*Emerging Trends in Payment Systems and Challenges**

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It is a pleasure and privilege to be here at the Banknet's 7th Annual Conference on Payment Systems. The theme of conference – 'Moving to Next Generation Payment Systems & Solutions' – is fitting especially at a time when the banking industry is going through a transitional phase of broadening, deepening and strengthening the financial services available to the masses. I take this opportunity to congratulate Banknet for providing this platform for the banks, the IT industry and other stakeholders to interact in an attempt to outperform the global benchmarks and in ensuring greater reach of the banking sector amongst the masses.

2. An efficient and well-run payment system is *sine qua non* for the efficient functioning of any economy. The smooth functioning of the market infrastructure for enabling payment and settlement systems is essential for market and financial stability, as also for economic efficiency, and for the smooth functioning of financial markets. The central bank plays a crucial role by providing the ultimate settlement asset in the form of central bank money.

3. The importance of a well-run payment system was recognised in its entirety as the financial crisis of 2008 unfolded. But we need to recognise that the financial crisis also brought to the fore another important lesson. The financial sector and the payment and settlement system infrastructure have to be subservient to the real sector and no country can attempt to reverse it as it would be akin to the classical case of putting the cart before the horse or the tail wagging the dog. The euphoria of financial alchemy might have created a mirage of the financial sector existing on its own; but the reality is different. Financial sector is like a wheel which derives its strength and resilience from the real economy which is the engine of growth. It is this engine which drives the financial sector. Smooth running of these wheels calls for an efficient payment system which is safe, secure and efficient, thereby, enabling faster and safer movement of funds in the economy. The legislation of the Payment and Settlement System (PSS) Act in India has given a boost to the confidence in the Indian payment system.

4. The topic of my address today – 'Emerging Trends in Payment Systems and Challenges' – is a dynamic one. Although banks are major players in this arena, there are non-banks players also and any discussion on this would be incomplete without including them. My speech would, therefore, cover payment products provided both by banks and non-banks. Let me share some thoughts on (i) initiatives in electronic payment systems, (ii) other payment products & payment channels and (iii) challenges for banks and regulators.

Initiatives in Electronic Payment Systems

5. Electronic payment products are expected to provide speedier, cheaper and hassle-free payment experience to customers in comparison to traditional paper-based payment instruments. The evolution of electronic payment products in the country have progressed through two main phases – (i) introductory phase and (ii) rationalisation phase. During the introductory phase, electronic products like ECS and EFT were introduced in the country by the Reserve Bank. These systems were decentralised serving the population of specific areas. Straight through pan-India coverage was not provided by these systems. The focus of the Reserve Bank during the rationalisation phase has been to introduce centralised payment solutions. This coincided with the implementation of Core Banking Solutions/centralised liquidity management solutions in banks. The Real Time Gross Settlement System (RTGS), National Electronic Funds Transfer

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(NEFT) and National Electronic Clearing Service (NECS) provided settlement at a central location.

6. The vision for the next phase was set out in the 'Vision Document' on Payment and Settlement Systems for the year 2009-2012. The document clearly identifies the new frontiers and a road-map for implementation of new projects. The vision includes implementation of a new RTGS system which would provide additional features including that for liquidity management, India MoneyLine – a 24x7 system for one-to-one funds transfers, India Card – a domestic card initiative, redesigned ECS to function as a truly Automated Clearing House (ACH) for bulk transactions, and mobile payments settlement network.

7. The growing trend in the usage of various modes of payment is a clear indication of the momentum acquired in the area of payment systems. (Annex)

Other Products and Payment Channels

8. The card-based payment systems have been evolving over the period. The card-based payment system in the country covers credit/debit and prepaid cards. About 230 million cards have been issued in the country. We have been witnessing an increase in the usage of cards (debit, credit) across various delivery channels like ATMs, Point of Sale (POS), internet transactions, etc. On an average, 396 million transactions of value ₹ one lakh crore is being processed during a month using these cards. The challenging canvas for the central bank and operators of the various payment systems lies in ensuring that while the various products are increasingly used across various delivery channels, the security of the payment systems is not compromised and the customer's funds are protected. This is a big challenge to be faced to avoid erosion of customer confidence in the new-age payment systems. It was towards this endeavour that the Reserve Bank mandated the additional factor of authentication for all card-not-present transactions, which is perhaps the first attempt made in this direction by any regulator. We are also in discussion with banks and the card companies to introduce an authentication system for transactions at POS. At the same time, given the sprouting instances of cloning happening, particularly with regard to ATM cards, we have also started contemplating a move over to more secure 'Chip and Pin' cards.

9. Subsequent to issuance of the guidelines on prepaid payment instruments, this segment has also seen a spurt in activity. Banks as well as non-banks currently operate in the prepaid payments segment. This product segment is being leveraged by non-bank providers for entry into payments arena. Sixteen non-bank entities have been given approval to issue these products. It is heartening to see that these players have been able to bring in many innovative payment products leveraging payment channels like internet and mobiles. Currently, on an average Five lakh payment transactions are processed by these entities. Reserve Bank would promote the activities of these players so as to make the payments scenario more vibrant.

10. Mobile phone-based payments are one of the important evolutions in payment systems. The guidelines on mobile banking issued by the Reserve Bank were an initiative to promote the orderly development in the use of this channel by banks. Currently, 39 banks have been granted approval by the Reserve Bank to provide payment services using this channel. 34 of these banks have started operations. On an average, 5.5 lakh payment transactions of value ₹56 crore are being processed through this channel during a month.

11. Banking is an activity which only banks can undertake. For development of mobile banking, co-operation between the banks and the mobile service providers is important. World over, the race for mobile companies to become banks and banks to become mobile service providers have failed. Mobile transaction platforms initially designed by banks or mobile service providers based on this race have resulted in silos, which provide only limited transaction ability and almost nil interoperability. This has resulted in stagnation in the growth potential for such services. A successful model requires building up of partnership arrangements which leverage on the respective strengths of the stakeholders. The roles and responsibilities of each partner have to be clearly defined and agreed to. No entity can consider itself to be the dominant partner for deciding on issues like

revenue-sharing. Further, no entity can operate a successful service independently in the long-run. This realisation has resulted in coming together of operators in the US to provide a transaction channel to their customers which would facilitate the use of bank-issued payment instruments – effectively leading to the clear demarcation of the role of each service provider.

Financial Inclusion

12. Although I have listed out the efforts taken by the Reserve Bank in the promotion of payment systems and for ensuring the operations of efficient and risk-free payment systems, none of these would receive applause unless financial concerns of the underprivileged sections in the rural and urban areas is addressed by the various participants. The banks have been including savings and credit/overdraft as major components of the financial inclusion plans. However, in a country like India where there is a large proportion of migrant labour, the crying need of the hour is to provide hassle-free remittance services to this segment of the population. It is an unsavoury truth that, today, a migrant category house maid, even in metropolitan cities like Mumbai, face challenges in remitting funds back to her village. Let alone an uneducated maid, even the privileged class of people face challenges in remitting money. The other day, one of our own officers (who obviously believed in maintaining his anonymity) was turned away by a bank branch in Mumbai when approached to remit money to his own account maintained with the same bank at an urban centre in a different part of the country. The reason given by the branch manager – the need to adhere to Know Your Customer (KYC) norms! If the KYC norms are carried by the banks to this extreme to deny service, despite the person offering to prove his identity, in no time the banking sector will lose this business to alternative models. Another reason often stated by the bank branches for denying service is the cash management-related issues. While this issue can be reason for imposing a reasonable charge, I find no justification for denial of service for this reason. Therefore, addressing this issue needs a clear mind-set change on the part of the financial institutions. Having stated this, I also do clearly appreciate the challenges before the banks which ranges from identification of various delivery channels, decision making on whether to leverage on existing technology or adopt a big bang approach, extension of the existing risk management practices to various delivery channels, acquisition of all these transactions over the existing settlement networks, adoption of various services as part of their existing cross-selling and co-branding initiatives, fraud prevention and security standards, safeguards against money laundering, KYC issues and, above all, ability to leverage their existing reporting, auditing, and campaign management at back-end.

13. The Information & Communication Technology (ICT) enabled channel, including the mobile channel, is the most cost- effective way to achieve this. As stated earlier, leveraging this channel requires participation from all stakeholders. In this regard, it is encouraging to note that such partnership arrangements have started to happen. We would be monitoring the developments. Any residual issues in scaling up the models would be examined once these arrangements reach a critical mass. However, we have an open approach and would be ready to intermediate if the specific issues in this regard are brought to our notice.

14. New initiatives in the oversight of payment systems domain have begun and efforts to necessitate standards through a consultative process that is need-based and appropriately calibrated to reflect rational expectations have taken full form. An effort to comply with the general principles enunciated in the 'Report on Central Bank Oversight of Payment and Settlement Systems' published by the Committee on Payment and Settlement Systems (CPSS) duly taking into account our practices and requirements has been initiated. The general principles of oversight are (i) transparency, (ii) international standards, (iii) effective powers and capacity, (iv) consistency and (v) co-operation with other authorities. The Reserve Bank contributes to international oversight and co-operation initiatives as a member of the CPSS, the SAARC Payments Council and other such bodies.

Challenges Ahead

15. The developments in electronic payment products present challenges for both banks and the regulators. For banks, the challenges arise from technology, customer service and fraud control points of view. Further, banks would also have to gear up for competition from non-bank players. Let me discuss the challenges for banks first.

Outsourcing

16. The fast-paced developments in electronic payment products have posed technological challenges for many banks. In order to provide their customer the latest payment products, many banks have outsourced these activities to specialised entities. The numbers of such specialised entities are limited and many of these entities sub-contract the activities. The concentration of such activities among few service providers is a matter of major concern. Outsourcing of activities should not result in outsourcing of controls by banks. That would be tantamount to abdication. I find it strange when banks often approach us for permitting outsourcing of performing KYC checks. This would be the opposite extreme of the example I stated earlier. Outsourcing activities should be monitored by banks on a continuous basis. The operational and concentration risk aspects have to be assessed with due care on a continuous basis. Outsourcing has to be a measure undertaken to reduce cost and bring in more efficiency. Outsourcing cannot be a conduit for abdication of responsibility.

Cost

17. Technology-driven innovation have to have two effects – (i) speed, auditability/security etc, (ii) reduction in cost for the consumers. In his recent book 'Global Crisis, Recession and Uneven Recovery', Dr Y. V. Reddy writes, 'Ethics in globalised finance.....tended to comply with the formality of transparency, but attached no value to the fairness of transactions between the contracting parties...The level of interest charged, the level of profits made, or the level of remunerations to individuals were not required to be justified as morally right or wrong, because it was left to the markets to determine the appropriateness of compensations'. Extending this to the area of payment and settlement system which touches the lives of every citizen in a country, I would venture to say that no technology-driven payment system can be called fair unless it is able to bring about an overall overwhelming reduction in the cost of transactions – achieved through decreased overheads and increased processing volumes.

18. A review of the progress we have achieved so far makes one conclude that while we have been able to achieve the first aspect, we are yet to pass on the benefit of reduction in cost to the customers. In fact, in many cases, the cost of transactions has often increased. Banks have also found innovative means of sustaining the income even when the regulatory interventions on charges have happened. What else can justify the customers being charged for moving money within the same bank from one branch to another? We have often been confronted with complaints where the customers are charged more for moving funds intra-bank *vis-à-vis* inter-bank since the latter is regulated by the central bank. Such happenings defy all logic and needs to be debated in forums like the Indian Banks' Association. The banks often counter this concern raised by the central bank by arguing that such charges should be best left to the market. As a person who has seen both sides, I am of the view that while the central bank need not intervene in the pricing of various payment products, it should not hesitate to step in if it finds a large section of the customers that cannot afford or are shying away from such products on account of arbitrary fixing of charges linked to the value of the transactions in a technology-driven scenario. Rationalisation of service charges for paper and electronic products by the Reserve Bank was an attempt in this direction. Acquiring space in the payment systems arena is a huge opportunity for bank and non-bank entities if adopted with a level playing-field attitude where the increasing number of customers coming into its fold is the game-changer for pricing strategy. But above all, no attempt would be considered fruitful without the benefits percolating to the *aam aadmi.*

19. Having stated the above, I must admit that one reason for costing of electronic products at a higher band in comparison with the traditional products has

been the banks' attempt to part-recover the cost of deployment of technology. The process of introducing innovative products in India has been costly for the banks due to the unsystematic developments during the initial stage of technology deployment by the banking industry. In a country of our size, co-operative efforts and sharing of infrastructure while deploying technology is a lost opportunity story.

Customer Service – Dispute Resolution and Frauds

Dispute resolution

20. The customer dispute resolution has to be given a greater attention in the promotion of electronic payment products. Appropriate processes have to be implemented for speedy resolution of such complaints. The time taken for resolution of such disputes should be reasonable. In an electronic payment scenario, a time period of 45 to 50 days for dispute resolution cannot be accepted as normal. Our intervention in the resolution of disputes related to failed ATM transactions was necessitated by this unreasonable time period. Outlier issues cannot be the bottlenecks or benchmarks for dispute resolution process. By this logic, we feel that banks can bring down the 12-day period currently prescribed by the Reserve Bank for failed ATM transactions by implementing systems for automatic reversals. The outlier issues like part cash disbursal have to be resolved through modifications in the ATMs.

21. In this context, the continuing of customer complaints related to failed ATM transactions is also a matter of concern. We are often asked to mediate cases where the credits are passed on within the mandatory period and later reversed. Few instances have come to our notice where the banks take written approvals from customers stating that they would forego the penalty amount.

22. The role of system providers in timely redressal of such complaints is important. National Financial Switch (NFS) accounts for around 98 per cent of the inter-bank ATM transactions in the country. The operators – National Payment Corporation of India (NPCI) – have a role in ensuring that failed transactions involving their network are conclusively resolved. Being authorised arrangements, they have to also monitor the practices followed by system participants and report these to the regulator. Let me state in this connection that the Reserve Bank has commissioned a survey of customers using the ATMs and based on the findings appropriate regulatory action would be taken.

Fraud

23. Frauds in an non-electronic payment system were mainly related to tampering of cheques (Fake/printed cheques and material alterations) or presentation of fraudulent cheques. These were detectable on close examination at the drawee/drawer bank level. However, in an electronic payment scenario, funds are disbursed on genuine authentications stolen by the fraudsters. The establishment of liability in such cases has become challenging. Identification and prevention of such frauds requires investment in risk management processes. The risk management process should have built in logic to alert customers or reach out to customers in case of suspected transactions. I believe that it would be unfair to dismiss instances of frauds in a technology-driven scenario as customer carelessness/compromise. Banks have to recognise that investment in technology has to take into account customer education for change over to the new system. Further, the efforts must be made to put in place checks and balances to prevent such frauds. Customers have to be made aware of the importance of following certain best practices in a technology-driven scenario and an attempt must be made to put the onus of proving the carelessness/compromise on the banks rather than the less savvy customers. The system must also move towards a zero customer liability principle wherever feasible. This alone can result in increased customer confidence in such technology-driven systems. Otherwise, the acceptance and adoption are bound to be low.

24. Another challenge that has to be highlighted is the growing complexity of payment products and their impact. The internet and mobile channels are emerging as the most important channels for commerce. In sync with this, payment products are being developed to facilitate transactions on these channels. These include customisation of existing products and development of new products. The developments in this field

internationally pose a challenge for regulators. The 'World Wide Web' offers options for development of 'World Wide payment systems'. Many payment service providers already operate in this domain. Many of these operators, who are licensed to operate by regulators of their country of incorporation, solicit customers from across the globe. They do not seek to comply with the legal/regulatory requirements of the countries covered. Instead, in many such cases the responsibility of compliance to the local legal/ regulatory requirements are bestowed on the customers who sign-up for such services from these countries, through the 'Terms and Conditions' for online signing-up for such services. These operators do not have any obligations towards the local regulatory/legal authorities, pose challenges from KYC/ Anti-Money Laundering (AML)/Combating the Financing of Terrorism (CFT) angle. Further, they also do not fall within the gamut of the local customer redressal measures. We have also initiated action against some such operators. We have been monitoring the activities of few such operators and would take appropriate action in due course.

25. The payment card network has been one of the major revolutions in the payment world. The international network put in place by these multinational organisations have transformed the payment and settlements arrangements for travel and commerce. However, the development of these networks has been based on the standard, rules and regulations of few developed countries. Further, the legal requirements on the country of operation are also not fully taken into consideration. Our experience shows that the product development procedures in these organisations do not take into consideration the rules and regulations of most countries while promoting new products globally. In this context, unlike other countries, these entities are legally authorised service providers in India. The authorisation granted makes it mandatory for them to comply with all the legal/regulatory requirements of this country. However, we have come across instances where these local requirements were repeatedly violated due to poor internal controls in these organisations. For instance, we had come across instances where some entities have been leveraging the card network to extend payment and money transfer services across border to domestic residents, without consideration of the local legal/ regulatory requirements. Their *modus operandi* include shipping prepaid cards denominated in foreign currency into the country, and facilitating the funding of these cards from other prepaid cards or any other international payments channel. Another instance is the proliferation of non-bank payment gateway service providers. These entities based across the globe, acquire merchants in any country. Domestic transactions are masked as foreign currency transactions and settled through overseas acquiring banks.

26. The card payment network has become a conduit for facilitation of initial funding and customer verification for internet-based payment service providers stated earlier. It would be appropriate that card companies and the member banks take note of these developments and initiate appropriate and timely action so as to guard themselves against any reputational risk. We are continuously monitoring the developments and will take strong action against such violations.

27. This does not mean that Reserve Bank is averse to innovations in payment systems/products. We have an open mind towards all innovations. Innovations within the existing legal/regulatory framework are easier to access and authorise; innovations which require modifications to these would require further debate and above all the enabling legal mandate. However, all payment system providers would have to be approved under the payment system act to operate in the country. In this regard, we need to note that the US, a country which permitted free development of such products, has also started discussions on licensing and regulation of products.

Conclusion

28. The evolving payment systems scenario offers new challenges and opportunities to all segments of this industry. To leverage on the opportunities provided by new products, the system providers/banks need to ensure that the challenges are adequately addressed. It also has to be ensured that the products cover all segments of the population and provide an incentive

to adopt these products. The regulatory process would support all orderly development of new systems and processes, within the legal mandate. I hope this Conference will deliberate on all these issues especially how the *aam aadmi* can be provided cost-effective, safe, speedier and hassle-free payment and settlement products and solutions. The challenge before all the stakeholders including banks and non-bank players, IT vendors, other service providers, *etc.* is how to introduce such a next generation payment and settlement system and solutions that is needed to take the country into the 21st century .

Annex: Statistics – At Glance

	December 2010	November 2010	December 2009	December 2008	Remarks
REAL TIME GROSS SETTLEMENT SYSTEM - RTGS					
Branches	72,928	72,201	62,847	52,770	
Transactions Volume	3.90 mn	4.01 mn	3.27 mn	1.37 mn	
- Inter-bank	0.30 mn	0.30 mn	0.24 mn	0.19 mn	
- Customer	3.60 mn	3.72 mn	3.03mn	1.18 mn	
No. of MNSB batches	926	818	728	1725	
Transactions Value (Rs)	111.06 tr	95.11 tr	76.68 tr	24.89 tr	
- Inter-bank	11.53 tr	11.34 tr	7.76 tr	10.71 tr	
- Customer	34.50 tr	30.06 tr	26.98 tr	17.34 tr	
- MNSB Value	65.03 tr	53.71 tr	41.94 tr	24.89 tr	
CENTRAL FUNDS MANAGEMENT SYSTEM – CFMS					
Banks using CFTS	76	76	76	73	
Transactions - Volume	2,882	2,628	2,478	2,653	
- Value (Rs)	2.49 tr	1.97 tr	2.26 tr	2.24 tr	
NATIONAL ELECTRONIC FUNDS TRANSFER – NEFT					
Branch network	73,603	72,412	63,004	52,427	
Transactions - Volume	13.46 mn	11.75 mn	6.29 mn	3.17 mn	
- Value (Rs)	936.64 bn	773.61 bn	337.39 bn	191.45 bn	
ELECTRONIC CLEARING SERVICE – ECS					
Debit - Volume		13.18 mn	12.65 mn	13.59 mn	
- Value (Rs)		60.90 bn	60.35 bn	59.01 bn	
Credit - Volume		9.13 mn	5.83 mn	4.83 mn	
- Value (Rs)		174.88 bn	73.86 bn	72.02 bn	
NATIONAL ELECTRONIC CLEARING SERVICE – NECS-Launched in Oct-2008					
Banks Participating	116	115	114	42	NECS figure is also included in ECS (Credit)
Branches Covered	50,647	50,190	32,195	24,265	
Transactions - Volume	3.69 mn	5.54 mn	2.59 mn	0.04mn	
- Value (Rs)	165.27 bn	125.96 bn	34.1 bn	0.47 bn	
OTHER STATISTICS					
No. of Clearing Houses (CHs)	1,150	1,149	1,134	1,104	
- Computerised	1,140	1,139	1,126	1,083	
- Manual	10	10	8	21	
MICR Codes - MICR Centres	35,502	35,457	33,271	28,022	
- Non-MICR Centres	31,752	31,507	23,437	19,563	
Speed Clearing Centres	91	66	66	24	
High Value Clearing Centres	Nil	Nil	11	26	
Cheque Truncation - Volume (mn.)	13.8	12.59	13.63	5.8	
- Value (`.bn.)	1,200.9	1,042.45	1,031.86	267.06	