Unequal Transmission: Monetary Policy and Household Consumption in India

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Abstract

This paper provides new empirical evidence on the effects of monetary policy shocks on household consumption, income, and employment in a large developing economy. Using high-frequency identification of monetary surprises combined with local projection methods, we estimate dynamic impulse responses to both current and expected policy shocks. Our results indicate that a contractionary shock to the short-term policy rate raises consumption and income on impact but reduces them in the medium run, while employment declines persistently. In contrast, a contractionary shock to the expected path of future interest rates increase consumption and employment but lowers income. The effects are stronger after the first quarter, suggesting delayed transmission. We also observe heterogeneity across socio-economic groups: rural households, those with lower education, women, younger and older workers, and lower-caste groups exhibit significantly larger consumption declines. A back-of-the-envelope calculation yields a marginal propensity to consume of about 40 percent out of transitory, policy-induced income changes. Our findings highlight the importance of distributional channels in shaping the aggregate transmission of monetary policy in developing economies.

Keywords: Monetary policy, Household consumption, Liquidity constraints

JEL Codes: E52, E21, D91, G51

1 Introduction

Monetary policy is a key tool for influencing real economic activity, affecting variables such as consumption, investment, employment, and housing (Christiano et al. 2005, Bernanke & Gertler 1995). While the transmission mechanisms of monetary policy have been extensively studied in advanced economies, there is comparatively less evidence on how monetary policy affects real economic outcomes in developing economies. This gap in the literature is particularly concerning given that the transmission of monetary policy is likely to differ significantly between developed and emerging economies due to structural differences. These include greater market frictions, higher levels of informality, weaker legal systems, limited financial inclusion, less mature monetary policy frameworks, and lower trust in central banks (Brandão Marques et al. 2020, Mishra & Montiel 2013, Patra & Kapur 2012). The structural differences necessitate dedicated study of emerging markets rather than simple extrapolation from advanced economy findings. These frictions also imply that aggregate responses may mask significant heterogeneity across households and regions.

Among the various channels through which monetary policy affects the real economy, the impact on household consumption is particularly important, as consumption constitutes a major component of aggregate demand. However, this channel remains relatively underexplored, especially in the context of emerging markets. Understanding how monetary policy affects household consumption and how these effects differ across household types is crucial for designing effective monetary policy and evaluating its distributional implications.

Our paper addresses this gap by providing empirical evidence on the effects of monetary policy shocks on household consumption in a large developing economy. We use high-frequency identified monetary policy shocks from Lakdawala & Sengupta (2024) and combine them with detailed household-level panel data from the Consumer Pyramids Household Survey (CPHS) conducted by the Centre for Monitoring Indian Economy (CMIE). Using local projections (Jordà 2005), we estimate the dynamic effects of monetary policy shocks on household consumption, income, and employment to both current and expected policy shocks. Our analysis explicitly examines heterogeneity in these responses across demographic groups—by region, education, gender, age, caste, and employment status—and across macroeconomic environments such as high versus low inflationary periods. In doing so, the paper speaks to the emerging literature on heterogeneous-agent New Keynesian (HANK) models in contexts where informal labor markets and limited financial access shape household behavior.

The results reveal several novel patterns. A contractionary innovation to the short-term

policy rate raises consumption and income on impact but leads to a subsequent decline in the medium run, accompanied by falling employment. In contrast, a contraction to the expected path of future rates increases consumption and employment while lowering income. The dynamic effects of monetary policy are stronger beyond the first quarter, suggesting delayed transmission consistent with financial and labor market rigidities. Moreover, the responses are highly heterogeneous: rural households, those with lower education, women, younger and older workers, and lower-caste groups experience significantly larger consumption declines. A back-of-the-envelope calculation implies an average marginal propensity to consume (MPC) of roughly 40 percent out of transitory, policy-induced income changes.

By quantifying these heterogeneous consumption responses, the paper provides micro-founded evidence on the distributional channels of monetary policy in developing economies. The findings complement structural HANK models by offering reduced-form estimates of key behavioral parameters, most notably the MPC, and highlight the importance of accounting for demographic heterogeneity when assessing the real effects of monetary policy.

A large macro literature studies how monetary policy affects real activity, with early contributions emphasizing the aggregate transmission through intertemporal substitution, credit frictions, and pricing complementarities (Bernanke & Gertler 1995, Christiano et al. 2005). More recent work brings micro evidence to bear on how households adjust their spending, labor supply, and balance sheets in response to MP shocks (Doepke & Schneider 2006, Coibion et al. 2017). This paper contributes to that agenda by providing joint, time-series evidence on consumption, income, and employment responses at the household level using local projections. By tracing all three margins together, it complements aggregate VAR-style analyses and clarifies whether spending reactions reflect income changes, labor-market adjustments, or intertemporal reallocation.

A second strand highlights heterogeneity as central to MP transmission. Heterogeneous-agent New Keynesian (HANK) models show that redistribution across borrowers and savers, exposure to nominal income risk, and incomplete markets can amplify or dampen the effects of policy (McKay et al. 2016, Kaplan et al. 2018, Auclert 2019). These frameworks generate rich predictions about who adjusts spending and why—for example, liquidity constraints, income exposures, and interest-rate sensitivities imply different MPCs across groups. Empirically validating those mechanisms requires micro-level responses along demographic and institutional dimensions. Our study advances this agenda by documenting pronounced heterogeneity across region, education, gender, age, caste, and employment status, as well as across macro environments (different inflationary periods), thereby testing HANK-type

channels in an emerging-market setting where informality and financial frictions are salient.

A third related literature examines how households translate income shocks into consumption (Blundell et al. 2008, Jappelli & Pistaferri 2010, Kaplan et al. 2014). This work typically studies idiosyncratic earnings changes or policy-driven transfers to identify marginal propensities to consume (MPCs) and the roles of insurance and liquidity. We extend this line by measuring MPCs out of policy-induced (i.e., monetary-shock-driven) transitory income changes, which directly links the income-exposure channel to MP transmission. The back-of-the-envelope MPC we estimate ($\sim 40\%$) provides a reduced-form target for quantitative models and clarifies the quantitative importance of redistribution relative to intertemporal-substitution channels.

Finally, while much of the existing evidence comes from advanced economies, transmission in developing economies may differ because of informality, shallow financial markets, and heterogeneous access to credit and savings instruments. These structural features shape both the magnitude and the timing of responses, as well as their distribution across households. By bringing micro-data from a large developing economy to bear on the joint dynamics of consumption, income, and employment—and by contrasting shocks to the current policy rate with shocks to the expected path—we fill a key empirical gap. The paper thus complements the macro literature on MP transmission with household-level, distributional evidence and provides disciplined inputs for calibration and evaluation of HANK models tailored to emerging-market contexts.

The remainder of the paper is organized as follows. Section 2 describes the data sources and Section 3 describes the methodology. Section 4 presents the empirical results, studies heterogeneity in responses by socioeconomic groups, and estimates the marginal propensity to consume. Finally, Section 5 discusses the limitations, outlines the directions for future research, and concludes.

2 Data

We use data from two main sources: Lakdawala & Sengupta (2024) for the monetary policy shock; and the Consumer Pyramids Household Survey (CPHS) for consumption, income, and labor market data. We briefly discuss these sources and the variables relevant for our study in the following subsections.

2.1 Monetary Policy Shocks

To identify monetary policy shocks, we use data from Lakdawala & Sengupta (2024), who construct high-frequency identified monetary policy shocks for India following Gürkaynak et al. (2005). These shocks are based on changes in Overnight Index Swap (OIS) rates that occur around Reserve Bank of India (RBI) policy announcements, supplemented with narrative analysis. The dataset covers the period from November 2003 to February 2023. We updated the data until 2024 and recalculated the shocks for the period that we have data on consumption on i.e., 2014-2024.

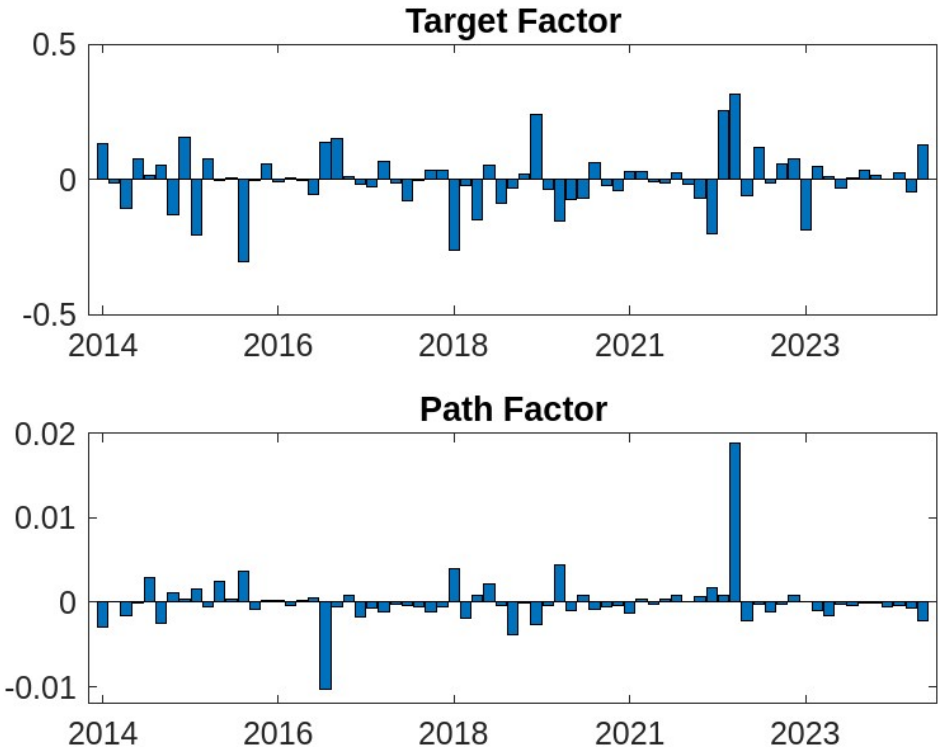
The monetary policy shocks are decomposed into two orthogonal components. The target factor captures surprise changes to the RBI's short-term policy rate target. The path factor captures surprises to forward guidance or any news that causes markets to change their expected path for future policy rates. These factors capture different dimensions of monetary policy surprises and allow us to examine their potentially distinct effects on household consumption.

Figure 16 in the appendix plots changes in Overnight Indexed Swap (OIS) rates of different maturities around monetary policy announcements made by the Reserve Bank of India (RBI). Volatility across all maturities peaks in 2021—the post-COVID period—indicating heightened uncertainty in policy expectations. Figure 1 presents the estimated monetary policy shocks from 2014 to 2024. The target factor exhibits substantially greater volatility than the path factor over the sample period. Shocks to the path factor remain small and generally close to zero. Lakdawala & Sengupta (2024) regress the one-year OIS rate on the target and path factors and find coefficients of approximately 0.26 on both. This implies that a 100-basis-point increase in either the target or path factor is associated with a 26-basis-point increase in the one-year OIS rate.

2.2 Household Consumption Data

Our household consumption, income, and labor market data comes from the Consumer Pyramids Household Survey (CPHS) conducted by the Centre for Monitoring Indian Economy (CMIE). The CPHS is a large-scale, nationally representative panel survey that covers approximately 174,000 households across India. The survey is conducted in three rounds each year, with each round covering about 58,000 households.

Figure 1: Time Series of Monetary Policy Shocks



We use data from multiple components of the Consumer Pyramids Household Survey (CPHS). The Consumption Pyramids provide detailed information on household consumption expenditure across various categories, while the Income Pyramids record household income from different sources. The Aspirations module contains data on savings, borrowings, and asset ownership, and the People of India module reports employment status and demographic characteristics of household members. Our sample spans the period 2014–2024, aligning with the time frame for which monetary policy shock data are available.

Table 1 reports summary statistics for the key variables drawn from CPHS. All nominal values are deflated using the monthly Consumer Price Index (CPI). The mean monthly household consumption is approximately ₹9,491, with non-durable consumption accounting for nearly 80% of total expenditure. The average monthly household income is around ₹14,740, of which labor income constitutes roughly 70%. Total income (narrow) is defined after excluding infrequent income sources such as dividends, interest, and gambling receipts.

Our dependent variables are grouped into three broad categories: consumption, income, and labor market outcomes. Consumption can be divided into three sub-components: durables, non-durables, and services[1]. For income, our primary measure aggregates the most stable

[1]Durables includes appliances, mobile phones, storage devices, toys, utensils, books, journals, and sta-

sources: wages, government and private transfers, pensions, self-production income, and business profits. Following the literature, we also construct (i) a narrow income definition that includes only wages and government transfers, and (ii) a broad version that incorporates less frequent sources such as dividends, interest, and asset sales. Labor market outcomes are captured by two indicators: employment status and wages.

Table 1: Summary Statistics of Consumption and Income Data

Variable	**Mean**	**Median**	**SD**	**Min**	**Max**
Total consumption	9,491.12	8,355.95	9,083.01	0	33,058,822.00
Consumption of durables	150.70	0.00	581.72	0	410,455.81
Consumption of non-durables	7,511.73	6,841.21	7,795.56	0	33,057,948.00
Consumption of services	1,824.51	1,180.24	3,322.66	0	1,801,993.50
Total income	14,740.33	10,747.74	16,866.63	0	3,855,773.50
Total income-narrow*	14,571.03	10,702.02	16,340.95	0	3,855,260.00
Wages + gov. transf.	10,585.28	8,375.50	11,828.99	0	3,004,205.75
Wages	10,390.93	8,208.42	11,808.00	0	3,004,205.75

3 Empirical Methodology

To estimate the dynamic effects of monetary policy shocks on household consumption, we use the local projection method proposed by Jordà (2005) in a panel data environment (Jordà & Taylor 2025). This approach involves estimating a sequence of regressions for different horizons:

$$y_{i,t+h} - y_{i,t-1} = \alpha_h + \beta_h \text{Target}_t + \gamma_h \text{Path}_t + \delta_h \sum_{\tau=1}^{12} (y_{i,t-\tau} - y_{i,t-\tau-1}) + \psi_i + \epsilon_{i,t+h} \quad (1)$$

where i denotes the household and t denotes the time when the shock, in our case the monetary policy announcement, occurs. h denotes the horizon i.e months from t. y denotes the outcome variable. The monetary policy shock has two components: a target factor denoted by $Target_t$, which captures surprise changes to RBI's short term policy rate target,

tionery. Non-durables includes food, intoxicants, restaurants, clothing, footwear, cosmetic, toiletries, gas, and medicines. Services include expenditure on entertainment, bills, rent, EMIs, transportation, communication and information, health, education, miscellaneous (domestic help, repairs, remittances, religious and social obligations, vacations, etc.)

and a path factor denoted by $Path_t$, that captures any changes in the market's expected path for future policy rates. We also control for lagged changes in our outcome variable. Finally, ψ_i denotes household fixed effects and $\epsilon_{i,t+h}$ is the error term.

The coefficients β_h and γ_h give the effect of a monetary policy shock at time t on the outcome variable at time $t+h$, controlling for the lagged change in the outcome variable. We estimate this equation for different horizons h to trace out the dynamic effects of monetary policy shocks on household consumption.

The local projection method has several advantages over traditional vector autoregression (VAR) approaches. First, it is more robust to model misspecification. Second, it can accommodate non-linearities and state dependencies more easily. Third, it directly estimates the impulse response function without requiring the specification and estimation of the underlying multivariate dynamic system.

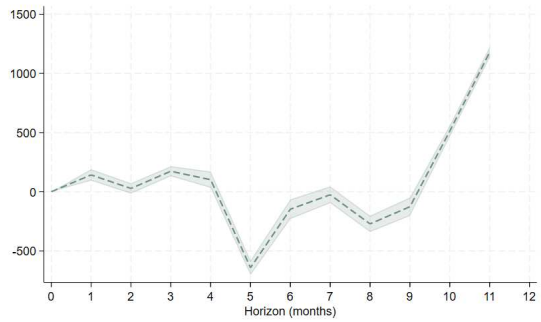
4 Results

4.1 Effect on Consumption

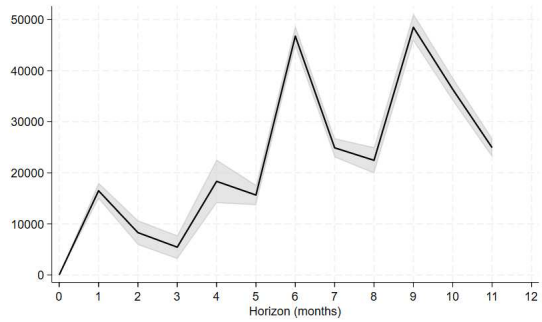
Figure 2 illustrates the estimated impulse responses of total household consumption to monetary policy shocks across different horizons. The solid (or dashed) line depicts the point estimates, while the shaded area represents the 90 percent confidence intervals. The left panel corresponds to shocks to the target factor, whereas the right panel shows responses to the path factor.

A positive monetary policy surprise to the target factor—interpreted as a monetary contraction—has a small but statistically significant impact on impact, followed by a decline in total consumption after the first quarter and a subsequent rebound after the second quarter. As reported in Table 2, a one-percentage-point increase in the target factor is associated with an average increase of ₹142.3 in total consumption on impact. In contrast, the path factor exerts a substantially larger and more persistent effect: a one-percentage-point increase in the path factor is associated with a ₹16,492 increase in total consumption. Moreover, the positive shock to the path factor generates a sustained increase in consumption over time. This result, however, should be interpreted with caution given that path factors shocks tend to be very small in magnitude.

Figure 2: Effect of Monetary Policy Shock on Total Consumption



Target Factor



Path Factor

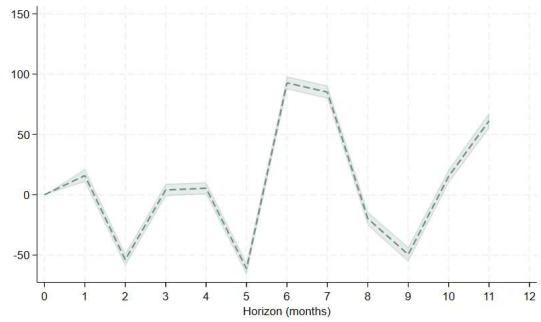
Table 2: Effect of Monetary Policy Shock on Consumption

Horizon:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Total									
Target	142.3***	28.02	173.6***	101.9**	-641.7***	-147.2***	-25.35	-271.4***	-126.5***
	(29.14)	(26.50)	(25.57)	(41.83)	(37.31)	(50.26)	(42.72)	(41.72)	(47.17)
Path	16492.0***	8294.3***	5446.1***	18328.4***	15647.9***	46776.3***	24898.4***	22447.9***	48505.4***
	(962.1)	(1463.0)	(1402.9)	(2577.9)	(1202.8)	(1258.8)	(1141.9)	(1555.9)	(1629.0)
Durables									
Target	15.96***	-53.78***	4.030	5.438*	-61.29***	92.77***	85.16***	-19.72***	-49.50***
	(3.237)	(3.161)	(3.070)	(3.011)	(3.130)	(3.236)	(3.309)	(3.390)	(3.719)
Path	308.6***	1206.4***	-72.48	1249.0***	87.31	6668.3***	1805.6***	-47.39	3782.8***
	(90.18)	(94.10)	(93.99)	(92.98)	(107.6)	(120.0)	(101.5)	(106.7)	(134.6)
Non-durables									
Target	143.1***	30.74	176.3***	103.1**	-630.8***	-158.9***	-43.90	-263.3***	-148.8***
	(29.33)	(26.51)	(25.36)	(41.60)	(37.00)	(48.41)	(41.86)	(41.08)	(46.44)
Path	16165.4***	7855.6***	5285.7***	17960.4***	15036.8***	45611.2***	24495.4***	22223.0***	47494.9***
	(957.8)	(1471.7)	(1412.1)	(2584.6)	(1215.8)	(1276.7)	(1150.2)	(1582.9)	(1646.2)
Services									
Target	49.26***	73.85***	109.5***	109.9***	-38.35***	86.02***	57.92***	72.97***	83.40***
	(13.00)	(14.35)	(16.18)	(18.97)	(14.55)	(14.35)	(15.37)	(15.73)	(14.96)
Path	1168.9***	1549.1***	551.9	4057.7***	3988.7***	11560.2***	5138.8***	4324.1***	10619.4***
	(382.2)	(563.5)	(528.8)	(507.1)	(522.8)	(512.6)	(607.4)	(438.2)	(453.3)

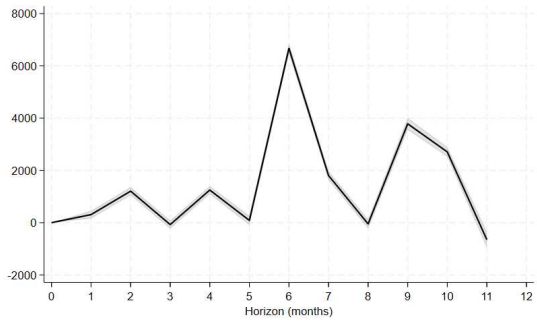
Notes: Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

4.1.1 Durables versus Non-Durables

Figure 3: Effect of Monetary Policy Shock on Durables

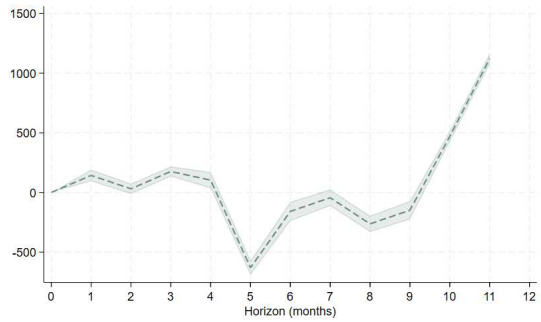


Target Factor

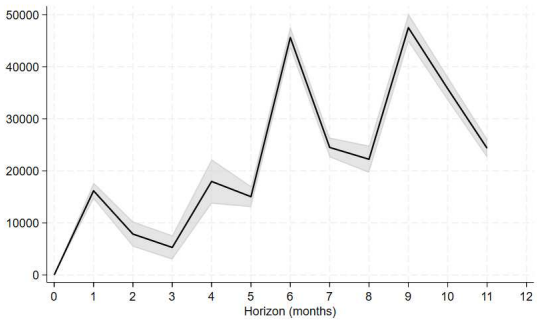


Path Factor

Figure 4: Effect of Monetary Policy Shock on Non-durables



Target Factor

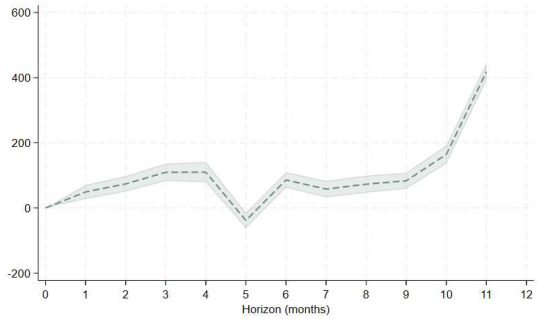


Path Factor

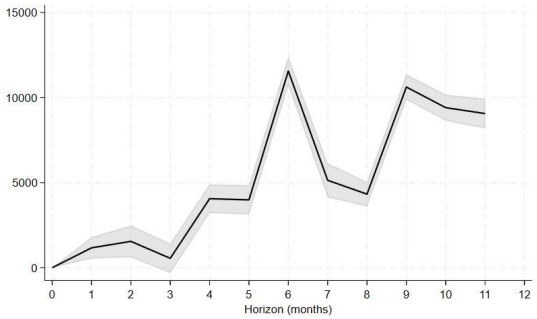
Consumption of durables shows little immediate response to either the target or path factor. There is a modest increase in the medium run, followed by a subsequent decline, although the overall magnitude of these effects remains small. Non-durable consumption broadly mirrors the pattern observed for total consumption, exhibiting a small positive response on impact, a decline in the short run, and a rebound thereafter. In contrast, expenditure on services displays a more sustained increase over time, with only a slight dip after the first quarter. Non-durables and services both show a sustained increase in response to a shock to the path factor.

These findings are consistent with the monetary policy transmission mechanism working through interest rates, whereby higher interest rates increase the cost of borrowing and incentivize saving, thereby reducing current consumption. The lagged response suggests

Figure 5: Effect of Monetary Policy Shock on Services



Target Factor



Path Factor

that households do not adjust their consumption immediately following a monetary policy shock, which is consistent with consumption habits and adjustment costs.

4.2 Effect on Income

Table 3: Effect of Monetary Policy Shock on Income, Wages, and Employment

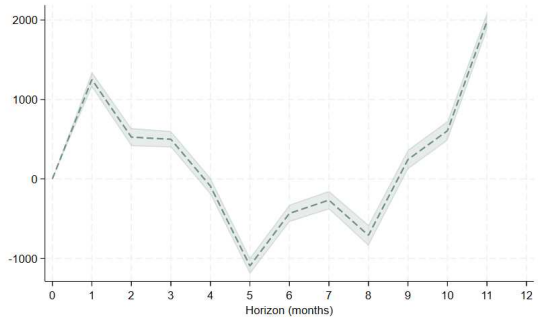
Horizon:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Income									
Target	1251.1***	525.9***	499.6***	-90.10	-1094.7***	-433.5***	-266.5***	-710.1***	243.6***
	(58.20)	(68.69)	(62.22)	(62.98)	(61.62)	(65.83)	(69.82)	(79.80)	(74.05)
Path	9241.6***	-48326.1***	-65946.3***	-72364.6***	-62498.9***	-16787.0***	-30145.2***	-15356.8***	-3574.4
	(2148.0)	(1773.3)	(1897.4)	(1896.5)	(2400.6)	(2231.9)	(2365.3)	(2404.6)	(2498.4)
Wages									
Target	346.8***	732.3***	654.6***	124.7***	-868.1***	-610.5***	-143.8***	119.5***	413.7***
	(26.48)	(33.44)	(38.22)	(40.96)	(42.97)	(43.45)	(44.62)	(45.42)	(47.46)
Path	-7571.0***	-35855.5***	-35368.7***	-30519.1***	-17787.5***	-7246.5***	-15010.9***	-548.9	17126.9***
	(1007.7)	(1008.5)	(1164.0)	(1253.2)	(1322.9)	(1402.6)	(1499.6)	(1522.8)	(1540.9)
Employment									
Target	-0.0140***	-0.0303***	-0.0415***	-0.0480***	-0.0327***	-0.0180***	-0.0105***	-0.00542***	-0.00779***
	(0.000639)	(0.00102)	(0.00133)	(0.00157)	(0.00156)	(0.00151)	(0.00150)	(0.00152)	(0.00154)
Path	0.253***	0.569***	0.843***	1.053***	1.097***	1.178***	1.165***	1.116***	0.820***
	(0.0157)	(0.0252)	(0.0336)	(0.0399)	(0.0414)	(0.0431)	(0.0453)	(0.0464)	(0.0471)

Notes: Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

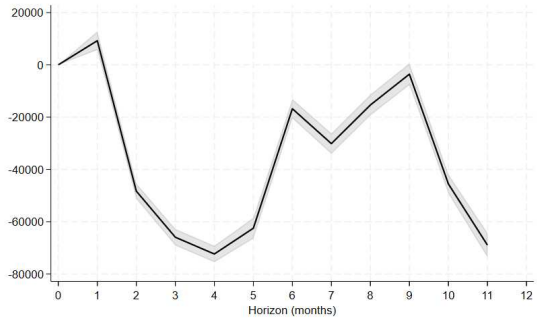
Figure 6 presents the estimated effects of a monetary policy shock on total household income across different horizons. A positive shock to the target factor leads to an increase in income up to horizon 3, followed by a sustained decline until horizon 8, after which income begins to rise again. In contrast, a shock to the path factor results in a small immediate increase in income in the first period, followed by a general decline, with the exception of period 9, which exhibits a temporary increase. Consistent with previous findings, the magnitude of

the response to the path factor is substantially larger than that associated with the target factor.

Figure 6: Effect of Monetary Policy Shock on Total Income



Target Factor



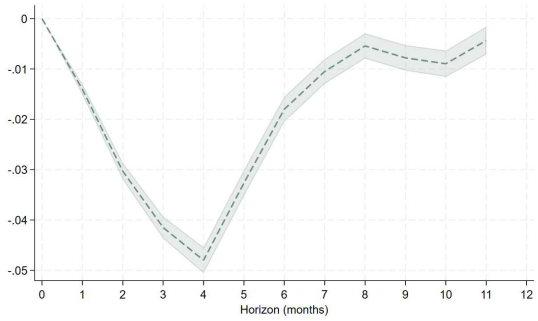
Path Factor

4.3 Labor Market Effects

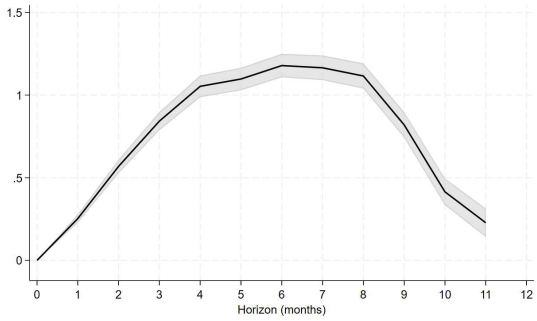
4.3.1 Effect on employment status

Figure 7 reports the estimated effects of monetary policy shocks on households' employment status. A positive shock to the target factor is associated with a decline in employment, whereas a shock to the path factor leads to an increase in employment. Notably, the effects operate in opposite directions, underscoring the importance of distinguishing between short-run (target factor) and long-run (path factor) components of monetary policy surprises.

Figure 7: Effect of Monetary Policy Shock on Employment



Target Factor

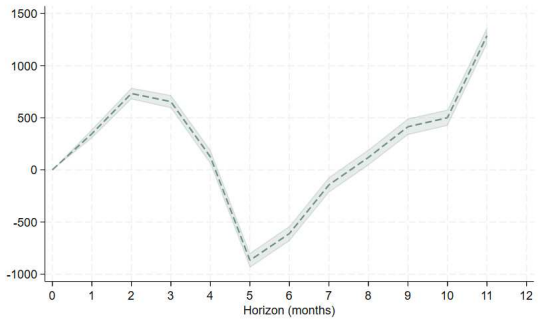


Path Factor

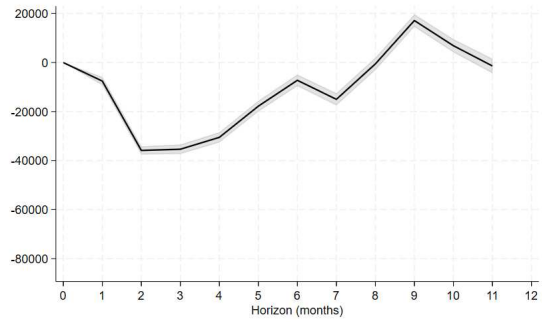
4.3.2 Effect on Wages

Figure 8 presents the estimated effects of monetary policy shocks on household wages. A positive shock to the target factor leads to an initial increase in wages up to horizon 4, followed by a decline over the next three periods. Wages begin to rise again after month 8, indicating a temporary but cyclical adjustment in labor income following a monetary contraction. In contrast, a positive shock to the path factor generally exerts a negative effect on wages across all horizons.

Figure 8: Effect of Monetary Policy Shock on Wages



Target Factor



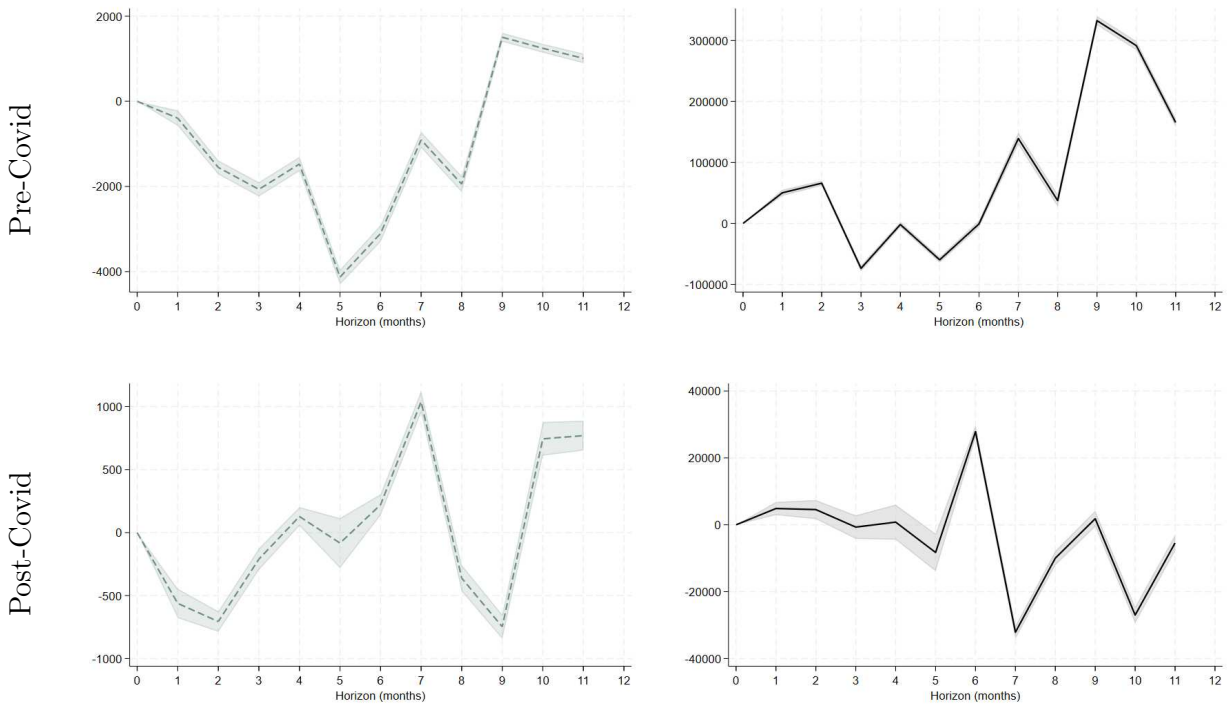
Path Factor

4.4 Heterogeneity in Consumption Responses

Understanding how monetary policy affects different segments of the population is crucial for assessing its overall efficacy and distributional consequences. Aggregate estimates can conceal wide variation in household responses that arise from differences in income sources, credit access, employment security, and demographic characteristics. To uncover these patterns, we examine heterogeneity in consumption responses to monetary policy shocks across key socio-economic dimensions, including macroeconomic regimes (high vs. low inflation), region (rural vs. urban), employment status, education, gender, age, and caste. For each group, we estimate separate impulse responses to both the target factor—capturing unexpected changes in the policy rate—and the path factor—capturing shifts in the expected trajectory of future rates. This disaggregated analysis allows us to identify which households bear the brunt of monetary contractions and which benefit from forward-guidance effects, providing micro-level evidence on the unequal transmission of monetary policy in India.

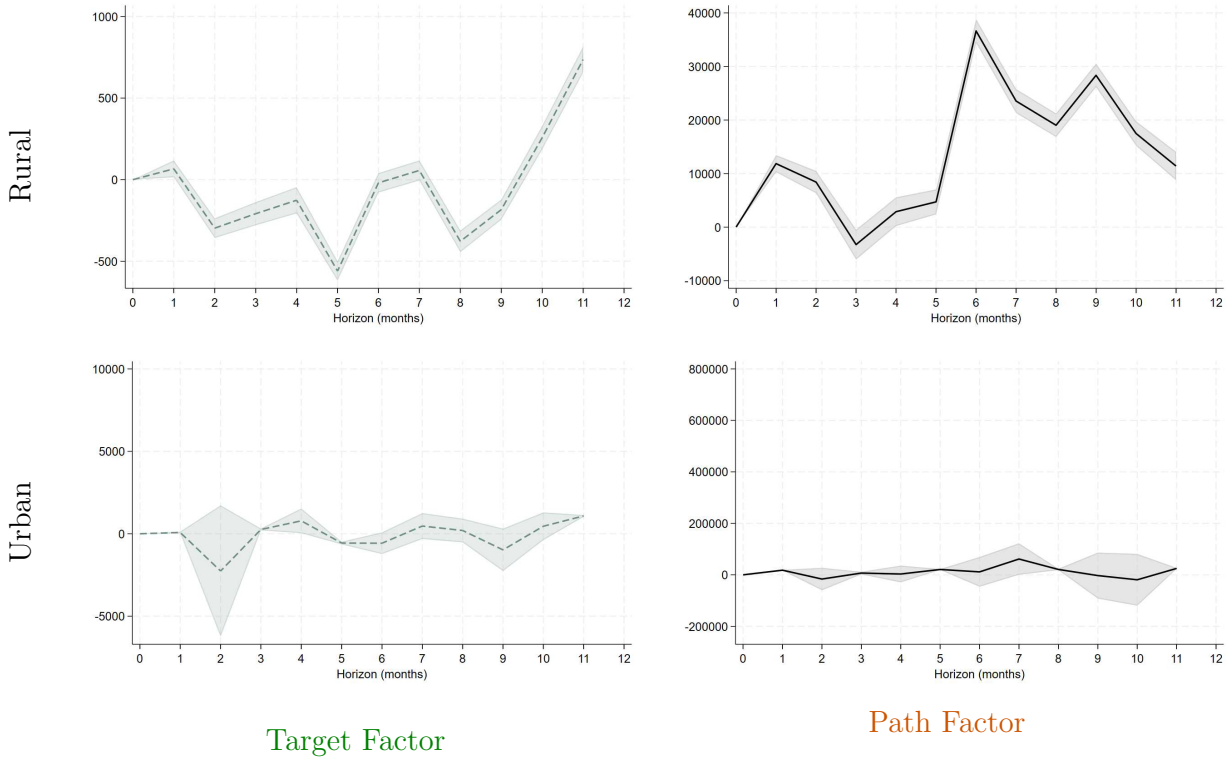
4.4.1 High vs low inflation

Figure 9: Effect of Monetary Policy Shock on Consumption by Inflation Level



We begin by examining whether the response of household consumption to monetary policy shocks differs across macroeconomic environments. Splitting the sample into pre and post COVID periods, which broadly correspond to low and high inflation regimes, reveals meaningful differences in transmission. A positive monetary policy surprise to the target factor reduces consumption significantly in the pre-COVID, low-inflation period but has a much smaller and statistically weaker effect in the post-COVID, high-inflation environment. A contractionary shock to the path factor, reflecting tighter expectations about future policy, also induces a much stronger and more persistent increase in consumption before COVID. These results suggest that under high inflation, when credibility and forward guidance become more salient, expectations about future rates dominate current rate changes in shaping household spending decisions.

Figure 10: Effect of Monetary Policy Shock on Consumption by Region



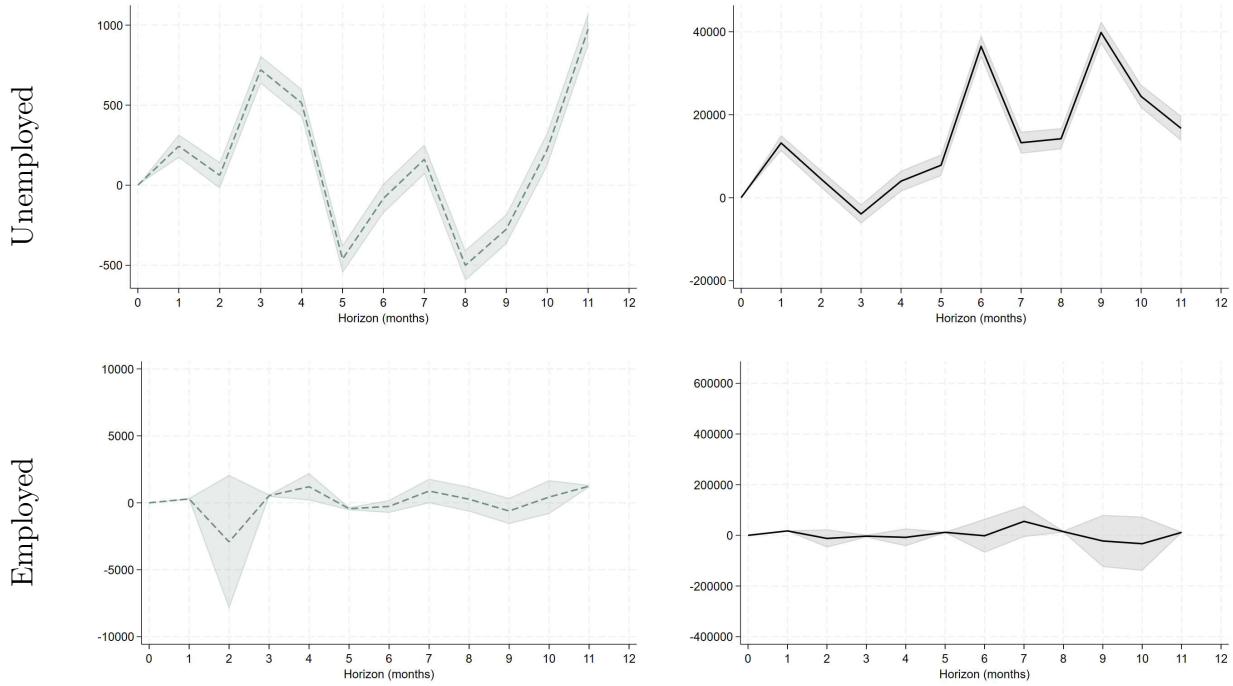
4.4.2 Region

Next, we explore spatial heterogeneity by comparing rural and urban households. The effects of monetary policy differ markedly across regions. For rural households, a contractionary target-factor shock leads to a sharper and more prolonged decline in consumption, consistent with stronger liquidity constraints and limited access to formal credit channels. Urban households, in contrast, display muted or even positive consumption response. These patterns underscore the role of financial development and labor-market formality in mediating policy transmission: in urban areas, expectations and portfolio rebalancing appear more influential, whereas in rural settings, income and credit channels dominate.

4.4.3 Employment Status

We further disaggregate households by employment status of the head. Unemployed households experience a pronounced decline in consumption in the medium run following a contractionary target shock, while employed households show a smaller drop. The stronger

Figure 11: Effect of Monetary Policy Shock on Consumption by Employment Status

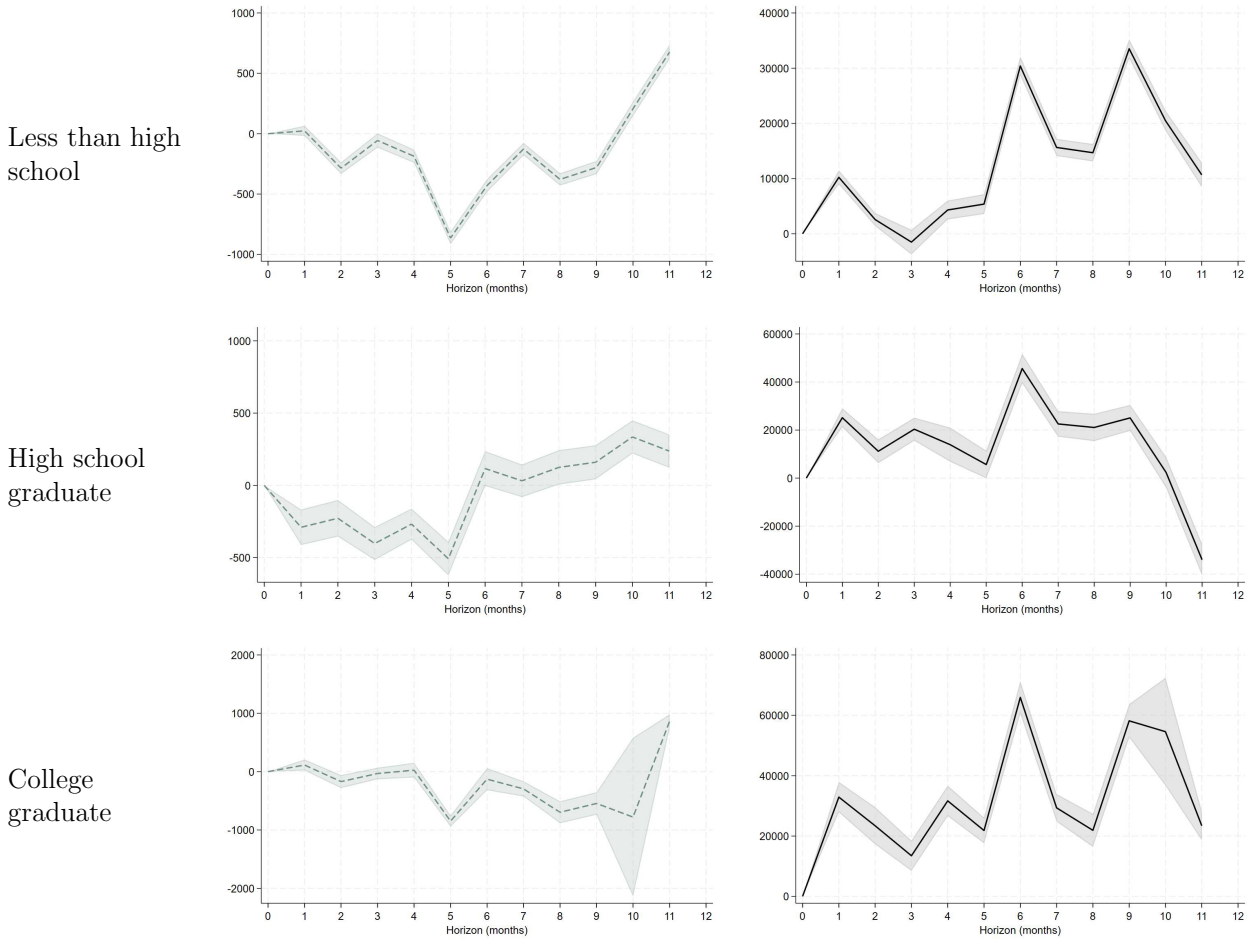


sensitivity among the unemployed is consistent with a greater reliance on current income and weaker access to savings or borrowing mechanisms. Path-factor shocks, however, elicit a mild increase in consumption in the short run for both groups, suggesting that expectations of future economic stability and job creation partially offset short-term liquidity pressures. These results highlight the heterogeneity of the income-exposure channel across employment conditions.

4.4.4 Education Groups

Consumption responses also vary systematically with education level of head of household. Households with less than a high-school education experience the largest and most persistent declines in spending after a contractionary target shock, reflecting higher vulnerability to income and credit constraints. High-school graduates show moderate declines, while college-educated households display minimal reaction, and in some cases, a slight increase in consumption following the path factor. This gradient suggests that education, and by extension, financial literacy and occupational stability, serves as a key buffer in monetary

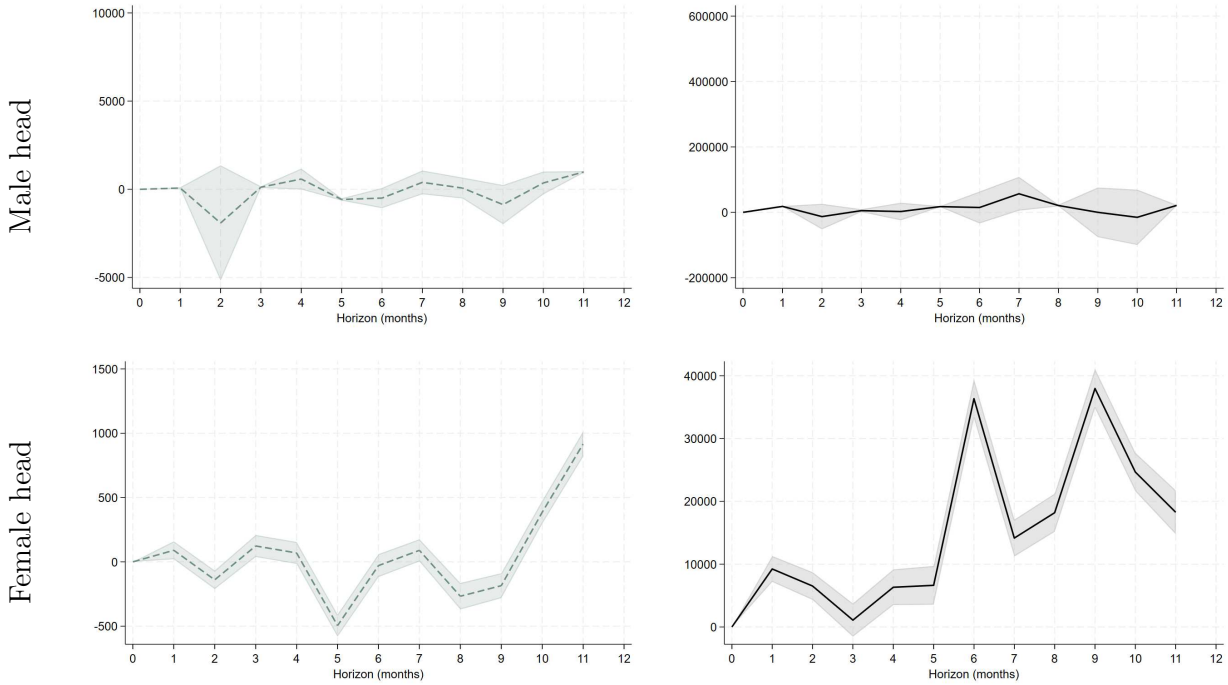
Figure 12: Effect of Monetary Policy Shock on Consumption by Education



transmission. Better-educated households appear to be able to smooth consumption much more than those who are less-educated.

4.4.5 Gender

Figure 13: Effect of Monetary Policy Shock on Consumption by Gender

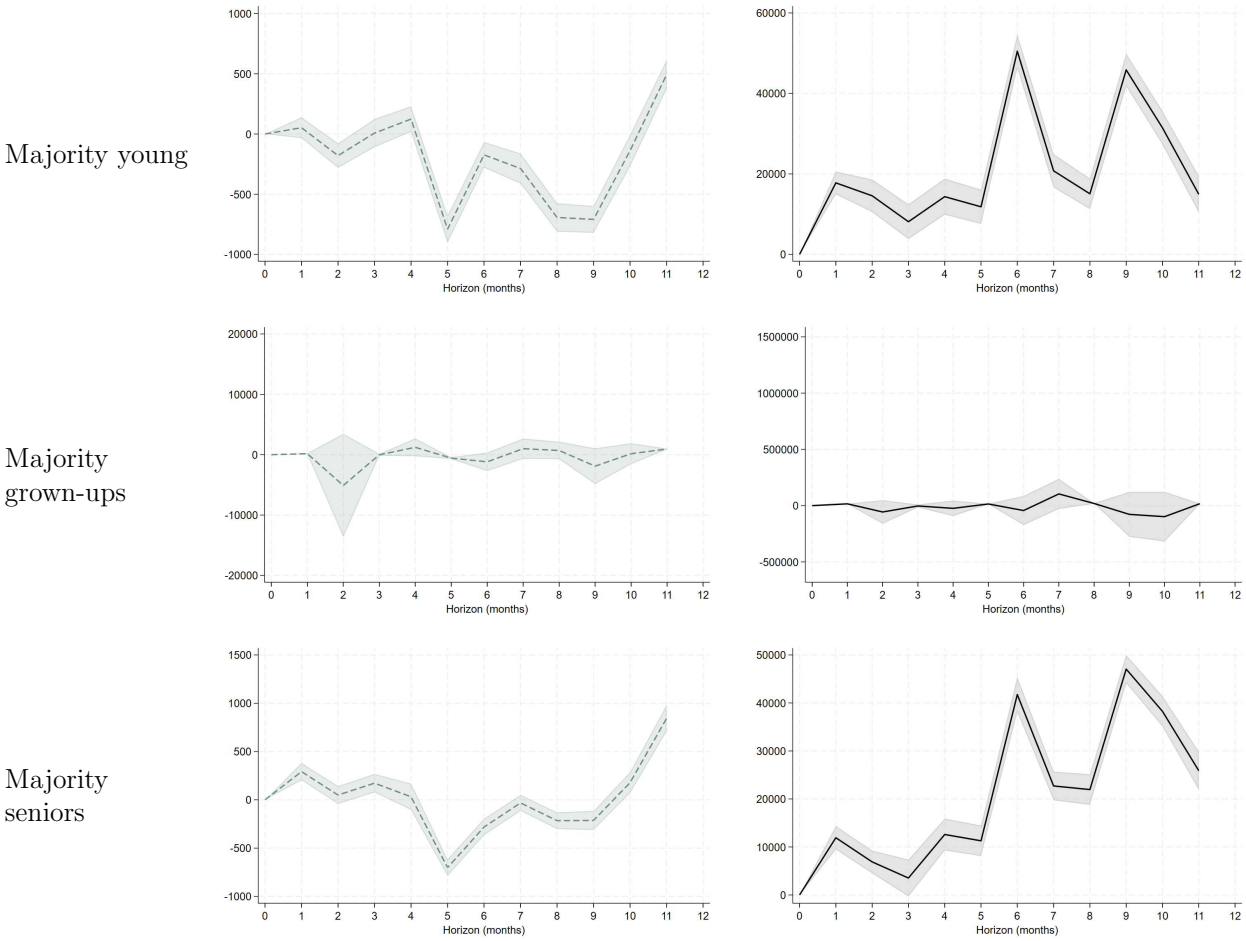


Gender differences in monetary transmission are also pronounced. Female-headed households exhibit a sharper contraction in consumption after a target-factor shock relative to male-headed households. This pattern likely reflects structural barriers faced by women, including lower access to formal credit, less stable income sources, and greater exposure to informal sector dynamics.

4.4.6 Age Groups

We classify households into three groups based on the age of the majority of members: young, middle-aged, and senior households. Both young and senior households reduce consumption following contractionary target shocks, while middle-aged households display more stable

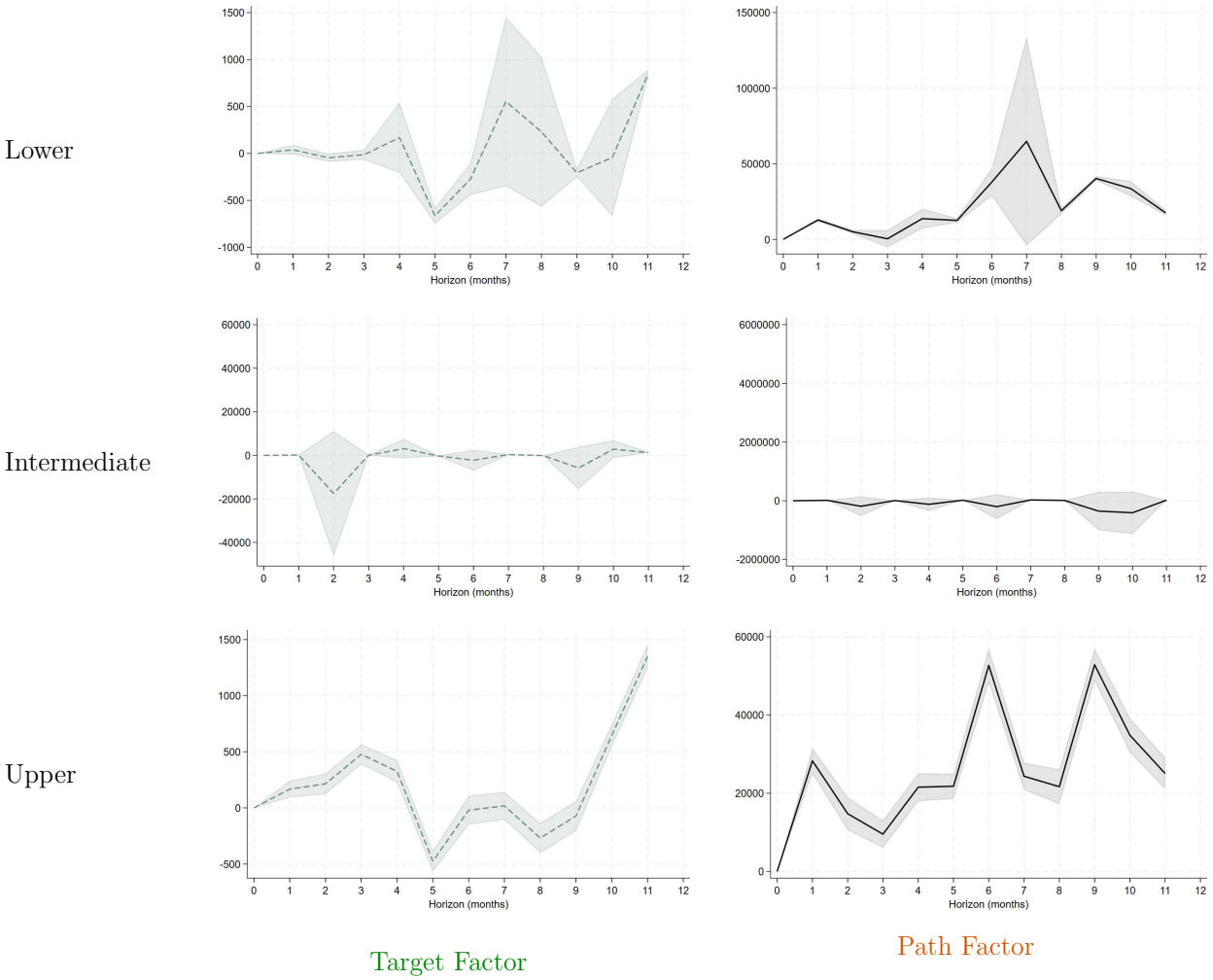
Figure 14: Effect of Monetary Policy Shock on Consumption by Age



spending. The non-monotonic pattern aligns with life-cycle theory: younger households are often credit-constrained, and seniors rely on fixed income sources, while middle-aged households tend to have higher savings and borrowing capacity. A similar pattern is present for path factor shocks.

4.4.7 Caste

Figure 15: Effect of Monetary Policy Shock on Consumption by Caste



Finally, we investigate heterogeneity by caste category. Lower-caste households show the largest decline in consumption following a target-factor shock, while intermediate groups experience no effects. Upper-caste households, on the other hand, are able to increase their consumtion after a monetary tightening. The results align with caste-based differences in wealth, occupation, and financial inclusion documented in the literature. The asymmetric

responses suggest that historically disadvantaged groups remain more sensitive to current-income shocks, whereas wealthier groups adjust consumption primarily through expectations and asset channels.

5 MPC estimation

To quantify the strength of the transmission mechanism through household spending, we compute a back-of-the-envelope estimate of the marginal propensity to consume (MPC) out of monetary-policy-induced income changes. We use the average coefficient on the impulse response of consumption to a monetary policy shock, divided by the average change in income in response to a monetary policy shock to the target factor to calculate the MPC. This gives us a MPC of approximately 0.4, implying that, on average, households spend about 40 percent of additional transitory income generated by a monetary policy shock. The magnitude of this response lies within the range documented in prior studies: Jappelli & Pistaferri (2010) estimate household-level MPCs between 0.3 and 0.6, while Parker et al. (2013) find values approaching 1 for liquidity-constrained households. Our estimate, derived from a developing-economy context with substantial heterogeneity in credit access and labor informality, is therefore economically plausible and consistent with a relatively high sensitivity of consumption to short-run income fluctuations. These results reinforce the view that redistributional and cash-flow channels—rather than intertemporal substitution alone—play an important role in monetary policy transmission in emerging markets like India.

Table 4: MPC Values from the Literature

Context	**Estimated MPC Range**	**Key References**
Aggregate macro data	0.6 – 0.9	Carroll (2006)
Household-level cross-section	0.3 – 0.6	Jappelli & Pistaferri (2010)
Liquidity-constrained households	Up to ∼0.9 – 1.0	Parker et al. (2013)
Permanent vs transitory income shocks	∼0 for perm., higher for trans.	Blundell et al. (2008)
Stimulus or fiscal transfer studies	0.3 – 0.5	Parker et al. (2013)

6 Conclusion

This paper provides new empirical evidence on the distributional effects of monetary policy in a large developing economy. Using high-frequency identified monetary shocks from

Lakdawala & Sengupta (2024) and household-level data from the CMIE Consumer Pyramids (2014–2024), we estimate dynamic responses of consumption, income, and employment through an instrumented local-projection framework. The analysis distinguishes between two orthogonal components of monetary policy surprises—the target factor, capturing unexpected changes in the policy rate, and the path factor, capturing revisions to the expected future policy trajectory.

Our results reveal several novel features of monetary transmission in a developing economy like India. A contractionary target-factor shock leads to a short-run increase in consumption and income, followed by a pronounced decline in the medium term and a fall in employment. In contrast, a contractionary path-factor shock raises consumption and employment while reducing income, indicating that expectations about future monetary conditions can offset the immediate tightening effect of current-rate hikes. The effects are strongest after the first quarter, suggesting delayed but persistent transmission dynamics.

We also document substantial heterogeneity in consumption responses. Rural households, those with lower education, female-headed households, younger and older households, and members of lower-caste groups experience significantly larger declines in consumption following a monetary contraction. Conversely, urban, better-educated, and higher-income groups show muted or even positive responses, particularly to path-factor shocks. These findings underscore the unequal nature of monetary transmission across demographic and socioeconomic lines, shaped by differential access to credit, employment stability, and exposure to inflation.

A back-of-the-envelope calculation yields an average marginal propensity to consume (MPC) of around 0.4 out of transitory income changes induced by monetary policy. This value aligns with existing micro evidence and highlights the importance of the income and cash-flow channels in driving aggregate consumption responses.

Taken together, our results suggest that monetary policy in developing economies like India operates not only through interest-rate and expectations channels but also through powerful distributional mechanisms. Accounting for heterogeneity in household responses is therefore essential for understanding the full macroeconomic and welfare consequences of policy interventions.

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A Appendix

Figure 16: Change in OIS rates on RBI announcement days