Another Hundred Years of Cash

By Mike Lee, CEO of the ATM Industry Association

The Story of Cash has an Unexpected Twist

My paternal grandmother used to open a novel at the back page in order to read the ending of the story first. True to this family tradition, I will give you the ending of this article upfront and then work backwards, unveiling in the process the secret of cash's enduring popularity.

Here, then, is the conclusion of this article. There is virtually zero chance that cash will be withdrawn from society within the next generation (that is, in the next 25 years).

In all likelihood, there could easily be another hundred years of cash.

Now, we must find the rationale for this dramatic statement.

Yet this conclusion is only remarkable because there is a widespread perception in financial services that cash's days are numbered. People talk vaguely about the cashless society. Some folk seem to believe that plastic and digital forms of money are set to *replace* cash.

Upon analysis of the true nature of cash and on what is driving global demand for cash, however, this conventional wisdom turns out to be based on a myth. It is a fantasy which has been promoted largely by the card issuing sector because it has a vested interest in the demise of cash.

But the cashless society is about as real a possibility as the paperless office. At this stage, it belongs in the realms of science fiction.

As head of the ATM Industry Association, which represents a broad spectrum of the ATM industry and marketplace in about 50 countries, I undertook last year a proper futures analysis of cash. It is true that cash remains the lifeblood of the approximately 1.7 million ATMs worldwide, since about 70% of global ATM transactions are cash withdrawals.

The research project was part of my studies to be a qualified futurist. Fed for many years on stories about cash's possible and imminent disappearance, I half expected to read evidence that the cash industry had about 10 to 20 years of life left in it. I would have then started thinking about reinventing ATMIA to become something like EFTA (Electronic Funds Transfer Association) to prepare for a future *after* cash. Even the inventor of the ATM, Mr John Shepherd-Barron, OBE, personally asked me at an ATMIA conference in February 2007 to investigate the future of cash.

I found that the story of cash, like all good stories, has a twist to it, an amazing element of surprise.

During my months of research on mountains of reports, articles and data, I was astounded to discover that all the indicators showed that cash appears to have a bright and unlimited future. The conditions keeping it in production are much stronger than all the growth inhibitors and threats to its existence *put together*.

A Global Cash Tour

It is true that overall global market share for cash as a form of payment declined in the latter part of the twentieth century. This was principally due to the advent of extraordinary financial inventions like the credit card, point of sale terminals, internet banking and, now, devices like prepaid cards and mobile banking.

But both the value and volume of cash continues to climb year on year throughout the developed and developing worlds. This healthy growth in the production of banknotes is needed to meet growing demand by a public hungry for a nice thick wad of banknotes in their wallets, purses and, best of all, in their pockets.

I have been told by a leading global printer of currency that the estimated annual demand for new banknotes is 1 billion.

Let that sink in. One billion crisp new banknotes printed every year. The Bank of England, European Central Bank and US Federal Reserve System all report that UK sterling, euro and US dollar currency in circulation are continuing to increase. The volumes of cash in circulation in the world are truly astronomical. There is a tsunami of greenbacks in the USA alone. The world itself is awash in US dollar bills.

A recent report from the UK's payments association, APACS, entitled "Payment Myths" states that 91% of payments under £10 are made by cash in Britain, compared to 5% by debit card and 2% by credit card. Nor should one scoff at small payments – Visa estimates that $1.3 trillion per year is spent on small ticket items. De La Rue Currency's annual survey into opinions about cash and other payment methods shows cash remains the preferred means of payment for 58% of people in the UK, particularly for these small-value payments. Cash accounts for two thirds of all personal payments by volume in this country.

In 2006 alone, £36.3 billion in cash was spent in supermarkets. Even for payments over £50, Britons are more likely to use cash than a credit card. And nearly two million Britons are still paid in cash on a weekly basis, according to APACS. By the end of 2004, the value of notes in circulation exceeded £36 bn, a 45% increase since 1999.

Where, O, where is the cashless society in all this? It simply does not exist. In fact, it may never exist if current conditions for cash continue to prevail.

One of the most pervasive myths about cash is that usage of cash is declining in advanced economies. Not true at all. In this view, the assumption is made that cash is for less advanced, "poorer", developing countries. This is a misconception. The World Payments Report of 2006 stated that cash volumes are continuing to rise despite attempts to actively promote non-cash payments.

Let us take Europe as an example. This continent has done more than any other region of the world to encourage the decline of cash. The European Commission and European Payments Council are promoting non-cash payments through the creation of a cashless payment system called the Single Euro Payment Area (SEPA). And in France, authorities have limited use of cash by law, e.g. transactions over €3,000 may not be conducted in cash and wages may not be paid in cash.

Yet Europeans continue to draw more and more cash every year. Many European countries are not moving to higher levels of non-cash usage. The European Union has set a benchmark of between 200-230 non-cash transactions per inhabitant per year, yet countries like Spain, Italy and Poland see fewer than 100 non-cash transactions per year. Across 17 European countries the average of card transactions per year is a modest 49 per citizen. The European Payments Council estimates there were about 360 billion cash transactions in 2003 compared to 60 billion non-cash transaction that year.

And euro banknotes in circulation are growing at a rapid pace. The volume of cash in circulation in Europe has grown by around 20% per year since the euro was launched in 2002, with 1.3 billion euro banknotes in the market by the end of 2006. In the euro zone volumes of low denomination notes have been increasing at a 5% p.a., a rate higher than inflation.

Advanced countries like USA, Japan and the United Kingdom reveal resilient usage of cash in their economies. The Bank for International Settlements reported in September 1999, that notes and coins as a share of GDP rose in the following advanced economies between 1990-1997: Japan, Germany, Canada, USA, UK, Italy and Australia.

According to the US Treasury, paper currency in circulation has been climbing steadily in America from $81 million in 1975, representing $380 for every person in the US, to $2,578 in banknotes for every American by 2005. In addition, there is an extra $35 billion in coins in circulation (excluding coins held by collectors). Clearly, there is a deluge of cash in circulation in the world's greatest economy. The value of US dollars in circulation has increased by 400% between 1980-2005 from $160bn to $700bn, the volume of notes soaring by 465%!

Japan, the world's 2nd largest economy, is cash-dominated. There are only 36 non-cash transactions per person per year, compared to 288 per capita in USA (of which 119 are for checks).

In the so-called "transitional" countries of the former USSR, central banks confirm that *in every single country* in this region cash transactions dominate both the volume and value of retail payments.

In Australia, cash remains payment of choice for small retail transactions and transfers of value between individuals. The ratio of currency to GDP is increasing there, up to 4% in 2004 from 3,5% during preceding decades. Cash payments make up 40% of value of all retail payments in Australia, but in food and convenience stores cash sales account for about 56% of sales.

In South Africa, the Reserve Bank has reported annual rises of 10% in demand for cash for the past few years. Two thirds of all transactions are still conducted in cash with R55bn worth in banknotes in circulation and up to R3bn in cash exchanging hands every day. 91% use cash to pay for groceries (food), while 4% use debit card, 3% credit card and 1% store card.

The increased global demand for cash is good news for our ATM industry because the cash machine is the primary means of banknote distribution through the cash cycle in modern economies. In the UK, there are 87 cash withdrawals every second at ATMs. In 2006, UK consumers withdrew £180 billion in cash from ATMs. The average value of a cash withdrawal is £65. According to the World Payments Report 2006, the aggregate number and value of ATM cash withdrawals grew at an annual rate of 5.9% and 7.1% respectively from 2000 to 2004.

The cash handling industry, managing the storage and distribution of cash, has seen significant growth as a result of the strong demand for cash. Scan Coin, a global leader in cash processing, reports that cash handling is increasing by 2-10% in most industrialised nations and by a lot more in less advanced countries.

Cash recycling will improve future efficiencies in the cash cycle. Retail Banking Research expect cash-recycling at self-service terminals in Europe to grow 30% in 2008. According to current estimates, that rate of growth will increase by 170% by 2010 and 215% by 2017.

Manufacturing the Myth of the Cashless Society

Have you been surprised by these positive trends for cash? After recovering from the amazement at my discovery regarding the entrenched nature of cash in modern societies, I began to think about reasons for the prevalence of the myth of the cashless society. And it is not just that the "kill cash" campaign has spent millions of dollars on advertising the drawbacks of cash. Something much deeper is behind this myth.

It is a truism of futures thinking that people tend to *overestimate* the pace of technological change and to *underestimate* the role people, culture and society play in the use and diffusion of technologies. Studying technology lifecycles shows that mainstream technologies are generational and inter-generational phenomena. They are not fads that come and go – television, telephony, computers, for example, advance in their functionality from decade to decade but they stay part of our lives for generations.

The simple truth is that the manufacturers of this myth of the cashless society have not understood the history of cash, including its recent successes in resisting being replaced by alternative technologies.

For with cash we are dealing with one of the most successful technologies ever invented. Its history stretches back to over 27 centuries to Lydia in the 7th century BC where coins from that period have been found by archaeologists. Paper currency goes back to the Tang Dynasty in China in AD 618-907.

Cash is therefore an inter-epochal technology which was successful in Ancient, Medieval *and* Modern times. How many other technologies can claim to have survived that kind of span of history, to have started their life in Biblical times? There is certainly no need to call in the archaeologists when studying the history of plastic money and e-money. To use a touch of irony, the history of plastic money is "paper-thin".

Cash, in short, has been underestimated and misunderstood as a technology in recent times.

There is something powerfully simple about cash which is the secret of its longevity. It works easily and quickly. All people, old and young, rich and poor, uneducated and uneducated, weak and strong, can use cash and enjoy the security and simplicity of its timeless exchanges of value. Cash produces instant results virtually anywhere on earth. That is an immense strength. To "coin" a phrase, cash is <u>human-friendly</u>. The robust qualities of cash itself have enabled it to survive an enormous span of human history.

In addition, cash is not a technology which can easily reach exhaustion due to resource depletion (of paper and metal). As long as the social drivers of demand for cash exist, there will be <u>no</u> "S" growth curve representing cumulative growth leading to cash's inevitable saturation point and decline.

One of the strongest arguments for the future of cash is its resistance to substitution. Back in 1979, Michael E. Porter of Harvard Business School developed a theory of 5 forces which shape the competitive environment for businesses and their products. One of them was the threat of substitute products which would make it more likely for customers to switch to alternatives, especially in response to price increases. He outlined components of product substitution such as the buyer propensity to substitute, the price of substitutes, the switching costs and the perceived level of product differentiation. Given that cash has proved to be an inter-epochal technology, how has it fared against the threat of substitution?

The first technology designed to substitute for cash was the cheque. It was used extensively for the first time in Holland in the early 1500s during that country's rise to become a world seafaring power. But in five centuries the paper cheque has failed to replace cash. Indeed, this technology is now in retreat. The paper cheque is declining slowly, but decisively, around the world. It has disappeared altogether in the country where it was fully developed – the Netherlands. In eight developed countries the average cheques/checks per person per year is fewer than two. In 2003, there were more e-payments (44.5bn) than cheques (36.7bn) in the USA for the first time. The facts show that cheques have been the big loser in the e-money revolution, not cash.

Nice try, Mr Chequebook. Now, move aside. Who's next to challenge cash?

Along comes the nifty little credit card invented in a restaurant in New York in the 1950s. It has been a remarkable technology but it may be comparatively short-lived, because its inherent riskiness is being increasingly exposed. With the current credit crunch causing concern about the fragility of the world's financial systems and stock market jitters, perhaps damaging, in the process, the reputation of credit itself as a financial mechanism, we can turn the tables on the proponents of "kill cash" and ask them if the lifecycle of the credit card has not now peaked? In China, the world's future superpower, credit is not regarded as real money – real money in Chinese culture is cash in the bank that has been earned through hard work.

The credit card, too, then, like the cheque, has failed to topple cash as humanity's favourite payment device. Its future is a topic for another article but I suspect that it is the debit card which is growing rapidly worldwide and still has a very promising future, not the credit card. Certainly, the future of the credit card is far less secure than that of cash.

Nice try, Mr Credit Card. So what's next to challenge cash?

Whether we talk about mobile payments or internet payments or gift cards, the fact is that the more new payment devices there are from now on, the more each one of them will absorb some market share loss to the latest payment technology. The payments landscape is now multi-channel and somewhat cannibalistic. There is no one payment device, whether an electronic funds transfer, a mobile phone or a prepaid card, which can substitute for cash. Why not? Because there is no one payment device which can mimic all the following qualities of cash which have made it so durable and popular.

These qualities include the following:

- ✓ It is valuable in itself and can function as a store or "shelter" of value
- ✓ It is fee-free for consumers
- ✓ It is the most tangible and liquid form of money
- ✓ It carries certainty of acceptance as legal tender
- ✓ Its settlement is immediate – there is no settlement risk
- ✓ It has no credit risk attached to it
- ✓ It is a public asset regulated by the central bank, generating public tax (called seigniorage)

- ✓ It is anonymous and cannot be tracked
- ✓ It is easy to access and easy to use - it does not require technology or infrastructure for P2P payments
- ✓ It is universal – accepted almost anywhere on earth
- ✓ It is interchangeable with other cash, unlike most plastic cards which cannot be interchanged
- ✓ It has a fast transaction speed

On the latter point, check out its transaction time compared to other payment methods.

Figure: Payment Transaction Speed in Seconds

	Cash	**Debit Card**	**Credit Card**	**e-purse**
Belgium	**32**	**32**	**56**	**20**
Netherlands	**19**	**26**	**28**	**14**

Source: 2006 Study by Central Banks of Belgium and the Netherlands

Such speed is important in retailing. McDonalds has reported that shaving 6 seconds off transaction times brings about a 1% increase in sales.

Given these beguiling qualities of cash, which no alternative to cash can hope to reproduce, it is not surprising that nearly three in four of all personal payments are made in cash. Cash has that human, personal feel to it. It has been shown to be an "Ich nahe" (I near) product, like, say, jewellery, rather than an "Ich ferne" (I far) one.

More Drivers of Cash Demand

Other demand drivers for cash, which augur well for its future, are the growth of remittances, world tourism and, most significantly, the unstoppable force of the informal sector. Let us discuss each one briefly.

The World Bank estimates that the total amount of remittances sent home to developing countries by workers abroad reached $173bn in 2005, and is now closer to $310 bn. Next to Foreign Direct Investment (FDI) they have become the most important source of external financing for developing countries (UN News, 29 June 2006). The good thing about remittances is that they help bridge the enormous divide between the wealthy and the poor. The level of poverty declines in countries receiving remittances on a considerable scale. Recipients use this money to improve their children's education and to provide living accommodation. Remittances are often received in cash, sometimes via ATMs. Often remittances are carried as cash, too.

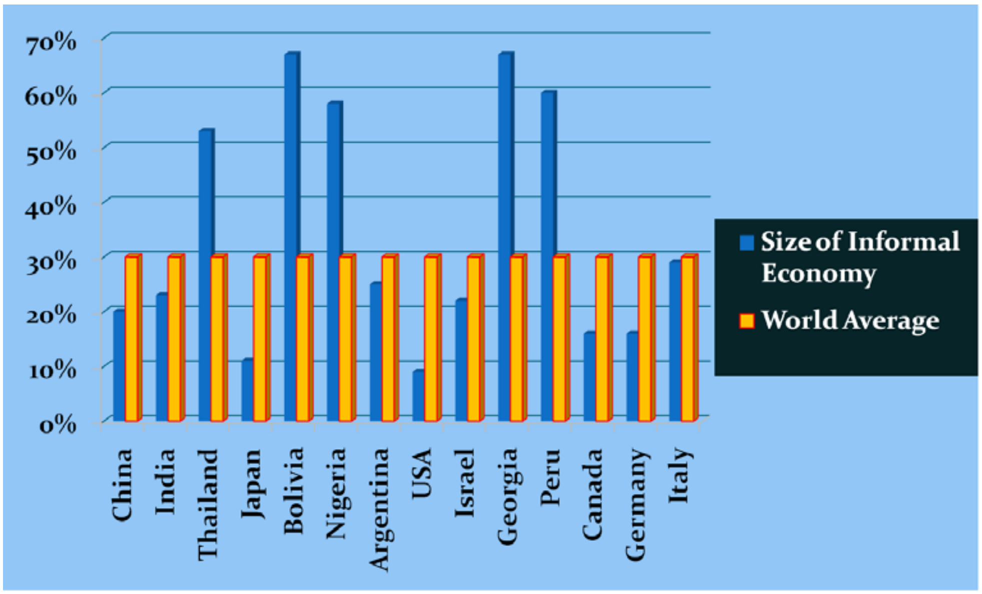
Tourism is now reported to be the world's biggest business, earning $2bn a day in 2006. In 2003 it represented 6% of worldwide export of goods and services. What is interesting is that many tourists prefer to use local currency when abroad rather than plastic money or credit. For example, an estimated 70% of Chinese tourists prefer cash on their travels. It is safe to predict that the worldwide infrastructure of ATMs will continue to be used by the world's travellers as an easy source of local currency to spend in their destination countries.

But the future existence of cash is virtually guaranteed by the mammoth and growing role of the informal sector in almost every national economy. Studies have shown that increases in size of informal sector invariably lead to increases in demand for cash (Schneider:2002).

The informal sector may be defined as economic trade which is not registered for taxation. It *excludes* the proceeds of organised crime. And the informal sector is growing in developed, developing and transitional countries. In European Union, there are 48 million workers in informal sector. In India, informal sector trade provides over 90% of employment with some 360 million workers. In South Africa, 25% of the labour force works in the informal economy, responsible for 10% of all retail sales. In Russia the informal sector makes up 14% of total employment.

This table shows the significant role of informal trade in the global economy.

Figure: Average Size of Informal Economy Around World measured as a % of GDP



What is astonishing about the above figure is that the global average size of informal trade is about 30% of GDP. Which government is seriously going to try to eradicate that level of trade from within its boundaries and thus risk pushing up its unemployment rate and poverty levels? *Conclusion: another century of cash ahead?*

The conditions sustaining the demand for cash, then, are deeply entrenched:

- ✓ its unique "human-friendly" qualities making it both highly popular and highly resistant to substitution by competitive products
- ✓ the public, regulated nature of cash which make it guaranteed legal tender and take away any credit and settlement risks
- ✓ the fact that it is an indispensable source of public funds through seigniorage tax
- ✓ its important role in the growing markets of tourism and remittances
- ✓ the global rise and rise of the cash-dominated informal sector

Now you have read the whole article, you can decide for yourself whether you like and accept the ending with which I began this compelling story of cash. Either way, I trust some of the conventional wisdom and negative mythology about cash has been shown to be based on paper thin arguments and flimsy evidence.

Even now, some readers may well think it is crazy to forecast another century of cash.

But in a 27 century history, making it one of humanity's most successful technologies, what's another hundred years?

About the ATM Industry Association and the Author, Mike Lee, CEO of ATMIA.

The ATM Industry Association is a global non-profit trade association with over 1,000 members in 50 countries. Our mission is to promote ATM convenience, growth and usage worldwide, to protect the ATM industry's assets, interests, good name and public trust; and to provide education, best practices, political voice and networking opportunities for member organizations. In June 2003, ATMIA established the Global ATM Security Alliance (GASA) with the mission to employ global security resources in a united alliance in order to protect the ATM industry from criminal activity

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Mike Lee joined ATMIA in 2000 and was tasked with setting up ATMIA Europe. In June 2003 he founded the Global ATM Security Alliance. He has also established chapters in Australia, South Africa and Asia. In 2004, he won ATMIA's member-voted award for Best Contribution to Promoting the Interests of the ATM Industry. He was promoted to CEO in 2005. Mike has a Master of Arts degree from the University of Cape Town, as well as post-graduate qualifications in education and theology. He is currently registered part-time for a MPhil degree in Futures Studies at the University of Stellenbosch business school in Cape Town. He is married with two teenage daughters.