Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2026): 8.748 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 13 | Issue: 10 | October 2026 -Peer-Reviewed Journal

CITIZEN-MAJORITY TOKENIZED OWNERSHIP FOR MSME REVIVAL IN INDIA: THE G-CMTO MODEL INTEGRATING BLOCKCHAIN, THE E-RUPEE AND THE MICROSME–BLOCKCHAIN INDEX

Vivek Gujar
Chief Strategy Officer, IndoAI Technologies P Ltd, Pune, India

Article DOI: https://doi.org/10.36713/epra31993
DOI No: 10.36713/epra31993

ABSTRACT

India's micro, small and medium enterprises (MSMEs) produce about 31.1% of GDP and nearly half of the country's exports (48.58%), yet they work against an addressable credit gap of roughly ₹30 lakh crore. Meanwhile, India's trade deficit with China touched a record US$112.6 billion in FY2025-26. The policy conversation has no shortage of diagnoses; what it lacks is a mechanism someone could actually implement. This paper offers one: the ***Gujar Citizen-Majority Tokenized Ownership (G-CMTO) Model****, designed for new micro and small manufacturing units of ₹50 lakh to ₹10 crore in product categories exposed to imports.*

In a G-CMTO unit, resident citizens and non-resident Indians together own 50–55% of the equity through tokenized shares that can be bought for as little as ₹100. An accountable operator holds 30–35%, the government contributes a 5% subordinated first-loss stake, and bank debt covers the remaining 10%. Three layers hold the model together: the e-Rupee as programmable money, a depository-run permissioned ledger for ownership, and a new ***MicroSME–Blockchain Index (MBI)*** *for intelligence. Sixty per cent of the MBI's weight comes from verified money flows, and its grades decide how much GST is reimbursed, whether the operator's bonus equity vests and when new issuance is paused.*

Following a design-science approach, the paper sets out the capital structure, governance, index, fiscal incentive and legal pathway, and works them through three illustrative cases: a ₹50 lakh toy unit, a ₹1 crore series LED unit and a ₹10 crore BLDC fan plant. The argument is simple. India can build citizen-owned industrial capacity on infrastructure its regulators are already piloting, and the more people take part, the stronger the index becomes.

KEYWORDS: *MSME finance; tokenization; e-Rupee; CBDC programmability; citizen ownership; performance index; industrial policy; India*

1. INTRODUCTION

Few subjects in Indian economic policy attract as much agreement, or as little action, as MSMEs. Speeches, committee reports and editorials repeat the same points: small enterprises are the backbone of the economy, they are starved of capital, and they cannot match Chinese scale [1]–[3]. What is rarely spelt out is the mechanism. Who supplies the capital? Who owns the asset, and who runs it? Who checks that it is performing, and who absorbs the loss if it is not?

These questions are no longer academic. In FY2025-26 China overtook the United States as India's largest trading partner, and the bilateral deficit widened to a record US$112.6 billion from US$99.2 billion a year earlier [4]. The Directorate General of Trade Remedies (DGTR) kept opening and recommending anti-dumping cases on Chinese goods that compete head-on with MSME output [5]. Exporters, for their part, carried a 50% United States tariff from August 2025 until an interim trade deal brought it down to 18% in February 2026 [6]. Trade remedies buy time. They do not build factories.

The real bottleneck, in my view, is **scale capital formation** for small manufacturing units. Banks want collateral that micro firms rarely have. Private equity seldom looks below ₹10 crore, because venture investors want high returns, seasoned teams and quick exits [7]. And the regulated retail route has been moving the other way: in 2025 SEBI raised the minimum SME IPO application above ₹2 lakh to keep small investors out [8]. Its caution is understandable, given evidence that 91% of individual equity derivatives traders lost money in FY2024-25 [9].

1.1 Research questions

1. Can a citizen-majority equity structure finance new manufacturing units of ₹50 lakh to ₹10 crore while keeping an accountable operator in charge of execution?
2. How can programmable sovereign money and a permissioned ledger enforce fund discipline, transparent payouts and verifiable performance data?

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2026): 8.748 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 13 | Issue: 10 | October 2026 -Peer-Reviewed Journal

3. What index, fiscal incentive and regulatory pathway would make such a model safe enough for small investors and acceptable to the Reserve Bank of India (RBI) and the Securities and Exchange Board of India (SEBI)?

1.2 Contributions

The paper contributes in four ways. First, it specifies a complete capital and governance structure, the G-CMTO Model, in which an operator stake and a first-loss layer sit alongside citizen equity. Second, it proposes a three-layer architecture that links the e-Rupee (e₹), depository-grade ledgers and a performance index. Third, it introduces the MicroSME–Blockchain Index (MBI), which draws mainly on verified money flows and becomes more reliable as participation grows. Finally, it maps a legal pathway onto pilots that RBI and SEBI are already running, so that the proposal can be tested rather than merely debated.

2. LITERATURE REVIEW

Five strands of research inform the model. Each explains part of the problem; none, as far as I can find, brings majority retail equity, programmable money and a verified performance index together for micro manufacturing.

The first strand concerns the MSME finance gap. Small firms are rationed out of credit because lenders cannot see enough, cannot secure enough and cannot afford to monitor enough [10], [11]. In India, estimates of the gap have grown from ₹20–25 lakh crore [12] to about ₹30 lakh crore, close to a quarter of total demand [3]. Yet this literature is almost entirely about debt; equity for the smallest units, where the gap is widest, gets little attention. My own earlier work tried to address that. The Varhad Incubation Model observed that Indian venture capital tends to follow well-networked founders, and argued for "democratic funding" of thousands of small enterprises through transparent points-based selection, accelerator-assisted first orders and, in time, retail participation through an index of listed firms [7]. G-CMTO takes that idea further, towards direct citizen ownership with much stronger investor protection.

A second strand looks at equity crowdfunding. Small investors can and do fund early-stage firms when signals and disclosure narrow the information gap [13], [14], but governance after the money arrives is often weak. India never finalized the crowdfunding framework SEBI proposed in 2014 [15], and company law still bars public equity crowdfunding [16]. The lesson is clear enough: retail equity needs standard signals and enforceable governance, not just a platform.

Third, the tokenization literature argues that distributed ledgers can cut issuance costs, allow fractional ownership and settle assets against cash in a single step [17], [18]. A tamper-evident ledger also protects the confidentiality, integrity and availability of records, though questions of speed, energy use and protocol standards remain open [19]. In supply chains, permissioned ledgers paired with IoT devices can put suppliers, manufacturers, transporters and retailers on one shared, tamper-resistant record of a product's journey [20]. The weak point is the oracle problem: a ledger is only as reliable as the off-chain facts fed into it [21].

The fourth strand, on central bank digital currencies, shows how conditions can be attached to the way money is spent. That has obvious appeal for targeted policy, but it also raises worries about privacy, bank disintermediation and adoption [22]. India's retail e₹ pilot illustrates both sides: programmability has been used successfully for benefit transfers, yet retail circulation fell by about 24% in 2025-26 [23].

Finally, there is the question of who can own an enterprise at scale. Amul is the best Indian answer: some 36 lakh farmers own a professionally managed federation whose brand turnover crossed ₹1 lakh crore in FY2025-26 [24]. China's township and village enterprises show the other side of the coin. They built light manufacturing from local collective capital, but their vaguely defined property rights eventually became a liability [25], [26]. Agency theory explains why: when owners are many and managers few, agency costs rise [27].

Taken together, these strands leave a clear gap. I have found no study or policy that combines (a) majority retail equity in new micro manufacturing units, (b) an operator stake large enough to align incentives, (c) programmable sovereign money for escrow and payouts, and (d) an index built on verified flows that guides both investors and fiscal incentives. G-CMTO is an attempt to fill it.

3. PROBLEM CONTEXT

The numbers in Table 1 tell a consistent story. The sector is large and is formalizing quickly, but it remains short of capital, and the import gap with China keeps widening.

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2026): 8.748 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 13 | Issue: 10 | October 2026 -Peer-Reviewed Journal

Table 1. Key indicators for India's MSME sector and China trade

Indicator	Value	Period	Ref.
MSME share of GDP	31.1%	January 2026 data	[1]
MSME share of manufacturing output	35.4%	January 2026 data	[1]
MSME share of exports	48.58%	January 2026 data	[1]
Employment in MSMEs	38.9 crore people	June 2026	[1]
Udyam and Udyam Assist registrations	8.84 crore	30 June 2026	[28]
Addressable MSME credit gap	~₹30 lakh crore (24% of demand)	2025	[3]
Trade deficit with China	US$112.6 billion (record)	FY2025-26	[4]
Imports from China	US$131.63 billion	FY2025-26	[4]
Trade deficit with China	US$105.93 billion	January–September 2026	[29]

Start with formalization, which has run well ahead of capital. Udyam registrations climbed from 28.13 lakh in 2020-21 to more than 8.84 crore by June 2026 [28]. A formal identity, however, has not turned into equity. Micro enterprises still meet 12% of their needs through informal borrowing, compared with 2% for MSMEs as a whole [3].

The China gap, meanwhile, looks structural rather than cyclical. The deficit grew by US$13.4 billion in a single year, and the first nine months of 2026 came within about US$10 billion of the full 2025 calendar-year record [29]. DGTR's 2026 caseload included suo-motu probes on drawer slides, mirrors and fasteners, opened explicitly to protect MSME producers [5]. But duties expire, and small Indian units remain too small to match Chinese cost curves.

Nor do existing schemes reach the problem, because they are built for firms that already exist. The ₹10,000 crore SME Growth Fund, approved by the Union Cabinet on 6 October 2026, invests through an alternative investment fund in high-potential SMEs [30]. The Self-Reliant India Fund had put ₹15,442 crore into 682 MSMEs by November 2025 [2], and the ceiling for collateral-free credit guarantees has been raised from ₹5 crore to ₹10 crore [1]. Useful as these are, none of them gives ordinary citizens a way to own new factories. The SME IPO route keeps them out by design, and even SEBI's October 2026 consultation would lower the minimum application only to ₹1 lakh [31]. Any retail ownership model, then, has to be built around protection, not access alone.

4. METHODOLOGY

I follow a design-science research approach, which builds and justifies an artefact instead of testing a hypothesis against historical data [32], [33]. That fits the case well. G-CMTO is a mechanism nobody has tried yet, so its contribution lies in whether the design works and whether it can be defended.

The work moved through four stages. It began with problem identification, drawing on government and regulatory sources up to October 2026: the Economic Survey 2025-26, Ministry of MSME and PIB releases, SIDBI, Ministry of Commerce trade data, DGTR notifications, and RBI and SEBI publications.

The second stage defined what the design had to achieve. It needed to mobilize retail capital at very small tickets, keep an accountable operator, protect investors without open-ended bailouts, produce data that could be verified, and fit within instruments regulators are already piloting.

Third came design and iteration. My starting point was an 80% public-ownership concept, which I revised through structured critique against agency theory, Indian company and securities law, and the evidence on retail losses. Six revisions followed from that critique: a 30–35% operator stake, a government first-loss layer, depository-based tokens, e₹ settlement, a ₹100 minimum ticket and NRI participation.

The final stage is demonstration, through capital tables, a loss-allocation example, an index specification and three illustrative cases. Empirical validation, through a pilot in a regulatory sandbox, is proposed as the next step.

One caution applies throughout: every financial figure in Sections 5 to 10 is an illustrative design parameter, not a forecast.

5. THE G-CMTO MODEL

Every project is set up as a new special purpose vehicle (SPV), a public limited company with three kinds of owner. Citizens hold the majority, the operator holds a blocking minority, and the government takes the first loss.

5.1 Capital structure

In the base case, citizens provide 55% of the project cost, the operator 30%, the government 5% and lenders 10% (Table 2). The operator can earn up to 5% more through performance vesting, which would take its stake to 35%.

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2026): 8.748 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 13 | Issue: 10 | October 2026 -Peer-Reviewed Journal

Table 2. G-CMTO capital structure by project size

Project size	Citizens, 55%	Operator, 30%	Government first-loss, 5%	Debt, 10%	Max holders at ₹100
₹50 lakh	₹27.5 lakh	₹15 lakh	₹2.5 lakh	₹5 lakh	27,500
₹1 crore	₹55 lakh	₹30 lakh	₹5 lakh	₹10 lakh	55,000
₹5 crore	₹2.75 crore	₹1.5 crore	₹25 lakh	₹50 lakh	2,75,000
₹10 crore	₹5.5 crore	₹3 crore	₹50 lakh	₹1 crore	5,50,000

This range spans micro and small enterprises under the classification in force from 1 April 2025, which treats units with up to ₹2.5 crore of investment and ₹10 crore of turnover as micro [34]. Projects therefore fit existing MSME schemes, and no new definitions are needed. The ₹100 minimum ticket matters more than it might first appear. It means any adult with a UPI or e₹ wallet can own part of a factory. This is only practical because ledger registers and programmable payouts bring the cost of issuing, recording and paying each holder down to paise. Distributions below ₹50 accrue and are paid once a year, or are reinvested on request into an MBI-graded basket. There is also a local dimension. Most units will be located in tier 2 and tier 3 towns, so a ₹100 ticket lets neighbours own the factory they can see. That deepens the sense of ownership and strengthens local monitoring, and a district priority window in each offer reinforces it.

5.2 Operator stake and vesting

Why 30–35%? The answer lies in the agency problem that dispersed ownership creates [27]. Under the Companies Act, 2013, special resolutions need 75% of votes cast [35], so a stake above 25% protects the operator from fundamental changes forced through by a fragmented holder base. Below 50%, on the other hand, the operator cannot pass ordinary resolutions alone, which leaves citizens collectively in control of board appointments and the auditor. The operator may contribute in cash or in kind, for example a shed or machinery at independent valuation. A further 5% vests in equal annual tranches over five years, but only in years when the unit holds an MBI grade of A or above. Unvested tranches are forfeited at grade C or below.

5.3 Government first-loss layer

The government's equity is subordinated, which means it absorbs losses first and is repaid last. On top of that, a national reserve pays citizen holders up to 15% of their invested capital if a unit is wound up.

Worked example. Suppose a ₹1 crore unit fails and its assets realize ₹40 lakh. Once ₹10 lakh of debt is repaid, ₹30 lakh is left for equity. If that were shared pro rata across all ₹90 lakh of equity, citizens would recover ₹18.3 lakh of their ₹55 lakh, or 33%. Under G-CMTO the government's equity is excluded, so citizens receive ₹19.4 lakh, plus ₹8.25 lakh from the reserve, for a total of ₹27.7 lakh, or 50%. The operator gets back ₹10.6 lakh of ₹30 lakh, or 35%. In other words, the party in control bears more of the downside, which is exactly the point.

5.4 Governance, distributions and exit

The board has five members: two operator nominees, two independent directors elected by citizen holders through ledger voting, and one government nominee for audit oversight. A SEBI-registered holder trustee enforces holders' rights collectively. For voting, holder identity can be verified through self-sovereign identity, in which an issuer, a holder and a verifier exchange credentials without any central store of personal data [36].

Once debt covenants are met, at least 50% of distributable profit is paid out. The operator is locked in for three years and citizens for one; after that, secondary trading opens in quarterly windows, and from year five the operator has a right of first offer at an MBI-linked fair value. To keep individual exposure modest, I propose illustrative caps of ₹50,000 per person per project and ₹2 lakh per year across projects, unless the investor declares a higher income.

5.5 NRI participation

Non-resident Indians can join the citizen tranche under the Foreign Exchange Management (Non-Debt Instruments) Rules, 2019 [37]. The default route is investment from NRO accounts on a non-repatriation basis, which is treated like domestic investment. Investment from NRE or FCNR accounts on a repatriation basis falls under the automatic route for manufacturing; issue prices must be at or above fair value, and the platform files allotment reports in bulk on the SPV's behalf. The potential is considerable. India received a record US$135.46 billion in remittances in FY2024-25 [38], and just 1% of one year's flow would exceed the ₹5,000 crore Phase 2 capital cap proposed in Section 11. To keep a resident majority, NRIs may hold up to 25% of a project's citizen tranche (an illustrative figure), and they can filter projects by home district.

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2026): 8.748 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 13 | Issue: 10 | October 2026 -Peer-Reviewed Journal

6. THREE-LAYER ARCHITECTURE

G-CMTO keeps money, ownership and intelligence in three separate layers, and anchors each one to a regulator that already exists (Figure 1). No new private infrastructure ever holds citizens' money or securities.

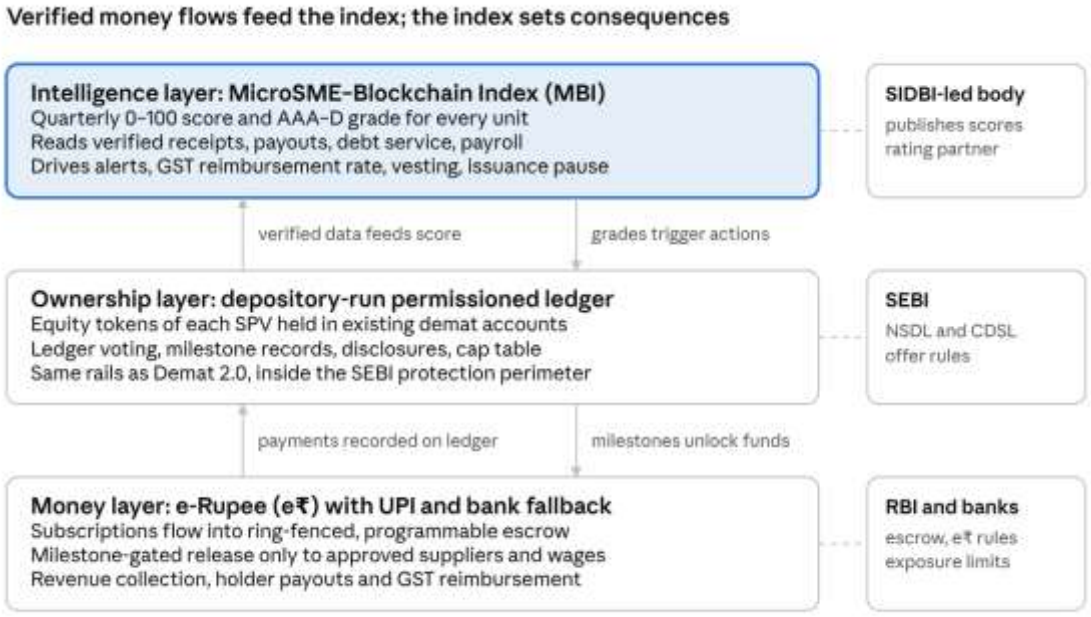


Figure 1. G-CMTO three-layer architecture

The money layer runs on the e₹. Because it is RBI-issued legal tender, subscriptions, escrow and payouts all stay on sovereign rails, and private stablecoins have no place in the system. Programmability adds discipline: escrowed capital can be released only after a verified milestone, and only for approved purposes such as paying machinery suppliers or wages. Retail e₹ adoption is still limited, though [23], so the layer runs on dual rails. UPI and bank transfers remain open to everyone, with the e₹ as the preferred rail.

In the ownership layer, equity tokens sit on a permissioned ledger run by the depositories. This is the architecture SEBI and RBI launched on 10 September 2026 as the Demat 2.0 pilot for tokenized corporate bonds. Its first issues saw three issuers raise ₹1,025 crore, settled in wholesale CBDC, with the tokens held in investors' existing demat accounts [39]. Separately, RBI's Unified Markets Interface has tokenized certificates of deposit worth about ₹17,000 crore [40]. Extending this infrastructure to MSME equity spares the country the cost and risk of building and securing a parallel national blockchain, and a permissioned design narrows the attack surface that an open network would present [19].

The intelligence layer sits on top. Here the MBI turns verified flows and records from the two lower layers into a quarterly grade for each unit. Those grades then feed back into the system, setting incentive rates, operator vesting and issuance permissions (Section 7).

7. THE MICROSME–BLOCKCHAIN INDEX (MBI)

The MBI is a national quarterly score, from 0 to 100, for every tokenized unit. What sets it apart is that it is built mainly from verified money flows, not from accounts the unit reports about itself. In effect, it combines a market index, a credit rating, a governance score and a project monitor into a single signal that a ₹100 investor can read.

7.1 Dimensions and data

Sixty per cent of the weight comes from dimensions read directly off e₹ and bank rails. This is the model's answer to the oracle problem [21] (Table 3). All sales receipts must flow into a designated collection account linked to the SPV's escrow, so revenue is observed rather than declared, and the index does not have to rely on GST filings.

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2026): 8.748 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 13 | Issue: 10 | October 2026 -Peer-Reviewed Journal

Table 3. MBI dimensions, weights and verified sources

Dimension	Weight	Primary verified source
Revenue stability and growth	25%	Receipts into the escrow-linked collection account
Holder payout consistency	20%	Distribution transactions on the ledger
Debt servicing discipline	15%	Lender repayment and credit bureau records
Operational milestone compliance	15%	Independent engineer certification, supported by IoT and edge-AI production evidence
Governance and audit	15%	Audit opinion, timely filings, board meetings, holder vote turnout
Employment and domestic value added	10%	EPFO and ESIC payroll; domestic content in the bill of materials

If s denotes the dimension scores on a 0–100 scale and w the weights in Table 3, the score for unit j in quarter t is:

$$\mathrm{MBI}_{j,t} = \sum_{i=1}^{6} w_i \, s_{i,j,t}, \qquad \sum_{i=1}^{6} w_i = 1$$

Scores are normalized against peers in the same sector and size band. Revenue is compared with the same quarter of the previous year, so that seasonal products are not penalized for being seasonal.

7.2 Grades and consequences

Scores map to eight grades, from AAA down to D, and each grade carries consequences. A unit graded A or above (70+) earns the full fiscal incentive and allows its operator's equity to vest. At BBB (60–69) and BB (50–59), the incentive falls to 75% and 50% respectively. A B grade (40–49) suspends it and triggers a review by the holder trustee. At C (30–39), the unit must produce a restructuring plan and the operator forfeits unvested equity. Below 30, a D grade halts new issuance and starts a wind-down assessment. Aggregated, the grades also give RBI and SEBI a dashboard of stress by sector, district and cohort. I suggest the index be run by an independent body, such as a SIDBI subsidiary with a rating agency as methodology partner, with its weights published and reviewed every year.

7.3 The power of people

Most indices are indifferent to how many people use them. The MBI is different: it gets stronger as more people invest, because every holder brings capital, data, scrutiny and demand (Figure 2).

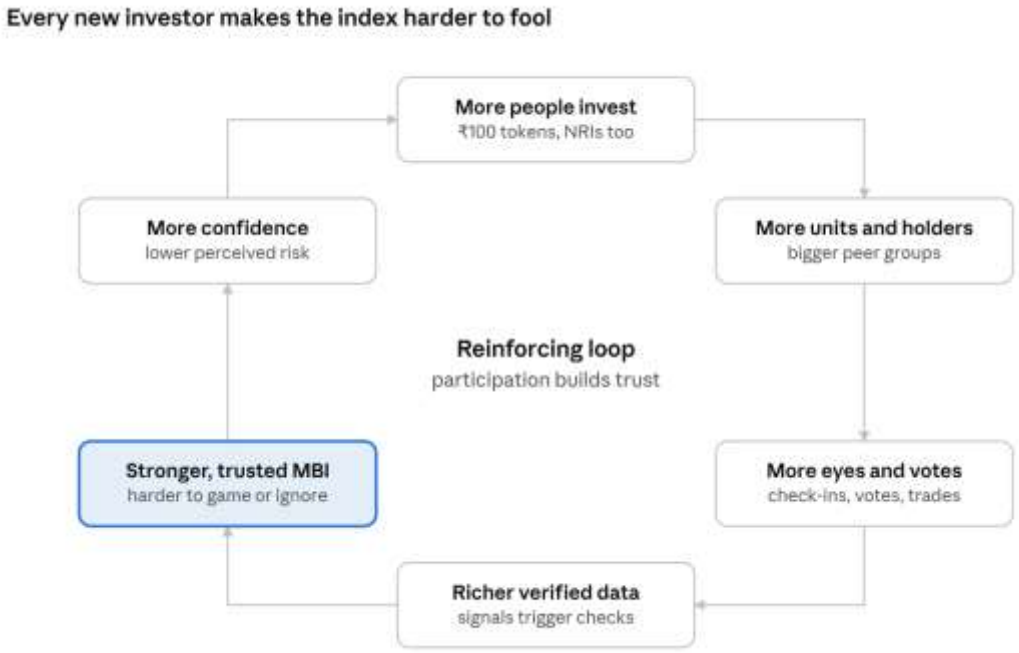


Figure 2. How mass participation strengthens the MBI

Five mechanisms drive this loop.

1. **Bigger peer groups.** Peer normalization only works when there are enough comparable units. The model applies it once a sector-size band holds at least 30 units and uses national benchmarks until then.

2. **Eyes on the ground.** With a ₹100 ticket, many holders will live near their unit and can file geo-tagged check-ins. These reports can never raise a grade, but a cluster of negative ones triggers an independent inspection. Holders linked to the operator are screened out through verified identity credentials [36], and reports are capped per person.
3. **Votes as signal.** Turnout in director elections, and how widely ownership is spread across districts, both count within the governance weight.
4. **Trading as early warning.** Prices from the secondary windows are published beside the MBI, never inside it, so trading cannot inflate a score. A large gap between price and grade triggers a review.
5. **Owners as customers.** Holders have every reason to buy and recommend their unit's products. That supports revenue, the index's largest weight, in much the same way Amul's farmer-owners anchor its brand [24].

8. MBI-LINKED GST REIMBURSEMENT

My original proposal called for GST exemption. On reflection, I propose instead that G-CMTO units receive a time-bound reimbursement of the GST they pay, scaled by MBI grade. The reason is the input tax credit chain. An exempt supplier cannot claim credit on its inputs, and its business buyers cannot claim credit on its supplies, which would leave B2B units such as moulders and LED assemblers less competitive, not more. Under reimbursement, the unit charges and pays GST in the normal way and then receives a budgetary refund, so GST law does not need to change at all.

The instrument already exists at state level. Maharashtra's Industries, Investment and Services Policy 2025 reimburses eligible MSMEs 100% of gross SGST on first sales within the state, capped at 30% to 100% of fixed capital investment, for five to ten years depending on the zone [41]. Building on that precedent, G-CMTO proposes the following design.

States would reimburse up to 100% of SGST through their industrial policies, and the Centre would match this with a CGST reimbursement scheme funded as a budget line. Support would run for 5–7 years from commercial production, capped as a share of fixed capital investment, and would be limited to product categories under DGTR action or with high dependence on Chinese imports. The rate would follow the grade: 100% at A and above, 75% at BBB, 50% at BB, and suspended at B and below. Payment would be made in programmable e₹ into the SPV's escrow, usable only for approved purposes.

The tokens themselves are equity shares. Securities fall outside the scope of GST, so neither subscription nor trading attracts it. A CBDT circular should, however, confirm how dividends and capital gains will be treated for income-tax purposes in holders' hands.

9. LEGAL AND REGULATORY PATHWAY

Only one targeted legal change is needed: a lighter public-offer route for small, capped, MBI-rated issues. Everything else can be built on pilots that regulators already run.

Under the Companies Act, 2013, offering securities to more than 200 persons in a financial year counts as a public offer and needs a full prospectus [35]. SEBI never finalized its 2014 crowdfunding framework [15], and the SME platform demands a minimum application above ₹2 lakh [8]. As things stand, a ₹100-ticket offer to lakhs of citizens has no legal home. Table 4 sets out what would need to change.

Table 4. Regulatory changes required

Area	Current position	Proposed change	Authority
Offer route	Full prospectus beyond 200 offerees	"MSME Citizen Ownership Offer" with a standard short-form document for ₹50 lakh–₹10 crore issues	MCA and SEBI
Minimum ticket	Above ₹2 lakh on SME platforms	₹100, with per-person and annual caps	SEBI
Token form	Demat 2.0 covers corporate bonds only	Extend depository ledgers to MSME SPV equity	SEBI, NSDL, CDSL
Money and escrow	e₹ programmability in pilot	Programmable retail e₹ for escrow, payouts and incentives	RBI
NRI investment	FEMA rules apply case by case	Standard NRO and NRE routes with bulk reporting	RBI
Fiscal incentive	State SGST schemes only	MBI-linked SGST and CGST reimbursement	States, Ministry of Finance

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2026): 8.748 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 13 | Issue: 10 | October 2026 -Peer-Reviewed Journal

Each regulator would keep to its own domain. RBI would oversee payment rails, escrow, the programmable e₹, NRI flows and systemic exposure, and would have the authority to pause issuance. SEBI would classify the tokens as securities and regulate offer documents, platforms, disclosure and grievance redress. The Ministry of MSME and SIDBI would manage eligibility, the first-loss reserve and the MBI administrator, while states would provide SGST reimbursement, land and approvals.

The sensible way to begin is in a sandbox. RBI's 2025-26 Annual Report already commits to a CBDC and asset tokenization sandbox [23]. G-CMTO could start as a joint RBI–SEBI sandbox cohort with hard caps on total capital. That would allow time-limited exemptions while the evidence for permanent rules is gathered.

10. ILLUSTRATIVE CASES

Does the model hold up in practice? Three cases spanning the size range suggest that it can. In steady state, before any GST reimbursement, each unit pays roughly ₹8–10 a year on every ₹100 token (Table 5).

The assumptions are deliberately conservative. Steady state is year 2 for Cases A and B and year 3 for Case C, with nothing distributed in year 1. Debt costs 10% a year, and corporate tax is taken at 25%. Half of profit after tax is distributed pro rata across total equity, which is 90% of project cost. GST reimbursement is left out altogether. Equity leaves escrow in three tranches: 30% when the site is ready and machinery is ordered, 40% on installation and a logged trial run, and the final 30% on product certification and the first paid commercial invoice.

Table 5. Capital and steady-state economics of the three cases

Item	A: Educational toys	B: Series LED lights	C: BLDC ceiling fans
Project cost	₹50 lakh	₹1 crore	₹10 crore
Citizens / operator / government / debt	₹27.5 / 15 / 2.5 / 5 lakh	₹55 / 30 / 5 / 10 lakh	₹5.5 / 3 / 0.5 / 1 crore
Maximum holders at ₹100	27,500	55,000	5,50,000
Plant, machinery and fit-out	₹40 lakh	₹68 lakh	₹7.4 crore
Working capital	₹8 lakh	₹28 lakh	₹2.3 crore
Pre-operative and issue costs	₹2 lakh	₹4 lakh	₹30 lakh
Revenue	₹1.20 crore	₹2.50 crore	₹24 crore
EBITDA (margin)	₹18 lakh (15%)	₹30 lakh (12%)	₹2.88 crore (12%)
Depreciation	₹5 lakh	₹7 lakh	₹75 lakh
Interest	₹0.5 lakh	₹1 lakh	₹10 lakh
Profit after tax	₹9.4 lakh	₹16.5 lakh	₹1.52 crore
Distribution (50%)	₹4.7 lakh	₹8.25 lakh	₹76.1 lakh
Yearly payout per ₹100 token	₹10.4	₹9.2	₹8.5
Certification gate	BIS licence, IS 9873	BIS registration for lighting products	IS 374 and BEE star label

Case A: ₹50 lakh educational toy unit. Two small injection moulding machines, moulds for four to six designs and BIS testing equipment are enough to make building blocks and STEM kits. Toys are a good example of what quality rules and domestic capacity can do together. Since the Toys (Quality Control) Order took effect in January 2021, imports have fallen from US$371.7 million in FY2018-19 to US$232.3 million in FY2025-26, while exports have risen to US$384.7 million [42]. The main risks are short design life and festival seasonality, and the MBI handles both by comparing each quarter with the same quarter a year earlier.

Case B: ₹1 crore series LED lights unit. A semi-automatic SMT line, soldering and testing equipment, and wire and cap processing produce decorative string lights, including designs made for particular festivals. The market is substantial: India imported US$349.07 million of lamps, lighting fittings and related products from China in 2025 [43]. Working capital is the largest single use of funds here, because sales bunch up in the August–November festive season, and programmable e₹ escrow ensures it is spent only on inventory and wages. LED chips are still imported, so I would advise adding a year-round second line, such as LED battens.

Closing the price gap. Take an illustrative case in which an Indian series string retails at ₹120 and a Chinese import at ₹80–90. In this example, six levers could together bring the Indian price down to about ₹86–95: automation (₹8–10 per string), cluster bulk purchasing (₹5–6), grade-linked GST reimbursement (₹4–6), shorter distribution (₹3–5), a lower cost of capital (₹3–4) and shared facilities (₹2–3). Getting all the way to ₹80 would also require local production of LED drivers and other components. And where imports are priced below cost, anti-dumping duties are a better answer than efficiency. The realistic target, then, is a price within 10% of the import, backed by better quality, a warranty and festival-specific designs.

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2026): 8.748 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 13 | Issue: 10 | October 2026 -Peer-Reviewed Journal

Case C: ₹10 crore BLDC ceiling fan plant. With motor winding, a controller PCB line, a press shop and BEE performance testing, the plant turns out about 1,00,000 fans a year at an average ex-factory price of ₹2,400. Regulation is pushing the market this way. BEE star labelling became mandatory for ceiling fans on 1 January 2023, and in practice a five-star rating requires a brushless DC motor [44]. Yet BLDC fans make up only about 15% of a ceiling fan market worth roughly ₹12,000 crore, and much of the demand for BLDC motors is met by imports [45]. Making motors and controllers in-house lifts the unit's domestic value-added score. Data from the testing line can also be signed at the edge and written to the ledger as milestone evidence, carrying supply-chain traceability methods onto the factory floor [20].

Looking across the three cases, payouts per token are similar; what differs is risk and impact. The ₹50 lakh unit is the easiest to start but the most exposed to a single product's cycle. The ₹10 crore plant is harder to execute, but it replaces higher-value imports and can supply components to smaller units. For small investors, this argues for MBI-graded baskets of several units rather than bets on single projects.

11. IMPLEMENTATION AND RISK

A model like this should not be rolled out all at once. G-CMTO should scale only through capped phases, each of which opens only when a regulatory gate is passed.

1. **Phase 0, design (months 0–6):** sandbox rules, MBI methodology, standard SPV and token templates, first-loss reserve. Gate: RBI and SEBI sandbox approval.
2. **Phase 1, pilot (months 6–24):** about 200 units in three states, total project capital capped at ₹500 crore, dual payment rails and live quarterly MBI. Gate: audited review of losses and data integrity.
3. **Phase 2, scale (years 2–4):** further states opt in, capital cap of ₹5,000 crore, MBI-graded cluster baskets and secondary windows.
4. **Phase 3, permanent framework (year 4 onward):** Companies Act route and a SEBI chapter for citizen ownership offers, national roll-out and MBI-linked funds.

An illustrative ₹1,000 crore national corpus would cover the Phase 2 cap. It breaks down into ₹250 crore of government anchor equity (5% of ₹5,000 crore), ₹412.5 crore of first-loss reserve (15% of the ₹2,750 crore citizen tranche) and ₹337.5 crore for the platform, the MBI body and investor education. This corpus would complement, not compete with, the SME Growth Fund [30], which backs established SMEs. Indeed, a high-grade G-CMTO unit could later graduate to that fund.

Table 6. Principal risks and design responses

Risk	Design response
Mass retail losses and bailout pressure	Per-person caps, subordinated government equity, 15% reserve, baskets, risk acknowledgement
Operator diversion or concealed revenue	Programmable escrow, milestone-gated release, mandatory collection account, independent directors
Weak operator performance	30–35% stake; vesting tied to MBI; forfeiture at grade C
Data manipulation	60% of MBI weight from money flows; independent engineers; IoT evidence; crowd reports trigger inspections only
Illiquidity	Quarterly secondary windows; operator buyback right from year five
Fraudulent imitators	SEBI-registered platforms only; tokens only on depository ledgers; public registry of approved SPVs
Low e₹ adoption	Dual rails with UPI and bank transfer
Fiscal cost	Time-bound, capped and grade-scaled reimbursement limited to target products

To be clear, the model does not guarantee returns, nor does it promise rescues beyond the stated first-loss layer. What it does guarantee is that losses will be visible, traceable to their cause and proportionate to each holder's stake.

12. CONCLUSION

This paper has argued that India can build citizen-owned manufacturing capacity in import-exposed categories. The G-CMTO Model does so by bringing together majority retail equity, an accountable operator, programmable sovereign money and a verified performance index. In doing so, it turns the familiar call for "policy change" into a specification that regulators can test in a sandbox.

Each actor has a clear part to play. The state provides first-loss capital, a fiscal incentive and a legal route. The operator executes, with 30–35% of its own capital at stake. Citizens and NRIs own the majority, with capped exposure and known protection. The e₹ keeps money disciplined, the depository ledger keeps ownership clear, and the MBI keeps everyone informed, growing stronger with every

new holder. Most of the infrastructure is already in place: Udyam, UPI, the e₹, Demat 2.0 and the Unified Markets Interface. What remains is the decision to connect them for the smallest factories.

The model has clear limitations. It has not yet been tested with real issuers or investors. Its parameters, especially the investor caps, the first-loss percentage and the NRI share, are design choices that still need calibration. I have not estimated the fiscal cost of reimbursement or the operating cost of the MBI. And the legal pathway depends on regulators accepting very small retail tickets at a time when SEBI has leaned towards protection.

These limitations point to the next round of work. Five priorities stand out: (1) portfolio simulation under different failure rates, to calibrate the reserve and the caps; (2) a fiscal cost-benefit model of grade-linked reimbursement; (3) field validation of the MBI dimensions using data from existing MSME clusters; (4) behavioural research on how rural and semi-urban investors read grades and risk disclosures; and (5) technical design of IoT and edge-AI production verification as a trusted data source.

REFERENCES

1. *Press Information Bureau, Ministry of MSME, "From Enterprise to Empowerment: The MSME Story," Government of India, New Delhi, Jun. 26, 2026. [Online]. Available: static.pib.gov.in*
2. *Ministry of Finance, Economic Survey 2025-26. New Delhi: Government of India, Jan. 2026.*
3. *Small Industries Development Bank of India, "Understanding Indian MSME Sector: Progress and Challenges," SIDBI, Lucknow, May 2025. [Online]. Available: sidbi.in*
4. *Press Trust of India, "China becomes India's largest trading partner in 2025-26; trade deficit at record high," Apr. 15, 2026. [Online]. Available: taxtmi.com*
5. *"DGTR suo-motu probing alleged dumping of three Chinese goods to protect MSMEs from cheap imports," Outlook Business, 2026. [Online]. Available: outlookbusiness.com*
6. *Department of Commerce, "India–US trade deal," Lok Sabha Unstarred Question No. 3948, Government of India, Mar. 2026. [Online]. Available: commerce.gov.in*
7. *V. Gujar and P. Dahapute, "Venture capital – issues and challenges & Varhad incubation model," RJEBS, vol. 7, no. 5, pp. 7–15, Mar. 2018. [Online]. Available: researchgate.net*
8. *Securities and Exchange Board of India, SEBI (Issue of Capital and Disclosure Requirements) (Amendment) Regulations, 2025, relating to SME issues, Mumbai, Mar. 2025.*
9. *Securities and Exchange Board of India, "Comparative study of growth in equity derivatives segment vis-à-vis cash market after recent measures," SEBI, Mumbai, Jul. 7, 2025.*
10. *J. E. Stiglitz and A. Weiss, "Credit rationing in markets with imperfect information," Amer. Econ. Rev., vol. 71, no. 3, pp. 393–410, 1981.*
11. *T. Beck and A. Demirgüç-Kunt, "Small and medium-size enterprises: Access to finance as a growth constraint," J. Bank. Finance, vol. 30, no. 11, pp. 2931–2943, 2006.*
12. *Reserve Bank of India, "Report of the Expert Committee on Micro, Small and Medium Enterprises" (Chair: U. K. Sinha), RBI, Mumbai, Jun. 2019.*
13. *A. Agrawal, C. Catalini, and A. Goldfarb, "Some simple economics of crowdfunding," Innov. Policy Econ., vol. 14, pp. 63–97, 2014.*
14. *G. K. C. Ahlers, D. Cumming, C. Günther, and D. Schweizer, "Signaling in equity crowdfunding," Entrep. Theory Pract., vol. 39, no. 4, pp. 955–980, 2015.*
15. *Securities and Exchange Board of India, "Consultation paper on crowdfunding in India," SEBI, Mumbai, Jun. 2014.*
16. *A. B. Majumdar and U. Varottil, "Regulating equity crowdfunding in India: Walking a tightrope," in Global Capital Markets: A Survey of Legal and Regulatory Trends. Cheltenham, U.K.: Edward Elgar, 2017, pp. 172–198.*
17. *OECD, The Tokenisation of Assets and Potential Implications for Financial Markets, OECD Blockchain Policy Series. Paris: OECD, 2020.*
18. *Bank for International Settlements, "Blueprint for the future monetary system," in Annual Economic Report 2023, ch. III. Basel: BIS, 2023.*
19. *V. Gujar, "Cyber security & blockchain technology: A primer," SBS Int. Res. J. Manage. Stud., vol. 5, no. 1, pp. 48–52, 2020. [Online]. Available: researchgate.net*
20. *V. Gujar, "Introduction of blockchain technology in supply chain," RJSITM, vol. 7, no. 12, pp. 11–14, Oct. 2018. [Online]. Available: researchgate.net*
21. *G. Caldarelli, "Understanding the blockchain oracle problem: A call for action," Information, vol. 11, no. 11, p. 509, 2020.*
22. *. Auer and R. Böhme, "The technology of retail central bank digital currency," BIS Quart. Rev., pp. 85–100, Mar. 2020.*
23. *Reserve Bank of India, Annual Report 2025-26. Mumbai: RBI, May 2026.*
24. *Gujarat Cooperative Milk Marketing Federation, "Amul brand turnover crosses ₹1 lakh crore in FY2025-26," press release, Anand, Apr. 2026. [Online]. Available: dairyindustries.com*
25. *M. L. Weitzman and C. Xu, "Chinese township-village enterprises as vaguely defined cooperatives," J. Comp. Econ., vol. 18, no. 2, pp. 121–145, 1994.*
26. *B. Naughton, The Chinese Economy: Transitions and Growth. Cambridge, MA, USA: MIT Press, 2007.*

27. *M. C. Jensen and W. H. Meckling, "Theory of the firm: Managerial behavior, agency costs and ownership structure," J. Financ. Econ., vol. 3, no. 4, pp. 305–360, 1976.*
28. *Ministry of MSME, reply to Rajya Sabha question on Udyam registrations, Jul. 20, 2026, as reported in "Over 8.84 crore MSMEs registered on Udyam platforms," KNN India. [Online]. Available: knnindia.co.in*
29. *"India's trade deficit with China hits $105.93 billion in January–September 2026," Maritime Gateway, Oct. 2026. [Online]. Available: maritimegateway.com*
30. *"Cabinet clears ₹10,000 crore SME Growth Fund," Inc42, Oct. 6, 2026. [Online]. Available: inc42.com*
31. *"SEBI proposes sweeping overhaul of SME IPO framework," Moneylife, Oct. 2026. [Online]. Available: moneylife.in*
32. *A. R. Hevner, S. T. March, J. Park, and S. Ram, "Design science in information systems research," MIS Quart., vol. 28, no. 1, pp. 75–105, 2004.*
33. *K. Peffers, T. Tuunanen, M. A. Rothenberger, and S. Chatterjee, "A design science research methodology for information systems research," J. Manage. Inf. Syst., vol. 24, no. 3, pp. 45–77, 2007.*
34. *Ministry of MSME, Notification S.O. 1364(E), Gazette of India, Mar. 21, 2025 (revised MSME classification effective Apr. 1, 2025).*
35. *Government of India, The Companies Act, 2013, ss. 23, 42 and 114.*
36. *V. Gujar, "Identity management, SSI and blockchain: A review," Int. J. Sci. Res. (IJSR), vol. 13, no. 1, pp. 1547–1553, Jan. 2024, doi: 10.21275/SR24123105221.*
37. *Ministry of Finance, Foreign Exchange Management (Non-Debt Instruments) Rules, 2019, Gazette of India, Oct. 17, 2019.*
38. *Reserve Bank of India data on inward remittances, FY2024-25, as reported in "Diaspora remittances to India reach historic high of $135.46 billion in FY25," Angel One, 2025. [Online]. Available: angelone.in*
39. *Securities and Exchange Board of India, "Successful launch of 'Demat 2.0' pilot project for tokenised corporate bonds," Press Release No. 56/2026, Mumbai, Sep. 10, 2026. [Online]. Available: sebi.gov.in*
40. *"RBI explores tokenising gold amid push to expand Unified Markets Interface," Univest, Sep. 10, 2026. [Online]. Available: univest.in*
41. *Government of Maharashtra, Maharashtra Industries, Investment and Services Policy 2025, Mumbai, Dec. 31, 2025; summary by Grant Thornton Bharat, Jan. 2026. [Online]. Available: grantthornton.in*
42. *Ministry of Commerce and Industry, reply on toy trade and the Toys (Quality Control) Order, 2020, 2026, as reported in "India's toy exports soar 89.1%," India Shipping News. [Online]. Available: indiashippingnews.com*
43. *UN Comtrade data via Trading Economics, as reported in "Chinese lights brighten India's Diwali preparations," Global Times, Oct. 15, 2026. [Online]. Available: globaltimes.cn*
44. *Bureau of Energy Efficiency, Standards and Labelling Programme for ceiling fans, mandatory from Jan. 1, 2023 (IS 374:2019), Ministry of Power, New Delhi, 2022.*
45. *"The ₹4,000 crore opportunity in ceiling fans," Value Research, 2026. [Online]. Available: valueresearchonline.com*