REGULAR ARTICLE

Economic transition, dualism and informality in India: Nature and patterns of household-level transitions

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Abstract

We examine the Indian economy during a peak period of high growth between 2005 and 2012 to analyse the nature and patterns of household-level transitions across different sectors, characterised by varying degrees of formality/informality and various production structures and labour processes. We find that even within this brief period, there has been a huge volume of household-level transitions across sectors. However, the overall economic structure, and its segmentations, has continued to be reproduced, along with a regeneration of 'traditional' non-capitalist informal spaces. To ascertain the nature of household-level transitions in terms of economic well-being, we employ a counterfactual analysis. We find that majority of transitions in the economy have been 'unfavourable' in nature, with large proportion of households undergoing sectoral transitions that are not optimal for them, given their socio-economic characteristics. Furthermore, the likelihood of 'favourable' versus 'unfavourable' sectoral transition, on average, significantly varies with household characteristics, some of which, like social caste, are structurally given and cannot be optimally chosen by households. Drawing upon this analysis, we reflect on the competing

strands of literature that seek to explain the persistence of informality. Our analysis highlights the complexity of India's contemporary development trajectory, whereby the pre-existing economic structure is reproduced, paradoxically, through a continuous reshuffling and reconstitution of economic spaces, accompanied by significant volume of 'unfavourable' household-level sectoral transitions.

1 | INTRODUCTION

Since Lewis (1954), a less developed economy (LDE) is often characterised by an economic dualism between a large 'traditional' segment and a small 'modern' segment. The transition of the dualist structure of a LDE into a homogenously modern structure along the lines of a 'developed' economy with economic growth has been one of the central problematics of development discourse. In much of the literature on economic development, economic growth is expected to be accompanied by several interrelated processes of structural change (Syrquin, 1988). These processes involve a shift in production, employment and other economic activities from agricultural/pre-capitalist/rural/informal to industrial/capitalist/urban/formal sectors. Such transitions usually happen along with a shift in the economic dependence of individuals and households towards relatively modern and formal segments of the economy, accompanied by a rise in their general economic well-being. In the case of India, the transformation of the economic structure with growth has not borne out along the classically expected lines. The Indian economy has experienced a sustained period of high growth over the past three decades, which peaked to an average annual growth rate of approximately 8.4% during the period from 2003–2004 to 2011–2012. However, it continues to remain a classic example of a dual economy, with a vast majority of working population dependent on informal economy for their livelihoods (De Vries et al., 2012; International Labour Organisation [ILO], 2013; La Porta & Shleifer, 2014; McMillan et al., 2017; Perry et al., 2007).

In this paper, we focus on the peak growth period in India to explore the patterns of household-level transitions across different sectors of the economy, to investigate the nature of these transitions in terms of economic well-being of households undergoing transition, and to study the dynamics of the persistence of informality and its implications for the broader process of structural change. Departing from a strict notion of duality in the economy, we characterise the economic structure as heterogenous, though delineated and segmented between multiple sectors with varying degrees of informality and encompassing various production and labour

processes.[1] We analyse the transitions in terms of the shifts of households across sectors on which they primarily depend for their economic reproduction.

Several studies have analysed the process of micro-level transitions across sectors and associated evolution of the economic structure in the context of Latin American and African economies (Bargain & Kwenda, 2014; Fajnzylber et al., 2006; Maloney, 2004; Mandelman & Montes-Rojas, 2009; Tansel & Ozdemir, 2019). For the Indian economy, barring some preliminary analysis, there does not exist, to the best of our knowledge, any work that both rigorously analyses the nature and patterns of household-level transitions across different sectors characterising India's heterogeneous economic structure, as well as relate the analysis to the dynamics of reproduction of informality and the process of economic transformation.

We use the nationally representative panel dataset from the India Human Development Survey (IHDS) for 2005 and 2011–2012 that allows us to focus on the peak of the almost three decades-long growth period in the Indian economy (the growth begins faltering from 2016 onwards). While one might not expect significant changes in the overall economic structure within this relatively brief period, we show that there has been a large volume of household-level transitions across sectors.

The rest of the paper is structured as follows: Section 2 engages with the literature on the persistence of informality in the process of growth and structural change. Section 3 develops a framework to analyse the nature and pattern of household-level transitions in the Indian economy, categorises households in terms of various sectors based on their primary income sources, and describes the data and definitions employed. Section 4 maps the pattern of transition of households across these sectors over our period of analysis. Section 5 provides a 'counterfactual' analysis to explore the nature of these transitions—whether they are 'favourable'/'voluntary' or 'unfavourable'/'involuntary'. Section 6 presents a multinomial regression analysis to identify the set of household characteristics that are associated with the likelihoods of 'favourable' versus 'unfavourable' transitions. Finally, Section 7 concludes by relating the analysis to the contending perspectives on the process of overall transformation in the Indian economy.

2 | INFORMALITY, DUALISM AND TRANSFORMATION

While the Indian economy has experienced a broad shift in economic dependence from agricultural/rural towards non-agricultural/urban activities over the years, a vast majority of population, as noted above, continues to derive its livelihood from the informal economy, which spans both agricultural/rural as well as manufacturing/urban sectors (La Porta & Shleifer, 2014; McMillan et al., 2017). Around half of the Indian workforce remains self-employed in traditional informal own-account enterprises that do not employ any wage labour and operate only with family labour. Accounting for both self- and wage-employment, by varying estimates, around 85-93% of working population is employed in the informal economy (Centre for Sustainable Employment [CSE], 2018; ILO, 2018). The persistence of these informal/traditional/non-capitalist segments in the Indian economy despite a sustained period of high growth raises questions regarding the process of transformation of India's economic structure.

The existing literature has sought to explain the persistence of informality despite high economic growth from various competing perspectives. The explanations in the dominant strands of literature may be broadly categorised into 'dualist' and 'continuist' characterisations.

The dualist perspectives view the economic structure as being fragmented into modern/capitalist/formal segment governed by a profit-driven economic logic, and traditional/

non-capitalist/informal segment governed by a subsistence-driven economic logic, with the former marked by characteristics such as high productivity, relatively advanced technology, higher earnings, and so forth, while the latter by low productivity, relatively primitive technology, lower earnings, and so forth. The persistence of informality is often seen as a result of the inability of the formal capitalist sector to expand and bring all economic spaces within its ambit, and/or a lack of dynamism and growth potential of the informal firms to transition into larger formal capitalist firms (Basole et al., 2015; CSE, 2018; Kathuria et al., 2010; La Porta & Shleifer, 2014; Raj & Sen, 2016). An implicit understanding in this strand is that with proper policies that facilitate an expansion of the formal capitalist sector (especially those sectors that have higher employment elasticities) as well as those that lead to enhancement in productivity and income of informal firms (say, through improved subcontracting linkages, better credit and marketing facilities, better education, etc.), there might be a progressive dilution of dualism with economic growth. Some works argue that with the economic/trade liberalisation since the 1990s, there have been improvements in productivity of informal firms, resulting in a tendency towards such dilution (Maiti, 2008; Marjit & Kar, 2009; Nataraj, 2011).

On the other hand, the literature in the 'continuum' strand views the various agents and firms across sectors as being driven by a singular logic of maximisation, albeit subject to the varying constraints they face in the economy based on their endowments, technology, human capital, access to facilities like credit, markets, etc. The space of informality in these works is often characterised by the dynamism of micro-entrepreneurs undertaking growth-enhancing activities in the face of harsh constraints, rather than being viewed as a residual distress-driven subsistence-oriented economy. Certain empirical works situated in this strand draw evidence from some studies on labour market transitions in Latin American and African economies to argue that informal self-employment can even be a desirable alternative to formal sector employment, and the gap between earnings formal and informal employment is quite modest if one controls for differences in individual characteristics (Bargain & Kwenda, 2014; El Badaoui et al., 2008; Fajnzylber et al., 2006; Maloney, 1999, 2004; Pratap & Quintin, 2006). In the context of India, given the widely documented vulnerability, low income/wage, high incidence of poverty, lack of decent working conditions, etc., in the informal economy (Chen, 2012; ILO, 2013; National Commission for Enterprises in the Unorganised Sector [NCEUS], 2007), this favourable view of informality may not be directly applicable. We, however, note in later sections that the methods employed in some of these empirical studies can be productively used to develop a methodological framework to analyse the micro-level transitions in the context of India as well.

In contrast to the dominant strands, various critical theories offer a different set of analysis to explain the persistence of informality despite economic growth. On one hand, a significant volume of scholarship has attributed this persistence to the crucial role played by the informal sector in fulfilling the 'economic needs' of the formal capitalist sector (Gerry, 1987; Harris-White, 2014; Moser, 1978; Patnaik, 1997, 2008, 2009; Wolpe, 1972). These needs include providing access to cheap inputs and other resources required in the production process in the formal sector, as well as supplying cheap wage goods for the formal sector workers, thereby keeping the wage bill low. The informal sector also serves as a parking lot for the surplus labour (or the 'reserve army of labour') that the formal firms can draw upon during its expansion without an upward pressure on wages. It should be noted that this relationship between the formal and informal sectors can be seen to be complementary in nature since this dependence of the formal sector also provides the informal sector with the conditions for its existence, such as access to the market. However, the formal sector also requires the informal firms to persists at low levels

of income, productivity, and so forth, such that latter cannot upgrade much and continues to subsidise the production in the former sector by providing cheap wage goods and raw materials. Such an analysis of the persistence of informality may be seen to align with the continuum view, whereby the economic logic of maximisation and expansion driving the formal capitalist sector shapes and governs the functioning of the informal economic sites.

On the other hand, some other works in the critical strand, while agreeing with the argument that informal sector may persist to fulfil the 'economic needs' of the formal sector, have critically brought to fore the conflictual and antagonistic (rather than a complementary) nature of the inter-sectoral relationship that may also challenge this persistence. To this effect, Harvey (2003) foregrounds the process of 'accumulation by dispossession' with economic growth. The formal capitalist sector, he argues, in its process of expansion, tends to over-accumulate profits that cannot be productively re-invested within the formal sector. These over-accumulated funds need alternate outlets for profitable investment that can generate future economic returns. These outlets can be the informal non-capitalist economic spaces that traditionally remained outside the ambit of the formal capitalist sector. Such investments take various forms, including large-scale investment in the traditional agricultural sector in developing economies thereby displacing the petty peasants, and privatisation of public sectors such as education and health and of other socially-owned and commonly-held assets and resources. This, for Harvey, is a process of 'encroachment' of non-capitalist informal economic spaces and public resources that entails spatial displacement of the masses that depends on them, thereby dispossessing these masses of their livelihoods.

Patnaik (2008, 2009) focuses on what he refers to as the process of 'accumulation by encroachment', which highlights a different mechanism through which this conflictual relation manifests itself. In the process of capitalist accumulation and expansion, the management of myriad supply constraints, and the resultant inflationary pressure that may erode the value of existing investments, is often achieved by constraining the demand of petty producers in the informal non-capitalist sector through a deflation of their incomes. This is facilitated through various processes that include competing out of traditional informal activities through liberalisation and increased global competition, curtailment of government-funded welfare activities and public investment (especially in rural areas), and a shift in the terms of trade against the primary sector.

The antagonistic relations between the formal capitalist and the informal non-capitalist sectors highlighted in the above interventions seem to align with the 'dualist' characterisation of the economy, whereby distinct economic logics govern the formal and informal sectors, with the former relentlessly attempting to usurp the latter in the process of its expansion.

A recent strand of the critical literature, following Sanyal (2007), also departs from the 'economic need'-based explanation for the persistence of informality. It argues that while during the process of economic growth in the formal capitalist sector resources are transferred from the traditional/pre-capitalist to the modern/capitalist segments of the economy, the vast population that subsists on these resources is not absorbed within the expanding modern segment and is thus dispossessed of its livelihoods. This dispossessed population is largely surplus or redundant for the process of capitalist growth and expansion. This population, then, is forced to reproduce its conditions of livelihoods by continually re-creating the non-capitalist informal segments. Under such circumstances, these segments persist as a holding ground of this redundant population. The course of economic growth led by the formal capitalist sector thereby results in a recurrent process of dispossession accompanied by a reconstitution of informal non-capital spaces (Bhattacharya, 2017; Chakrabarti, 2016; Bhattacharya et al., 2013, 2023;

Bhattacharya & Kesar, 2018, 2020; Kesar & Bhattacharya, 2020; Sanyal, 2007; also see Bhaduri, 2018).

Empirical work in the Indian context has explored the tendency of the informal firms to transition towards formal sector, growth potential of the informal firms and earning potential of informal workers, their determinants, and so forth, over various periods (Abraham, 2017; Basole et al., 2015; CSE, 2018; Kesar & Bhattacharya, 2020; Raj & Sen, 2016). However, there has been a dearth of work at a pan-India level that explores the underlying dynamics of livelihood reproduction in the economy in detail, which may help to make better sense of how the process of persistence of the informal economy that the various competing strands have sought to explain plays out on the ground. One way to unpack these dynamics would be to investigate the nature and patterns of micro-level transitions across different sectors in the economy that households undertake to reproduce their livelihoods. While there exist some works on the labour market transitions in the context of other countries (as noted above), there does not exist a systematic analysis of the micro-level changes and transitions in the Indian economy across the various shades of the formal-informal spectrum and the specific nature and patterns of such transitions.[2] The major intervention that this article seeks to make is to address this gap by providing an in-depth empirical analysis of these transitions. We relate this analysis to the broader process of economic transformation, and reflect on what can be inferred from it regarding the competing strands explaining the persistence of informality. It is not, however, the motivation of this article to provide an empirical validation of any of these strands. Our work, rather, is theoretically informed by these perspectives, and our analysis allows us to reflect back on them.

3 | FRAMEWORK OF ANALYSIS

For this analysis, given the wide heterogeneity in India′s economic structure, we move beyond the binaries of formal-informal/rural–urban/industrial–agricultural segments, and instead focus on the heterogeneities based on different production and labour processes and different degrees of informality that is described in a segmented multiple sector economic structure. These heterogeneities have been identified in several works on informal sector, both at the general level as well as in the specific context of India (Basole et al., 2015; Chen, 2012; Fields, 1990; García, 2017; Kesar & Bhattacharya, 2020; Mandelman & Montes-Rojas, 2009; Perry et al., 2007; Ranis & Stewart, 1999; Tokman, 1989). The heterogeneities within the informal sector (or degrees of informality) have often been characterised either in terms of the (a) 'lower-tier' (characterised by ease of entry, self-employment and employment of unpaid family labour, and 'non-specific' work relations with low wages and lack of job protection) and 'upper-tier' (characterised by 'limited entry', higher capital or skill requirement, and 'semi-specific' work relations with 'regular labour relations arrangements') of the informal sector (Fields, 1990); or (b) presence or absence of wage labour (Tokman, 1989); or (c) variations in average earnings and risk of poverty associated with different work relations in the informal economy—say, between employers, regular wage workers, own-account operators, casual wage workers, home-workers and unpaid workers (Chen, 2012). Furthermore, with rising informalisation of employment over time even within the formal sector, the concepts of informal employment and informal sector do not strictly correspond anymore (CSE, 2018; ILO, 2013;

NCEUS, 2007). Therefore, analysing the Indian economy in terms of strict binaries of formal and informal sectors divests the analysis of the complexities and specificities of informality. In our analysis, we account for these heterogeneities, to the extent possible from the available data.

In order to study the nature of the transitions in the Indian economy, we draw upon the broad framework employed by the literature on labour market transitions (that we briefly summarised above) and develop it. According this framework, to argue that a transition towards informal sector is 'unfavourable', it is not sufficient to show a relatively worse economic condition in the informal sector compared to that in the formal sector. The nature of transitions, whether they are 'favourable' or 'unfavourable', also depends on whether such a transition is optimal for an individual, given their socio-economic characteristics (Fajnzylber et al., 2006; Maloney, 1999, 2004). Following this, it may be argued that even if the earnings in the informal sector are lower than that in the formal sector at any given point, it might still be optimal for individuals to be in the informal sector if, given their socio-economic characteristics (such as levels of education, skills, etc.), they would not be better off elsewhere. Thus, for these individuals, transitions towards informality may not be 'unfavourable' in nature. We build upon this understanding to develop a 'counterfactual' analysis in Section 5 to examine the nature of transitions across all sectors of the Indian economy.[3]

We use the household (rather than the individual) as the unit of our analysis. 'Unfavourable' transitions of individual members of the household over time do not necessarily imply a deterioration in their economic well-being (measured in terms of per capita consumption levels) if other household members transition favourably and the total household income does not fall. This is particularly relevant for LDEs, where income is often pooled across household members to satisfy the consumption needs of the household as a unit.

Our focus on primary income source of the households might leave out other (secondary or tertiary) income sources, where women are more likely to be engaged. However, any individual-level analysis would leave out a large proportion of population that is not employed in market-based paid work, but is engaged in unpaid household activities, which are often not commoditised and are carried out by female members of the household.[4]

While there are both benefits and drawbacks of using either the households or the individuals as the unit of analysis, we undertake the analysis at a household level to account for average well-being of all household members, irrespective of whether they are engaged in paid work or not. Furthermore, as shown later in Section 4, the primary income sources of the households also, to a large extent, capture the individual-level employment situations.

We use the average per capita household consumption (PCHC) expenditure as an indicator of a household's economic well-being. In addition to the observed expenditures, this measure also incorporates the imputed costs for various consumption items that are not directly purchased from the market. This imputation is particularly important for a large proportion of cultivators in India, who are involved in subsistence agriculture and derive a significant proportion of their consumption from self-cultivation (Basu & Basole, 2012).

We classify the households into seven major sectors based on the households' primary income sources. We, then, describe the data used in this analysis. The *transition* of a household is defined as a shift over time in the sector from which the household derives its primary income. The classification is as follows:

1. *Agricultural self-employed (ASE)*: These households derive their primary income from cultivation, allied agricultural activities, farm businesses or renting of agricultural land. A vast majority of these households depend on self-cultivation and self-employment in farm

businesses. Almost the entire agricultural sector in India forms a part of the *informal* sector, much of which is traditional in nature (NCEUS, 2007).

2. *Non-agricultural self-employed (NASE)*: These households derive their primary income from self-employment in non-farm family-based enterprises that do not hire any wage-worker and carry out production using only family labour. Given the absence of wage labour, these enterprises can be classified as traditional/non-capitalist household enterprises (Lewis, 1954; Ranis & Stewart, 1999) or as own account enterprises (OAEs) that constitute the vast majority of informal sector enterprises in India (National Sample Survey Organisation [NSSO], 2011–2012). These enterprises form a part of the *lower-tier* of the *informal* sector;

3. *Agricultural wage labour (AWL)*: These households receive their primary income from daily wage labour in agricultural occupations;

4. *Non-agricultural wage labour (NAWL)*: These households receive their primary income from daily wage labour in non-agricultural occupations;

We identify (3) and (4) as the *lower-tier* ('*easy-entry*') *informal* wage-labouring households, where household members can be casually/informally employed in informal and/or formal sector enterprises;

5. *Non-agricultural employer (NAE)*: These households derive their primary income from non-farm enterprises owned by them. In case any of these households own multiple enterprises, at least one of such enterprises must employ hired wage workers for these households to be categorised as NAE. These enterprises are usually bigger than the OAEs and can be classified as modern/capitalist enterprises. These enterprises may be part of either the *formal* or the *upper-tier informal* sector, characterised by 'restricted-entry' (NCEUS, 2007);

6. *Salaried non-casual labour (SNCL)*: These households derive their primary income from salaried employment, where workers are paid regularly on a monthly or yearly basis. While formal wage employment (those having access to social security benefits and written job contracts) is a small proportion of regular salaried employment (17% of non-agricultural wage workers were formally employed as of 2015 [CSE, 2018]), the latter, with relatively less precarious employment situation, is often regarded as an indicator of *formal* or *upper-tier informal* employment in either formal or informal sector.

7. *Other households*: These households derive their primary income from one of the following sources: pension, dividend, rent, interest, government benefit or/and remittance. This sector does not directly form a part of the workforce.

The above classification allows us to move away from strict binaries (e.g., formal/informal, traditional/modern, etc.) and capture the heterogeneities in the economy in terms of the following:

1. Ownership of enterprises, including (a) informal self-employed (own-account enterprises operated without hired workers), that is, part of lower-tier of the informal sector (marked by relative ease of entry), and (b) formal or informal employers, that is, part of the formal sector or the 'upper tier' of the informal sector (both characterised by 'restricted-entry'). This distinction also captures the structural difference between capitalist and non-capitalist production processes in terms of whether the enterprises employ wage labour or not.[5] (1-a) includes NASE and most of ASE, whereas (1-b) includes NAE.

2. Wage labour, including (a) casual/informal wage labour, that is, part of the formal sector or the lower-tier of the informal sector (both characterised by 'easy-entry'), and (b) salaried/non-casual wage labour, that is, part of the formal sector or the 'upper tier' of the informal sector (both characterised by 'restricted-entry'). (2-a) includes NAWL and AWL, while (2-b) includes SNCL.

Within the lower-tier of informal sector, self-employment (ownership of enterprise) is marked by relatively restricted entry compared to wage employment. Note that the formal sector and the upper-tier of the informal sector are not structurally distinct and the differences between them are mainly in terms of scales of operation and/or legal or statistical demarcations.

It should be noted that a household's total income may be composed of different sources, and the other sources combined together may contribute more than the primary source. To address this issue, we employ an alternate idea of the primary income source, where we classify a household into a particular sector only if it receives more than 50% of its total income from that sector. We find that for 93%–95% of households in our data, the primary income source as per our initial definition (i.e., the sector that contributes the highest proportion to the total household income) also contributes more than 50% of the total household income. We also check the robustness of our later analysis using this alternative classification. Our results continue to hold.

We use two rounds (2005 and 2011–2012) of IHDS data for this analysis. The period covered by these two rounds coincides with much of the peak period of recent high growth (2003–2016) in the India economy. This is the only nationally representative household-level pan-India panel dataset that allows us to analyse these households-level transitions over the growth period. For our analysis, we use a balanced panel of 40,018 households, surveyed across 33 states and union territories in India.[6] We apply sampling weights to make our results representative at all-India level. All monetary values are indexed to real terms at 2005 prices.

4 | MAPPING THE TRANSITIONS

First, we plot the proportion of households that derived their primary income during 2005 and 2011–2012 from the sectors identified above (Figure 1). It is evident that the structure of Indian
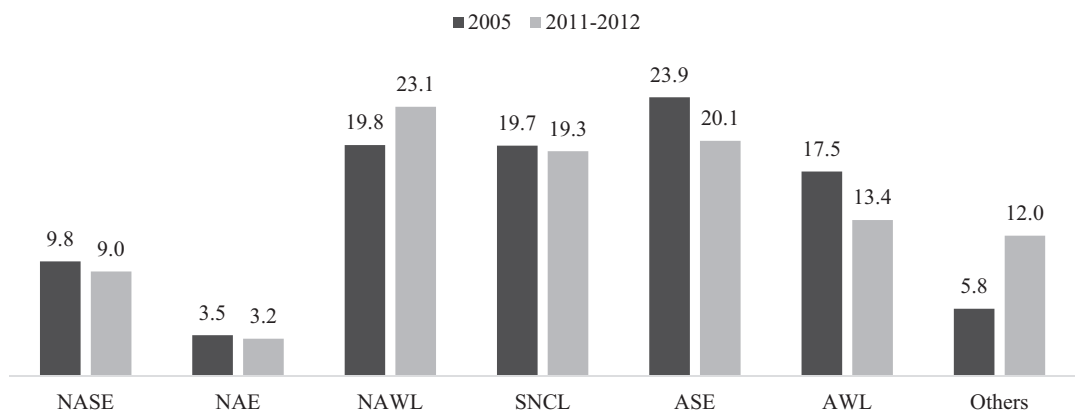

FIGURE 1 Proportion of households receiving primary income from each sector.

economy has not undergone much change in terms of proportions of households deriving their primary income from respective sectors. While the proportion deriving primary income from NAWL sector increased slightly over this period (from approximately 20% to 23%), the proportions in all other sectors registered a marginal fall.

One might expect this stability in the structure given the relatively short time-frame of our analysis.[7] However, if we look at the proportions of households that transitioned out from each sector in terms of their primary income, we find that a substantial volume of transitions across sectors even within this relatively short period (Figure 2).[8] Around 46%–75% of households from each sector in 2005 transitioned towards some other sectors over the period, and 40%–77% of households in each sector in 2011–2012 had transitioned towards them from other sectors. For example, among all NASE households in 2005, around 68% transitioned out of it to other sectors between 2005 and 2011–2012, whereas 65% of all households that were in NASE in 2011–2012 had transitioned towards it from other sectors over the period.

It should be noted that the transitions of the households in terms of their primary income sources also correspond, to a large extent, to the shifts in the employment sources of the households (except for agricultural sector households). In Table 1, we consider the sample of households that have transitioned across sectors over these survey rounds. The second column of the table ('Towards') depicts the percentage of (transitioning) households in a specific sector in 2011–2012 that did not derive any income from that sector in 2005. The third column ('From') shows the percentage of household in a specific sector in 2005 that did not derive any income from that sector in 2011–2012. For these households, the shift in primary income source, therefore, also signify a shift in the sectoral source of employment over time. We find that 81%–95% of the sample households that transitioned away *from* SNCL, NASE and NAE sectors towards other sectors in terms of their primary income sources, did not receive any income from these sectors in 2011–2012. Furthermore, 81%–91% of the sample households that transitioned *towards* these sectors did not receive any income from these sectors in the 2005.

It is curious that in spite of such significant transitions, the overall structure has continued to remain intact. To understand this in more detail, in Figures 3–8, we study the patterns of transition *from* each sector towards other sectors and *towards* each sector from other sectors over the period. The figures can be seen as a graphical representation of a transition matrix.[9]

■ Proportion of households that transitioned away from a sector between 2005 and 2011-12

■ Proportion of households that transitioned towards a sector between 2005 and 2011-12
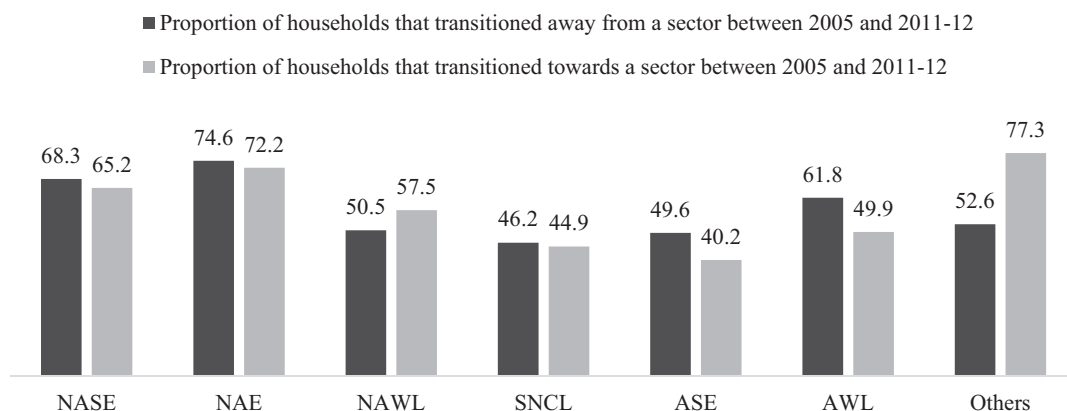
FIGURE 2 Proportion of households that either transitioned away from a sector or towards it between 2005 and 2011–2012.

TABLE 1 Correspondence between shift in primary income source and employment structure of households between 2005 and 2011–2012 (in percentages).

Sector	Towards	From
NAWL	79	65
SNCL	81	81
NASE	85	83
NAE	95	95
AWL	56	58
ASE	16	21

Abbreviations: ASE, agricultural self-employed; AWL, agricultural wage labour; NAE, non-agricultural employer; NASE, non-agricultural self-employed; NAWL, non-agricultural wage labour; SNCL, salaried non-casual labour.

We find that for each sector, transitions from/towards it are not concentrated in any one specific sector; rather they are spread across all sectors in varying proportions (Figures 3–8). Moreover, these transitions are not unidirectional; rather they are counterbalanced by simultaneous transitions in opposite directions. For example, while around 65% of NASE (the lower-tier informal non-agricultural self-employed) households in 2005 transitioned towards other sectors over the period (Figure 2), from Figure 3 it can be seen that approximately 19% transitioned towards NAWL (the lower-tier informal non-agricultural wage labour), 15% towards SNCL (formal or upper-tier informal non-casual salaried labour), 10% towards ASE (majorly informal agricultural self-employed), 9% towards NAE (formal or upper-tier non-agricultral employers) and 7% towards AWL (lower-tier agricultural informal wage-labour). These transitions were accompanied by almost similar proportions of transitions in the opposite direction. Similar patterns can be identified for all other sectors, where sectoral transitions are counterbalanced by reverse transitions across sectors (although in varying proportions) over time.

We make the following observations from Figures 3–8: (a) While there have been substantial transitions away from traditional (non-capitalist) informal sectors like NASE and ASE, these lower-tier non-capitalist informal sectors have been regenerated due to simultaneous reverse transitions towards them. Furthermore, on the net, there has not been any positive shift from NASE to the relatively modern capitalist upper-tier NAE sector (Figure 3); (b) NAWL (lower-tier informal wage employment) has been the major sector towards/from which the highest proportion of households transitioned from/towards other sectors over the period. For example, the major proportion of transitions from NAWL were towards the SNCL (formal/upper-tier informal) and that from SNCL were towards NAWL, both of which were counterbalanced by almost equivalent proportion of transitions in the opposite direction (Figures 5 and 6). We also find that the highest proportion of ASE households transitioned towards lower-tier informal wage labour (NAWL followed by AWL), while among those that transitioned towards ASE, the highest proportion were from these sectors (Figure 7). (c) As majority of such transitions in terms of primary income sources (for all sectors except agriculture) also reflect occupational mobility and employment transitions of the households (Table 1), these transitions reflect, even in terms of employment, a continuous process of simultaneous disintegration and reconstitution of traditional lower-tier informal (both non-capitalist and capitalist) economic spaces, and a continuing high dependence on lower-tier casual wage labour.

We find that the traditional non-capitalist self-employed informal segments, instead of withering away with economic growth, have continued to reproduce themselves. Their persistence,
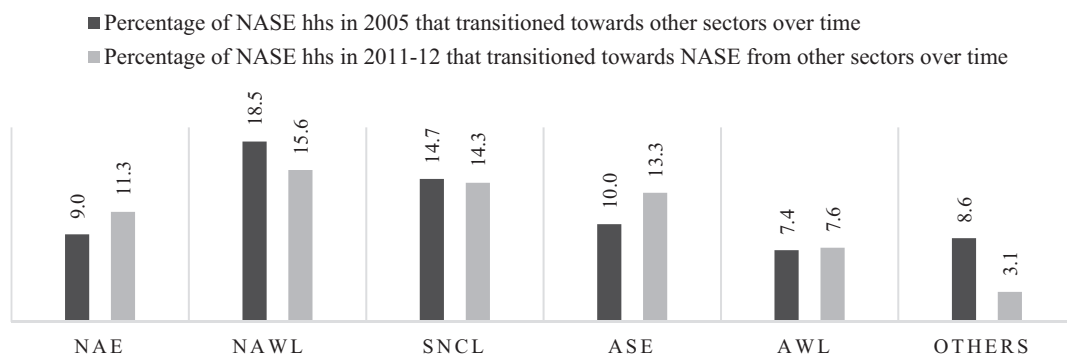
■ Percentage of NASE hhs in 2005 that transitioned towards other sectors over time

■ Percentage of NASE hhs in 2011-12 that transitioned towards NASE from other sectors over time

FIGURE 3 Transitions—Non-agricultural self-employed households (NASE).

■ Percentage of NAE hhs in 2005 that transitioned towards other sectors over time

■ Percentage of NAE hhs in 2011-12 that transitioned towards NAE from other sectors over time

FIGURE 4 Transitions—Non-agricultural employer households (NAE).

■ Percentage of NAWL hhs in 2005 that transitioned towards other sectors over time

■ Percentage of NAWL hhs in 2011-12 that transitioned towards NAWL from other sectors over time

FIGURE 5 Transitions—Non-agricultural wage labour households (NAWL).

however, does not signal that they have remained stagnant. Rather, there has been a continuous process of disintegration of these spaces (even within this relatively short period) with transitions towards other economic segments, especially informal wage employment. Simultaneously, this disintegration has been accompanied by a movement of households towards these segments that have resulted in a parallel process of their reconstitution. A similar dynamic of

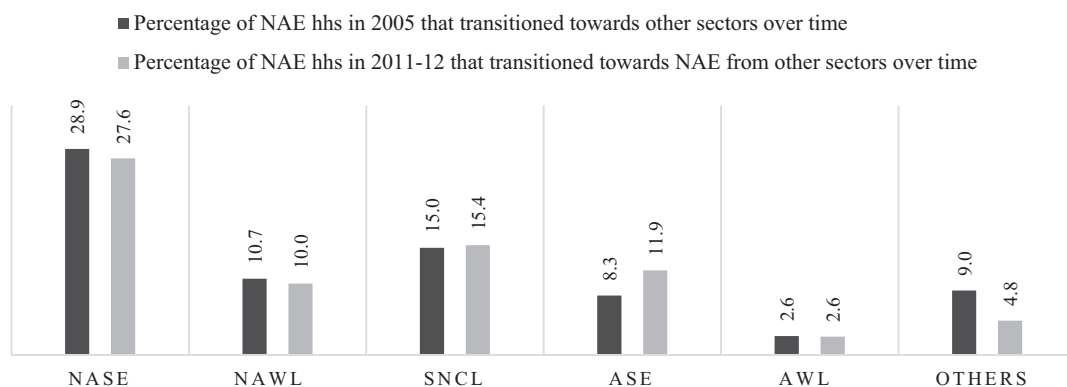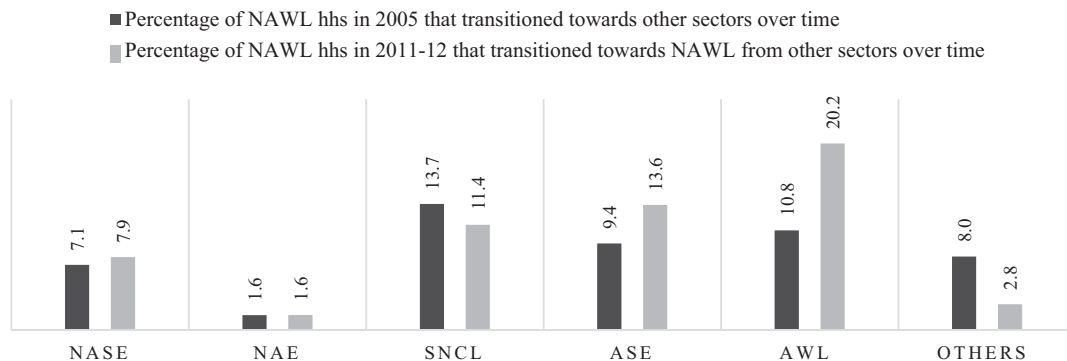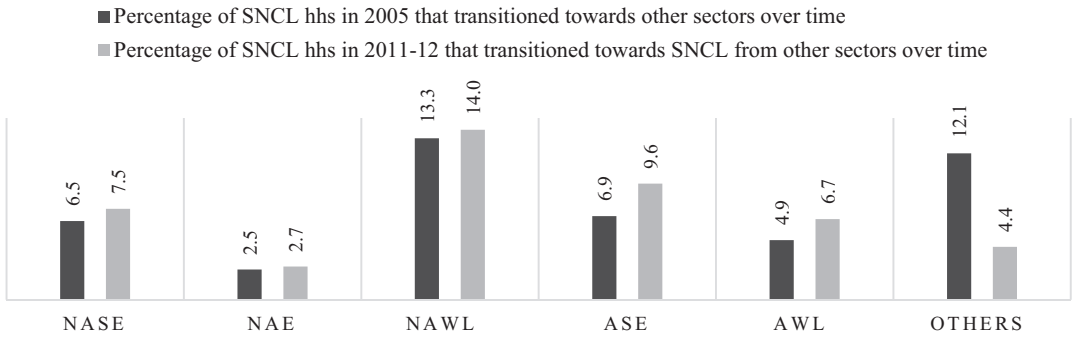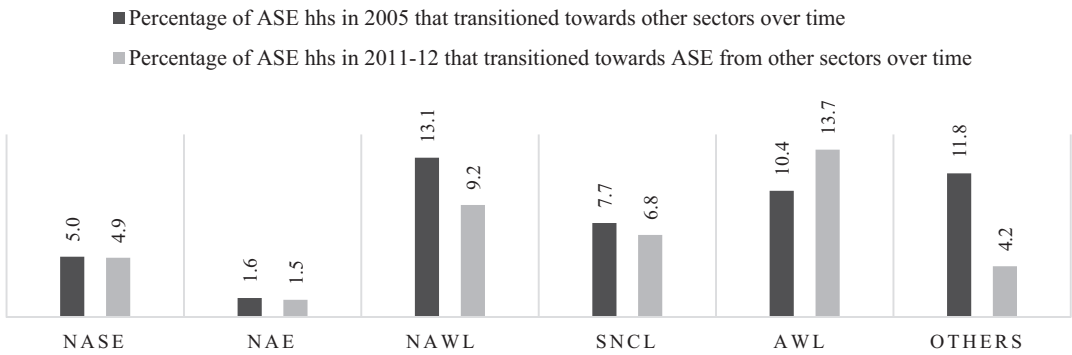**FIGURE 6** Transitions—Salaried non-casual labour households (SNCL).

FIGURE 7 Transitions—Agricultural self-employed households (ASE).
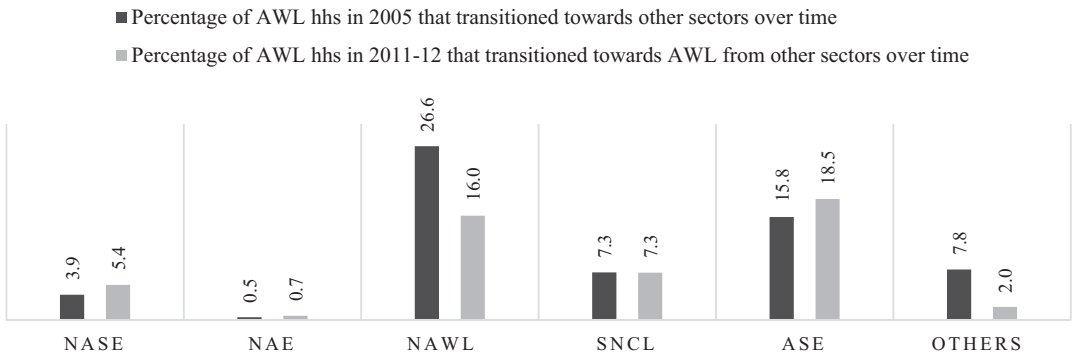

FIGURE 8 Transitions—Agricultural wage labour households (AWL).

disintegration and reconstitution is witnessed for all other economic segments as well. As a result, the overall economic structure is neither dismantling, nor does it remain stagnant; the same overall structure gets freshly reproduced on a continuous basis through a voluminous amount of churn and transitions across its various segments.

These findings speak to some of the strands of literature that we discussed earlier in Section 2. They do not align with those dualist strands that explain the persistence of

informality by a stagnancy in the economy and expect the non-capitalist informal segments to wither away with higher economic growth and dynamism. Furthermore, the porosity in the boundaries of the economic segments, which allows the economic structure to reproduce through a voluminous churn across the segments, complicates the standard notions of dualism in terms of a strictly delineated segments. This pattern of livelihood reproduction through continuous transitions is closer to the narrative of continual dispossession and reconstitution of the informal economic spaces without an economic transformation, as outlined in the strand following Sanyal (2007). Interestingly, however, this high volume of transitions might also indicate an integrated economic structure, as suggested by the continuum strands, challenging the dualist understanding of a fractured economy. We explore this in the following section as we interrogate the nature of these transitions through which the overall economic structure reproduces itself.

5 | NATURE OF TRANSITIONS

We examine whether these transitions across sectors, on average, have been 'favourable' or 'unfavourable' for economic well-being of the transitioning households. As noted earlier in Section 3, we use average PCHC expenditure (explicit and imputed) as the indicator of economic well-being of households. We first provide the descriptive statistics (Section 5.1), followed by a counterfactual analysis (Section 5.2), and, finally, introduce certain modification in our construction of the counterfactual analysis to see if the results hold (Section 5.3).

5.1 | Descriptive statistics

Figure 9 plots the sector-wise average PCHC for 2005 and 2011–2012. For both time points, NAE households have highest PCHC, followed by SNCL, NASE, ASE, NAWL and, finally, AWL households.

This hierarchy in terms of average well-being across sectors follows other findings in the Indian context (Chen, 2012). However, note that the average PCHC has risen for households
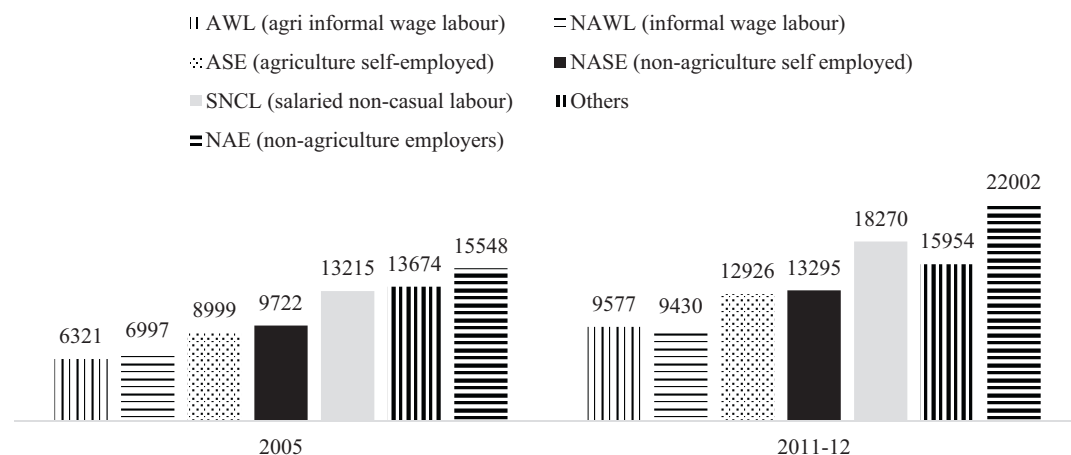

FIGURE 9 Sector-wise average per capita household consumption (PCHC) for 2005 and 2011–2012.

TABLE 2 Average per capita consumption of households that transitioned across sectors between 2005 and 2011–2012.

	AWL	NAWL	ASE	NASE	SNCL	NAE
2005						
AWL	**6251**	6129	6533	6372	6733	6401
NAWL	6427	**6786**	6829	7507	7677	8425
ASE	7299	6881	**9507**	8785	9923	13,230
NASE	7532	8140	8491	**9615**	11,438	12,424
SNCL	8749	8966	11,094	12,199	**14,525**	15,935
NAE	8978	12,523	13,129	13,667	17,853	**18,761**
2012						
AWL	**9694**	8765	10,961	9473	13,147	15,306
NAWL	9183	**9302**	10,726	12,724	11,673	15,511
ASE	9521	8807	**13,505**	11,565	14,326	17,653
NASE	9658	9664	11,268	**12,620**	15,771	20,376
SNCL	9745	11,182	15,947	16,333	**21,230**	23,063
NAE	8451	11,647	12,381	16,749	18,705	**28,054**

Abbreviations: ASE, agricultural self-employed; AWL, agricultural wage labour; NAE, non-agricultural employer; NASE, non-agricultural self-employed; NAWL, non-agricultural wage labour; SNCL, salaried non-casual labour.

belonging to all sectors, including the lower-tier/traditional informal sectors. This, coupled with the high degree of transitions of households *towards* these informal sectors, raises the question whether such transitions towards informality are necessarily 'unfavourable'. As explained in Section 2, this is not to argue that households in informal sector are well-off; rather, the issue is whether, for households with given socio-economic characteristics, transitions towards informal sector are 'favourable' for them.

We first compare the PCHC of households transitioning towards lower-tier/traditional informal sectors with that of the households that did not transition, as well as with those that transitioned towards formal/upper-tier informal sectors. We find that transitions of households across sector are not random; rather a strict hierarchy of sectors continues to be maintained (Table 2). It appears that households with lower than average PCHC in a sector are more likely to transition to traditional/lower-tier informal sectors, while those higher up in the consumption distribution are more likely to transition to modern/upper-tier informal/formal sectors. For example, the NASE households (traditional/lower-tier informal) that transitioned either to SNCL or NAE (formal/upper-tier informal) had higher PCHC in both 2005 (INR 11,438 and 12,424, respectively) and 2011–2012 (INR 15,711 and 20,376, respectively) than the NASE households that did not transition (INR 9615 in 2005 and INR 12,620 in 2011–2012). On the other hand, the NASE households that transitioned either towards NAWL or AWL (lower-tier casual wage employment) had lower PCHC in both the years than the NASE households that did not transition. The transitions, therefore, seem to reproduce, rather than dismantle, the initial hierarchy of the sectors.

5.2 | Counterfactual analysis

Following the framework discussed in Section 2 above (building upon Fajnzylber et al., 2006, Maloney, 1999, 2004, etc.), a transition cannot be characterised as 'favourable' or 'unfavourable' simply on the basis of comparison between average well-beings of households in different sectors. Rather, a transition is 'favourable'/'voluntary' ('unfavourable'/'involuntary') only if, given a household's socio-economic characteristics, it entails an improvement (deterioration) in the household's economic well-being in comparison to what the well-being would have been had the household not transitioned. Following this strand, a high degree of mobility/ fluidity across sectors, coupled with 'favourable' nature of such transitions, would imply that the economy is structurally integrated (aligning with the continuum view), rather than being dualistic and fragmented.

To estimate whether the transitions can be classified as 'favourable', we compare the actual 2011–2012 levels of PCHC of transitioning households with the 'counterfactual' PCHC they would have had in 2011–2012 if they had the same average returns to their socio-economic characteristics as the non-transitioning households in the original sector. We denote the six sectors to which the households belong (in terms of their primary income sources) in 2005 as 's' and the sectors to which they belong in 2011–2012 as 'j'. For each specific 's', the set of households that did not transition (i.e., for whom s = j) are used as control groups to evaluate the nature of transitions for the households that transitioned out of 's' (i.e., for whom s ≠ j). Therefore, there are six control groups, one for each sector.

For each sector-specific control group, we regress the per capita consumption levels in 2011–2012 on a vector of household characteristics at 2011–2012 levels (denoted by **X**) that may determine the consumption levels of the households (Table S1 in the online Appendix).

$$\text{Per capita consumption}_{si} = \alpha_s + \beta_s \mathbf{X}_{si} + u_{si}, s = j \tag{1}$$

X includes the following: (i) social caste of household members (general/forward caste, Scheduled Castes/Scheduled Tribes—SC/ST, or Other Backward Castes—OBC), (ii) religion (Hindu, Muslim or other religious minorities), (iii) years of education of the highest educated adult in the household, (iv) largest amount of loan taken by the household,[10] (v) proportion of adults in the household, (vi) area of land owned, (vii) state zones and (viii) location (rural/ urban). We estimate the sector-specific vector of coefficients **β** (i.e., the vector of average returns to the household's characteristics) for the set of households that did not transition. We then use this vector to predict the 'counterfactual' consumption levels of households that transitioned out from the respective sectors. For each sector to which the households belonged in 2005, this 'counterfactual' assesses the consumption levels that the transitioning households would have had in 2011–2012, if the average returns to their observed household characteristics in 2011– 2012 were same as that of the households that did not transition (i.e., the control set). Note that the coefficient vector is based on the set of actually observed characteristics of the non- transitioning households. It might be that the average returns to the observed characteristics of transitioning households are not same as that of the non-transitioning ones. We discuss this in Section 5.3. Furthermore, note that we are not making any causal claims from our analysis here.[11]

We calculate the differences between actual PCHCs and corresponding 'counterfactuals' for the transitioning households. If average 'consumption difference' for households transitioning between two sectors is positive, the transition is characterised as 'favourable'/'voluntary', and

if the difference is negative, the transition is characterised as 'unfavourable'/'involuntary'. Table 3 reports these average per capita consumption differences. Each cell of the table depicts the average 'consumption difference' for the set of households that transitioned from a sector in 2005 (rows) to another sector in 2011–2012 (columns). Based on the counterfactual analysis, Table 4 reports the proportion of households that transitioned 'favourably' and those that transitioned 'unfavourably' from each sector.

Table 4 shows that majority of these transitions from each sector were 'unfavourable' in nature. On average, the transition of NASE (traditional/non-capitalist informal) households towards NAWL and AWL (lower-tier informal/casual wage labour) is 'unfavourable' in nature, whereas that towards SNCL and NAE (modern/capitalist/upper-tier informal/formal) is 'favourable'. Similarly, transition of households towards NASE from casual wage labour sectors is 'favourable', whereas that from SNCL, NAE and ASE is 'unfavourable' (Table 3). For example, the average 'consumption difference' for the set of households that transitioned from NASE to NAWL is negative INR 1489, while for those that transitioned from NAWL to NASE is positive INR 2732. Similarly, transitions towards NAWL from all sectors (except AWL), on average, are 'unfavourable' in nature (and, as seen earlier, the proportion of NAWL households has increased over this period). Moreover, transitions from SNCL households towards all other sectors (except NAE), on average, are 'unfavourable', while those towards SNCL from NASE, NAWL and AWL are 'favourable'. Finally, transitions from ASE (majorly traditional non-capitalist informal) towards NAWL, AWL and NASE are, on average, 'unfavourable' in nature (and, as seen earlier, the highest proportion of ASE households transitioned towards NAWL and AWL sectors). Given that the nature of these transitions—'favourable' or 'unfavourable'—strictly work along the formal–informal, capitalist–non-capitalist and upper-tier–lower-tier segments, the fracture and segmentation of the overall structure remain quite firm despite the high volume of transitions across these sectors.

5.3 | Re-estimating the counterfactual: Re-weighting the sample and imposing bounds on coefficients

While in the above analysis, we have specifically examined the nature of transitions when returns to characteristics for the transitioning households in a sector are same as that for the non-transitioning ones, it is possible that the sets of transitioning and non-transitioning households had different returns to their characteristics, which may have influenced their transition possibilities. We address this in two distinct ways.

First, to address the selection issue, we estimate a logit regression to calculate the propensity score that captures the likelihood of a household to undertake a particular transition based on its set of observable characteristics in 2005. This set of characteristics includes PCHC in 2005, along with the characteristics included in vector **X** identified above. Logit estimations are done separately for each possible sectoral transition out of a particular sector. We use these propensity scores to re-weight our sample of non-transitioning households (control set) using the DiNardo, Fortin and Lemieux (DFL) re-weighting strategy (DiNardo et al., 1996), which attaches a higher weight to the observations in the non-transiting set that have a higher likelihood to transition based on their household characteristics. We then use this reweighted sample to estimate the average returns to characteristics for the control set. Unlike the earlier estimation that used the unweighted control set, this re-weighted sample, by providing higher weight to households in non-transitioning set that had a higher likelihood to transition, might be a

TABLE 3 Average per capita consumption differences for households transitioning across sectors between 2005 and 2011–2012.

Actual—counterfactual consumption per capita	Sector to which the household transitioned (2011–2012)					
	NASE	NAE	NAWL	SNCL	ASE	AWL
Sector to which the household belonged (2005) NASE	–	6388***	–1489***	1701***	–533	–1518***
NAE	–7139***	–	–9300***	–8449***	–10,298***	–5984***
NAWL	2732***	4593***	–	1184***	1656***	–525***
SNCL	–2339***	282***	–3442***	–	–1120***	–1950***
ASE	–319*	2589***	–1711***	978	–	–2132***
AWL	315*	4107*	–11	2606***	1379***	–

Abbreviations: ASE, agricultural self-employed; AWL, agricultural wage labour; NAE, non-agricultural employer; NASE, non-agricultural self-employed; NAWL, non-agricultural wage labour; SNCL, salaried non-casual labour.

*$p < .1$; **$p < .05$; ***$p < .01$.

T A B L E 4 Percentage of 'favourable' and 'unfavourable' transitions from each sector.

	NASE	NAE	NAWL	SNCL	ASE	AWL	Total
Favourable	38.52	18.95	42.10	33.14	34.06	45.82	37.99
Unfavourable	61.48	81.05	57.90	66.86	65.94	54.18	62.01
Total	100	100	100	100	100	100	100

Abbreviations: ASE, agricultural self-employed; AWL, agricultural wage labour; NAE, non-agricultural employer; NASE, non-agricultural self-employed; NAWL, non-agricultural wage labour; SNCL, salaried non-casual labour.

better comparator for the transiting set. These average returns from the re-weighted sample are then used to predict the counterfactual PCHC for the transitioning set. We do this re-weighting separately for each sectoral transition and estimate the returns to characteristics in the re-weighted control set for each possible sectoral transition.

Upon re-estimating the counterfactual PCHC with DFL re-weighting, we find that our results hold, with only small variations in the magnitudes (Table 5).[12]

The logit estimation to calculate the propensity scores and the regressions to estimate the average returns to characteristics for each sectoral transition are reported in Tables S2–S7 in the online Appendix. As noted earlier, we are not making any causal claims from this exercise given that the selection is restricted only to the observables.

Second, we analyse how our results might be affected under the following two possibilities—(i) the returns to characteristics for transitioning households in a sector are higher than that for the non-transitioning ones, or (ii) they are lower. If the returns were higher, the counterfactual consumption levels of the transitioning households for each sector, on average, would be higher than what we estimate. In that case, the sectoral transitions that are 'unfavourable' according to our estimation (i.e., actual consumption levels lower than the counterfactual levels) will continue to remain 'unfavourable'. However, for the sectoral transitions that we classify as 'favourable' according to our estimation (i.e., actual consumption levels higher than the counterfactual levels), might become 'unfavourable' if the returns to characteristics for transitioning households in each sector (and, therefore, the corresponding counterfactual levels of consumption) are high enough to reverse the relation. On the other hand, if returns to the characteristics for transitioning households, on average, were lower than that for the non-transitioning ones, while the 'favourable' transitions would continue to remain 'favourable', the 'unfavourable' sectoral transitions might become 'favourable' if the returns for transitioning households in each sector are sufficiently low to reverse the relationship.

To check how these changes might work out, we re-estimate the 'counterfactual' consumption levels of the transitioning households for each sector by *increasing* the values of the coefficients (i.e., the returns to the characteristics) by one standard error. This raises the estimated values for counterfactual consumption levels. We find, on average, the sectoral transitions that were 'unfavourable' according to our earlier estimation continue to remain so (as expected) (Table A1 in the Appendix). It is also found that except for couple of cases (from SNCL to NAE and from ASE to SNCL), all sectoral transitions that according to our earlier estimation were 'favourable' continue, on average, to remain so. On the other hand, if we re-estimate the 'counterfactual' consumption levels of the transitioning households by *decreasing* the values of the coefficients by one standard error for each sector, the 'favourable' sectoral transitions continue to remain so (as expected). However, for sectoral transitions that were earlier characterised as 'unfavourable', the original relation does not always remain same for every sector (either in

TABLE 5 Average per capita consumption differences for households transitioning across sectors between 2005 and 2011–2012 (with DFL re-weighting).

Actual—counterfactual consumption per capita	Sector to which the household transitioned (2011–12)					
Sector to which the household belonged (2005)	NASE	NAE	NAWL	SNCL	ASE	AWL
NASE	–	6006***	–1487***	1556***	–268	–1407***
NAE	–6590***	–	–13313***	–7688***	–9590***	–22087***
NAWL	2768***	4759***	–	1107***	1790***	–436***
SNCL	–1722***	548	–3439***	–	–603**	–4202***
ASE	–170	2300***	–	1255*	–	–1672***
AWL	332*	5398*	–96	2655***	1827***	–

Abbreviations: ASE, agricultural self-employed; AWL, agricultural wage labour; NAE, non-agricultural employer; NASE, non-agricultural self-employed; NAWL, non-agricultural wage labour; SNCL, salaried non-casual labour.

*$p < .1$; **$p < .05$; ***$p < .01$.

terms of significance or sign). But, if we decrease the coefficients by half standard error, there is no reversal in the sign for the 'unfavourable' transitions that continue to remain significant (except for transitions from NAE to NASE) (Table A2 in the Appendix).

The robustness of above results are checked by: (a) carrying out sector-specific OLS regressions to measure the impact of transitions on the 2011–2012 consumption levels of transitioning households, while controlling for other household characteristics as well as their initial consumption levels in 2005; (b) re-doing the counterfactual analysis with two modifications: (i) including the lag of consumption per capita, that is, the 2005 PCHC, in the list of covariates used to construct the counterfactual, and (ii) using income per capita, instead of consumption per capita, to capture the households' economic well-being; and (c) re-doing the counterfactual analysis using the alternate idea of primary income source that was introduced in Section 3, where a sector is considered to be the primary income source of households only if the households received more than 50% of their income from it. The results from these robustness checks (reported in the Online Appendix Tables S8 for (a), Table S9 for (b-i), Table S10 for (b-ii), and Table S11 for (c)) are qualitatively and quantitatively similar to the results reported above.

To sum up, we find that if the returns to characteristics for the transitioning households were same as that for the non-transitioning households, majority of transitions from each sector over time were 'unfavourable' in nature (as discussed in Section 5.2). Furthermore, when we reweight the sample in our control (non-transitioning) set using the DFL re-weighting to assign higher weights to observations that have higher likelihood to transition, and re-estimate the counterfactual PCHC, we find that our results continue to hold. Moreover, we find that even if the returns for the transitioning households were either higher or lower than that for the non-transitioning ones by one standard error, the nature of the sectoral transitions ('favourable' or 'unfavourable'), on average, remains unchanged for almost all sectors in three of the four possible cases discussed above, and for all four cases if the returns were different by half standard error.[13]

As noted in Sections 2 and 3, following the continuum view, an economy can be argued to be closely integrated if there is a substantial proportion of transitions happening across sectors, and if such transitions are 'favourable'/'voluntary' in nature. However, given the nature of transitions across sectors in the Indian economy, the economic structure remains fractured and segmented, in spite of the voluminous transitions. Furthermore, the 'unfavourable' transitions from modern/upper-tier informal (or formal) sectors to relatively traditional/lower-tier informal sectors, and from traditional informal non-capitalist sector to lower-tier informal wage labour, indicate the heterogeneity and segmentation even within the informal economy. Such segmentations, along with the traditional/lower-tier non-capitalist informal economic spaces, have been regenerated and reproduced during a peak period of economic growth.

In the previous section, we highlighted how our findings differ from the standard dualist notions. This section marks a departure also from the continuist notions that suggest an integrated economic structure. What seems to bear out from the analysis so far is that while the structure is indeed segmented, it cannot be characterised by the traditional notions of dualism. It is, rather, the heterogeneity and, more importantly, the permeability between the different segments that mark the fractured economic structure, which gets continually reproduced through the transitions. This, coupled with the majorly 'unfavourable' nature of the transitions, brings to focus the precarity that underpins the process of reproduction, which aligns with Sanyal's description of the development process. While Harvey and Patnaik also highlight how the capitalist development process leads to encroachment of non-capitalist informal spaces and dispossession, they do not examine how these spaces are reproduced.[14] In Sanyal's theorisation,

the non-capitalist informal segments are reconstituted by those who are continuously dispossessed from these segments by the capitalist growth process but are not absorbed in the formal capitalist segments as wage labour. It should, however, be noted that our analysis shows that the process of reproduction of the informal economy, including the non-capitalist segments, entail a pattern of livelihood transitions that span the entire spectrum of the economy, with movements across capitalist-non-capitalist/formal-informal/and upper-tier-lower-tier segments. The investigation of the nature and pattern of these transitions brings to fore the ground-level dynamic of this process of reproduction.

6 | HOUSEHOLD CHARACTERISTICS AND TRANSITIONS

In this section, we use a multinomial logit regression framework to identify how the likelihood of 'favourable' or 'unfavourable' transitions vary with socio-economic characteristics of households. We do not make any causal claims from this analysis, that is, we do not attribute the reasons for the persistence of informality and continuous reproduction of the fractured economic structure to these household characteristics. Rather, this exercise sheds light on the fact that the nature and pattern of the transitions also correlate with various household characteristics (such as social caste), even if there are broader structural factors driving the transitions (as explained by the competing theoretical strands discussed earlier).

The following equation is estimated for each of the six sectors to which households belong in the first period:

$$\text{Ln}[\text{Prob}(\text{Transition}_{si})/\text{Prob}(\text{Not Transition}_{si})] = \alpha_s + \beta_s X_{si} + u_{si} \tag{2}$$

where, for each sector 's', 'transition' is a categorical variable that for each household 'i' takes a value based on the sector towards which the household transitioned, with 'no transition' being the base category. X is the vector of household characteristics in 2005 that are expected to affect the likelihood of transitions, which includes 2005 PCHC levels, years of education for the highest educated adult in the household, social caste and religion of the household members, proportion of adults in the household, largest amount of loan taken by the household, region (rural/urban) and state controls.

We calculate the average marginal effects that measure how the probability of a household to transition out of sector 's' towards another sector (relative to continuing to derive its primary income from the same sector) varies with these household characteristics X.[15] Given the space constraint, we report in Table 6 the marginal effects for transitions from one of the sectors, NASE, as an illustration. The results are broadly consistent across sectors. The tables reporting the marginal effects for transitions from all other sectors are available in the Online Appendix (Tables S12–S16).

We check the robustness of the results by employing the alternate idea of primary income source, that is, the sector from which households derive more than 50% of their total income. The results continue to hold.

We find that years of education of the highest educated adult in the household, social caste of the household members, location of the households (rural/urban) and availability of loans are the most important factors along which the likelihood of a household to transition 'favourably' vis-à-vis 'unfavourably' varies. The results, as discussed below, broadly resonates with the studies in the Indian context that highlight the importance of social caste, education

TABLE 6 Marginal effects for multinomial logit (ML) regression—Dependent variable: Transitions out of NASE.

	ASE	NAWL	NAE	AWL	Other	SNCL
Annual consumption per capita (by 10,000)	−0.0130 (0.0168)	−0.0245 (0.0227)	0.0184*** (0.00454)	−0.0137 (0.0131)	0.0214*** (0.00497)	0.0184*** (0.00676)
Years of education	0.00312 (0.00204)	−0.00992*** (0.00272)	0.00356** (0.00172)	−0.00681*** (0.00165)	0.000298 (0.00162)	0.00256 (0.00181)
Social caste: SC/ST (Base: General)	−0.0495** (0.0220)	0.0589** (0.0269)	−0.0219 (0.0141)	0.00148 (0.0114)	0.00386 (0.0112)	−0.0141 (0.0220)
Social Caste: OBC (Base: General)	−0.0596** (0.0264)	0.108*** (0.0416)	−0.0323*** (0.0113)	0.0334 (0.0216)	−0.0157 (0.0294)	−0.00984 (0.0239)
Largest loan amount (by 10,000)	0.000589 (0.00131)	−0.00714* (0.00371)	0.00133*** (0.000360)	−0.00272 (0.00288)	0.00143** (0.000670)	0.00169*** (0.000617)
Religion: Muslim (Base category: Hindu)	−0.0294 (0.0208)	0.0725* (0.0403)	0.0130 (0.0174)	0.00785 (0.00841)	−0.00712 (0.0190)	−0.0195 (0.0293)
Religion: others (Base category: Hindu)	−0.0679*** (0.0205)	0.115* (0.0649)	0.0296 (0.0305)	−0.00909 (0.0209)	0.000764 (0.0229)	0.000382 (0.0292)
Urban (Base category: rural)	−0.154*** (0.0263)	0.0168 (0.0260)	0.0474*** (0.0129)	−0.106*** (0.0235)	−0.0427*** (0.0131)	0.101*** (0.0283)
Proportion of adults in the HH	0.0256 (0.0263)	0.00669 (0.0514)	−0.00292 (0.0317)	−0.0535*** (0.0175)	0.0928*** (0.0303)	0.0165 (0.0440)
State controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3894	3894	3894	3894	3894	3894

Note: Cluster robust standard errors in parenthesis, clustered at state level. Pseudo R square = 9.8%. The marginal effects are estimated with consumption per capita held at its median level.

Abbreviations: ASE, agricultural self-employed; AWL, agricultural wage labour; NAE, non-agricultural employer; NASE, non-agricultural self-employed; NAWL, non-agricultural wage labour; SNCL, salaried non-casual labour.

*p < .1; **p < .05; ***p < .01.

and credit availability for economic mobility of individuals (Azam, 2016; Hnatkovska et al., 2012; Raj & Sen, 2016), as well as with other country-specific or cross-country studies that highlight the importance of education, human capital development, and credit in facilitating transitions towards formality (Gong et al., 2004; La Porta & Shleifer, 2014; Mandelman & Montes-Rojas, 2009; Tansel & Ozdemir, 2019).

We find that with additional years of education, the probability of an average household to make a 'favourable' sectoral transition (i.e., transitions towards relatively modern/upper-tier informal/formal sectors) significantly increases, while the probability to make an 'unfavourable' sectoral transition (i.e., transitions towards relatively traditional/lower-tier informal sectors) decreases. For example, at the level of median PCHC, for NASE households, an increase in 5 years of education (the standard deviation in the years of education across sectors) of the highest educated adult of the family, on average, is associated with 5 percentage points and 3.4 percentage points decrease in the probability to transition towards NAWL and AWL sectors, respectively ('unfavourable' transitions towards lower-tier informal wage employment), and 1.8 percentage points increase in the probability to transition to NAE sector ('favourable' transition towards more modern/upper-tier informal/formal sector), given other household characteristics (Table 6). We find similar results for households deriving their primary income from other sectors (Tables S12–S16).

We also find that households located in urban areas have higher likelihood for upward mobility, as well as for higher vulnerability, than those located in the rural areas. Furthermore, the amount of the largest loan taken by a household positively varies with the probability of the household to transition 'favourably', and negatively with the probability of 'unfavourable' transitions.[16]

We, however, also find that structurally pre-given factors like caste of the members of a household, which cannot be optimally chosen by households nor can be directly altered through policy interventions, are significantly related to likelihood and nature of these transitions. Belonging to a 'forward' social caste is associated with an increase in the probability of a household to transition 'favourably', and with a decrease in the probability to transition 'unfavourably'. For example, at the level of median PCHC, on average, an OBC (relatively 'backward' caste) household in NASE sector has 3.2 percentage points lower probability to transition to NAE sector (i.e., 'favourable' transition) and 10.8 percentage points higher probability to transition to NAWL sector (i.e., 'unfavourable' transition), relative to 'forward'/general caste households. Similarly, on average, an SC/ST and OBC household in SNCL sector (relatively modern/upper-tier informal/formal sector) has a higher probability to transition towards NAWL and AWL ('unfavourable' transitions), relative to 'forward' caste households, whereas a SC/ST household in NAWL sector has a lower probability to transition to SNCL ('favourable' transitions) than a 'forward' caste household. Our results corroborate other studies in the Indian context, for example, Dang and Lanjouw (2020), Goel and Deshpande (2020) and Thorat et al. (2017), that highlight the importance of social caste—both as an impediment (for 'backward' castes) and a facilitator (for 'forward' castes)—for economic mobility in India, and argue that the likelihood of such mobility (or the lack thereof) cannot be explained only on the basis of educational and/or financial characteristics of households.

7 | CONCLUSION

We have analysed the household-level transitions in the Indian economy during a peak period of high economic growth to show that while a huge proportion of households have transitioned

across sectors during the period in terms of their primary income sources, the pattern of transitions has been such that the overall fractured structure of the economy has been reproduced and has continued to remain more or less intact. Given the heterogeneities within the economic structure, we have moved away from the strict binaries of formal/informal, agricultural/non-agricultural, rural/urban sectors and considered transitions across economic spaces that are marked by varying degrees/tiers of formality/informality. We find that there has been a continuous reconstitution and regeneration of different economic spaces, including the traditional/non-capitalist informal spaces that were often expected to dissolve over time with high economic growth. To ascertain whether the nature of household-level transitions have been 'favourable' or 'unfavourable' in terms of economic well-being of the households, we employ a counterfactual analysis. We find that for each sector, a majority or a significant proportion of household-level sectoral transitions have been 'unfavourable' in nature, given their socio-economic characteristics. Furthermore, the likelihood and nature of transitions (even if they are driven by broader structural factors) are closely associated with certain household characteristics (like social caste), some of which are pre-given and cannot be optimally chosen by households. While the seven-year period of our study (necessitated by the availability of panel data) is not sufficient to conclusively argue about the long-run trend of the process of economic transformation in India, it does not exhibit any clear tendency towards a unilinear trajectory of transformation with growth.

While this article is not motivated towards providing an empirical validation of any of the competing analytical perspectives that seek to explain the persistence of informality despite high economic growth (as discussed in Section 2), our analysis, which focusses on micro-level transitions rather than on structural dynamics, does allow us to reflect upon them. We broadly classify the perspectives into five distinct strands, namely, dualist and continuist strands in the prevalent literature, strands focusing on complementary 'economic need'-based relations between the formal capitalist and informal non-capitalist segments in the critical literature, those focusing on antagonistic relations (following, for example, Harvey and Patnaik), and, finally, the departure posited by Sanyal. Our findings align more with the strand following Sanyal.

Contrary to the continuist strand of analysis, we find that the economic structure remains fractured and segmented, and is not integrated, despite the high volume of transitions across different segments of the economy during the peak growth period. Much of the traditional dualist notions also do not seem to hold, as the reproduction of the heterogenous and segmented structure happens through a huge volume of churn and inter-sectoral transitions rather than due to an economic stagnancy. Harvey's and Patnaik's interventions, while focusing on the process of encroachment of the informal non-capitalist spaces and the dispossession that follows, do not provide a detailed examination of the dynamics of reconstitution of these spaces and the reproduction of livelihoods in them, which Sanyal foregrounds. While strictly based on our analysis, we cannot infer whether the relation between the formal capitalist and the informal non-capitalist sectors is complementary or antagonistic in nature, in terms of the dynamics of reproduction of informality, our findings resonate more with the strand following Sanyal.

Our analysis, however, also complicates the reformulated notion of dualism, as proposed by Sanyal, in terms of the specific process of continuous reconstitution of a segmented economic structure. It reveals the porosity in the boundaries of the different segments, *both* capitalist and non-capitalist (upper and lower tiers), by highlighting the high degree of transitions between them. The exclusion from the capitalist segment is not absolute, nor is the inclusion within it (even if as informal wage worker). Rather, the population that occupies these segments is

continually reshuffled, often via 'unfavourable' transitions—while a significant proportion of the original occupants transition away, others join and reproduce these spaces. A large volume of workforce in India seems to be in such a state of flux, moving between sectors and occupations in search of livelihood without a firm grounding anywhere. This *dynamic* process of reproducing a rather *stagnant* structure provides an insight into the complexity of India's development trajectory that is often glossed over in the literature.

CONFLICT OF INTEREST STATEMENT
The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT
The data that support the findings of this study are openly available in "India Human Development Survey Panel (IHDS, IHDS-II), 2005, 2011-2012, Inter-university Consortium for Political and Social Research" at http://doi.org/10.3886/ICPSR37382.v1 Desai et al. (2019).

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ENDNOTES
[1] A dualist economic structure is conceptualised in the literature in several ways, with (often overlapping) distinctions between agricultural and non-agricultural, formal and informal, modern and traditional or capitalist and non-capitalist sectors. Our characterization of the economic structure in India, as explained in detail later, accounts for all these distinctions and encompasses the entire economy.

[2] While several studies explore micro-level transitions in terms of inter-sectoral labour migration, they do not analyse the broader issues of economic dualism and structural transformation. A very recent work by Raj et al. (November 2020) provides a preliminary analysis of individual-level sectoral transitions in the Indian economy and their correlates using the IHDS data. In this paper (working paper versions available from March 2019 and October 2020), we provide an in-depth analysis of the *nature* of transitions and its implications for the degree of segmentation in Indian labour market, which Raj et al. do not capture. We further relate our analysis on nature and patterns of transitions to the process of transformation of the overall economic structure. Moreover, as we argue later, it is not sufficient to compare the levels of consumption or income across sectors to gauge the nature of these transitions; rather, it needs to be examined whether these

are 'optimal' given the socio-economic characteristics of the transitioning households (as we do through the counterfactual analysis in Section 5).

[3] It should be noted that our work is distinct from the rich body of existing literature that anlayses the likelihood and predictors of occupational mobility (inter-generational or otherwise) in India. Furthermore, an important strand of recent literature analyses mobility across income/consumption quantiles in the Indian economy over time, using both IHDS and NSSO datasets (Azam, 2016; Dang & Lanjouw, 2020; Thorat et al., 2017). Here, we are interested, instead, in analysing the *nature* of household-level sectoral transitions in the economy, whether such transitions have been optimal for the households, and the implications of the patterns and nature of these transitions for the process of transformation of the economic structure.

[4] This issue is particularly relevant for India since there has been a steep fall in female labour force participation rate over the past couple of decades—over the period of our analysis, it declined from 37% in 2005 to 27% in 2012 (World Bank, 2018).

[5] There exists a huge gap between the accumulation possibilities of the 'traditional'/'non-capitalist' and the 'modern'/'capitalist' segments of the informal sector (Bhattacharya, 2017; Kesar & Bhattacharya, 2020).

[6] Dang and Lanjouw (2020) provide a rigorous method to construct synthetic panels using repeated cross-sections of data from the National Sample Survey, which allows to capture a longer time frame. They also argue that attrition between different rounds of IHDS could affect the estimates based on these data. However, for our analysis, to specifically examine household-level transitions during the high-growth period, we need to rely on unit-level panel data, which are only available from IHDS. We follow Thorat et al. (2017) to estimate the sector-specific Inverse Mill's Ratio (IMR) in order to account for possible attrition across survey rounds. Re-doing the empirical analysis incorporating this IMR, we find that our results continue to hold. Given the space constraint, we do not report the tables here. They are available upon request.

[7] There has been a significant increase in proportion of households receiving primary income from 'others' sector. This category, as noted above, mainly includes income from non-employment sources. Since our analysis focuses on sectoral distinctions in terms of employment types, we do not engage with this category. This finding, however, needs further exploration in future work.

[8] Azam (2016) and Dang and Lanjouw (2020) find a high degree of churn even across different income and consumption distributions in the Indian economy.

[9] All calculations are normalised to account for differences in sizes of the sectors. For example, for each sector-specific figure, the households that transitioned away from that sector, say A, towards any other sector, say B, are represented as a proportion of households in A in the initial period. Similarly, all households that transitioned towards A from B are also represented as a proportion of A.

[10] Information on value of loans is available only for the largest amount of loan taken in the last 5 years.

[11] The data does not allow for a reasonable exclusion restriction to make causal claims from the counterfactual analysis. We partly deal with this issue in Section 5.3, though it needs to be explored more in future research.

[12] The logit estimation for the transition from ASE to NAWL does not converge. Hence, it is not reported in Table 5.

[13] In addition, we also identified, for each sector in 2005, the set of characteristics of non-transitioning households whose coefficient vector can predict the *actual* initial consumption levels of the households that would transition between 2005 and 2011–2012. Using this sector-wise set of identified characteristics, we re-estimate for 2011–2012, the coefficient vector of the households that did not transition and use this vector to predict for 2011–2012 the counterfactual consumption levels of the households that did transition. We find that the nature of sectoral transitions as reported in the text still holds using this alternate method. The results are available upon request.

[14] The majorly 'unfavourable' nature of the transitions during high economic growth could be due to involuntary movements of the households who might be forced to undertake such transitions because of a process of encroachment and dispossession, as argued by the strands that highlight the antagonistic relation between the formal capitalist and informal non-capitalist segments. However, we cannot comment on the exact process with certainty, given the purview of our analysis.

[15] The average marginal effects are calculated conditional on the fact that the household self-selects itself into a particular sector 's' at the initial time point. The coefficients should be interpreted as such.

[16] It should, however, be noted that majority of households (around 53%) did not report taking any loans, either from formal or informal sources, during the period. Of the households that have taken loans, the average value of the largest amount of loan taken in 2005 was as low as INR 34,775.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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APPENDIX A: COUNTERFACTUAL ANALYSIS

TABLE A1 Average per capita consumption differences for households transitioning across sectors between 2005 and 2011–2012 (upon increasing the value of coefficients by one standard error).

Sector to which the household belonged (2005)	Actual–counterfactual consumption per capita	Sector to which the household transitioned (2011–12)					
		NASE	**NAE**	**NAWL**	**SNCL**	**ASE**	**AWL**
Sector to which the household belonged (2005)	NASE	–	3378***	–3418***	*–1292*	*–2745*	–3965***
	NAE	–23671***	–	–25,155***	–27,438***	–25,441***	–18,316***
	NAWL	1707**	3341***	–	*–177*	771**	–1632***
	SNCL	–7271***	**–5788*****	–7609***	–	–5662***	–5253***
	ASE	–2266***	*–104*	–3393**	**–1314*****	–	–4099***
	AWL	*–244*	*2981*	–679***	1244***	660*	–

Note: The 'unfavourable' transitions continue to be unfavourable, as expected. The 'favourable' transition for almost all cases also continue to be 'favourable'. The two cases where a 'favourable' transition experiences a reversal in sign and are significant are in bold.

Abbreviations: ASE, agricultural self-employed; AWL, agricultural wage labour; NAE, non-agricultural employer; NASE, non-agricultural self-employed; NAWL, non-agricultural wage labour; SNCL, salaried non-casual labour.

*p < .1;
**p < .05;
***p < .01.

TABLE A2 Average per capita consumption differences for households transitioning across sectors between 2005 and 2011–2012 (upon decreasing the value of coefficients by half a standard error).

	Actual–counterfactual consumption per capita	Sector to which the household transitioned (2011–12)					
		NASE	**NAE**	**NAWL**	**SNCL**	**ASE**	**AWL**
Sector to which the household belonged (2005)	NASE	–	7893***	−525**	3197***	−573**	−294*
	NAE	**1128*****	–	−1372***	1045	−2726*	181
	NAWL	3245***	5219***	–	1865***	2099***	28
	SNCL	126	3317***	−1358***	–	*1151*	−299**
	ASE	654	3935***	−870***	2123***	–	−1147***
	AWL	595**	4671**	323***	3286***	1739***	–

Note: The 'favourable' transitions continue to be unfavourable, as expected. The 'unfavourable' transition for almost all cases also continue to be 'unfavourable'. The one case where an 'unfavourable' transition experiences a reversal in sign and is significant is in bold.

Abbreviations: ASE, agricultural self-employed; AWL, agricultural wage labour; NAE, non-agricultural employer; NASE, non-agricultural self-employed; NAWL, non-agricultural wage labour; SNCL, salaried non-casual labour.

*$p < .1$; **$p < .05$; ***$p < .01$.