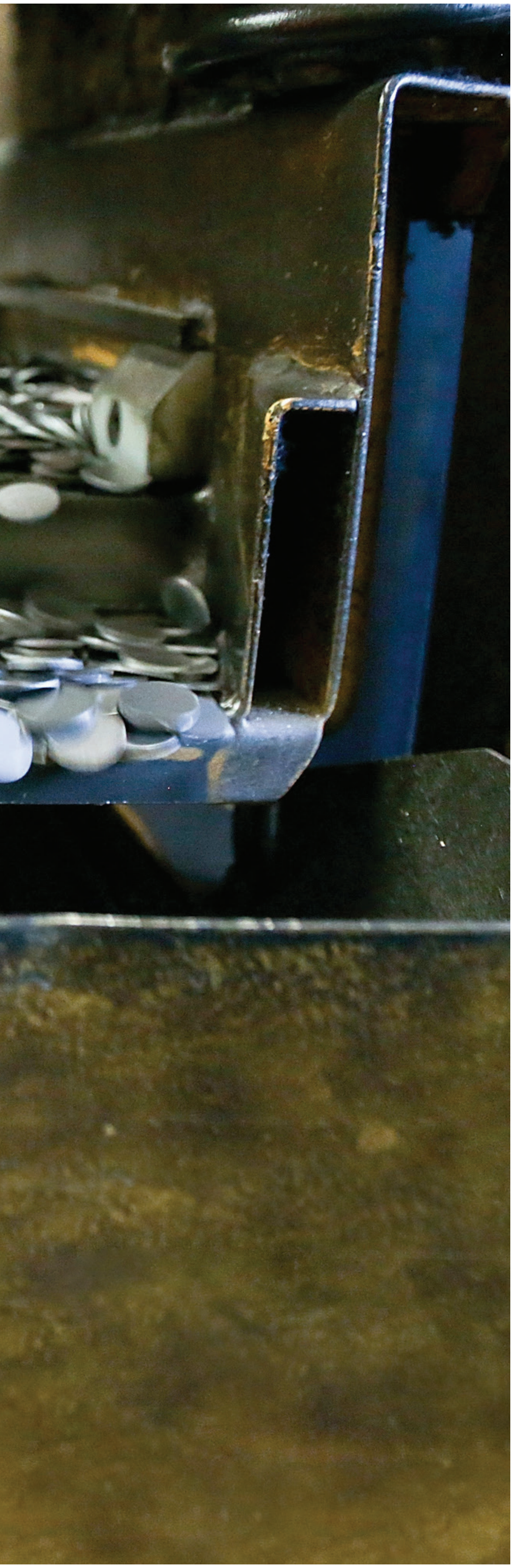

It's all change in your pocket

With so many different forms of payment now available, from smart phones to bitcoins, Paola Subacchi looks at the future of money

The 1970s were years of high inflation in Italy. As the price of goods increased and the lira, a high denomination currency, was debased, the country faced a chronic lack of small change. Those were the years when coins were used to operate all sorts of devices, from pay phones to launderettes, vending machines and jukeboxes.

Minting coins is more expensive than printing banknotes and the metal content of coins is often – especially at times of high inflation – higher than their nominal value. So, for some years the amount of coins in circulation in Italy was much lower than demand. People began to hoard loose change.

Shopkeepers reacted to this scarcity by replacing small change with sweets, stamps and other items of small value. Customers were not happy. This was a one-way solution as no shopkeeper would accept a bunch of sweets in lieu of money.

To make up for the shortage of coins a few banks began to issue mini-cheques on behalf of local retailers. These were like regular cheques, but the size was smaller, and they were issued for small amounts, such as 50, 100 or 200 lire. Because they were made transferable, they could circulate and be used in several transactions – exactly like coins. The small change scarcity began to ease and more mini-cheques were issued – for an estimated value of 200 billion lire. Eventually the authorities had to intervene and mint more coins.

Blank coins produced at the Royal Mint are sorted before going on to be stamped

This story is not just an example of monetary ingenuity. It tells us a great deal about money and how it works. First of all, money as a means of exchange needs face value and extensive circulation. The mini-cheques addressed both problems that sweets could not solve.

Second, to be acceptable money needs to be issued by credible institutions. These are usually central banks on behalf of sovereign states. The mini-cheques were instead issued by commercial banks, and to many people they were the ultimate guarantor. But this was misleading. The mini-cheques were not backed by the reserves of the issuing banks and were not redeemable against 'real' money. In theory their value was underpinned by the lira, being exchangeable one-for-one. In practice, there were more mini-cheques in circulation than official money, and this could have created a crisis if users had tried to redeem them all at once.

Third, to circulate money needs a network of people happy and willing to use it. The mini-cheques issued by local banks had limited circulation. Where people were not familiar with the issuer they did not trust the mini-cheques – they could be easily counterfeited. Banknotes and coins issued by a sovereign state, by contrast, are legal tender and have a 'captive' network within the boundary of that state.

Fourth, it is expensive to print or mint physical money, and to move it around. It is not surprising then that the Italian authorities reacted with benign indifference to the appearance of the mini-cheques.

Finally, the story indicates that like any other transactional instrument money also evolves to reflect the development of how people deal with each other.

Alternative money

Mini-cheques are no longer around, except as a collector's item. They were an innovation in the less connected world of the 1970s, where shopping was a local experience; at the time they addressed a temporary bottleneck. Today many transactions, even small ones, are settled electronically, and so we struggle less often with change.

But alternative money, or 'other physical media of exchange available for transactions', to use the Bank of England's jargon, still exists. There are book tokens, and similar retail vouchers with a face value and nationwide circulation but limited exchangeability. Air miles and reward points can be exchanged only within the network of the participating airline or retailer. And their intrinsic value is determined by the demand and supply for the reward.

Other examples of alternative money include local currencies such as the Bristol pound and the Brixton pound that are devised to encourage spending within the local community. The Bristol pound, for instance, is backed one-for-one with sterling and can be used to purchase goods and services from participating retailers within the Bristol area. Unlike book tokens and air miles, local currencies are exchangeable against a wider range of goods and services, but within a limited geographical area. And unlike 'real' money they are not legal tender.

It is not just paper instruments that have evolved to reflect different needs and different transaction networks. The concept of means of exchange has changed too. Money no longer needs to be physically moved around; information can be sent instead. The widespread use of 'plastic' – debit and credit cards, store cards and prepaid cards – has eased out cash in many transactions. In addition, innovations such as phone-based tools offer alternative ways to pay bills, buy and sell goods, send and receive money and make bank transactions. And there are less common but increasingly popular electronic alternatives, such as the scrip that gets passed around in online games and social networks.

> 'The Chinese hold the largest amount of foreign exchange reserves, $4 trillion'

Compared with a few decades ago, cash is now a sub-optimal means of exchange: it is bulky, can be counterfeited and can be lost or stolen. However, it retains features that make it the chosen means for some people. It changes hands quicker than electronic money; it is the easiest and cheapest, and often the only, option for those without easy access to banking facilities – the poor and people with low income; and finally its anonymity makes cash the preferred option for those who do not want to leave traces of their transactions. Drug dealers and other criminals, prostitutes and corrupt politicians, as well as tax evaders and many domestic helpers and their employers, all operate on a cash-only basis.

A dollar world

Money is not only a means of exchange. It is also a store of value, and this hugely complicates the way we deal with it.

Being a store of value facilitates the transfer of claims from one person to another from one point in time to a later date. But, in deferring consumption – indeed the majority of us do not immediately exchange money for goods and services, but tend to save – people need to be sure that the money they accumulate will retain its value.

Historically, societies adopted commodities such as gold and silver as the dominant store of value. Britain, for example, embraced the Gold Standard until 1931 when it switched to fiat money, that is money issued by government decree. Since then, the notes issued by the Bank of England have been backed by the promise of government-guaranteed assets and are not exchangeable for a physical asset such as gold. Ultimately, fiat money is supported by confidence in the state's willingness and ability to use future taxation to meet all of its obligations. In other words, printing money should reflect the capacity of a government to raise revenues through taxation. This is why 'real' money – unlike mini-cheques, retail vouchers and local currencies – is normally issued by a sovereign state.

There are currencies that are more effective at storing value than others. The dollar, the euro, sterling, the yen – the so called reserve currencies – are held in countries' official reserves to withstand emergencies, for example a dearth of liquidity to pay for imports, and to protect 'the wealth of the nation'. The Chinese state, for instance, holds the largest amount of foreign exchange reserves, of an estimated value of $4 trillion dollars. The exact composition of that holding is not disclosed, but more than half of it is presumed to be in dollars. Similarly, individuals and companies hold reserve currencies as assets that maintain their value and even increase it.

The dollar is the world's key reserve currency, and the key vehicle currency for international trade. It is used in approximately 80 per cent of the world's total trade. Most international trade, in particular oil and commodities, is quoted and invoiced in dollars. And two thirds of global official foreign exchanges reserves are in dollars.

The greenback has glued the world economy together since the end of the Second World War, as a consequence of the post-war arrangements agreed at Bretton Woods in 1944.

For many years dollar-holders have trusted the United States to maintain the value of the currency. Reassured by American's pre-eminent global role, they have retained dollars in their portfolios. Even during the most critical months of the global financial crisis, between September 2008 and February 2009, the dollar appreciated by 11 per cent, reflecting strong demand in spite of the fact that the crisis had originated in the US banking system. However, the legacy of the crisis and the measures pursued by the FederalReserve Bank, the US central bank, to create abundant liquidity have been shaking the confidence of many Americans and non-Americans in the currency.

Fragmented future

Many have started to look 'beyond the dollar'. Will the system of international money go through the same transformation that physical money has experienced in recent years? Will it evolve to reflect the shift in the balance of economic power and the emergence of large and fast developing economies such as that of China?

More options are available than just a few years ago. They stretch from emerging nations' currencies, in particular the Chinese renminbi, to crypto-currencies such as the bitcoin, an electronic currency that exists only online. The demand is certainly there. Both the renminbi and the bitcoin have increased their circulation in recent years – the renminbi is now used in about 18 per cent of China's trade. Both have seen their value go up.

Despite the Chinese leadership commitment to reduce China's dependency on the dollar and carve an international role for the renminbi – the concept that 'great nations have great money' resonates well in Beijing – it will keep its foot on the brake. On many occasions the authorities have indicated that they are not in a hurry to push the renminbi – not least because this implies the huge task of reforming the domestic financial sector.

As for the bitcoin, liquidity does not depend on any government policy, but is mathematically pre-determined. Supply is fixed – the total number of bitcoins in circulation will never exceed 21 million – and demand is growing, so the currency's value goes up. Not being backed by any government makes the bitcoin attractive to many who distrust central banks and governments – libertarians, techno-anarchists, post-modern hippies and criminals – and of potential interest to non-profit organizations, small businesses and even the World Bank.

Our monetary future looks more fragmented, and with more choices. Neither of the available options – the euro, the renminbi – is strong enough to become the dominant one. Together, however, they can break the de facto monopoly enjoyed by the dollar as the global currency.

Depending on our preferences, ideological stance, business needs and expectations on the future value of each currency, we will be able to choose among a range of currencies: money issued by sovereign states or by currency unions like the euro, or even stateless crypto-currencies. At the same time we will be able to use local currencies. And those who think that the dollar will remain the ultimate safe haven will keep backing the greenback.

Money will continue to evolve. Different instruments – from physical to electronic money – will serve different types of exchanges and needs. And people will use many different instruments to reflect the complexity of their transactional networks: 'plastic' will be used for most physical and for all electronic exchanges; PayPal for small denomination online deals; book tokens, air miles and supermarket loyalty points to be redeemed in specific transactions and specific outlets; cheques to deal with the computer illiterates; and cash for small physical transactions, such as tipping, and for any dodgy deal.

It won't be a cashless world, but it will be one without high denomination banknotes such as the European criminal's favourite, the €500 note, as most people will prefer the convenience of electronic payments in large transactions. And as for those engaged in illicit trade, they will need larger suitcases.

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