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Shift from Cash to Cashless Economy in India: Evidence from RBI & World Bank Data

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Abstract:
India is undergoing a significant transformation in its financial ecosystem, with digital payments expanding rapidly alongside sustained use of cash. This study analyzes secondary data from the Reserve Bank of India (RBI) and the World Bank's Global Findex database (2011–2021) to examine the shift from cash to cashless transactions. The analysis covers trends in currency in circulation (CiC), the cash-to-GDP ratio, and adoption of digital financial services. Results reveal a paradox: while UPI and other digital channels have grown exponentially between 2016 and 2024, cash demand has also risen steadily after the demonetisation shock of 2016–17. By integrating RBI macroeconomic indicators with World Bank inclusion data, this study argues that India is moving toward a less-cash economy rather than a fully cashless one. The paper concludes that trust, digital literacy, and infrastructure remain critical to reducing dependence on cash.

Keywords: Cashless economy, RBI, World Bank Findex, Digital payments, Currency in circulation, India.

1. INTRODUCTION

For decades, India has been a cash-dominant economy. Cash played a central role not only in urban consumption but also in rural and informal markets. However, structural reforms and technological innovations have altered this dynamic. The **2016 demonetisation** shock, combined with the rapid scale-up of the **Unified Payments Interface (UPI)**, significantly boosted the adoption of digital payments.

Government initiatives such as the **Jan Dhan Yojana**, **Aadhaar-enabled systems**, and the **Digital India campaign** further expanded access to financial services. Yet RBI data shows that while digital transactions have multiplied, **currency in circulation also rose sharply after 2018**, pointing to coexistence rather than replacement.

This paper analyzes India's transition from cash to digital transactions up to 2024 using RBI and World Bank secondary data.

Objectives:

1. To study CiC and cash-to-GDP trends in India (2010–2024).
2. To assess digital adoption and financial inclusion using World Bank Global Findex (2011–2021).
3. To compare India's progress with global developing economies.
4. To evaluate barriers to achieving a cashless economy.

2. LITERATURE REVIEW

- **Cashless economy:** Prior studies highlight efficiency, transparency, and cost reduction benefits of reducing cash usage (Humphrey et al., 2006).
- **Demonetisation impact:** Studies indicate that cash usage dropped sharply in 2016–17 but rebounded later (RBI, 2018).

- **UPI revolution:** NPCI data shows exponential growth, positioning India as the world leader in real-time payments by 2024.
- **Paradox of banknotes:** Goodhart & Ashworth (2020) describe how cash demand can grow even in digitising economies.
- **Financial inclusion:** The World Bank Global Findex highlights India's leap in account ownership but slower digital usage.

Gap: Few studies combine **RBI macro indicators with World Bank digital inclusion measures** to provide a unified picture of India's cash-to-cashless journey.

3. DATA & METHODOLOGY

3.1 Data Sources

- **Reserve Bank of India (2010–2024):** Currency in Circulation (CiC), cash-to-GDP ratio, payment indicators.
- **National Payments Corporation of India (NPCI):** UPI and other digital payment volumes.
- **World Bank Global Findex Database (2011–2021):** Account ownership, digital usage, gender and rural-urban gaps.

3.2 Methodology

- **Trend analysis:** CiC and digital payment volumes (2010–2024).
- **Ratio analysis:** Cash-to-GDP percentage.
- **Comparative analysis:** India vs. developing economies (Findex).
- **Interpretive analysis:** Linking structural, behavioral, and policy factors.

4. FINDINGS & ANALYSIS

4.1 Currency in Circulation (CiC)

Table 1: Currency in Circulation and Digital Transactions in India (2010–2024

Year	CiC (₹ lakh crore)	Cash-to-GDP (%)	Digital Transactions (Billion)
2010	9.6	11.8	1.2
2016	16.6	12.1	3.4
2017	13.3	8.7	5
2021	28	12	45
2024	36.5	11.5	90

- 2010–2016: CiC rose steadily; cash-to-GDP ~12%.
- 2016–17: Sharp drop to 8.7% post demonetisation.
- 2018–2024: Recovery and continued rise; CiC reached ~₹36.5 lakh crore by March 2024, ~11.5% of GDP.

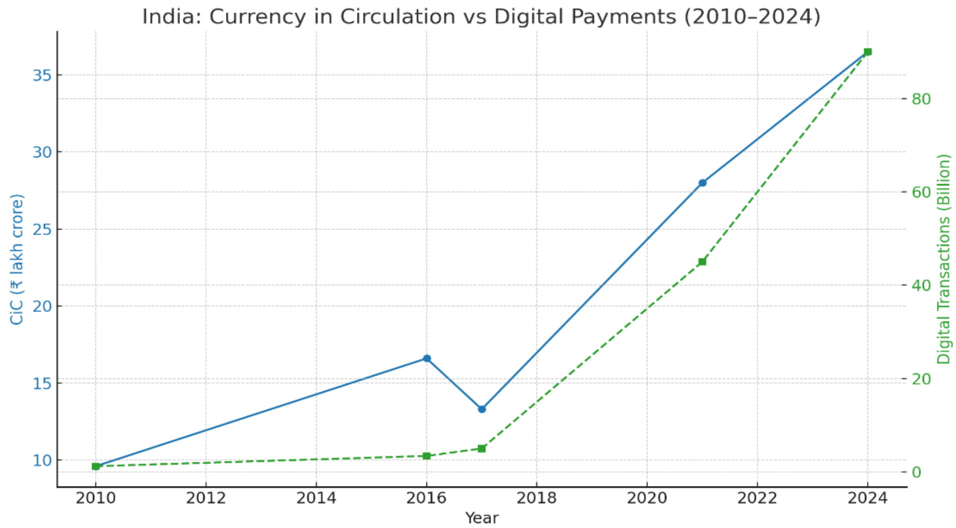

Figure 1: India – Currency in Circulation vs Digital Payments (2010–2024)
(Shows both CiC and digital payments rising together)

4.2 Cash-to-GDP Ratio Trends

- Pre-2016: Stable around 12%.
- 2017: Sharp fall to 8.7%.
- 2021: Returned to ~12%.
- 2024: Slight decline to ~11.5%.
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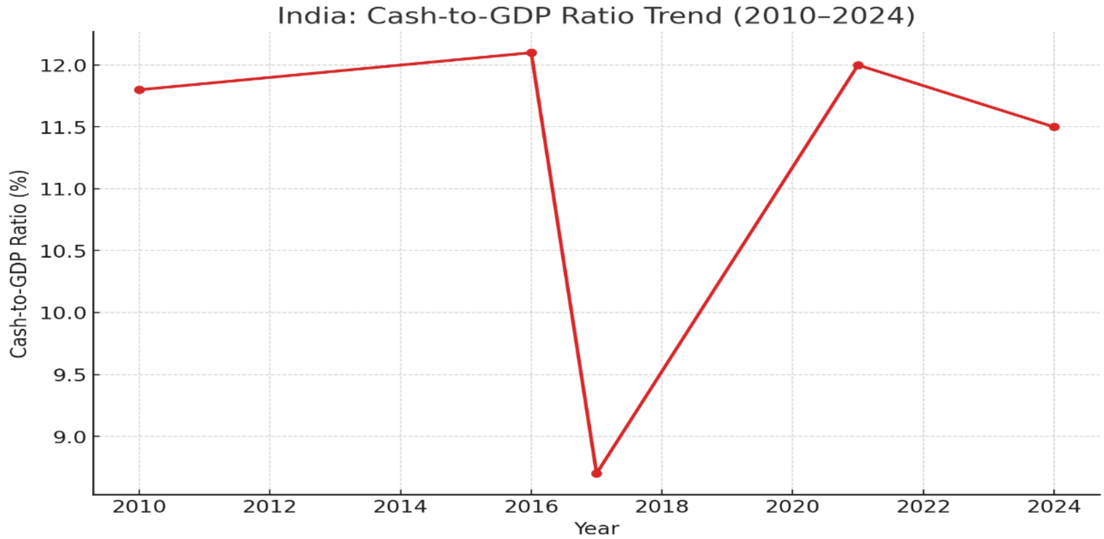
Figure 2: India – Cash-to-GDP Ratio (2010–2024)



4.3 Digital Payments Growth

- UPI transactions rose from 17.9 million in 2016 to ~90 billion in 2024.
- Debit/credit cards plateaued, while UPI became dominant.
- Wallet usage peaked earlier, but UPI replaced it as the primary mode.

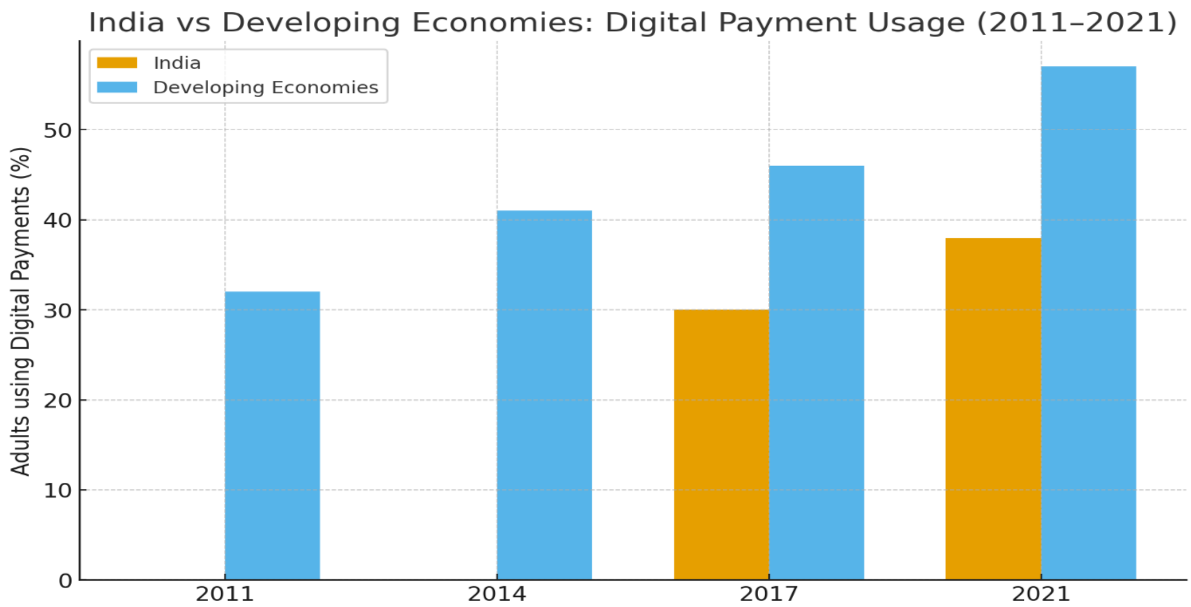
4.4 Financial Inclusion (World Bank Findex)

- Account ownership: 35% (2011) → 78% (2017 & 2021).
- Digital usage: ~38% of Indian adults used digital payments in 2021 vs. 57% in developing economies.
- Gender gap: 13% fewer women used digital payments.
- Urban-rural gap: 40% vs. 30%.

Table 2: Financial Inclusion Indicators – India vs. Developing Economies (2011–2021)

Year	Account Ownership (%)	Used Digital Payments (%)	Global Developing Avg. (%)
2011	35	—	32
2014	53	—	41
2017	78	30	46
2021	78	38	57

Figure 3: India vs Developing Economies – Digital Payment Usage (2011–2021)



5. DISCUSSION

The findings highlight India's **dual payment ecosystem**. Cash remains dominant in rural and informal markets due to habit, lack of trust in technology, and accessibility. Simultaneously, digital channels, particularly UPI, have grown rapidly, reshaping urban and semi-urban commerce.

This coexistence supports the idea of India evolving into a **less-cash** rather than a **cashless** economy. The paradox is not unique to India but is intensified here due to socio-economic diversity.

6. POLICY IMPLICATIONS

1. **Digital literacy campaigns** targeting rural households, women, and elderly.
2. **Cybersecurity frameworks** to address fraud risks and build trust.
3. **Infrastructure expansion** for reliable internet and mobile connectivity.
4. **Merchant incentives** for digital acceptance, especially in small businesses.
5. **Behavioral nudges** (tax rebates, discounts) to reduce reliance on cash.

7. CONCLUSION

India's payment ecosystem between 2010 and 2024 reveals a paradoxical duality: rapid digital adoption alongside resilient cash usage. While UPI and related channels have propelled India into global leadership in digital payments, cash demand has grown steadily after 2017. CiC as of March 2024 stood at ~₹36.5 lakh crore, nearly 11.5% of GDP, showing the persistence of cash.

The World Bank's Findex data confirms that while account ownership is high (78%), digital usage lags global peers (38% in India vs. 57% in developing economies). Gender and rural-urban divides persist, highlighting usage gaps.

India is thus moving toward a **less-cash economy** — one that balances cash and digital instruments. Eliminating cash altogether is neither practical nor desirable in the short term. Instead, the focus should be on gradually **reducing dependence on cash** through literacy, infrastructure, and trust-building. By addressing behavioral and structural barriers, India can sustain digital growth while ensuring inclusion, creating a hybrid payment model that strengthens resilience and financial accessibility.

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