in building acceptance, supplying government, using banking services, receiving government loans, or participating in microfinance institutions.

In short:

- Define the ultimate policy objective.
- Identify the best prospect solutions in conjunction with experts.
- Narrow and refine the potential initiative based on research and an assessment of the business case.

2. Establish who can lead, who can help, and how

An important determining factor in the success of a payment initiative is the quality of the leadership and expertise defining and driving it.

Assemble an exploratory team

Governments considering the transition to an electronic payments system can begin by forming a small team to perform an audit of the policy and technical knowledge and skills that already exist within their ranks. Finance departments, central banks, economic planning and development departments, and government procurement agencies are all candidates to provide the relevant internal expertise, and should have a keen interest in participating in the adoption of an electronic payments system. A project team can ultimately decide roles and responsibilities.

Identify a leader

Sometimes a senior official or champion will spearhead an entire initiative from the start. In other instances, a principal must be named. Whether a senior minister or civil service official, the principal will endorse the project, drive the change, and support administrative and resource decisions in the context of overall government and economic planning. The principal from government would be a voice for the project and should be a trusted figure who could articulate benefits to government and private sector stakeholders alike.

Secure private sector expertise

Private sector companies possess both the knowledge and experience of designing and deploying payment systems, and they can draw upon existing models or infrastructure. Governments may find it both far less expensive and considerably quicker to rely on the private sector, rather than 'reinventing the wheel.' Initiatives that are international in scope, such as inbound tourism or remittance programmes, require involvement of international partners. Commercial banks and international payment systems can be a key ally in this process and can work to bring in global expertise, vendors and technology solutions. Domestically, small business and industry associations can assist with building support for an adoption of the initiative within the local business community.

Enlist the help of the development and finance community

The World Bank, regional development banks, Commonwealth institutions such as the Commonwealth Business Council and non-governmental organisations such as the Institute of International Finance can provide important counsel.

Identify and assess existing models

For virtually any type of payment initiative, other governments may be able to offer helpful experience. Commercial banks, international payment systems and the development community can help in the identification and assessment of comparable models.

3. Conduct an audit and gap analysis

The next step before developing the specific project plan is to tightly define the specific requirements. A government procurement initiative, for instance, may need to involve only a specific number of government employees and the suppliers from whom they are approved to buy. A remittance or social benefit programme, particularly involving unbanked or less educated populations, may have specific infrastructure and educational requirements and may require an internationally recognised payment system.

□ Assess the technology environment

Carry out a survey to determine the state of transaction and telecommunications technology within the country specific to the needs of the particular initiative under consideration.

□ Evaluate the banking infrastructure

Map out the banking industry infrastructure within the country as it would relate to the success of the proposed initiative. Considerations may include the number of banks and branches, the volumes of business they do, the services they provide, the number of customers they have, the degree of co-operation and competition between them, and their willingness and ability to assist the initiative. Look at the views of key players in the electronic payment systems industry and the challenges and costs they face. Consider the extent of card acceptance at key locations and the specific impact and challenges of increasing the participation of small businesses.

□ Establish target population considerations

Review the target population for factors that could affect the design or function of the programme. Factors could include demography, the population's size, educational level, age structure, gender biases, ethnic composition, income distribution, workforce participation, geographical location, and cultural lifestyles. Whether the focus is on international travellers, pensioners or general consumers, it is essential to consider where the target population wants to shop and obtain cash, and the average frequency and value of their transactions.

□ Identify gaps and imperatives

Analyse the compiled data to see what patterns and trends emerge. Since the demand for such a system must be customer driven, what do customers want, and how might they respond to better, less expensive financial services? A consumer-focused initiative may need to address how behaviour within the target population (e.g. carrying cash) relates to financial services (e.g. lack of easy access to funds), and how that relates to technology (e.g. need for easy yet secure electronic payment at local shops that do not have reliable landline communications). Be open about the research and analysis, so that key stakeholders can provide input. Be attentive of the benefits the current system has for its stakeholders: buy-in is essential, and change must be believed worthwhile.

4. Plan, develop and deploy the system

□ Planning

To be effective, planning must be a two-track process. The structure and features of the electronic payments initiative itself must be decided. At the same time, the institutional framework and rules that will enable and support such a system must be drafted and implemented. Both must take place before the programme is designed and deployed. Some considerations are laid out in the 'Institutional framework' section of the body of this paper.

Once the institutional framework is in place, and the data and analysis to support the design are available, vendors or partners identified in Step 2 can design the particular solution. The design challenge will be to assure that the trade-offs between government considerations, public expectations, and commercial profitability are thoroughly understood and jointly resolved for all stakeholders.

□ Development

Depending on the type of initiative and the findings of the gap analysis, development may span a broad range of activities. For instance, technology enhancements may be needed within participating government departments, new administrative processes may be necessary, telecommunications gaps may need to be addressed, or security procedures and resources may need to be developed. It may be necessary to develop extensive educational and promotional materials and initiatives, or even develop a system of incentives for adoption by cardholders or merchants. It may be appropriate to begin with a limited pilot project, in which the design is tested, flaws are corrected, features are modified to reflect user feedback, and prospective operators and managers are brought in for training purposes.

□ Deployment

Specific deployment steps will vary widely depending upon the type of initiative and other factors. However, some basic considerations include these. Customer and technical assistance to merchants and end-users must be in place. Wide-area deployment should be arranged so as to occur gradually and continuously. It may be possible to deploy the solution initially only with the best prospects in the target population, and then expand as the demonstration effect gradually increases demand. As the numbers of users increase, driving expansion of point-of-sale and ATM acceptance, there may be ways to optimise the system.

Specific educational and promotional campaigns must be carefully considered. Different target populations and policy objectives will have different requirements: an inbound tourism campaign will have vastly different needs from an international remittance programme or a pension delivery system. Boosting participation by both consumers and merchants may require incentives and penalties.

Appendix 2: For more information

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Institutional Resources

Whatever the payment initiative under consideration, key institutions can provide assistance:

- The World Bank.** The World Bank Group includes the International Bank for Reconstruction and Development, the International Development Association, the International Finance Corporation, the Multilateral Investment Guarantee Agency and the International Centre for Settlement of Investment Disputes. More information specifically on financial sector advisory services may be obtained at www.worldbank.org/finance or via telephone at +1 202-458-9774, or by emailing askfinancialsector@worldbank.org.
- Multilateral development banks.** In addition to the World Bank, there are a range of regional development banks (the African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, and Inter-American Bank Group), sub-regional banks such as the East African Development Bank, and other multilateral financial institutions such as the Islamic Development Bank. Links to these organisations may be found by going to www.worldbank.org, clicking 'Partners,' and then clicking 'Multilateral Development Agencies.'
- The International Monetary Fund.** The International Monetary Fund provides a range of technical assistance on the subjects described in this paper. More information can be found at www.imf.org under the 'IMF at Work' tab. The phone numbers for IMF Public Affairs are +1 202-623-7300 and fax +1 202-623-6278.
- Commercial banking institutions.** Commercial banking institutions in each country can be essential allies in assisting with development and implementation of electronic payment initiatives.
- Commonwealth institutions, including the Commonwealth Business Council.** The CBC may be reached at www.cbcbglobeink.org, at its offices at 18 Pall Mall, London SW1Y 5LU, United Kingdom, or by telephone at +44 20 7024 8200 and fax +44 20 7930 3944/3945. General enquiries may also go by email to info@cbcbglobeink.org.
- Institute of International Finance.** The Institute serves as the global association of financial institutions and provides research and risk evaluation on emerging market economies, as well as provides a forum for discussion of international financial regulation and policy issues. More information on the Institute can be obtained at www.iif.com or telephone +1 202-857-3600, fax +1 202-775-1430 or info@iif.com.
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