15th Shri R. K. Talwar Memorial Lecture

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Developing a Financial Ecosystem for Inclusive Growth: Leveraging Technology for Transformation

It is my privilege to deliver this year's R. K. Talwar Memorial Lecture, honouring the enduring legacy of Shri R. K. Talwar, a towering figure in India's financial history and a distinguished institution-builder.

Shri R. K. Talwar belonged to a generation that laid the foundations of India's modern financial system—at a time when capital was scarce, institutions were young, and confidence in markets had to be painstakingly earned. His leadership at the State Bank of India was marked by a deep belief that finance must serve national development, not merely commercial ends. That belief remains profoundly relevant today. Shri Talwar also stood for ethical finance and principled leadership — values that matter even more today as finance, technology and society get tightly intertwined.

Purpose of a Financial Ecosystem

Let me begin with a simple question we often overlook: **what is the purpose of a financial ecosystem?** One answer, and the classical one, is **efficient intermediation**. This is a pre-requisite for sustained economic growth as the ecosystem intermediates savings – both domestic and foreign - into investment. By providing access to credit, savings, insurance, and investment products, it enables individuals and businesses to invest in education, health, and productive assets. If this is the purpose, then **we are doing reasonably well**. India's Digital Public Infrastructure has lowered frictions across the board — UPI has made payments instant and near-zero cost, Aadhaar-enabled e-KYC has collapsed onboarding time and costs, and frameworks like Account Aggregators and OCEN are reducing information asymmetry and enabling embedded credit.

If the answer is **maximizing financial returns**, we are **also doing well**. Our equity markets have delivered robust long-term CAGR, retail SIP flows are at record highs, and products like REITs and InvITs have broadened access to yield.

However, if the purpose is **inclusive prosperity, household resilience, and shared growth**, then we are not yet there where we need to be. Digital rails have delivered access, but access has yet to translate fully into widespread upward financial mobility — and I am not convinced we have fully cracked the model and need to move faster.

Rapid expansion of Technology in the Last decade

Let's be clear, the last decade has been a **transformative decade** in India. From an era where improving access and inclusion were driven through physical expansion of branches, personnel and business models like Business Correspondents (BCs), we took a transformative leap forward by leveraging technology. We have built what many countries envy.

a) A **world-class payments infrastructure** as the backbone with UPI, the AEPS, and the BBPS.
b) A **robust identity and data layer** based on Aadhaar, DigiLocker and the Account Aggregator Framework.
c) A **DPI** stack that enables fintech innovation at scale
d) A vibrant **startup ecosystem** cutting across lending, wealth management and insurance
e) **Macro stability** that allows long-term planning and investment

All this has been built on a large number of government initiatives, driven partly through the banking system, and partly through other channels. **Aadhaar**, with over 140 crore IDs has become the world's largest biometric identification system. The **Jan Dhan Yojana** marked a decisive shift in approach to inclusion. Consequently, bank accounts rose from ~15 crore in 2014 to over 50 crore in 2025, with deposits surging to Rs 2.29 trillion, making it the world's largest financial inclusion programme. **Mobile connectivity** has been the third pillar of this trinity. India's mobile subscriber base has grown to over 120 crore by 2024, with smartphone penetration reaching ~ 65% of the population. This **JAM Trinity** has created an unprecedented digital infrastructure that has enabled rapid scaling of financial services. This framework has been instrumental in reducing the cost of financial transactions and expanding access to previously unserved populations.

UPI has emerged as the core digital payment rail and transformed access to usage. It has increased from <1 billion transactions in FY2017 to 228 billion transactions in FY2025. The CAGR for the decade ending 2024 was 52.5% in terms of volume and 13% in terms of value. In December 2025 alone, UPI processed 21.63 billion transactions worth about INR 28 lakh crore. Further, the **fintech sector** has grown from a nascent industry to a vibrant ecosystem. Nearly 9 in 10 Indians have adopted some fintech solution. We rank third globally, behind only US and China, in the number of fintech unicorns with 28 of them. Companies like PhonePe, Razorpay, CRED, and Paytm are not just serving India but exporting Indian financial innovation to the world. This is reflected in RBI's Financial Inclusion Index which was 67.0 for FY 2025, rising from 43 in 2017.

India's Robust Financial Ecosystem

Along with this, the overall financial ecosystem too has undergone a structural transformation. India now has

a) A robust banking sector with improving asset quality

b) Deep capital markets

c) A fast-growing fintech ecosystem - Over 2,000 fintech entities have been registered in India over the last decade, spanning payments, lending, insurance, wealth management, and reg-tech.

d) Expanding insurance and pension coverage

e) An increasingly sophisticated regulatory architecture helped by structural reforms such as the Insolvency and Bankruptcy Code and rationalisation of arbitration and dispute resolution mechanisms in the banking and financial sector

Inclusive Growth

Before we move on, we need to define inclusive growth. International development organizations, refer to inclusive economic growth as **one that distributes benefits fairly** across society. The **World Bank** defines inclusive growth as growth that creates opportunities for all and ensures that the benefits of growth are shared equitably across all segments of society, particularly the poor and marginalized. The **OECD** emphasizes that inclusive growth should address inequalities in income, employment, education, and access to basic services, ensuring that no group is left behind. The **UN Sustainable Development Goals (SDGs)** framework incorporates inclusive growth as a central principle, with specific targets for poverty reduction, employment generation, and access to financial services.

Inclusive growth **can be achieved in a variety of ways** including employment generation, human capital development, social safety nets, regional balance and technology democratization. In addition to these, a robust financial ecosystem can play a transformative role in achieving Inclusive Growth.

In the **Indian context**, inclusive growth is encapsulated in the philosophy of "**Sabka Saath, Sabka Vikas**", which emphasizes the need to empower all sections of society and bring them into the mainstream of economic development. The **demographic dividend** that India possesses - with over 65% of the population below 35 years of age - can only be leveraged through inclusive growth that creates jobs and opportunities for all.

Finance is the connective tissue of this vision. Inclusive finance enables a small entrepreneur to scale, a farmer to absorb climate shocks, a student to invest in human capital, a household to manage health and longevity risks. In this sense, financial inclusion is not merely about accounts or credit—**it is about capability expansion**. Empowering citizens and enterprises not just to participate in the economy, but to thrive in it. However, India's demography is itself a financial design challenge. The question we face is not merely how many are included, but whether the financial ecosystem has the sophistication and flexibility to serve people across diverse contexts, roles, and aspirations.

The Three Paradoxes of Inclusion

We have achieved a lot as I have just mentioned earlier. We should be proud, but not complacent. We have built the foundation, but the foundation is not the house. This is the moment for the next leap—where finance moves from **improving user experience** to **reshaping capital allocation.** If India is to grow at 7–8% consistently over the next two decades, this leap is a structural necessity.

The headline figure is 80 crore bank accounts. That is a triumph of policy. But the deeper question is: **How many of these accounts are tools for wealth creation versus mere receptacles for subsidies?**

Consider these three paradoxes:

1. **The Credit Paradox — Access vs. Allocation:** We have achieved near universal access. Financial account ownership is almost 90%, with gender and rural gaps largely closed. But how effectively are these accounts being used? Credit growth is healthy, but credit flows are skewed in a few directions. Many MSMEs struggle for working capital. Women entrepreneurs remain under-served. Rural and informal enterprises face thin-file data and perceived risk. SIDBI report estimated an addressable credit gap of approximately 24 % or Rs 30 lakh crore across the MSME sector. This gap is more pronounced in the services sector at 27 %, and particularly affects women-owned MSMEs at 35 %.

2. **Protection Paradox:** Insurance penetration has improved, but coverage is still shallow. Only ~4% of Indians have life insurance that is actually adequate. Health shocks remain a leading driver of household poverty. Climate and crop risks are rising faster than protection.

3. **Savings Paradox — Participation vs. Future Security**: Household financial assets are rising, yet long-term savings are shallow. Pension coverage is limited with the vast majority of people lacking savings for old age income. Retail participation in capital markets is often sentiment-driven.

In this context, we often ask whether India is financially included. I would argue we are doing better than most. The harder question is: **are Indian households financially resilient?** And if not, what will it take — institutionally, technologically, and regulatorily — to change that?

Thinking differently for the future

In the last decade, fintech largely solved the **front-end friction** — onboarding, payments, user experience. The next decade must solve the **back-end friction** — underwriting, risk-sharing, capital access, compliance, and trust.

And to enable this, I think we need the following shifts -

1. **Form Innovation to Scaling Innovation**

We've built world-class rails — Aadhaar, UPI, DigiLocker, AA. But rails are not the final product – they are the enablers. We now need **trains and freight** on those rails: innovative credit models, climate and health insurance, MSME cash-flow lending, integrated safety nets, and wealth products for the mass market. **And most importantly, we need to scale our innovation and impact. We should only claim success when we solve these problems at population scale.**

2. **From Data Collection and Storage to Data Flows or Making Data work**

While we have built worldclass architecture like Account Aggregator, let me ask you – are banks really sharing the data? It is high time we understood that Data's value doesn't increase when stored. Data's value is only unlocked when we make it work for us, to **build trust where trust does not exist**, **and allow capital to flow to those who have historically been invisible.**

3. **From Lending to Risk Management**

Credit alone doesn't build resilience. We need integrated **credit + insurance + pensions + risk pooling** for farmers, gig workers, MSMEs and households facing climate and health shocks. Without this, we will formalize the economy but not protect it.

4. **From Formalization to Monetization**

GST, UPI and e-invoicing have made millions visible to the system. Now those digital footprints must convert into **credit, productivity and higher incomes**. Visibility without monetization just creates digital records, not economic mobility.

<u>Leveraging Technology for the Future</u>

If we start thinking differently as I mentioned, then we need technological tools to be able to act on it. We tend to focus more often on channels rather than on back end processes. Channels alone will not help solve the scale challenge at the back end. Some possible solutions I would mention are already in use in other contexts. I will mention a few of them.

1. **Using Advanced Technologies as Drivers of Inclusive Finance: A data-based lending framework** using digital footprints and transaction data can expand affordable

credit to small businesses and MSMEs, supporting growth and formalisation. **Adoption of AI/ML and decentralised finance** can significantly deepen the digital payments ecosystem, enabling smarter, faster and more inclusive financial services.

2. **AI-powered KYC:** Use of AI-powered identity verification and real-time integration with databases with better security can remove the time and cost involved in doing this activity.
3. **Multilingual Conversational AI:** Multilingual conversational AI interfaces can bridge language and literacy barriers, allowing users to interact using regional languages and voice-based systems.
4. **AI-Based Risk Scoring & Personalised Services:** AI-driven systems will streamline compliance and speed up credit decisioning, making digital finance smoother and more reliable.
5. **Alternative Credit Scoring Uses Non-Traditional Data:** Non-traditional data such as utility payments, rent, mobile usage, digital receipts, and platform transaction records can be used to build credit profiles for individuals who lack formal credit histories.

As we rethink the future, we must also shift how we use technology. For the last decade we focused on digitising channels and generating data. The next decade must shift from data to intelligence — where information moves, learns and acts. This means going beyond dashboards and analytics to financial intelligence systems that can underwrite risk, personalise services, detect fraud, anticipate shocks, and allocate capital with far greater precision.

These are just a few examples. There will be hundreds more now and in future. And we must remember, technology also improves our own capacity to regulate. So it is a win-win for all.

Managing Tradeoffs in Using Technology:

As we move forward, we will need to tackle difficult trade-offs:

1. **Innovation versus stability.** How do we allow fintech companies to move fast and reorder things without breaking the financial system? We need regulatory sandboxes that let startups test, but oversight that prevents systemic risk.

2. **Access versus security.** How do we lower barriers to entry for the excluded without creating security vulnerabilities? We can't require multiple-factor authentication from a farmer who has never used a smartphone. This is a design challenge as much as a policy challenge.

3. **Local versus Global.** Our sovereign AI stack initiative is about building indigenous capabilities, and ensuring that Indian innovation can be owned and exported by Indians. But it's also about not isolating ourselves from global best practices.

4. **Concentration versus Decentralization.** How do we build network effects and ecosystems without concentrating them geographically?

5. **Inclusion versus Excellence.** Do we build financial services for the poor that are adequate, or do we ensure that poor people have access to the same excellence that the rich enjoy? Our philosophy should be clear: there is no compromise on quality. Our job is to make it affordable, not to make it second-rate.

Handling these trade-offs is as essential as leveraging technology. Avoiding technology is not the solution. Managing trade-offs is.

A point we must remember before getting excited about technology, is the **importance of institutions**. Where institutions are weak, technology can magnify risk rather than distribute opportunity. **Strong institutions protect consumers, provide stability and anchor innovation**. India's success with digital finance so far stands out precisely because it has been institution-led. There was regulatory clarity, public ownership of core infrastructure, and strong accountability mechanisms. This institutional foundation ensured that innovation remained inclusive by design. We need a similar approach in future as well.

<u>Conclusion</u>

Let me conclude by returning to the spirit of this Lecture and to the values exemplified by Shri R. K. Talwar. He belonged to a generation of leaders who understood that discipline, credibility, and institutional culture are as important as balance sheets and profitability. The scale of our ambition is unprecedented, but so too is the responsibility that comes with it. Our financial ecosystem must therefore be technologically advanced, to meet the demands of a modern economy; institutionally sound, to preserve stability and trust; socially inclusive, to ensure broad-based participation; and ethically grounded, so that innovation remains aligned with public purpose.

The financial ecosystem of the future will not be judged by the size of banks or the sophistication of stock markets. It will be judged by the number of ordinary Indians – rural and urban, rich and poor, men and women, who have **genuine agency over their financial lives**.

India's potential is not in the future. It's happening right now. It's in the farmer who checked the MSP through UPI this morning. It's in the woman who accessed a micro-loan based on her digital payment history. It's in the young entrepreneur who launched a startup because fintech removed the gatekeepers. It's in the entrepreneur in Jaipur who's building credit solutions for artisans but can't access venture capital. It's in the agritech founder in Madhya Pradesh who's solving real problems but is invisible to the VC world.

By 2047, when we celebrate Viksit Bharat, the world will be watching India-not because our GDP is large, but because we proved that development driven by inclusion creates prosperity that lasts. And because we proved that innovation isn't the exclusive domain of a few, but a distributed capability that lives in every corner of our country.

If we have to leapfrog to the next stage of development and make India Viksit Bharat, I believe we must shift the narrative from "India's Fintech Story" to **"India's Financial Resilience Story."** This is the foundation of a ***Viksit Bharat***.

Technology gives us the tools. Policy gives us direction. Finance gives us the fuel. But **purpose** must come from us. If we get the next decade right, we will build an ecosystem that is inclusive by default and resilient by design. That would be the most fitting tribute to R.K. Talwar.

Thank you.