Distinguished members of NASSCOM and distinguished guests: Thank you for inviting me to speak here today. The Indian information and communications technology industry that you represent has a proud history of accomplishment. You have done India great service, not just by creating a world class industry but also by showing the rest of us what is possible. I am hopeful that financial firms can join hands with you to build a technology-enabled financial sector that can reach every nook and cranny of India, and even across borders, to foster growth. This will entail new, uniquely Indian models, much as you have developed in software or in mobile communications. The Dr. Nachiket Mor Committee Report has given the RBI much food for thought on these issues. I want to reflect on the recommendations, even while putting some additional issues on the table.

Financial inclusion is about (a) the broadening of financial services to those people who do not have access to financial services sector ; (b) the deepening of financial services for people who have minimal financial services; and (c) greater financial literacy and consumer protection so that those who are offered the products can make appropriate choices. The imperative for financial inclusion is both a moral one as well as one based on economic efficiency. Should we not give everyone that is capable the tools and resources to better themselves, and in doing so, better the country?

Last week, I met with some members of Ela Bhatt's Self-Employed Women's Association. In a room full of poor but confident women entrepreneurs, I asked how many borrowed from moneylenders before they came to SEWA. About half the women raised their hands. When asked how many thought of approaching a regular bank before they came to

^{*} Keynote address delivered by Dr. Raghuram Rajan, Governor, Reserve Bank of India, at the NASSCOM India Leadership Forum in Mumbai on February 12, 2014

SEWA's cooperative bank, not one raised her hand. Interestingly, many of them said that the loan from SEWA freed them from the moneylender's high interest rate, which gave them enough to service SEWA's loan fully even while focusing on other productive activities. I have heard this from other micro-entrepreneurs – the highest return initial investment is often to free oneself of the clutches of the moneylender. Despite this high return from the delivery of credit to the poor, and despite much of our financial inclusion efforts being focused on credit, we still reach too few of the target population. So there is much more to be achieved.

We have tried to effect inclusion in the past through mandates – whether it be through direction on branch opening or on lending to priority sectors. That we are still far short of our goals has led some critics to suggest we should abandon mandates because the market will take care of needs; If the poor have demand for financial services, the critics say, providers will emerge to supply it. Markets do respond to need, and competition is a very healthy force for improvement, but market functioning can be impeded by poor infrastructure, uneven regulation, natural or regulatory monopolies, and even cartelization.

While enlisting competitive forces wherever possible to compete for the bottom of the pyramid's business, as a development central bank we also need to offer a supportive hand. By putting in place the right infrastructure and enabling regulation, we have to encourage the development of the products, institutions, and networks that will foster inclusion.

Let us start with products. We have been trying for decades to expand credit. We have focused much less on easing payments and remittances or on expanding remunerative savings vehicles or on providing easy-to-understand insurance against emergencies. Perhaps we should try to expand financial inclusion by encouraging these other products, and allow credit to follow them rather than lead. Indeed, many successful organizations working with the poorest of the poor try to get them to put aside some money as savings, no matter how little, before giving them loans. Some of our self-help groups (SHGs) work on this principle. Not only does the savings habit, once inculcated, allow the customer to handle the burden of repayment better, it may also lead to better credit allocation. With the power of information technology, perhaps the analysis of the savings and payment patterns of a client can indicate which one of them is ready to use credit well.

One roadblock to access, even to something as simple as a universal basic savings account, is Know Your Customer (KYC) requirements. Experts have emphasized the need to make it far simpler to open basic accounts, and have suggested minimizing the required documentation. In an effort to do so, the Dr. Nachiket Mor Committee recommends requiring proof of only a permanent address. This is nevertheless more onerous than current RBI norms, which allow an applicant to self-certify her address and other details for accounts below Rs. 50,000. But despite the RBI's exhortations, few banks have reduced their demand for documentation – they fear that they will be held responsible if something goes wrong, no matter what the regulatory norms. The acceptance of third party KYC certification is particularly difficult.

Today, stringent KYC norms keep too many out of the banking system, and lead to unnecessary harassment for others. Banks may adopt these norms more because of regulatory or legal liability than to safeguard against true criminal or terrorist activity. Can't we do better? Some bankers suggest that by monitoring activity patterns in accounts carefully, even while putting some limits on basic accounts (such as holding a large value cheque for a few days before it is cashed), much of the suspicious activity can be detected and stopped. Could we allow a commercial bank some regulatory dispensation in case there is minor mischief in some low value accounts, provided the bank has a reliable system in place to detect greater mischief? Could the gains in easing widespread access to safe accounts outweigh the costs of minor fraud? How can we get entities within the system to rely on each other's KYC, without the process having to be continuously repeated? How can technology assist in effectively addressing the above issues? These are questions we have to examine and address.

The broader issue is whether through sophisticated state-of-the-art technology, we can offer customers products that are simple, low-cost, and easy to use. We have done this with mobile phones, can we do it with banking? Payments may be another obvious product. I should note that our payments infrastructure in India is very advanced. We have three large RBI technology centers devoted to supporting payments. For large value transactions, we have a state-of-the-art Real Time Gross Settlement System (RTGS). In the National Electronic Funds Transfer (NEFT) system, our flagship retail funds transfer system, we have near-real time transaction processing — we continuously send messages to banks even though net settlement takes place at hourly intervals. We also send a positive confirmation to the remitter after the funds have been credited to the beneficiary's account.

We have introduced an additional factor of authentication for all e-commerce transactions, and are swiftly moving to Chip and PIN technology for credit card transactions.SMS alerts for bank and credit card transactions are a welcome advance relative to even the United States, where thieves find it easy to bill thousands of dollars to your credit card even before you know it is stolen. All this means that we have the infrastructure to provide cheap and safe payments and remittances. What we need are non-governmental players to utilize this infrastructure to provide the products and access that people want.

A lot is already happening. Real-time funds transfer through the Immediate Payment Service (IMPS) put in place by NPCI has contributed significantly towards growth of mobile banking. The Aadhaar Payment Bridge System (APBS) allows government benefits to be

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transferred through the use of Unique Identification number given to the citizens. But we are still not where we should be either on mobile payments or on direct benefit transfers.

With over 900 million mobile phones, the potential for mobile banking as a delivery channel for financial services is a big opportunity in India. We have consciously adopted the bank led model for mobile banking, while the non-banks, including Mobile Network Operators, have been permitted to issue mobile wallets, where cash withdrawal is not permitted as of now. The key to cheap and universal payments and remittances will be if we can find a safe way to allow funds to be freely transferred between bank accounts and mobile wallets, as well as cashed out of mobile wallets, through a much larger and ubiquitous network of business correspondents. The Nachiket Mor Committee suggests the creation of Payment Banks as a step towards this goal. Other suggestions include interoperable business correspondents who will get the scale economies to serve in remote locations, and the usage of NBFCs as banking correspondents. We will examine all this.

In the meantime, interesting solutions are emerging. Cashing out is important for remittances, because we have a large recipient population in the country, most of whom do not have access to formal banking services. We have recently approved the in-principle setting up of a payment system which will facilitate the funds transfer from bank account holders to those without accounts through ATMs. Essentially, the sender can have the money withdrawn from his account through an ATM transaction. The intermediary processes the payment, and sends a code to the recipient on his mobile that allows him to withdraw the money from any nearby bank's ATM. The system will take care of necessary safeguards of customer identification, transaction validation, velocity checks etc. We need more such innovative products, some of which mobile companies are providing.

In India, despite the high mobile density, it is also a reality that most of the handsets are very basic ones and many of the mobile connections are prepaid subscriptions. These are important constraints. The RBI's Technical Committee on Mobile Banking has recommended, for standardized simplified among others. the need a and procedure for registration/authentication of customers for mobile banking services, a cohesive awareness programme to be put in place, the adoption of a common application platform across all banks to be delivered to the customers independent of the handset being used, along with use of SMS and USSD technology for providing necessary level of security (through encryption) for such transactions. The Telecom Regulatory Authority of India (TRAI) has prescribed optimum service parameters, as also a ceiling on charges for provision of USSD services by telecom operators to the banks and their agents. We have a great opportunity for banks and telecom service providers to come together to deliver mobile banking services of all kinds in a seamless and secure manner to their customers. In the next few months, we will accelerate the dialog between key players.

Technology can also be used to facilitate credit, a product I started the talk with. MSMEs get squeezed all the time by their large buyers, who pay after long delays. All would be better off if the MSME could sell its claim on the large buyer in the market. The MSME would get its money quickly, while the market would get a claim on the better rated large buyer instead of holding a claim on the MSME. The large buyer could get a better price for his purchases. All this requires setting up a Trade-receivables Exchange, which the RBI has been discussing with market participants. Once again, the key is to reduce transaction costs by automating almost every aspect of the transaction so that even the smallest MSMEs can benefit.

One of the difficulties the poor and small businesses have in accessing credit is the lack of information about them, both up front as they are being evaluated for credit, and after lending where the lender has to monitor them. If savings and payments products are sold widely, and

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information, including payments to mobile companies, utility companies, as well as the government, collected, then the excluded can build information records that will help them access credit. If, in addition, negative information on defaults is shared in a fair and responsible way through the financial network, every individual borrower will have something at stake -- their credit history – which can serve to encourage timely repayment. This, in turn, can improve the willingness of banks to lend.

Finally, let me turn to consumer literacy and protection. As we reach more and more of the population, we have to be sure that they understand the products they are being sold and have the information to make sensible decisions. Caveat emptor or let the buyer beware is typically the standard used in financial markets – that is, so long as the buyer is not actively misled, she is responsible for researching her product choices and making purchase decisions. While this puts a lot of burden on the buyer to do due diligence, it also gives her a lot of freedom to make choices, including of course the freedom to make bad choices.

But with poorly informed and unsophisticated investors, we should consider the Dr. Nachiket Mor Committee's recommendation of setting some guidelines on what products are suitable for different categories of investors. Broadly speaking, the more complicated the product the more sophisticated should be the target customer. Should we move to a norm where a suite of simple products is pre-approved for dissemination to all, but as products get more complicated, financial sector providers bear more and more responsibility to show that the buyer was sophisticated and/or appropriately counseled before she purchased?

Of course, the longer run answer is for customers to become more savvy. Can the technology sector help educate people in financial matters? After all, finance is not something most people learn in schools, but it is something they encounter every day in the world. Low cost

but high quality distance finance education is something the country very much needs and we look to entrepreneurs here to think of innovative ways to provide it.

Before I conclude, one caveat. Technology can magnify the reach of finance for bad purposes as well as good. Many of you must receive frequent emails, purportedly from me, informing you of a large sum of money that awaits you at the RBI, and urging you to send me your account details so that I can transfer the money to you. Let me assure you that the RBI does not give out money, I do not send these emails, and if you do fall for such emails, you will lose a lot of money to crooks and be reminded of the adage – if anything looks too good to be true, it probably is not true.

Of course, technology can also offer answers to check fraud. Can we enlist social media in enabling the public to identify fraud and help regulation? How can we do this in a responsible way? Again, these are questions at this point, but I am sure we will find the answers.

Let me conclude. Technology, with its capacity to reduce transaction costs, is key to enabling the large volume low ticket transaction that is at the center of financial inclusion. By collecting and processing large volumes of data easily, technology can also improve the quality of financial decision making. When products have network effects, technology can ensure not just interoperability, key to obtaining the benefits of networking, but also security, key to maintaining the confidence of people and preventing them from withdrawing from the formal financial system once again. Can the successful ICT industry partner with the finance industry to revolutionize financial inclusion in this country? I sincerely hope you will.
