5.1 Programmable Welfare: Using the Digital Rupee Within PFMS for Smarter DBT and Treasury Operations

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Abstract

This article looks at how India's Digital Rupee (e₹) could work together with the Public Financial Management System (PFMS) to build next generation Direct Benefit Transfers (DBT). PFMS has already improved the way welfare funds are tracked and delivered, but issues such as payment delays, reconciliation problems, unused scheme balances, and benefits being spent on unrelated and unwanted expenses persists. The programmability built into Central Bank Digital Rupee (e₹) introduces a way to guide funds toward their intended purpose and support just- in-time payments, while giving the government clearer visibility into how money moves through the system. Central Bank Digital Currency (CBDC) helps to create person and purpose specific delivery of DBT. At the same time, the article raises important constraints especially around digital access, privacy, and the complexity of linking large financial and administrative networks. Early pilots like *PM Vidyashree* suggest that gradual adoption is both feasible and useful. Overall, the article argues that combining PFMS with the Digital Rupee could be a meaningful step toward a SMART DBT 2.0 which is a real-time based self-intelligent system built on efficiency and equity.

Keywords

Central Bank Digital Currency, Direct Benefit Transfers, Public Financial Management System, Digital Welfare Delivery, Financial Inclusion, Digital Public Infrastructure

The Next Generation of DBT (2.0)

Figure 1. Digital Rupee + PFMS
(Source: Author)

Institutional Architecture: Understanding CBDC Design and PFMS Capabilities

The Digital Rupee (e₹) is India's Central Bank Digital Currency (CBDC), a sovereign, RBI-issued digital form of the rupee that has the same legal tender status as physical cash (RBI, 2025). A distinctive aspect of CBDC design in India is the exploration of *programmability to create rupee for specific purpose* allowing funds in CBDC wallets to be earmarked for specific purposes, time windows or merchant categories, with Direct Benefit Transfers (DBT) use cases as well.

On the other hand, the Public Financial Management System (PFMS) is a centralized, web-based financial management platform. The main motive is digitalisation of financial rules which tracks the flow of funds under central schemes and provide real-time reporting of expenditure across all levels of programme implementation (Controller General of Accounts, Ministry of Finance, n.d.). Over time, it has evolved into a financial management tool with "single window" through which the Union Government executes and monitors most of its electronic payments, including DBT, giving stakeholders real-time, reliable MIS and decision-support.

Persistent Frictions in Current Welfare Delivery: Exclusion, Delays and Inefficiencies

Over the last decade, DBT has clearly cleaned up a lot of the old leakage in welfare schemes. Money now moves straight into beneficiaries' bank accounts instead of getting stuck with layers of intermediaries. But anyone who has worked with DBT systems knows the story is more complicated. Aadhaar seeding errors, frozen or mismatched bank accounts and incomplete documentation still keep many eligible people out of the net. Even when the money does go through, it usually travels over traditional banking rails and batch processes, which means delays in credit, messy reconciliation across multiple accounts and large amounts of scheme money lying idle as float. And DBT, by design, focuses on who receives the cash, not how it is used; subsidies meant for LPG, fertiliser or nutrition can easily be diverted to other spending, weakening the link between public spending and the outcomes the scheme was created for.

Programmable Transfers as a Tool for Smart DBT 2.0

If we put CBDC and PFMS together, we are basically moving from the first generation of DBT, which was mainly about *getting the money to the right person* to a smarter version that also cares about *how the money flows through the system and what it finally achieves.* On the treasury side, a link between PFMS and the Digital Rupee (e₹) would mean that scheme funds don't have to sit scattered across dozens of intermediary bank accounts. Instead, they can be held as a more centralised CBDC balance, with PFMS triggering *just-in-time* transfers whenever

a payment is actually due. Any unspent money at intermediate levels can be pulled back automatically. In plain terms, the government would be paying out only when it really needs to, *not "just in case"*, which reduces idle float, lowers the implicit interest cost on parked funds and gives the Centre a much clearer, real-time picture of its cash position.

On the beneficiary side, the retail digital rupee can simply plug into the existing PFMS–DBT set-up. After the usual checks on eligibility and sanction, PFMS could push the benefit straight into a CBDC wallet instead of only sending it to a bank account. Because settlement in e₹ is instant, the money shows up for the beneficiary almost immediately, and the government's books get updated at the same time, so reconciliation and refunds become easier to handle.

The real change, though, is what you can do with programmability. Transfers made in digital rupee for a specific scheme can be tagged for certain uses, say, redeemable only at fertiliser outlets, PDS shops or health facilities, or valid only for a limited period. The beneficiary still feels like they are receiving cash, but the system quietly nudges the subsidy towards its intended purpose. In that sense, PFMS sets the rules and CBDC becomes the smarter form of money that follows those rules.

Technological, Operational, and Social Barriers to DBT 2.0

On paper, the idea is very clean: PFMS connects to the digital rupee, money becomes programmable, and leakages come down. On the ground, it is more complicated. A large share of DBT beneficiaries still struggle with smartphones, apps and even basic network coverage. If we shift too quickly to CBDC wallets, we risk creating a new kind of exclusion for exactly the people the system is meant to protect. There is also a genuine worry about privacy. A programmable, fully traceable rupee can easily be seen as the State "sitting inside your wallet" unless there are very clear legal and technical limits on who can see what.

The other set of challenges is more operational. PFMS, RBI, banks, state governments and fintechs will all have to plug into a new rail and keep it running reliably at national scale. One serious outage, security incident or badly designed pilot in a big scheme can shake trust for years. And finally, programmability itself raises design questions: how tightly should the government lock money to a specific use, what happens in genuine emergencies when a family needs flexibility? Those are the real trade-offs that policy and technology will have to resolve.

Start Small: Why Pilots Matter

A sensible way to move towards smart DBT is to take a piecemeal approach instead of forcing a big overhaul. The easiest place to start is with a few small

pilots where the stakes are low and the benefits are easy to measure things like student scholarships or equipment support. At the same time, people should have more than one way to use the digital rupee. Those who have smartphones can use an app, but others should be able to rely on basic phones, cards or even help from a local CSC centre or post office. Privacy also has to be taken seriously from day one. People need to know that their day-to-day spending isn't being watched. And programmability, while useful, should be kept simple and explained clearly.

On the government side, PFMS and the CBDC system can be connected gradually, starting with optional digital-rupee payouts while keeping the bank-transfer route open. If all of this is done patiently with real user support on the ground, smart DBT can grow naturally without confusing people or cutting anyone out.

What the First Pilots are Teaching Us

In this sense, the idea of integrating CBDC with PFMS is no longer only a conceptual discussion. In schemes such as *PM Vidyashree* (Press Information Bureau, 2024), where pilots are experimenting with new ways of transferring support to students, we can already see the contours of a more "intelligent" DBT framework emerging. PFMS continues to manage the core public finance functions like sanction, approval, routing of funds and audit trails while the digital rupee has the potential to provide a more precise, transparent and responsive payment layer on top of it.

If these pilots are scaled thoughtfully, *PM Vidyashree* can serve as a credible proof of concept for the next phase of welfare delivery in India. The shift would be from simply transferring money to designing transfers that are better timed, better targeted and easier to monitor, without undermining the dignity or autonomy of beneficiaries. For those of us who have seen PFMS from the inside, the sense is that the institutional and technological foundations are largely in place; the real question now is how quickly policymakers and technology practitioners are willing to move in order to realise this "Smart DBT" trajectory.

A Gradual Rollout: Starting With Pilots and Keeping Both Systems Running

For the first time, the State can send not just rupees, but intent. When PFMS decides the destination and CBDC decides the path, welfare finally reaches where it should.

It is the shift from money sent to money traced with purpose. PFMS handles the "who and how much" of payments, while CBDC handles the "how it can be used". Together, they create a closed-loop system generation next gen DBT (Smart DBT).

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Author's Profile

Mr. Abhijay Pagare is an officer trainee of the Indian Revenue Service (Income Tax) and a technology-driven professional with multidisciplinary experience spanning global finance, public financial management, and digital governance. His career reflects a distinctive integration of advanced software engineering with institutional public finance, built upon over five years as a Senior Software Developer at J.P. Morgan Chase and 1.5 years of service in the Indian Civil Accounts Service (ICAS).

During his tenure at J.P. Morgan Chase, he worked extensively on fixed-income securities and equities, contributing to the development and maintenance of high-availability financial platforms and distributed microservices supporting global portfolios valued between USD 40–50 million. His responsibilities encompassed performance-critical backend engineering, system optimization, and close coordination with cross-functional teams across Product, Compliance, and Quantitative Research, ensuring secure and dependable financial operations.

Following his selection in the UPSC Civil Services Examination 2022, he served in ICAS, where he contributed to key modernization initiatives of the Public Financial Management System (PFMS). His work focused on strengthening digital payments architecture, enhancing fund-flow efficiency, and examining integration pathways between PFMS and emerging digital platforms such as the Central Bank Digital Currency (CBDC).

His professional journey demonstrates a consistent commitment to leveraging technology, data-driven governance, and systems thinking to improve financial transparency, institutional efficiency, and digital transformation within the public sector.