

Information Technology (IT) and Central Banks*

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1. Use of IT for improving payment and settlement services

For a long time, the banking sector has been the monopolistic provider of economy-wide payment and settlement systems. Recent developments in IT, however, suggest that this situation may change, as evidenced by several attempts to create new types of payment and settlement services using IT; such as i) the use of financial assets other than bank deposits (e.g. MMFs) for payment and settlement services, ii) experiments using various kinds of ‘electronic money’, and iii) making settlements through B-to-B EDI systems, etc.

While challenges to the banking sector’s monopoly of payment and settlement services are not necessarily new, it is important to realise that the sector has continuously adopted the latest innovations in IT to build and improve payment and settlement systems, thus maintaining its monopoly¹. In fact, the banking sector has been one of the biggest users of IT during the past few decades.

Nonetheless, we cannot exclude the possibility that the banking sector could quickly lose its monopolistic role as the provider of payment and settlement systems in the future. An important factor which has greatly contributed to the sector maintaining this monopoly has been so-called ‘network externality’. The banking sector was the first to establish economy-wide payment and settlement systems, and network externality naturally made them the de facto standards, giving a considerable advantage to the sector in competing with, and eventually

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expelling, various attempts to develop parallel systems.

There now seems to be a strong possibility that this advantage might be undermined; the rapid progress of IT in recent years, in general, and the development and spread worldwide of networks as 'infrastructure', such as the Internet, in particular, represent such threats. Through free use of such 'infrastructure' networks, new providers of payment and settlement services, other than banks, can build networks at significantly lower cost. Once this happens, banking sector networks could easily lose their advantage as the de facto standards based on network externality².

Looking further ahead, the development of IT and widespread permeation of networks might reduce 'incomplete information', since the cost of gathering and processing information is expected to be significantly lowered. As is well known in basic microeconomic theory, incomplete information is the most important factor in inducing the need for money or currency. Thus, it is conceivable that widespread network development will eventually lead to an economy with no money or currency. In reality, this means that settlements might be effected by just crossing out the claims and liabilities of various agents in the economy, without the transfer of any kind of real or financial assets. Although this may sound quite unrealistic, the B-to-B EDI settlement system could in fact be regarded as the beginning of such a trend.

How a central bank should deal with these changes can be considered from the following two viewpoints.

a. Central bank perspective as an organisation which supports the banking sector in providing payment and settlement systems

Central banks were originally established with the purpose of providing the banking sector with finality, which is essential for the smooth and stable functioning of payment and settlement systems operated by the private banking sector. In this sense, the banking sector and central bank collaborate by providing payment and settlement systems, in which banknotes and bank deposits are used

as means of payment.

From this standpoint, the most important task for a central bank is to perennially support the banking sector by adopting the latest IT. If a central bank fails to do so, it will undermine the competitiveness of banks (especially competitiveness vis-à-vis new providers of payment and settlement systems backed by the latest IT.) It should be noted that loss of competitiveness of the banking sector and consequent fall in its share of providing payment and settlement services would adversely affect the effectiveness of central bank monetary policy. This issue will be further discussed in Section 2.

It seems that central banks have so far managed to adopt the latest IT, in line with the rapid progress of IT utilised by the banking sector in providing payment and settlement services. Thus, it can at least be safely said that central banks have not hindered the development of the banking sector by falling behind technologically. In order to maintain this position and the banking sector's competitiveness, a central bank itself must maintain an inter-bank settlement system that provides efficient services utilising the latest IT. This is the main reason it is necessary to strengthen IT sections in central banks and enhance central bank services to the banking sector using the latest IT.

b. Central bank's perspective as an organisation which is responsible for checking the soundness and smoothness of payment and settlement systems in the economy as a whole

There may be a more ambitious view concerning the central bank's role in payment and settlement systems; that is, that a central bank should not only support the payment and settlement systems already provided by the banking sector as the de facto standard provider, but also be responsible for payment services in the economy in a broad sense. From this standpoint, a central bank must also monitor the development of payment and settlement systems/services provided by entities outside the banking sector.

The most important aspect a central bank must focus on when monitoring new

payment and settlement systems/services is not the technology supporting such systems, but the economic functions that the systems fulfill in the economy. In this context, it would be an urgent task for a central bank to re-classify and re-assess electronic money and other online payment and settlement services that are being tested or already in actual use, from the viewpoint of their economic functions. To date, too much emphasis seems to have been placed on classification of these services from a technical point of view (e.g., IC-cards vs. network type, open loop vs. closed loop, etc.).

If a novel payment and settlement system is substantially the same as that provided by the banking sector (i.e., if the new payment instruments in fact function like bank deposit accounts), a central bank should probably treat the provider of the system in the same way as it treats banks (e.g., to supply the same services offered to banks and to regulate and monitor the system provider according to the same rules imposed on banks).

On the other hand, if new payment and settlement systems/services provided by institutions other than the banking sector are in fact substantially different from those provided by banks, a central bank should decide how to deal with them³. In this context, the following questions are particularly important:

- a. Should a central bank respond to a provider of such new systems if it asks to have access to services supplied by a central bank? If yes, to what extent? (Would offering an account be enough? Or should the central bank go as far as providing a safety net like its LLR function?)
- b. To what extent should the central bank monitor and regulate those new providers?

In the course of a central bank considering these issues, the most important point to note is what effect the new payment and settlement systems will have on monetary policy and financial stability (further discussed in sections 2 and 3). One possible solution is to ask and persuade the providers of such new systems to obey certain regulations when necessary, in return for supplying various central

banking services mentioned under (a) above. However, if the new systems/services have a serious impact on the effectiveness of monetary or prudential policies, it might be necessary for a central bank to impose some regulations (legal or institutional), even if the providers do not request central bank services⁴.

2. Impact of IT development on monetary policy

The progress of IT will likely impact monetary policy in various ways, the following three areas perhaps being the most important: i) how IT-induced changes to the structure of the real economy will influence the conduct of monetary policy, ii) how IT-induced changes to payment and settlement systems will influence the effectiveness of monetary policy, and iii) the more practical issue of how the progress of IT will affect a central bank's day-to-day market operations.

a. IT-induced-changes to the structure of the real economy and effect on the conduct of monetary policy

In implementing monetary policy a central bank relies on various economic indicators. However, the development of IT has increased the weight of intangible goods and services (such as 'knowledge' and 'information') in overall economic activity (so-called 'conceptualisation'), which has made it difficult to grasp and compile statistical data. As a result, it is becoming more and more difficult for a central bank to select economic indicators and interpret them to serve as guideposts on which monetary policy should rely. The following issues are particularly important:

- 1) It is not easy to decompose observable 'nominal traded value' into 'real amount' and 'prices' for intangible goods and services, which will make it difficult for a central bank to define price stability, the ultimate goal of monetary policy, in terms of existing price indices.

In fact, it is often argued that a large part of measurement errors in traditional price indices (typically, CPI) stems from overestimation of the prices of IT-related goods and services. This occurs because the rise in the nominal sales

value of IT-related goods and services tends to be regarded as a price increase in compiling price indices, since it is very difficult to quantitatively grasp a qualitative change (improvement).

2) Intangible goods and services are difficult to measure and categorize on either a 'stock' or 'flow' basis. As a result, it often happens that investments that should be counted as stock accumulation, such as the results of R&D or software used over the years, are calculated as a flow in a single fiscal year (as an intermediate expenditure), which can distort GDP and the assessment of productivity. The US facing the problem of quantitatively evaluating its surging productivity induced by IT development is a typical example.

In fact, taking this issue into account, SNA (System of National Accounts) manuals have already been revised so that these expenditures should be regarded as investments. However, since the difficulty in their actual measurement must be solved by national agencies engaged in compiling GDP statistics, the validity of the changes in the manuals remains to be tested.

Rising productivity led by advances in IT and subsequent downward pressure on prices can be understood as continuous positive supply shocks. But, how should a central bank respond? This is not necessarily a completely new issue, since many supply shocks have been experienced in the past, the oil shocks and continuous appreciation of the foreign exchange rate being the most typical examples. However, it is not yet sufficiently clear, neither theoretically or empirically, whether or not monetary policy should accommodate price fluctuations caused by such continuous supply shocks.

A more practical problem for a central bank is rising uncertainty regarding the evaluation of the economic situation and price changes stemming from the difficulties described above, caused by the rapid progress of IT. Given, for example, that statistical measurement problems caused by IT cannot be solved in the short run, a central bank will have to continue to implement monetary policies under increased uncertainty. However, there are still mixed answers to the question of how a central bank should react to such increased uncertainty. The majority of theories and analyses to date argue that a central bank should implement

monetary policies more conservatively (e.g., more prudent and smaller changes in interest rates, a wait-and-see approach, etc.) in times of increased uncertainty. To the contrary, some prominent economists argue that a central bank should take a more aggressive approach in times of increased uncertainty.

b. IT-induced changes to payment and settlement systems and impact on the effectiveness of monetary policy

As mentioned in Section 1, new IT-induced payment and settlement systems/services might impinge on the effectiveness of monetary policy by directly influencing the transmission mechanism, which is considered to be a more intrinsic problem for a central bank.

In fact, this phenomenon is not completely new. Although not necessarily related to the progress of IT, many countries have already experienced a similar situation in the form of unstable demand for money caused by financial liberalisation and technological revolution in payment and settlement services. As mentioned in Chapter 1, the banking sector has actually managed to maintain its role as the monopolistic provider of payment and settlement systems during the process of liberalisation and the technological revolution. Nonetheless, structural shifts and fluctuations in demand for money, caused by i) the technological revolution within the banking sector (such as the launch of a 'swing service' between time deposits and current accounts), and ii) the launch of new payment services that are still dependent on the banking sector (such as payment service through MMFs), have already had a serious impact on the implementation process of monetary policy. In fact, many countries have abandoned monetary targeting as a consequence of these developments.

It is highly likely that new payment and settlement systems/services that are independent from the banking sector will have a more serious impact on monetary policy. For example, it will become extremely difficult to define appropriate monetary aggregates in a situation where several payment systems co-exist. Furthermore, let us imagine an economy where most settlements are effected through services supplied by various new providers of payment and settlement

systems other than the banking sector. Then, not only will traditional monetary aggregates, which mainly consist of the liabilities of the banking sector, become almost meaningless, but the present transmission mechanism of monetary policy, which crucially depends on the banking sector's demand for central bank reserves as finality, may lose its function.

A central bank might be able to maintain the effectiveness of monetary policy through, for example, the following ways:

- (1) By actively extending the supply of finality (in practice, access to reserve accounts at a central bank) to the providers of new payment and settlement systems, if they have such need.
- (2) By artificially creating demand for reserves by imposing compulsory reserve requirements on new payment and settlement systems, even if they do not have intrinsic demand for finality.

The costs and benefits of these methods need to be further explored.

It must also be noted that the need for monetary policy itself could possibly cease, depending on how the new payment and settlement systems are constructed. The important point here is, again, not the technological construction, but the economic functions the new systems fulfill. For example, suppose that most settlements in an economy are effected through a payment system that simply transfers 'outside money', such as gold or government bonds, then the price level in such an economy would be determined by the quantity of existing stock of outside money, such as the endowment of gold or the quantity of existing government bonds⁵. In such a case, a central bank's monetary policy to stabilize the price level might lose its *raison d'être*⁶.

Would there be a need for a central bank in this kind of situation? Although this question goes a little beyond the "Impact of IT development on monetary policy", the title of this section, it is an important question we must keep in mind.

c. Impact of the progress of IT on a central bank's day-to-day market operations

Owing, at least partly, to the recent progress of IT, various kinds of screen-based electronic trading systems have been developed and put into use in many

securities (and foreign exchange) markets. There is also a trend for these securities (and foreign exchange) transactions to be settled via electronic networks.

Since a significant portion of a central bank's day-to-day market operations involve transactions in such securities markets, and efficient and effective implementation of day-to-day market operations is an essential prerequisite for the proper conduct of monetary policy, how to cope with these IT-induced changes in securities (and foreign exchange) markets is an important and practical question for a central bank.

Generally speaking, these IT-induced changes in securities transactions and settlements are expected to enhance the efficiency of these markets, which might mean that a central bank is able to conduct various operations in such markets more efficiently and effectively. For example, the time needed for a central bank to conduct operations in government bonds seems to have been significantly reduced owing to developments in electronic trading and settlement systems in the government bond market. This implies that a central bank is able to conduct operations in a more timely manner than in the past. The effect of such operations is also likely to appear more quickly since the time needed for settlements to be completed can be shortened.

These developments, however, also mean that the sound functioning of these systems will become an important concern for a central bank. In this regard, the question of to what extent a central bank should be involved in monitoring, and, if necessary, regulating these systems, must be carefully considered. In addition, in a country or economy where such electronic trading and settlement systems are yet to be developed, whether or not, or to what extent, a central bank should be involved in developing and running them is another important question. Although there appear to be no definite answers yet to these questions, a central bank should always bear them in mind when faced with IT-induced rapid changes in various securities markets.

3. Impact of IT development on financial stability

Below are some of the possible routes by which the progress of IT might affect financial stability:

a. Risks generated from financial instability due to system breakdown

As IT progresses, payment and settlement systems become more and more dependent on physical information systems such as computers and communications networks. Thus, a breakdown in such information systems, caused by purely technical (not economic or financial) reasons (such as something going wrong with computer hardware/software or telecommunications network), could ignite a chain reaction of payment failure and cause serious financial disruption.

A central bank will have to be more prepared to take appropriate measures against such system failure, including providing liquidity to troubled institutions or systems and enhancing its LLR function, so as to avoid a mere technical problem disrupting the whole financial system. Obviously, system failure at a central bank itself should not be the trigger of such a disturbance. To avoid this, no effort should be spared on the part of a central bank to make its systems more resilient, such as preparing back-up systems or duplicating systems.

b. Possible increased risk stemming from quicker dissemination of information and fund transfers

A financial system and all financial institutions are intrinsically exposed to various types of risk. While these traditional financial risks themselves are not so much affected by the progress of IT, owing to the increased speed at which information is disseminated and the reduced cost and time needed for funds transfer, both of which are consequences of the progress of IT, the possibility that a risk incurred in one part of the financial system might quickly spread throughout the whole system seems to be significantly heightened.

Under such circumstances, countermeasures taken by a central bank must also be much quicker, even if the implemented policy itself is very traditional (such as the LLR function in an emergency). In order to make a quick response possible, a central bank should always carefully monitor the financial system, particularly payment and settlement systems.

Of course, it should also be noted that the progress of IT is advantageous in that it reduces the cost and time necessary for such monitoring and collecting information from various parts of the financial system.

c. Instability caused by competition among payment systems

As mentioned earlier, the progress of IT could lead to a situation in which several payment and settlement systems/services, some of them provided by entities outside the banking sector, might co-exist.

It is up to payment system participants (corporations, households, etc.) to select which of the various payment and settlement systems they use. Such selection and switching from one system/service to another is expected to be instantly effected, whereas the corresponding adjustments to assets by the system providers will take more time and cost, which could lead to system instability.

To be more specific, should technical evolution be seen in one payment system, greatly enhancing its convenience, many settlements originally entrusted to other payment and settlement systems would shift to it, causing a rapid surge in the flow of funds. The providers of payment systems that saw funds withdrawn would have to adjust their balance sheets accordingly by selling or liquidating asset holdings. If this cannot be smoothly effected, financial instability could arise. The same kind of shift could occur where concern of risk associated with one particular payment system mounted rapidly.

This source of instability in the payment system is in fact quite similar to the traditional bank run situation. However, co-existence and competition among

various payment and settlement systems would make the possibility of a shift of funds from one system to another easier. Such a shift would also become more difficult to foresee. This kind of multiple bank runs might lead to increased financial instability.

In dealing with this kind of multiple bank runs, a central bank must decide beforehand for which systems and to what degree it would provide a safety net such as the LLR. Even if a system did not need to be provided finality from the viewpoint of the effectiveness of monetary policy, as discussed in Section 2, it might need a central bank's support from the viewpoint of the stability of payment and settlement systems.

d. Development of market for risks using IT and the risk management of financial institutions

Led by IT development in the financial area, markets for risks have rapidly developed in recent periods, financial derivative markets being the most typical example. The fact that the increased risk-taking activities of banks and other financial institutions in these markets can trigger, and have actually triggered in certain cases, financial instability, is already worrying some people.

The development of markets for risks is largely due to the development of IT, since the use of computers and new technology has made it possible to quantitatively assess and manage risks, which used to be impossible. There are naturally good and bad sides to this trend. It can be said that the IT-induced development of markets for risks has promoted risk sharing in the economy as a whole, and helped raise the level of economic efficiency and utility. On the other hand, once the risk involved actually materialises, the bankruptcy of related financial institutions and a chain reaction of instability could occur, making the whole financial system more vulnerable to shocks. The possibility of such instability emerging is, of course, higher when the risk evaluation and management at banks and other financial institutions is lenient. However, even if appropriate risk management is in place, it cannot prevent the possibility of such risks materialising, because they are only managed on the basis of 'probability'.

Risk management at banks and other financial institutions is also conducted based on advanced IT, which tends to make it difficult for outsiders to check whether or not risks are appropriately assessed and managed. As a central bank in charge of evaluating risks taken by each bank, it is important to be familiar with the latest technologies banks are using and to be prepared to carry out appropriate risk assessments.

4. Impact of IT-induced globalisation on central banks

The progress of IT and development of worldwide networks have significantly reduced the cost of global funds transfer. Deregulation of international capital flows, including the abolition of various foreign exchange controls, which has been implemented by many countries since the early 1980s, has also contributed to making cross-border flows of funds more active than ever. In other words, financial markets have become much more integrated and consolidated globally. Given this globalisation of financial markets, the issues caused by the progress of IT, raised in sections 1 to 3, are no longer limited to a single nation. Rather they become global issues.

Contrary to the above-mentioned trend towards integrated global financial markets, payment systems and central banks are still basically established on the basis of one country; that is, it is still usual for each country to have its own currency and central bank (although, of course, there exists a big exception in the euro area.) The gap between the global financial system and existing domestic payment systems might make it more difficult for a central bank to tackle the above-mentioned issues if they emerge in an international context.

For example, IT-induced competition among payment and settlement systems, discussed in previous sections, may be cross-border competition instead of merely domestic competition between the payment system of the banking sector and payment systems provided by other entities.

In a country with very high inflation, people have tended not only to prefer holding assets in the US dollar, so as to avoid a decline in the value of their assets, but also to use the dollar for transactions. This trend can be interpreted as a move to use payment and settlement systems provided by the US banking sector instead of those by their own banking sector. This trend is often called 'dollarisation'⁷. So far, dollarisation has remained a rather exceptional phenomena observed only in countries experiencing unusually high inflation.

However, the progress of IT, development of global networks, and deregulation of international capital flows could together make the cross-border use of payment systems much easier and less expensive. This might allow people to select payment systems abroad simply because the systems in their own country are inefficient or not sufficiently convenient. Thus, even a country not experiencing hyperinflation might also be faced with dollarisation or a shift of payment activities out of its own payment system to one abroad (not necessarily in the US). The effectiveness of monetary policy, implemented by a domestic central bank with the aim of stabilising the price level in its own nation, may thus be greatly undermined should a big shift towards payment systems abroad occur.

In addition, if such a cross-border shift of payment systems could easily take place, multiple bank runs among various payment systems, discussed in Section 3, might also be seen on a global basis. It might be difficult to deny the possibility that such cross-border multiple bank runs could eventually result in instability of the whole global financial system. Whether or not each national central bank, whose activities are basically confined to its home country, would be able to play a sufficient LLR role to avoid such a situation is a problem yet to be seriously explored.

One effective way to avoid such a situation is to keep one's own payment and settlement systems efficient and competitive. In this context, a central bank has a good reason to monitor whether payment systems in its own nation incorporate the latest IT, and whether they are sufficiently competitive vis-à-vis those abroad. By the same token, a central bank itself should maintain the efficiency of its own system in line with the global standard, so that it does not hinder the

competitiveness of payment systems in its home country.

Previous sections discussed ways for central banks to provide finality and safety nets for payment and settlement systems in relation to maintaining the effectiveness of monetary policy and financial system stability. However, when looked at from a slightly different perspective of sustaining global competitiveness of the nation's payment and settlement systems, it is possible that a different optimal solution could be derived compared to a situation where only domestic viewpoints are concerned.

To the contrary, if a nation's payment and settlement systems are highly efficient and competitive at a global level, it might lure settlements from abroad. This would have mixed effects. It could increase seignorage and contribute to stabilising foreign exchange rates, and hence the international competitiveness of domestic industries. At the same time, however, it could reduce discretion in monetary policy and increase the LLR burden. A central bank would thus have to carefully study the costs and benefits.

In certain cases, it would be much better for central banks in different countries to cooperate in order to smooth differences in terms of competitiveness among payment and settlement systems so as to realize a sort of level playing field in this area.

Looking further ahead, the above-mentioned notion of cross-border competition among payment and settlement systems in various countries, induced by the development of IT, might have an important implication for the development of the international monetary system, and the choice of an international currency (the key currency) for that system.

Currently, the US dollar is mostly used as an international currency. Of course, there is no denying that the influence of US power (including power other than in economic terms) could be an important factor accounting for this. However, it can also be argued that the current position of the US dollar as the de facto standard, based on network externality, was established when only the US dollar was linked

with gold, which had global finality status at that time under the so-called Bretton Woods system.

As has already been discussed, the development of IT along with the establishment of global networks is likely to shake the grounds of the de facto standard, which is dependent on network externality. Therefore, if the US dollar's current position as the international key currency significantly depends on network externality, it is possible that the US dollar might face some difficulty in maintaining its de facto standard position as IT progresses. Thus, new global competition among currencies to become the international key currency might take place, in the same way as competition between payment and settlement systems might be seen among various countries.

In other words, a currency that is associated with highly efficient and competitive payment and settlement systems might attract payments and settlements from abroad, and consequently become the new international key currency. At the same time, more than one international key currency could exist if the cost of building networks and transferring funds between systems declines, making the co-existence of several networks and payment and settlement systems common. Thus, the possibility that a regional currency (which is a currency used beyond national borders but only within a certain region or group of countries) might replace the single international key currency could also become much greater.

Another possibility for a new global currency can be derived from the idea of using a globally common commodity, such as gold, as outside money, and transferring it via worldwide networks such as the Internet. Of course, only the claims on such a commodity would be actually transferred. E-Gold may be the top runner of such systems. The development of IT has surely loosened technical constraints on such experiments.

A central bank cannot remain indifferent to these developments. Each central bank is still closely linked to its own currency, and the degree of its support for each currency (such as efficiency and convenience of interbank settlement systems, appropriate monetary policy, level of commitment to a safety net and LLR) has a great influence

on the global competitiveness of its currency. Thus, each central bank must determine its stance with respect to the degree of global competitiveness of its own currency and how it should contribute to this, taking into account the costs and benefits involved. In fact, a central bank is already required to take a stance on such questions, and the need will increase much more in parallel with the development of IT.

(Footnotes)

¹ For example, payment and settlement services using financial assets rather than bank deposits (such as MMFs), already exist. These services, however, are provided through systems crucially dependent on the existing payment and settlement systems of banks, not via an independent system for transferring the financial assets involved. In addition, although many experiments with electronic money have been seen, attracting much attention, it seems that most have not been very successful and have been halted.

² Another important technical factor, which is likely to contribute to reducing network externality, is establishment of de facto standards in computer and communications technology. In the past, a network was usually built using technology and hardware quite specific to it, which made connection and convertibility among different networks extremely difficult. Network externality works quite strongly in such a situation. Now, however, most networks are built using the same de facto standard technology and compatible hardware. It has therefore become much easier to connect different networks and transfer information from one network to another, which reduces the importance of network externality.

³ There have been a lot of arguments concerning whether or not issuers of new electronic money should be confined to banks. The answer to this question in fact depends on the economic nature of each electronic money system. If it substantially functions the same as banks, it is quite natural that its provider should be treated as (or limited to) a bank. However, when the economic function of a new electronic money system is very different from that of bank deposits, it is not so certain that the provider should be treated as (or limited to) a bank.

⁴ Some argue that, to maintain the effectiveness of monetary policy, reserve requirements should be imposed on providers of electronic money. This is one of the most typical arguments.

⁵ Strictly speaking, government bonds cannot be classified as 'pure' outside money. However, if government bonds are to be used solely as money, fiscal policy would be the only factor determining the price level, leaving monetary policy meaningless. Recent developments in the fiscal theory of price level (FTPL) deal with this kind of situation in detail.

⁶ On the other extreme, a central bank and monetary policy would be unnecessary in a system in which payments and settlements among all economic agents are simply effected through offsetting balances (like a very developed B-to-B EDI system). For such a system to exist, it is a requisite that incomplete information be eliminated. Although advances in IT may lower the cost of information processing, the incompleteness and asymmetry of information will probably remain. In this sense, the possibility of establishing such a system which functions through offsetting balances might still be low.

⁷ The term 'dollarisation' used here refers to a situation where the private sector voluntarily selects to use the US dollar for transactions. The term is not used in a sense in which a monetary authority abandons its own currency and decides to use the US dollar in its own country, such as being discussed or adopted in some Central and South American countries.