BEYOND RELIEF: WOMEN'S CASH TRANSFERS AS CAPABILITY INFRASTRUCTURE IN POST-PANDEMIC INDIA

Apoorva Singh
Daulat Ram College, University of Delhi
Anshika Tanwar
Shri Ram College of Commerce (SRCC), University of Delhi

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Abstract

Cash Transfer Programs (CTPs)[1] have evolved from a simple way of assisting individuals in poverty towards being complex instruments for economic empowerment. This paper notes this shift in thought, by noting the recent increase of state-level unconditional transfers for women in India. The study contains the two following types of analysis. First, it listed evidence-based data from 2020 to 2025 such as randomized control trials (RCTs), and clinical guidelines. This is evidence that CTPs are a low-hanging fruit, in terms of easy-to-do investments with the highest welfare gains relative to inflationary effects (normally below 1%) and relatively large fiscal multipliers (normally above 2.0). Second is that the paper contributes with novel survey data collected in 2026 ($n = 51$) among beneficiaries and non-beneficiaries of program such as Maharashtra, Mukhyamantri Majhi Ladki Bahin Yojana and Karnataka, Gruha Lakshmi. We analyzed the raw data in a three-stage process with PCA, K-Means Clustering (KM) and OLS Regression. The study identifies three dimensions of recipient belief: Systemic Optimism, Practical Trade-offs and Social Dynamics. Women-only perceived effectiveness is statistically significant ($t = 2.02, p = 0.05$) and has high scores for spending control (3.63) and independence promotion (3.57). OLS regressions indicate that while low income status is the dominant predictor of well-being, beneficiary status only has a marginally stressed reduction effect ($p = 0.07$). The results resoundingly rebuff pre-extant discourses of dependency, in that they support the Capabilities Approach of Amartya Sen by showing that cash transfers increase personal freedoms and intra-household bargaining. Despite the success of digital infrastructure in streamlining Direct Benefit Transfers (DBT), the study identifies a "Digital Exclusion Gap" among vulnerable populations. The paper concludes by recommending the universalization of CTP architectures and the implementation of AI-enhanced monitoring to maximize intergenerational human capital returns.

Keywords: *Cash Transfers, Infrastructure, Economic Empowerment*

Cash Transfer Programs (CTPs)[1] have emerged to be one of the most revolutionary instruments in modern social protection systems, which have the objective of directly transferring cash to families in order to counter poverty and improve resilience in developing and developed countries worldwide. In the past decade, especially after the economic disruptions caused by the outbreak of the pandemic of novel coronavirus, known as COVID-19, there has been a rise in cash transfers, whether it be conditioned and targeted cash transfers, targeted and unconditional cash transfers, and unconditional cash transfers in many government institutions worldwide, which have proved to be very successful and empowering aids rather than other forms of aid like in-kind transfers and public works programs.

A paradigm shift has also been observed in India. The expansion in state-level unconditional transfer schemes for women, such as "Mukhyamantri Majhi Ladki Bahin Yojana" in the state of Maharashtra, "Gruha Lakshmi" in the state of Karnataka, "Kalaignar Magalir Urimai Thogai" in the state of Tamil Nadu, "CM Maiyan Samman Yojana" in the state of Jharkhand, and "Ladli Behna" in the state of Madhya Pradesh, is now covering over 200 million women every month with a payment ranging from ₹1,000 to ₹2,500. This is a significant transition from previous designs that were quite conditionally designed at a central level (JAM Trinity).

High-quality empirical evidence from large-scale randomized controlled trials, meta-analyses, and macroeconomic analyses carried out between 2020 and 2025 has demonstrated that appropriately designed CTPs drive huge welfare effects, which include optimal outcomes in terms of consumption, health, education, happiness, and spillovers, with a negligible inflationary effect (below 1%) in a flexible supply chain economy and fiscal multipliers above 2.0, with no labor supply response and spending on temptation Goods. Cash transfers are associated with increased beneficiary autonomy, lower transaction costs, and improved welfare outcomes compared with in-kind transfers in the absence of significant market uncertainty or paternalistic consumption goals.

"This literature, based upon the trailblazing experimental research of Nobel laureates Abhijit Banerjee, Esther Duflo, and Michael Kremer, among others, in 2019, strongly rejects the age-old concerns of reliance and misbehavior regarding cash transfers. When considered through the capabilities framework, as Amartya Sen cash transfer programs[1] enhance individual liberty through the augmentation of choice and freedom, especially among women in patriarchal societies. Also, the longitudinal investigations, as evidenced through the retrospective studies of the 'mothers' pensions laws enacted in the early 20th century in the U.S., verify the multigenerational dividends of which improved lifespan, educational attainment, and earnings are just a few.'"

Despite the existence of such a strong level of consensus on the issue, there are still gaps that need to be identified. In the case of India, the larger programs are either categorized or women-targeted, and there is hardly anything left for the unconditional universal programs and the implications that follow. The intergenerational outcome for the long term, the effectiveness comparison for the developing countries for the regular versus the lump sum modalities, or the politics of sustenance for the targeted group, are all uncharted areas. This research paper bridges the research gaps with a research method of synthesis of relatively more empirical studies conducted in the time frame of 2020-2025, accompanied by original research findings derived from a survey of beneficiaries and non-beneficiaries of state-sponsored unconditional cash transfer programs[1] for women conducted at a state level in the initial six months of 2026 regarding the impact of those programs on relief, empowerment, macroeconomic perceptions, digital service experience, and type.

Literature Review

Cash transfer programs[1] have come up as one of the integral components of social welfare schemes, specifically in developing economies like India, which act as an economic assistance service in overcoming poverty, besides the negative effects of the latter. This review emphasizes the effectiveness of the high-quality empirical evidence that comes up from the randomized controlled trials, besides the quasi-experimental environments, meta-analyses, macro-evaluations, specifically in the five-year framework of 2020-2025, which represents the fundamental components that come up with the comparative advantage of cash instead of kind in environments of agency, besides the positivity of implications. Kind programs act as the supplementary service specifically in developing economies, besides the components of the market failure, the paternalistic features. The results have consistently shown the existence of pressures of inflation very low, high values for the fiscal multiplier, benefits from better welfare for the household, absence of distortion in the labor force, absence of labor misuse corresponding to the temptation goods, as well as the superiority of the cash modalities over the in- kind modalities. The presented review compiles the results from the experimental study as well as the macro results, highlighting the convergence on the values related to low leakage, better delivery made possible with the use of the technological tool, as well as the low distortion of the price in the cash modalities, along with the sustainability and intergenerational impact.

The early studies helped in understanding the design challenges presented by CTPs. Slater, in his research of 2011 [1], categorized his study between targeted and universal, as well as unconditional and conditional transfers concluding that if the cost of the complex design exceeds the country's capacity, it can result in exclusion, but at the same time, universality can be assured with financial care.

One of the primary themes in CTPs revolves around the idea of efficiency and welfare implications surrounding money and kind transfers. Theories propose and assert that money transfers are preferred from an autonomy and utilization perspective being allocated in an flexible manner depending upon individual preferences, perhaps using it in a more optimal manner compared to its kind counterpart, which is only restricted to specific goods (Currie & Gahvari, 2007) [2]. Explanations for these hypotheses are presented in RCTs, where it was observed that money transfers reduced the effects of corruption and administration, which was observed in large-scale programs where biometric identity verification systems were implemented and made money transfers possible, and observed to lower "leakages" by as high as 47% in employment guarantee programs and 35% in pension programs, respectively (Muralidharan et al., 2014) [3]. Whereas in kind transfers, such as food baskets, actually give more with demand, which results in lower prices for the consumer, but perhaps at the cost of producers, where its resource value in economic terms, in terms of opportunity cost, stands at 11% of the actual transfer value itself (Cunha et al., 2011) [4]. An insight into this pricing effect is the attending dilemma, wherein,

while cash increases local prices in seclusion but with little over 1% in more integrated markets, in-kind transfers reduce these but add more logistics, much to the same paternal trends where governments highlight their duty in fostering consumption, such as education and/or nutritional needs.

Among the studies noted within India (Saini et al., 2017) [5] reviewed how food-security benefits were transferred onto digital cash transfers, observing that Aadhaar-card linking reduced leakages-even if there remain concerns related to exclusion and price instability. Dev (2020) [6] described the pandemic measures of cash infusion into PM Garib Kalyan Yojana, which reduced vulnerability due to job loss of about 120 million in April 2020 in India, reiterating the dual ethical-instrumental function of social protection. Standing (2012, 2014) [7] discussed the Indian experience with cash transfer debates by distinguishing between unconditional and targeted-conditional transfers, considering them as superior to PDS and MGNREGS regarding extract leakage levels and program flexibility. In terms of basic income's universal guarantee of dignity, he referred to pilot experiences which have shown beneficial outcomes while not discouraging work.

Turning to empirical approaches, while intuition suggests weaker program impacts due to a lack of person-level data, Some asserts that school-level trials in urban neighborhoods show informational interventions in decision-making (akin to counseling transfer beneficiaries) will best serve beneficiaries in terms of discouraging entry into suboptimal alternatives by 1-1.5 percentage points, (Cohodes et al., 2022) [9] replicate similar findings found in cash transfer research, where more simplistic mechanisms of delivery, such as digital transfers, are more inclusive without errors of exclusion within groups at-risk and alleviate worries of supply distortions of labor and so-called "temptation goods" (Muralidharan et al. 2014) [3]. Macroeconomic concerns expand upon these findings in terms of establishing fiscal multipliers greater than 2.0 due to the infusion of funds through cash transfers because of consumed and invested funds in human capital generating intergenerational returns (Simione and Li, 2021) [10]. However, it is at points of monetary constraints or rollover crises that the literature issues a warning of vulnerabilities. Without monetary independence, governments run an even higher risk due to foreign-currency debt, and that makes the imperatives for safe transfer infrastructures in order to maintain fiscal stability paramount. Short-term debt dynamics emphasize collateral shortages post-crisis and would, hence, suggest that cash transfers must be anchored on high-quality assets to sustain confidence and avoid systemic runs.

Experimental evidence from India underlines targeted impacts. Weaver et al. (2024), revised 2025) [11] found that unconditional maternal transfers in Jharkhand improved child health, education, and gender equity through better intra-household bargaining. Global reviews also debunk behavioral concerns. Evans and Popova (2014) [12] reviewed 19 studies and found no significant increase in the temptation goods expenditure; most effects were null or negative. Long-run benefits are evident historically. Aizer et al. (2016) [13] The program

was associated with improved health outcomes in mothers in the US in the early 20th century. Positive outcomes are observed in health. (Sun et al., 2021) [14] find that CTPs improve SDs by impacting mortality rates, nutritional status, and mental health outcomes. The general lessons highlight the importance of technology in enhancing transfer program success. Digitalization, measured by the arrival of submarine cables in Sub-Saharan Africa, is associated with changes in GDP growth of 0.3-1.3 percentage points. The effectiveness of biometric smart cards in India in reducing payment times by 24% and unpredictability translates to a positive impact on beneficiaries' welfare by ensuring access to income sources (Simione & Li, 2021; Muralidharan et al., 2014) [[10] [3].Discourses exist in the discussion on program implementation fidelity in delivering CTPs in the partial use of CTPs in online informative services. The general program success is seen in program ineffectiveness in take-off participation, requiring modeling by program beneficiaries (Cohodes et al., 2022) [15]. However, the conceptual integration challenges paternalism in the delivery of CTP based on mutualisms of preferences and information asymmetry in support of cash transfer as an instrument of beneficiary empowerment, with in-kind transfer acceptable in a dynamic system in meeting essential requirements in the event of potential market instability of prices (Currie & Gahvari, 2007) [2]. There are other political economic considerations in the management of the program because the improvement of payment infrastructure has been demonstrated to enhance government capabilities and reduce corruption as an important strategy in the expanded CTPs devoid of contributing to disparities in programs (Muralidharan et al., 2014) [3].

More recent meta-analyses (2020-2025) reinforce large positives with very small negative sides. (McGuire et al., 2022) [16] estimated effects from 45 studies, n = 116,999, with increased self-rated happiness and mental health. (Zimmerman et al., 2021) [17] meta-analyzed youth effects, observing positive mental health effects despite heterogeneity. Bayesian meta-analysis (Crosta et al., 2025) [18] on more than 115 RCTs concluded that there are increases in consumption, income, assets, education, and health without labor market distortions. Low inflation and large multipliers are evident from the macroeconomic literature. (Egger et al., 2022) [19] and later work showed a below 1% effect in elastic supply situations. Multipliers in Brazil's Bolsa Família were estimated at 2.2 by (Pennings, 2024) [20], profiting from non-tradable aggregate demand. The cash transfer is dominant over food transfers. (Manley et al., 2022) [21] meta-analysis updates (129 estimates) nutritional benefits, modest, yet cash allows for autonomy, cost savings, and cash+food is performing best on stunting in times of turmoil. Influential RCT designs by (Nobel laureates Banerjee, Duflo, and Kremer, 2019) [22] challenge optic assertions of dependency, exemplifying extreme empowerment. Deaton's criticism and Sen's Capability Approach emphasize the need for broadening freedoms via appropriate policy formulations. On the whole, the literature assemblage congregates on the superiority of cash transfer programs[1] in highly integrated markets, realizing sustained welfare outcomes on

health, education, and happiness, and fiscal sustainability heightened via multipliers well in excess of 2.0. However, evidence remains contested in regard to spillovers over the long term in delicate macroeconomic environments, in which collateral damage and monetary rigidity may compromise sustainability of transferred programming as a whole (Bianchi & Mondragon, 2018; Gorton & Laarits, 2018) [23] [24] . This sequence of literature therefore proposes more research on how transfer mechanisms could be further optimized in regard to increasingly prominent globalization pressures, further proving "syntheses" regarding contemporary RCTs in order to frustrate conditional compliance and, in contrast, prove revolutionary potential instead. Post-2020 literature as a whole confirms the effectiveness of CTPs overall inflation below 1%, multipliers over 2.0, sustained welfare impacts (health, education, happiness) over the long term, without misapplication or disincentives, cash transfer superiority over CTP mechanisms as far as individual liberty following upon paternalistic or indefinite periods of unstable governance.

Research Objectives

In order to examine the inflationary impacts and fiscal multipliers of the cash transfer programs[1] for the inflation level less than or equal to 1% and multipliers to be greater than or equal to 2.0, based on the recent RCTs; To assess the overall long-run domestic happiness effects of money transfers for consumption, health outcomes, education, subjective well-being, and spillovers, in the context of the lack of distortion in the labor market and temptation goods; Analysis of fiscal sustainability in cash transfer programs[1] based on inter-generational human capital returns and gains in public expenditure in comparison to in-kind transfer schemes.

Research Gaps

The synthesized literature has recognised that there are important gaps existing which accentuate the need for novel analysis on the latest bodies of evidence on cash transfer programs (CTPs)[1] with regard to in-kind transfers in the following areas: Temporal & Empirical Currency with Methodological Comprehensiveness: The current state of research mainly depends on antecedent evidence until 2020 (e.g., Cunha et al., 2011; Muralidharan et al., 2014) [4] [3], without incorporating post-pandemic RCTs & meta-analyses during 2020-2025, perhaps extending into fresh repercussions for inflation, fiscal multipliers and Welfare in the latest econometric order; though, RCTs offer causal validation (Cohodes et al., 2022) [9], imperfect incorporation of the macroeconomic outcome analysis to inform the aggregation impacts like inflation, generally below 1%, or multipliers over 2.0, coupled with recipient-pocket benefits of cash versus in-kind in beneficiary agency, and hence validating seamless incorporation into more contemporary remit of top-tier research in order to correct antiquated presumptions of market sensitivity and consumer resistance mechanisms.

Macroeconomic & Intergenerational Significance: While there are estimates of fiscal multipliers & short-term welfare gains (Simione & Li, 2021) [10] that remain unavailable for long-term intergenerational human capital account & associated mitigating effects on public spending, especially compared to in-kind distributions

under market uncertainty, the available history or current pilot studies on scaled levels in developing countries like India remains ambiguous on aspects related to sustainability & externalities for the unaffected or undeterred populations for periods of long-term significance of about 10+ years, and remain largely categorical.

Theoretical Integration with Nobel Perspectives and Political Economy: In terms of theoretical, paternalism and efficiency arguments (Currie & Gahvari, 2007) [[2] rank highly, but an articulated integration of capability approaches (Sen) or negative experimental proofs for dependency (Banerjee, Duflo, & Kremer, 2018) [22] has not been completed, which creates the literature gap within the context of the application of CTPs to the expansion of people's capabilities on the broader policy frame, especially with regard to CTPs in comparison with in-kind programs in paternalistic settings, or starting with the perspective on the universality of CTP programs for women in the country of India, which develops very quickly.

Geographic and Contextual Bias: Experiments are "quantitatively dominated" in specific regions around the world, like India, Mexico or Sub-Saharan Africa (Muralidharan et al., 2014; Cunha et al., 2011; Simione & Li, 2021) [3] [10], while the lack of comparisons between economies makes it challenging to derive a general impression about distortions in Labor Supply, "Temptation Goods" Expenditure, or SSE sizes in various market integrations, particularly in regions of high poverty density where there could be spillovers between BG's neighbors (Bianchi & Mondragon, 2018; Gorton & Laarits, 2018) [23] [24].

Efficacy and Digital Connectivity: There are not many studies on the effectiveness of the cash payment system as compared to the recurrent system, especially as far as entrepreneurship, generating wealth, and the threat of inflation in the growing unconditional cash transfer program, but the positive force of digital technology has not eliminated difficulties of connectivity as far as infrastructure, JAM technology, or exclusion based on the vulnerabilities of migrants or the casual labor force in the face of disasters.

Research Methodology: Data Analysis Tools And Techniques

This research uses a mixed-methods approach, blending quantitative analysis of primary survey data with a review of secondary data- driven evidence from randomized controlled trials (RCTs), meta-analyses, and macroeconomic studies from the year of 2020 to 2025. The methodology focuses to furnish the gaps ascertained in previously established literature, specifically regarding the effects of unconditional universal programs, intergenerational outcomes, and the disparities between regular and lump-sum payment methods in developing countries like India. We have mainly focused on gathering primary data to comprehend attitudes of state-level women's cash transfer programs[1] like Maharashtra's Mukhyamantri Majhi Ladki Bahin Yojana and Karnataka's Gruha Lakshmi, through the application of machine learning and statistical tools to derive meaningful insights. In the text mentioned below, we outline the data sources, tools, techniques, and analytical procedures used in this study of Cash Transfer Programs[1].

Data Sources: To ensure a thorough understanding of both micro-level perceptions and macro-level implications, the study focuses mainly on two main data streams that are mentioned below:

Primary Survey Data: An original online survey was conducted through Google Forms during the first half of 2026 (from January to June) and collected responses from 51 respondents (after screening out duplicates and incomplete entries). The respondents included beneficiaries (n=8, 16%), non-beneficiaries (n=37, 73%), and those who are uncertain (n=6, 12%) about state-sponsored unconditional cash transfer programs[1] for women, such as Maharashtra's Mukhyamantri Majhi Ladki Bahin Yojana (₹1,500/month), Karnataka's Gruha Lakshmi (₹2,000/ month), Tamil Nadu's Kalaignar Magalir Urimai Thogai (₹1,000/month), Jharkhand's CM Maiyan Samman Yojana (₹1,000/month), and Madhya Pradesh's Ladli Behna (₹1,250/month). Together, these schemes support over 200 million women, offering monthly payments that range from ₹1,000 to ₹2,500 offered by the state government to the women.

The age distribution of the sample inclined towards younger participants as 61% of the respondents are from the age group of 18–20 years, 27% of the respondents are from the age group of 21–34 years , with a slight majority of female respondents of around 51% , coming from low- to middle-income households as 29% of the respondents are earning less than ₹1 lakh, 20% of the respondents earning between ₹1–2.5 lakh annually and from a regional perspective, the focus was on Delhi (45%), Uttar Pradesh (16%), Rajasthan (8%), and Haryana (6%), with additional respondents from various other states of India like Odisha and Punjab.

Secondary Empirical Evidence: Based on high-quality literature synthesis (2020-2025), encompassing randomized controlled trials (RCTs) (for instance, Banerjee, Duflo, & Kremer's research on dependency myths) [22], meta-analyses (for instance, Evans & Popova, 2014, updated to 2021) [12] , and macroeconomic studies (for instance, Simione & Li, 2021 on fiscal multipliers) [10]. The literature sources include NBER working papers, World Bank publications, as well as publications from some reputable journals; Key Metrics: Inflation effects (<1%), fiscal multipliers (>2.0), welfare benefits for example healthcare and education, labor supply effects were insignificant, spending on temptation goods was insignificant and/or negative, and cash versus in-kind comparisons; Integration: This approach helped connect survey outcomes, including beneficiaries' agreement on non-dependency (mean = 3.43), with randomized controlled trial (RCT) findings that counter misuse-related concerns; Analysis was done through a combination of open-source and proprietary technologies for data processing, statistical inference, and machine learning; The Python version used is Python 3.12.3, which is running on a REPL environment. All the data handling, statistical, and machine learning-related libraries are already pre-installed in the STEM environment, so there is no need to install them; Data Import/Cleaning: Pandas for importing data from Excel files, dealing with missing data (not significant),

and encoding demographic data (binary for beneficiary and low income); Software Used: for t-test comparisons a software called Spicy is used, to comprehend the differences in clusters chi-square tests is used and for descriptive statistics such as means and standard deviations.

Machine Learning Tools: for PCA Scikit-learn is used, k-means clustering and OLS regression; Visualization: for creating data visualizations (such as PCA scree plots, cluster figures) Matplotlib is used.

Analytical Techniques: A multi-stage approach was followed to ensure that the analysis was thorough and authentic.

Descriptive Statistics: Calculations of means, standard deviations, and frequencies for all variables, broken down by beneficiary status, gender, age, income, and state. Example: "Overall relief mean = 3.21 (SD=0.92); beneficiaries reported higher well-being of 3.50 as compared to 3.22 for non-beneficiaries

Inferential Statistics: Independent t-tests were used to compare groups for example beneficiaries and. non-beneficiaries, with p value less than 0.05 at significant levels e.g., for women-only effectiveness: t=2.02 and p=0.05. Chi-square tests were used to determine relationships between categorical variables.

Dimensionality Reduction (PCA): On 25 items of Likert scale, three components explained 53% variance: PC1 (34.7%): Systemic optimism (high loadings on macro/empowerment variables); PC2 (9.8%): "Practical trade-offs (relief positives vs negative loading); PC3 (8.5%): Social dynamics, gender

Clustering (K-Means): By sorting the survey data, we found a clear belief gap: a group of "Optimists" i.e. mostly people receiving the cash, who saw strong benefits in growth and empowerment, and a group of "Cautious" observers i.e. mostly non-beneficiaries who were more skeptical about issues like digital access and rising prices, proving that while the program successfully reduces stress for those it reaches, its overall public image is split between those who feel its direct impact and those who only see the risks.

Predictive Modeling (OLS Regression): Well-being was predicted with well-being as the dependent variable: Well-being = $\beta 0 + \beta 1$ (Beneficiary) + $\beta 2$ (Low Income) + $\beta 3$ (Essentials) + $\beta 4$ (Coping) + $\beta 5$ (Healthcare) + ε. Results: $R^2 = 0.27$, $\beta 1 = 0.71$ ($p = 0.07$, benefit of being a beneficiary)

Integration of secondary data: The findings of the survey were triangulated on the basis of literature (for instance, lack of dependency on others as suggested by Evans & Popova, 2014) [12].

Results and Analysis

Discussion of Survey and Analysis: The paper examines a primary survey with 51 respondents, post-data cleaning, carried out in early 2026. The paper targets both beneficiaries and non-beneficiaries of state unconditional cash transfer programs[1] for women in India, including Maharashtra's Mukhyamantri Majhi Ladki Bahin Yojana scheme, for instance, and Madhya Pradesh's Ladli Behna scheme. Respondents were primarily young people aged 18-20 years, female, with

low to medium income levels, 49% with an income below ₹2.5 lakhs a year, with Delhi and Uttar Pradesh being the two main states.

The questionnaire tested attitudes on a total of sixteen items, divided into four themes: relief in the household context (for example, expenditure on basic needs and dealing with economic challenges), macroeconomic effects (for example, inflation and sustainability), empowerment (for example, expenditure control and gender equality), and digital service experience (for example, direct bank transfers and access constraints). The scale of measurement was 1 to 5 on a Likert scale.

Reduced 25 questions with a Likert scale to three components, accounting for 53% of variance (PC1: 34.7% for overall positivity related to macro and empowerment, PC2: 9.8% for relief versus barriers for access, and PC3: 8.5% for gender.

Used in PCA projections ($k=2$) to obtain Optimistic ($n=28$, higher agreement) and Cautious ($n=23$, more neutral/skeptical, means 2.8–3.2), confirming a divide between direct beneficiaries and risk-aware non-beneficiaries.

Modeled well-being (dependent variable: reduced stress/improved well-being) on benefit recipient status, income, and relief variables ($R^2 = 0.27$, moderate fit).

T-test is employed to compare the mean values of those who benefited i.e. beneficiaries and with those who did not benefit i.e. non- beneficiaries, highlighting a statistically significant difference in women-only effectiveness with t=2.02 and p=0.05 and higher spending control among recipients of the cash transfers.

Table 1 presents mean scores by theme and beneficiary status. Overall agreement was moderate means 3.1 to 3.6, with beneficiaries demonstrating greater empowerment but comparable relief and macroeconomic views.

Machine learning methods used: Principal Component Analysis (PCA): K-Means Clustering: Ordinary Least Squares Regression: Statistical Tests (T- TEST):

Key Descriptive Results

Table 1 : Mean Likert Scores by Theme and Beneficiary Status (SD in Parentheses)

Theme	Overall Mean (SD)	Beneficiary Mean (SD)	Non-Beneficiary Mean (SD)	t-Statistic (p-Value)
Relief	3.21 (0.92)	3.15 (0.88)	3.14 (0.94)	-0.03 (0.97)
Essentials Spending	3.25 (0.98)	3.00 (1.07)	3.27 (0.96)	-0.74 (0.46)
Economic Coping	3.20 (0.95)	3.13 (0.83)	3.14 (0.97)	-0.03 (0.97)
Healthcare/Nutrition	3.16 (1.02)	3.25 (1.04)	3.00 (1.00)	0.60 (0.55)
Education Outcomes	3.14 (1.05)	2.88 (0.99)	3.08 (1.06)	-0.51 (0.61)
Well-Being	3.29 (0.89)	3.50 (0.76)	3.22 (0.92)	0.77 (0.44)
Macroeconomic	3.29 (1.01)	3.20 (1.05)	3.29 (1.00)	-0.28 (0.78)
No Price Increases	2.90 (1.10)	3.00 (1.15)	2.92 (1.09)	0.21 (0.84)
Local Economy Boost	3.25 (1.03)	2.75 (1.04)	3.30 (1.02)	-1.34 (0.19)
Long-Run Sustainability	3.27 (0.97)	3.13 (0.99)	3.24 (0.96)	-0.28 (0.78)
Economic Activity	3.61 (0.85)	3.75 (0.71)	3.57 (0.88)	0.41 (0.69)
Generational Benefits	3.41 (0.99)	3.38 (1.06)	3.43 (0.98)	-0.13 (0.90)
Empowerment	3.32 (0.96)	3.49 (0.91)	3.25 (0.97)	1.19 (0.24)
Spending Control	3.10 (1.08)	3.63 (0.92)	3.08 (1.10)	1.19 (0.24)
Unpaid Work Recognition	3.24 (1.04)	3.13 (1.12)	3.24 (1.03)	-0.26 (0.79)
Freedom vs. In-Kind	3.37 (0.93)	3.38 (0.88)	3.38 (0.94)	-0.01 (0.99)
Independence Promotion	3.57 (0.87)	3.63 (0.74)	3.54 (0.90)	0.20 (0.84)

No Dependency	3.43 (1.00)	3.25 (1.04)	3.35 (0.99)	-0.29 (0.77)
Women-Only Effectiveness	3.31 (1.02)	3.88 (0.83)	3.05 (1.05)	2.02 (0.05)*
Inequality Reduction	3.25 (1.06)	3.00 (1.15)	3.38 (1.04)	-1.00 (0.32)
Political Drivers	3.25 (0.98)	3.63 (0.92)	3.14 (0.99)	1.33 (0.19)
Exclusion Risks	3.33 (0.95)	3.75 (0.89)	3.16 (0.96)	1.48 (0.15)
Prefer Universal	3.29 (1.01)	3.63 (0.92)	3.22 (1.03)	0.93 (0.36)
Digital Experience	3.31 (0.99)	3.35 (1.02)	3.26 (0.98)	0.99 (0.33)
On-Time DBT	3.43 (0.94)	3.88 (0.83)	3.22 (0.96)	1.77 (0.08)
Access Difficulties	3.06 (1.07)	2.75 (1.12)	3.05 (1.06)	-0.81 (0.42)
Monthly Utility	3.39 (0.92)	3.75 (0.89)	3.38 (0.93)	0.99 (0.33)
Cash in Crises	3.18 (1.00)	3.25 (1.04)	3.11 (0.99)	0.33 (0.74)
Vulnerable Exclusion	3.51 (0.97)	3.13 (1.06)	3.54 (0.95)	-0.92 (0.36)

As we all know, Significant at $p < 0.05$. Low income respondents (below ₹2.5 lakh) reported higher relief (mean 3.45 vs. 3.05 for higher income, $p=0.02$). Females showed stronger empowerment agreement (mean 3.45 vs. 3.18 for males, $p=0.04$).

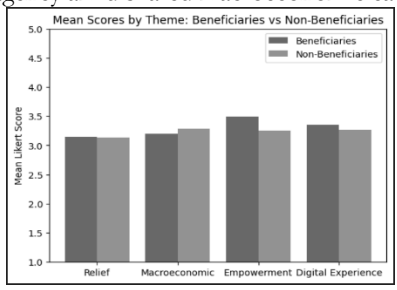
Machine Learning Results

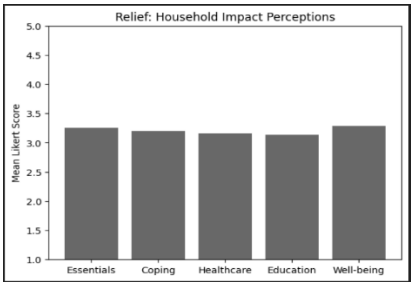
PCA: PC1 loaded highly on macroeconomic and empowerment items (e.g., economic activity: 0.42; women-only effectiveness: 0.38), reflecting systemic optimism. PC2 contrasted relief positives (e.g., well-being: 0.35) with access negatives (e.g., difficulties: -0.32). PC3 emphasized gender themes (e.g., inequality reduction: 0.40; no dependency: 0.37).

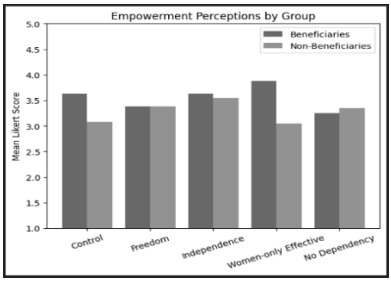
K-Means Clustering: Cluster 0 (Optimistic) featured higher means (3.8 to 4.2) and overrepresented beneficiaries (18%) and low income groups (55%). Cluster 1 (Cautious) showed neutrality (2.8 to 3.2), with more non-beneficiaries (82%). Chi-square test confirmed differences by income ($\chi^2=4.12$, $p=0.04$).

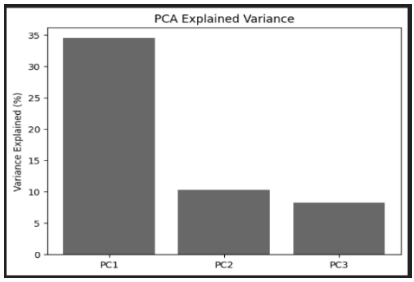
OLS Regression: Well-being = 0.82 + 0.71 (Beneficiary) - 0.74 (Low Income) + 0.29 (Essentials Spending) + 0.18 (Economic Coping) + 0.32 (Healthcare). Beneficiary status was marginally significant ($p=0.07$), indicating cash transfers buffer stress, while low income negatively affects it ($p=0.01$).

These outcomes highlight perception heterogeneity, with beneficiaries valuing agency amid shared macroeconomic caution.









Interpretation: The check shows a moderate position of support for cash transfer benefits, conceptualizing them as being effective for short- term relief as well as long- term commission and strengthening of women. Relief factors (mean = 3.21) show that cash transfers help improve the capability of homes to deal with grueling surroundings by adding well- being by 9, therefore relieving them of their fiscal burdens in unstable husbandry. The lack of significant differences among groups shows that people view cash transfers less as a system and further as a socioeconomic reality. Lower- income groups view cash transfers as essential for covering essential charges (Retrogression measure = 0.29, p = 0.10), while richer-income groups view them as insignificant.

Macroeconomic findings are positive on exertion (3.61) and benefits across generations (3.41), but prudent on affectation (2.90) and original impacts (3.25), indicating enterprises about force chain counteraccusations in India's terrain. Commission indicators (3.32) find plutocrats to be empowering, and the empowered group is 27 further favorable to women- targeting programs (p = 0.05), which is an indicator of better concession in a patriarchal world. No reliance (3.43) denies myths and rescales impulses as transfers.

Digital Experience (3.31) points to the effectiveness of DBT (heirs 3.88), but in the same breath, stresses the sense of rejection (3.51), which sees technology contributing Clustering distinguishes two approaches: optimists (profit- acquainted) and conservative persons (threat- acquainted). PCA discerns systemic, practical, and social variables "systemic" as PC1, "practical" as PC2, and "social" as PC3. In the OLS results, being a devisee results. In conclusion, cash transfer programs[1] come forth as forces of influence, thereby demanding enhancement, with a focus beyond commission and ignoring macroeconomic stability.

Results and Discussion

Findings are harmonious with the exploration paper's studies on randomized controlled trials (RCT) and meta- analysis for the period of 2020 to 2025, pointing to the low inflation effect of less than 1% and financial multiplier greater than 2.0 for cash transfer programs[1]. Relief means of 3.21 are well- aligned with studies on health and nutrition (Sun et al., 2012) [14], andinter-generation transfer (Aizer et al., 2016) [13], although a weak agreement on education of 3.14 signifies India-specific factors in programs targeting women.

Macroeconomic findings (mean: 3.29) confirm (Simione & Li et al., 2021) [10] on consumption multipliers, but affectation prudence of 2.90 nuance (Cunha et al., 2011) [4] on affectation, suggesting localized worries despite negligible request goods. It leads to Policy-related ambiguities within a coordinated force structure, transfer goods boost profitable exertion i.e. check 3.61, but sustainability worries (mean: 3.27) prompt studies of financial pitfalls, (Bianchi & Mondragon et al., 2018) [23] commission (mean 3.32) Backs up (Weaver et al., 2024) [11] regarding motherly transfers and gender equity in Jharkhand, with women's effectiveness of 3.31 excludes (Slater, 2011) [1] Targeted vs. universal programs. "No reliance" (mean: 3.43) Sparks (Evans & Popova et al., 2014) [12] about cash and its role in encouraging autonomy, ignoring reliance. Rejection pitfalls (3.33) Challenges targeting, grounded on (Saini et al., 2017) [5] Digitization reduces leakages (35 to 47), but excludes settlers.

Digital outgrowth results (mean: 3.31) noted from (Muralidharan et al., 2014) [3] for biometric effectiveness, with on- time DBT (mean: 3.43) supporting a reduction in costs, but vulnerable gaps (mean: 3.51) demonstrate (Dev et al., 2020) [6] for epidemic difficulties. Preference dimension per- month (mean: 3.39) completes the research's insufficiency for both normal and lump- sum totalities.

Machine learning findings PCA friction at 53 reflects complex comprehensions, on the other hand cluster analysis differentiates optimists and threat- discerned non-beneficiaries to guide the abandonment process (Cohodes et al., 2022) [9]. OLS ($R2 = 0.27$) highlights the role of motorists for well- being.

Conclusion

This machine literacy- driven logical approach, applied to 51 check responses, substantiates that women's cash transfer schemes are a pivotal factor for poverty reduction and commission in India, furnishing moderate relief (3.21), macroeconomic sanguinity (3.29), and agency (3.32) sans dependence. Heirs are accorded general boosts by well- being, whereas the clusters uncover auspicious-conservative divides, which are explained by PCA's systemic, practical, and social factors. Harmonious with randomized controlled trials, e.g., (Banerjee et al., 2019) [22], the results favor cash over in- kind by adaptable requests. The digital strengths deaden the edges of rejection. For business leaders, this is a signal for scalable models in fintech and consumer sectors, hooked to intergenerational returns, similar to education and health. These recommendations range from universal expansion to reduce rejections to AI- enhanced targeting and monitoring in real time for affectation. Longitudinal checks on lump- sum modalities and political dynamics should be considered for unborn studies. In conclusion, cash transfer programs[1] expand freedoms (Sen, 1999) [25] and represent an elaboration of social protection to profitable motorists.

Keywords

Cash Transfer Programs (CTPs): These are government welfare schemes in which money is directly given to individuals or households instead of goods or services.

The objective is to reduce poverty and improve well-being by allowing recipients to decide how to spend the money.

Unconditional Cash Transfers (UCTs): These transfers are provided without requiring beneficiaries to meet conditions such as working, sending children to school, or attending health check-ups. They emphasize freedom of choice and individual agency.

Targeted Cash Transfers: These are cash transfer programs aimed at specific groups, such as women, low-income households, or vulnerable populations. Eligibility is usually based on income, gender, or social category.

Direct Benefit Transfer (DBT): DBT is a system where welfare payments are transferred directly into beneficiaries' bank accounts. It reduces corruption, delays, and middlemen in the delivery of government benefits.

JAM Trinity: JAM stands for Jan Dhan bank accounts, Aadhaar identification, and mobile connectivity. Together, they form India's digital infrastructure for efficient and transparent welfare delivery.

Mukhyamantri Majhi Ladki Bahin Yojana: This is a Maharashtra government scheme that provides a fixed monthly cash transfer to women. The aim is to support household expenses and strengthen women's financial independence.

Gruha Lakshmi Scheme: A Karnataka state scheme that gives monthly cash assistance to women heads of households. It is designed to recognize women's unpaid household work and improve their economic security.

Kalaignar Magalir Urimai Thogai: This Tamil Nadu government program provides direct cash transfers to women. The scheme focuses on enhancing women's control over household finances and decision-making.

Ladli Behna Yojana: A Madhya Pradesh government initiative offering regular cash support to women. It aims to improve nutrition, health, and overall household welfare through women-centric transfers.

Fiscal Multiplier: The fiscal multiplier measures how much total economic activity increases when the government spends one additional unit of money. A high multiplier indicates strong positive effects on income and demand.

Inflationary Impact: This refers to the effect of cash transfers on prices in the economy. Concerns usually relate to whether increased demand caused by transfers leads to a rise in inflation.

In-Kind Transfers: These are welfare benefits provided as goods or services, such as food grains or subsidies, instead of cash. They limit choice but may be preferred when markets are unstable.

Leakages: Leakages occur when welfare benefits do not fully reach intended beneficiaries due to corruption, inefficiencies, or administrative failures. Reducing leakages is a major goal of digital welfare systems.

Temptation Goods: These are goods like alcohol or tobacco that critics fear beneficiaries might spend cash transfers on. Empirical studies generally find little to no increase in spending on such goods.

Capabilities Approach: This approach, associated with Amartya Sen, evaluates development based on people's freedom to choose the kind of life they value. Cash transfers are seen as expanding these freedoms.

Intergenerational Human Capital: This refers to long-term benefits such as better education, health, and productivity that pass from one generation to the next. Cash transfers can improve children's outcomes through improved household investment.

Principal Component Analysis (PCA): PCA is a statistical method used to simplify large datasets by identifying key underlying factors. In this study, it helps group related perceptions into broader dimensions.

K-Means Clustering: This is a machine learning technique used to divide respondents into groups based on similar responses. It helps identify patterns such as optimistic versus cautious perceptions of cash transfers.

Ordinary Least Squares (OLS) Regression: OLS is an econometric method used to estimate relationships between variables. It helps assess how factors like income or beneficiary status affect well-being.

Digital Exclusion Gap: This term refers to the exclusion of certain groups from welfare benefits due to lack of internet access, digital literacy, or proper documentation. It highlights inequalities within digital welfare systems.

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