Chapter 3
Informal Sector in India: A Critique of Inclusive Transition

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3.1 Introduction

During the last few decades, the discourse on development has been experiencing a shift away from the 'Lewisian transition' era (Lewis, 1954). Indeed, it is recognised that even high rates of capital accumulation and growth in the formal (industrial and service) sectors (henceforth *fs*) and sizeable expansion of the globalised market are unable to absorb/include the overwhelming majority of the Third-World population. Neither there is substantial progress for these outsiders, as large parts remain excluded even from the spillover effects of globalisation.

In fact, most of the (non-agricultural) workforce in the developing world is engaged in the petty informal sectors (henceforth *infs*), at best, having weak links with the globalisation process. Moreover, 'informality tends to become the over-arching structure (even) of the global labour market' (Breman, 2013, pp. 10). The *infs*, especially an overwhelming majority of the petty self-employed, is persisting painfully outside the growth poles, and thus, we experience a nagging continuance of misery and growing inequality between the *fs* and *infs*. This is one of the central paradoxes of contemporary development discourse.

Not only that the pre-capitalistic non-agricultural production systems still exist beyond the core circuits of capital, but more importantly, a vast non-agricultural economy of outsiders has been created in tandem with the very growth processes. These nomads (Breman, 2013) form the sea of surplus humanity (Davis, 2004), who find their refuge in the *infs*. Thus, the *infs* not only consists of the petty commodity

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producers of the pre-capitalistic era, but more importantly, is a product of the growth development processes that we have witnessed in the contemporary Global South; it has been endogenous/integral to the so-called modernisation process that we have experienced in the recent past. Unfortunately, both these pre-capitalistic remnants and the non-capitalistic refugees are being unable to reap substantially the benefits of globalised capital-centric growth, and hence, the *infs* languishes as the devalued other of the *fs* (Chakrabarti et al., 2009). The mainstream argument that whatever be the source and locus of the *infs* in due course it should derive a variety of benefits from the growth of the *fs* is not being observed in reality. Only a small part of the *infs* is able to gain, while a much larger part continues to suffer.

Hence, a crucial question arises: why, despite high rates of growth of the globalised *fs* and ever-growing investible surplus, the curse of the informal sector goes on persisting (as outside of the capital), and there is a lack of adequate improvement at the firm level; why there is an absence of comprehensive transformation from petty-production-based *infs* towards nascent capitalism, especially for the self-employment segment; why there is no progressive universalisation of wealth—no 'inclusive growth' (Basile, 2013).

To deal with this question, we, first, take up a brief review of the relevant literature—both orthodox and heterodox. Based on and as a response to these writings, we explain, using the structuralist macro-framework, the lack of comprehensive transformation of the *infs* towards a capitalistic sector that is fully incorporated into the global market economy. Subsequently, we go for some empirical analyses, vindicating our fundamental proposition of coexistence of *fs* growth and *infs* misery in the contemporary developing world. We shall undertake basic statistical analysis utilising aggregate and state-level data for India over 2000–01 and 2005–06.

The informal sector, as seen by ILO as the 'dual' of the *fs*, is consisted of petty producers with a little surplus, but having considerable agility and dynamism of transforming itself under a variety of environments (ILO vision as encapsulated by Bangasser, 2000). Not only the ILO but also the institutionalists (North, 1990) and specifically the legalists (De Soto, 2000), neo-classicals (Ranis & Stewart, 1993 {the 'favourable archetypes'} and 1999; Marjit, 2003), the World Bank (Lanjouw & Lanjouw, 2001; Maloney, 2004) and the UNO (UN-Habitat, 2003) consider the *infs* in a positive light and explicitly or implicitly accept its dynamism. It is advocated as one of the most dynamic, active, innovative, adaptive and effective segments of the economy (Marjit & Kar, 2011) having significant positive linkages with the *fs* (Moreno-Monroy et al., 2012) and agriculture (Mellor, 1976). Moreover, it is argued that the *infs* is experiencing a transition in some of the developing countries like China and India: the firms are gradually becoming more dynamic transcending the petty commodity production mode through complex political–economic processes, and the sector is slowly becoming a part of global capitalism (Bardhan, 2009).

Contrarily, there is a sizeable literature that considers the *infs* as a zone of persistent misery and exploitation (Moser, 1978; Tokman, 1978 {subordination approach}; Benería, 1991; Pardo et al., 1991; Basile, 2013; Breman, 2013). Moser argues that the *fs* uses cheaper outputs of the petty-commodity-production-based *infs* and thereby induces the latter; however, through this process, the *infs* is essentially 'exploited' by

the former. Thus, the *infs* is seen as a subordinate economic space that serves to reduce the input and labour costs of large capitalist firms of the *fs* (Tokman, 1978). Breman opines that the *fs* is able to acquire cheap labour from the *infs* and thereby enhance its profit; in fact, the *infs* is an outcome of the contemporary (neoliberal) capitalism itself that wants to create and maintain this *infs* to exploit the marginalised/cheap labour. It is argued by Basile in the Indian context that the rich and the poor—largely overlapping with the *fs* and the *infs,* respectively—are the twin products of the peculiar form of contemporary capitalism.

Contrary to these views, there has emerged recent literature that looks at the *infs* as a pool of 'surplus population'. It is visualised as the band of petty self-employed, having mainly the survival-objective, who remains outside (and non-functional vis-à-vis) the circuits of capital (Pardo et al., {case of garments in Bogota} 1991; Nun, 2000; Sanyal, 2007; Chatterjee, 2008). Further, Sanyal and Bhattacharya (2009) propose a 'non-transition' for the Indian economy and a complex political–economic framework with coexistence (not always peaceful) of dynamic 'capital' (*fs*) and subsistent 'non-capital' (*infs*). Here, the capitalistic *fs* maintains its hegemony over this devalued other with the help of complex social processes (also see: Chakrabarti et al., 2009). Pardo, Castaño and Soto (1991) show that informal garment units in Bogota, Columbia, survive without having a direct linkage with the formal industry; these activities facilitate the reproduction of urban informal working class (survival needs) by providing cheap goods and services.

While the first strand of writings cannot explain the persistence of misery within the *infs*—especially the self-employment and rural segments, the second group of authors ignores the relatively dynamic parts of the *infs* that are attached to the global market. On the other hand, the last thread of argument discounts these heterogeneities within the *infs* (for a detailed critical review, see Chakrabarti, 2016).

We, on the contrary, conceive of the *infs* as a heterogeneous sector—diverse segments behaving differently and having varied relations with the rest of the economy, especially the *fs*. In fact, we borrow from different discourses to build our structuralist framework. Based on such construction, we show why and how the *infs* continues to persist and comprehensive economic transition is markedly retarded, though some parts (of the *infs*) are able to enjoy the fruits of global capitalistic expansion. Finally, we support our theoretical proposition with the help of empirical exercise.

The rest of the paper is organised as follows. In the next section, we highlight the analytical framework of the macro-structuralist model and the following comparative static analysis. In Sect. 3.3, we have undertaken some empirical exercise vindicating the propositions derived from the model. Section 3.4 concludes with the political–economic implications of our theoretical and empirical analyses.

3.2   A Model of Formal–Informal–Agriculture Interactions

In view of the above discussions on the literature concerning the nature and dynamics/transformation of the *infs*, Chakrabarti (2016) constructs a macroeconomic framework along (broadly) structuralist lines, *a la* Kalecki (1954), Bhaduri (1986), and Chakrabarti (2013), to explain the possibilities of transformation or persistence of *infs*. We can summarise the framework below.

3.2.1   The Structure of Our Model Economy

The macro-structure of the economy comprises a capitalistic formal sector (*fs*), the non-capitalistic (non-agricultural) informal sector (*infs*), and agriculture (*agr*). Further, *infs* is divided into two sub-segments based on rural–urban or traditional–modern dichotomy, namely modern (*inmod*) and traditional (*intad*) *infs*. Similarly, we dichotomise the *agr* into modern (*magr*) and traditional segments (*tagr*).

fs operates with capital–labour dichotomy and accumulation dynamics. Workers do not save, but profit is fully saved in the current period. The *fs* product price is cost-determined, and output is demand-determined with excess capacity and unemployment of skilled labour. *intad* and *inmod* are characterised by a dominance of consumption-motive over accumulation and absence of fixed/limiting capital.[1]

There is surplus un-/semi-skilled labour in *intad* and *inmod*. Hence, outputs are demand-determined without any limiting factor of production. However, there is a structural difference between these two segments of *infs*. *Intad* consists of petty commodity producers producing mostly inferior goods. It is a subsistence sector where there is no net surplus over and above the requirements for basic food and non-food consumption and a simple commodity reproduction. Its price is determined accordingly by average costs (without any surplus). Nevertheless, in *inmod*, price is determined in the presence of a markup over the average cost of production. However, this markup is distinctly different from that imposed by a monopolist or oligopolist of the *fs*. *Inmod* tries to set this markup only to arrange for future consumption and not for accumulation. Even if the surplus is reinvested in production, it is done with the basic motive of improvements in livelihood. The *inmod* uses *intad* products, but not vice versa.

Agriculture is considered as a proxy for overall resource base (water–forest–land–mines–space) outside the circuits of *fs* and *infs*. Due to resource, technology and institutional constraints and due to the non-tradability of most of these resources,

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[1] 'Informal sector may be broadly characterised as consisting of units engaged in the production of goods or services with the *primary objective of generating employment and incomes to the persons concerned*. These units typically operate at *a low level of organization*, with *little or no division between labour and capital* as factors of production and on a small scale. Labour relations, wherever to exist, are based mostly on casual employment, kinship, or personal or social relations *rather than contractual arrangements with formal guarantees*' (National Sample Survey Office, 2001, pp. 1; authors' emphasis).

we assume a resource-constrained state. Hence, we consider a supply constraint in agriculture. The *magr* produces high-value crops (HVCs), e.g. fruits, vegetables, flowers and agro-fuel feedstock for the *fs*. On the other hand, the whole chain of large-scale HVC cultivation–preservation–transportation–processing–packaging–trading is technology-intensive and uses *fs* goods and services. Further, the *fs* uses only *magr* products (and not the *tagr* output). In contrast, the marginal-farm-based, mainly, low-value food crop (LVC), e.g. basic cereals and pulses producing traditional agriculture (*tagr*), is more closely associated with the *infs*.

The *intad* and *inmod* are self-sufficient in terms of implements and non-food consumption, but they have to depend on *tagr* for food. The *intad* and *inmod* obtain food from *tagr* with the proceeds received through the sale of net outputs (net of requirements for self-consumption and reproduction) to *tagr* and *inmod* (for *intad*) and to the *fs* (for *inmod*). Aggregate *tagr* income is earned by selling the marketable surplus in the (undifferentiated) food market, which is purchased by the agents of both *intad* and *inmod*. This income, in turn, is fully spent on the products of *intad*. *fs* depends on *inmod*, not only for the supply of cheap inputs required in the production process of *fs*; but also the supply of cheap wage goods helps in keeping the overall cost of production in the *fs* low, and thereby, it could maintain a relatively higher level of profit. The presence of *inmod* is crucial for the *fs* in an intensely competitive globalised economic environment.

We assume a scenario where, although the *fs* and *infs* outputs and prices may vary and there could be intra-agriculture diversification across LVC and HVC, overall resource base, population and technology remain unchanged. We could think of it as a medium-run set-up, and only, in the long run, there could be an overall resource expansion along with population increase.

The structure of our economy can thus be presented in flow chart as shown in Fig. 3.1 which is used in Chakrabarti (2016).

If the *fs* has to expand, *magr* has to support this process by providing additional resources. However, growth of the *fs* also requires an expansion of *inmod*, which, in turn, needs an expansion of *tagr* (at the cost of *magr*, in a stagnant system). Thus, there arises a set of counteracting forces involving *magr* and *tagr*, given the overall capacity of the natural resource base. We show using comparative static how this inherent conflict is resolved and the reason for the non-transition of *infs*.

3.2.2 Comparative Static Analysis and the Phenomenon of Non-Transition

We consider a case of a rise in investment in the *fs* (ceteris paribus). Consequently, demand for HVC rises as well, raising the price of *magr*, i.e. HVC. This tilts the relative price away from LVC, and hence, there is a resource diversion towards HVC. Fall in LVC supply, on the one hand, and rise in LVC demand through expansionary
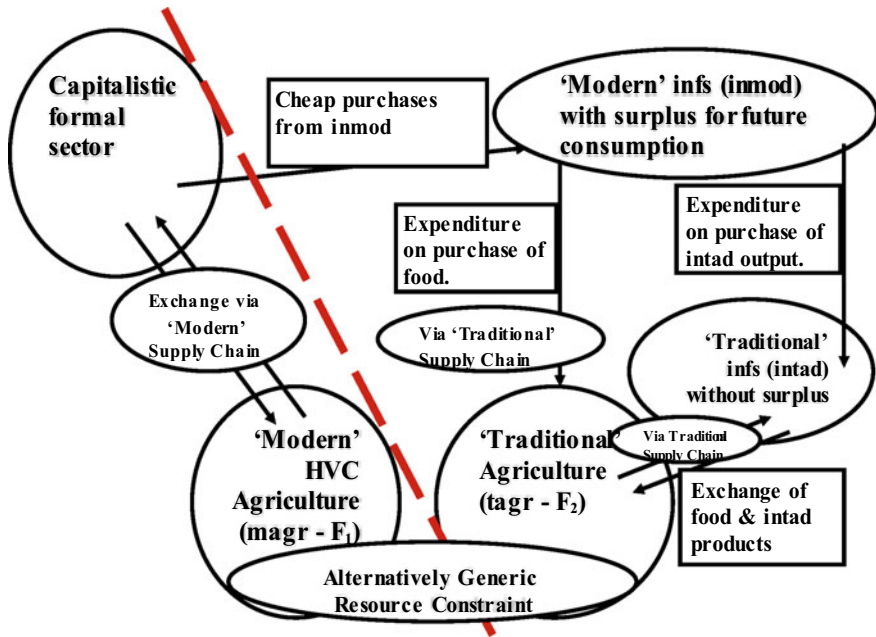
Fig. 3.1 Structure of the model economy. *Source* Reproduced from Chakrabarti (2016)

pressure on the *infs* (primarily, *inmod* and, hence, *intad* as well via linkages) due to the initial expansion in *fs*, on the other, disturb the initial equilibrium.

However, the corresponding price rise for LVC chokes off investment in the *fs*, as rise in LVC price, in turn, pushes up *inmod* price and, hence, squeezes the *fs* profit rate. This rise in LVC price continues until the rise in HVC demand is completely countered. This process, in turn, re-establishes the old set of equilibria. Thus, we get a fundamental result that the dependence of the *fs* on *infs* (*inmod*) and that of the *infs* on *tagr* restrict resource diversification towards the *fs* and, hence, choke off its zeal for accumulation. Consequently, the initial rate of investment is re-established.

However, this regeneration of macro-equilibrium is not at all cost less. In fact, due to increased investment in the *fs* beyond the optimum level—as there is a resource mobilisation away from LVC to HVC, there are contraction and immiserisation within the *infs*. This happens as the price of *inmod* does not rise instantaneously and contraction of LVC sector raises LVC price, which, in turn, reduces the rate of surplus generation even in *inmod*. Moreover, with the overall contraction of the LVC segment, the *intad* which is essentially a subsistence sector and highly dependent on basic resources should contract (despite a demand pull from the *inmod*). Thus, we have these costs of an expansion of *fs*, though finally the economy re-equilibrates.

On the other hand, the ever-increasing extent of accumulation in the *fs* could go on unhindered, only if there is a concomitant expansion of the resource base either through new explorations or via an increase in productivity or both. However, this

balanced growth has to ensure an expansion of the LVC sector as well—in addition to the HVC sector—to guarantee the existence and expansion of *inmod* supplying cheap products to the *fs,* thereby ensuring the existence of the *infs* as a whole. Correspondingly, *intad* too survives and expands by using these expanding basic resources as well as acquiring additional demand from *inmod*. As the resource base in general expands, the *fs* can increase its volume of accumulation with the help of a growing *magr* and that of an increased supply of cheap inputs/wage goods from *inmod* which, in turn, can expand due to the expansion of its own resource base (i.e. *tagr*). This overall resource expansion (as well as increased demand from *inmod*) provides increased support to *intad* as well; *intad*, even with its disadvantaged/unequal position, swells.

Although the resource base expands and the *fs* accumulates and grows (in terms of skilled employment, output, productivity, etc.), the conditions of living may remain the same in *inmod* and *intad*: these segments of *infs* expand in terms of (un-/semi-skilled) employment and output, but productivities may remain the same and per capita resource availability as well should not change if population too expands concurrently. If, however, there is no change of population size and/or *infs* productivities rise too along with the expansion of resource base, the sectoral size, as well as the per capita income of *inmod* and *intad*, improves.

Thus, we have the crucial results:

(a)   Along with the accumulation and growth of the *fs*, there is an expansion of the *infs* as well, with/without any change in its standard of living. But, more importantly, it happens without any significant economic transformation of the *fs*–*infs* complex, even if there is an overall expansion of the natural resource base. The economy fails to achieve an inclusive transition, despite the high rates of growth. Despite severe conflicts as also close complementarities between the *fs* and the different sub-segments of the *infs*, accumulation—growth—swelling of underemployment go hand in hand without substantial transformation within the economy. This outcome of our model clearly marks a departure from the orthodox literature that proposes a transformation of the *infs*, in particular, and *fs*–*infs* composite, in general.

(b)   If, however, there is a lack of expansion of the resource base (which is quite possible, not only due to the limits of natural resources but also because of technological, economic, environmental, geopolitical, and various other political–economic factors), the dependence of *fs* on *inmod* and the latter's dependence on *tagr* restrict capital accumulation and growth, as resources cannot be transferred from *tagr* towards *magr*. Furthermore, unchanging *tagr* ensures perseverance of *intad* as well. Thus, frictions retarding the accumulation process restrict the growth of the *fs* and simultaneously ensure the persistence of vast *intad* (along with *inmod*).

(c)   If capital on its own cannot restrict itself and manage these contradictions (which is quite likely in the contemporary neoliberal world), state has to intervene. Further, these binding impacts of the natural limits may, however, be toughened by the 'political limits' in a democracy where the *infs* has to be tolerated (for populist compulsions), despite alleged chaos associated with it.

Let us now move to the empirical exercises, keeping in view these fundamental results derived from the model.

3.3 Formal–Informal–Agriculture Interactions and Differentiation Within the Informal Sector

Our empirical regression-based analysis validates the stated outcome of the theoretical model to a greater extent by showing that complementary and conflicting relationships exist between *fs* and rural/urban *infs* in India. To this end, we have disaggregated the *infs* in India across its rural/traditional and urban/modern sub-segments. However, *Infs* in India is highly heterogeneous in nature (Moreno-Monroy et al., 2012: 4); despite this heterogeneity, Indian Official Statistics made a clear demarcation across various segments of the *infs*. Although there are few studies in the Indian context that could demarcate the modern and traditional segments of the informal sector (Moreno-Monroy et al., 2012: 9), Moreno-Monroy et al. demarcated the informal manufacturing firms in India based on the degree of modernity using modernity index; this framework is defined broadly in the light of Ranis and Stewart (1999). Ranis and Stewart (1999) defined informal units are modern, which have the following characteristics: significantly high capital per labour; enterprises hire the workers; work premises are located outside the household premises. As an example, Ranis and Stewart cited metal working as the modern sector and textile handlooms as the traditional one. Moreno-Monroy et al. defined modernity index as the ratio of the number of enterprises having a fixed location outside the household's premises to the number of enterprises with/without the fixed location; since the index takes a continuous value, they did not define a specific industry as modern in their analysis. However, since agricultural resource allocation poses a central role in our entire analysis, we have divided the modernity of *infs* based on their location—rural enterprises are considered as traditional, and their urban counterpart is considered as modern in our analysis.

For our analytical purpose, we have divided the informal non-agricultural (non-farm) sector from the agriculture (farm), although the latter sector is also the part of the informal economy; we have focused only on the informal non-agricultural enterprise for our empirical analysis, which is termed as *infs* in our theoretical work. Moreover, we have confined our analysis to the informal manufacturing sector leaving the segment of informal services. Our empirical analysis is based on the unorganised enterprise survey conducted by National Sample Survey Office (NSSO, 2001, 2007), rather than the employment–unemployment household survey conducted by the same.

3.3.1 Empirical Exercise and Data Source

We have divided this section into three subsections—the proposed empirical models; data source and variable construction to support the empirical models; and finally, the results and discussion of the regression-based models.

3.3.1.1 Empirical Model

We have estimated three different models for our analysis. First, we have tested whether agricultural modernisation, captured through agricultural crop diversification index (CDI), and the growth of urban *infs* induce the growth of the *fs*, while controlling for other relevant macro-variables. Second, we have also analysed whether the growth of the urban *infs* is deteriorated due to the agricultural modernisation; but the growth of the urban *infs* is improved due to the growth of the *fs* as specified in our theoretical model. Finally, we have enquired whether the growth of the urban *infs* facilitates the growth of the rural *infs*, while agricultural modernisation and *fs* growth deteriorate the growth of the rural *infs*. These three independent models would help us to understand the stated dynamics of interdependence across sectors and the probable cause of the persistence of informality.

In order to address these phenomena, we have used the ordinary least square (OLS) estimates separately for two time spans 2000–01 and 2005–06. This is primarily due to the lack of panel data information for relevant variables, which made us perform cross-sectional analysis using OLS estimates. The followings are the specification of the three types of models:

$$
\begin{aligned}
FGVA_{ij} = {} & \beta_1 + \beta_2 CDI_j + \beta_3 ROI_j + \beta_4 \left(CDI_j \, X \, ROI_j \right) + \beta_5 Inv_{ij} \\
& + \beta_6 UVA_{ij} + \beta_7 Road_j + \beta_8 PNSDP_j + u_{ij}
\end{aligned}
\tag{3.1}
$$

$$
\begin{aligned}
UVA_{ij} = {} & \alpha_1 + \alpha_2 CDI_j + \alpha_3 ROI_j + \alpha_4 \left(CDI_j \, X \, ROI_j \right) + \alpha_5 \left(CDI_j \, X \, Inv_{ij} \right) \\
& + \alpha_6 UInv_{ij} + \alpha_7 Inv_{ij} + \alpha_8 Srv_j + \alpha_9 Road_j + \alpha_{10} HH - Elc_j \\
& + \alpha_{11} Tel_j + \alpha_{12} Power_j + v_{ij}
\end{aligned}
\tag{3.2}
$$

$$
\begin{aligned}
RVA_{ij} = {} & \gamma_1 + \gamma_2 ROI_j + \gamma_3 \left(CDI_j \, X \, ROI_j \right) + \gamma_4 \left(CDI_j \, X \, FGVA_{ij} \right) \\
& + \gamma_5 Road_j + \gamma_6 HH - Elc_j + \gamma_7 Power_j + \gamma_8 Tel_j + \gamma_9 RInv_{ij} \\
& + \gamma_{10} UVA_{ij} + \gamma_{11} FGVA_{ij} + \gamma_{12} Srv_j + \gamma_{13} PNSDP_j + w_{ij}
\end{aligned}
\tag{3.3}
$$

where *i* indexes 2-digit manufacturing industries and *j* indexes states; *FGVA* stands for formal manufacturing real GVA (2 digits), *CDI* stands for Simpson's crop diversification index, *ROI* is the regional openness index for the year 2002–03, *Inv* depicts the real investment in *fs* corresponding to (2-digit) manufacturing, *UVA* depicts real GVA in urban *infs*, *RVA* depicts real GVA in rural *infs*, *Road* represents the proportion

of surface road across states in 2000–01 and the length of the road across states during 2005–06, *PNSDP* represents per capita net state domestic product at constant price (base 2004–05), *Srv* represents NSDP from services across states (base 2004–05), *RInv* and *UInv* represent, respectively, the real investment in rural and urban *infs*, *HH-Elc* depicts the percentage of households with access to electricity for the year 2000–01, *Power* stands for per capita power availability across states for the year 2005–06, *Tel* stands for teledensity across states for the year 2006, and finally, *u*, *v* and *w* represent disturbance terms.

Apart from the independent variables mentioned in our stated theoretical model, we have used the other relevant independent variables, as depicted in the above regression model, due to the following reasons. Real investment at the industry level is considered as one of the controlling variables that determine the growth of the industry in both formal and informal sectors, at the micro-level. There are various macro-variables pertaining to state-specific basic infrastructural indicators which explain the growth of the *fs* and *infs*. For instance, we have controlled for regional openness index (ROI) across states which indicates the region's link with the external sector as the growth of the *fs* also depends on the involvement of the states with the external sector. Among the other region-specific controlling variables across the regression models, we have considered the proportion of surface road, road length, the proportion of households having electrification, rural road length per 100 square kilometre, telephone density across states as the basic infrastructural indicators. These are the supply-side factors. However, as a demand-side factor, we have also considered the per capita net state domestic product and per capita net state domestic product from services for the respective years. Although we have not employed the two-stage least squares method (2-SLS) to avoid the potential simultaneity bias between *fs* and urban *infs* growth due to the paucity of information, we tried to minimise the simultaneity bias using real investment in *fs* as one of the independent variables that determines the growth of the urban *infs*. *fs* real investment growth at the firm level determines the output growth of *fs,* and hence, it is considered as the proxy (not as an instrument) for *fs* output.

3.3.1.2   Data Source and Variable Construction

Based on the data available from NSSO, Government of India, we have concentrated on Indian unorganised manufacturing as a proxy for non-agricultural *infs*, for the two periods 2000–01 and 2005–06 for our regression analysis. We have considered the corresponding organised manufacturing as a proxy for *fs* and obtain the data from the Annual Survey of Industries (ASI), Central Statistical Office, Government of India. Further, we have used the state-level information on gross cropped area (GCA) under cultivation across crops from the Ministry of Agriculture and Farmer's Welfare, Government of India, to compute Simpson's crop diversification index (CDI) across major states of India for the year 2000–01 and 2005–06. The CDI is computed based on the following formula: $CDI = 1 - \sum p_i^2$, for all $i = 1$,

$2,…n$, where p_i denotes the GCA share of crop i to the aggregate GCA of a particular state. We have also obtained the information on state-wise per capita availability of power and state-wise length of the road (in KM) both for the year 2005–06 from the Reserve Bank of India (RBI) database (RBI, 2017). We have obtained the state-wise infrastructural variables such as the proportion of surface road to total for the year 2000–01, teledensity (number of telephone lines per 100 people) for the year 2006, percentage of households with access to electricity for the year 2001 and percentage of villages electrified during 1999 from Ghosh (2017). Regional openness index (ROI) across states consists of both export and import of the states with the rest of the world, and the index is computed by Maiti and Marjit (2010) and is used in our analysis. We have computed per capita net state domestic product for the corresponding years of 2000–01 and 2005–06 at a constant price with the base year of 2004–05 using the RBI database. We have considered the gross value added (GVA) of rural–urban *infs* and *fs* (combined) across 14 major states of India, viz. Andhra Pradesh, Assam, Bihar, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. Our unit of analysis is firm-level GVA per enterprise across twenty-two 2-digit industries spreading across 14 major states.[2] We have deflated the nominal gross value added of *fs* by the wholesale price index (WPI) for the respective years with 1993–94 as the base period. Real gross fixed capital formation (investment) in *fs* for the corresponding years is collected from ASI and deflated by the WPI for machinery and machine tools obtained from the Reserve Bank of India database with 1993–94 as the base period. We deflate the nominal GVA of *infs* by the consumer price index of industrial worker (CPI-IW) with 1993–94 as the base period. Real investment of *infs* is computed based on the information on net addition to fixed capital at industry level obtained from the NSSO unit record database, and subsequently, the values are deflated by the corresponding WPI for machinery and machine tools with the base period of 1993–94.

3.3.1.3 Results and Discussion

We can notice from model**s** 1 and 2 in Table 3.1 that agricultural diversification towards high-value crops (HVCs) captured through CDI has a significant and positive influence on the *fs* growth.

Capital accumulation in *fs* (investment) supports the growth of this sector; finally, the supply of cheap raw materials from modern *infs* influences the growth of *fs*—we found, during 2005–06, urban/modern *infs* facilitates the growth of the latter sector. So far as urban *infs* is concerned, we can find the rising crop diversification has a significant adverse impact on the latter sector (models 3 to 7) during both the periods under study. Also, it is noteworthy from models 3 to 7 that accumulation in *fs* (growth in real investment in *fs*) induces the growth of the modern *infs* while controlling the process of crop diversification along with other relevant variables (models 3 and 5 for

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[2] Description of the 2-digit-level industry is furnished in Appendix 1 Table 3.3.

Table 3.1 Regression results-1

Model no.	1	2	3	4	5	6	7	8
	OrgVA01	OrgVA06	UVA01	UVA01	UVA01	UVA06	UVA06	UVA06
Constant	−0.95 (0.94)	−1.92 (1.83)	570.12[a] (146.15)	556.44[a] (146.75)	437.19[a] (165.87)	3988.19[b] (1777.19)	4530.41[b] (1792.61)	285.48 (486.04)
CDI06		1.92[c] (1.10)				−4650.27[c] (2112.27)	−5159.04[a] (1963.86)	114.54 (443.36)
ROI03		0.06 (0.06)				−611.2[b] (253.18)	−674.85[b] (242.82)	
ROI.CDI06						819.76[b] (324.31)	904.81[a] (302.2)	
CDI.Inv06								324.41[b] (164.44)
CDI01	2.16[b] (1)		−492.72[c] (259.29)	−662.84[a] (246.96)	−416.63[b] (198.37)			
CDI.OVA01					83.11 (58.01)			
PIDI01					906.71[a] (257.9)			
Road01	−0.21[b] (0.01)		0.1 (3.63)	−2.15 (3.9)				
ShareRd06							−1961.62 (4550.11)	2393.89 (5322.82)
HHElec-01			6.62[a] (2.58)	8.01[a] (2.73)				
Powr06						−0.12 (0.45)	−0.19 (0.46)	0.05 (0.37)
TeID-06						90.51 (61.05)	91.12 (61.34)	71.33 (62.02)
UVA06		0.0002[c] (0.001)						
UVA01	0.000 (0.00)							
Inv06		0.65[b] (0.28)				88.76[b] (40.35)	90.47[b] (41.43)	−87.08[b] (59.61)
Inv01	0.81 (0.62)		173.77[a] (92.55)	148.32 (92.8)				
UInv06						0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
UInv01				0.16[b] (0.08)	0.18[b] (0.08)			
PNSDP-06		0.000 (0.000)						

(continued)

Table 3.1 (continued)

Model no.	1	2	3	4	5	6	7	8
PNSDP-01	0.00^c (0.00)							
NSDPSrv-01				0.000^a (0.000)	0.000^a (0.000)			
NSDPSrv-06								-0.00 (0.00)
R^2	0.16	0.24	0.12	0.14	0.1	0.13	0.13	0.11
N	273	269	245	245	245	238	238	249

[a], [b], and [c] imply levels of significance at 1%, 5% and 10%, respectively. Robust standard errors are in parentheses

OrgVA01: real gross value added of organised manufacturing for the year 2000–01

OrgVA06: real gross value added of organised manufacturing for the year 2005–06

UVA01: real gross value added of urban unorganised manufacturing for the year 2000–01

UVA06: real gross value added of urban unorganised manufacturing for the year 2005–06.

CDI01: Simpson's crop diversification index for the year 2000–01

CDI06: Simpson's crop diversification index for the year 2005–06

ROI03: regional openness index for the year 2002–03

OVA01: real value gross output of organised manufacturing for the year 2000–01

Inv01: real investment of formal manufacturing for the year 2000–01

Inv06: real investment of formal manufacturing for the year 2005–06

UInv01: real investment of urban unorganised manufacturing for the year 2000–01

UInv06: real investment of urban unorganised manufacturing for the year 2005–06

PIDI: physical infrastructural development index

Road01: proportion of surface road across states in 2000–01

ShareRd06: share of state-wise road length (in KM) to total road length in 2005–06

HHElec-01: percentage of households with access to electricity across states for the year 2000–01

Pow06 per capita power availability across states for the year 2005–06

TelD-06: teledensity (number of telephone lines per 100 people) across states for the year 2006

PNSDP-01: real per capita net state domestic product for the year 2000–01

PNSDP-06: real per capita net state domestic product for the year 2005–06

NSDPSrv-01: real net state domestic product from service sector for the year 2000–01

NSDPSrv-06: real net state domestic product from service sector for the year 2005–06

the year 2000–01 and models 6 and 7 for the year 2005–06). Nonetheless, *fs* growth jointly with the rising crop diversification does not have any significant impact on the growth of the modern *infs* during 2000–01 (see model 5). This is perhaps due to the two contrasting forces that get nullified—the expansionary impact of *fs* and contractionary impact of CDI on the growth of modern *infs*—and hence, we found no significant impact on the urban *infs*.

One interesting observation to note modernisation of agriculture, captured through growth in CDI, jointly with an increasing association of states through export–import channels reflected by ROI, can positively influence the growth of urban *infs*, provided the capital accumulation in *fs* is maintained at a certain level, i.e. controlling the growth of real investment in *fs* (see model 6 and model 7). However, individual impacts of the above-mentioned two factors rather influence negatively the growth of the urban *infs* as one can observe from models 6 and 7. In the case of modern *infs* during 2005–06, we found that *fs* capital accumulation jointly with changing cropping pattern towards HVC cultivation enhances the growth of the modern/urban *infs* provided the capital accumulation in *fs* is kept at bay (model 8).

The crop diversification index negatively influences the growth of the rural *infs* during 2000–01 (models 9 and 10 in Table 3.2). Another interesting point reveals *fs* growth jointly with rising CDI does not influence the growth of the traditional (rural) *infs* during 2000–01 (model 10: Table 3.2). However, we found evidence that excessive growth in *fs* along with unbridled growth in HVC cultivation results in jeopardising the growth of the traditional *infs* in the latter stage during 2005–06 (see models 12 and 13). Hence, we can argue that *fs* needs to opt for a middle path by moderating its accumulation and simultaneously fostering the growth of the *infs*. We can also notice that the rising degree of openness of the economy has a negative influence on the growth of the rural *infs* (model 11). Hence, there is a trade-off between the growth of *fs* and rural *infs* with the modernisation of agriculture along with opening up of the economy; such growth conflict arises due to sharing of common agricultural resources.

Our empirical exercise supports the theoretical argument to a larger extent, which shows the reason for the inherent persistence of misery within segments of *infs*—especially the rural one. Expansion of *fs* needs appropriation of resources and the subsequent agricultural diversification towards HVCs. Such a process otherwise affects the growth of modern *infs* and traditional *infs* through different channels. Deteriorating growth in modern *infs* affects the growth of *the fs* sector as the latter sector depends on the former to maintain the competitive edge. Hence, we argue that *fs* needs to maintain a balanced path of fostering the modern sector for its own survival acknowledging the conflict that arises due to resource-sharing.

Table 3.2 Regression results-2

Estimation	9	10	11	12	13
	RVA01	RVA01	RVA06	RVA06	RVA06
Constant	642.35[b] (321.58)	367.3 (573.92)	287.24[a] (166.48)	−132.22 (126.52)	−53.16 (151.97)
CDI01	−1119.56[b] (449.72)	−1402.04[b] (697.23)			
CDI06			387.7[a] (217.39)	580.53[a] (222.13)	541.01[b] (251.96)
ROI03			−32.5[b] (15.03)		
CDI.OVA01		381.13 (754.43)			
CDI.OVA06				−133.21[a] (19.02)	−138.37[a] (19.38)
Road01	6.78[b] (3.39)	6.54[a] (3.63)			
VillElec99		5.38 (4.24)			
Road06					−0.000 (0.000)
HHElec-01	2.46 (1.79)				
Powr06					0.02 (0.13)
TelD-06					18.45 (13.32)
UVA06			0.22[b] (0.09)	0.2[b] (0.09)	0.19[b] (0.09)
UVA01		0.08 (0.07)			
OrgVA06				130.56[a] (17.23)	135.35[a] (17.71)
OrgVA01	132.57 (125.01)	−183.5 (554.85)			
RInv06			0.000 (0.00)	0.00(0.00)	0.00(0.00)
RInv01	0.1[b] (0.05)	0.11[b] (0.05)			
NSDPSrv-01		0.00 (0.00)			
NSDPSrv-06			−0.000 (0.00)	−0.000 (0.000)	−0.000 (0.000)
R^2	0.1	0.11	0.23	0.24	0.25

(continued)

Table 3.2 (continued)

Estimation	9	10	11	12	13
N	206	195	218	211	211

^{a}, ^{b} and ^{c} imply levels of significance at 1%, 5% and 10%, respectively. Robust standard errors are in parentheses

RVA01: real gross value added of rural unorganised manufacturing for the year 2000–01

RVA06: real gross value added of rural unorganised manufacturing for the year 2005–06

CDI01: Simpson's crop diversification index for the year 2000–01

CDI06: Simpson's crop diversification index for the year 2005–06

ROI03: regional openness index for the year 2002–03

OVA01: real value gross output of organised manufacturing for the year 2000–01

OVA06: real value gross output of organised manufacturing for the year 2005–06

Road01: proportion of surface road across states in 2000–01

Road06: proportion of surface road across states in 2005–06

VillElec99: percentage of villages electrified during 1999

HHElec-01: percentage of households with access to electricity across states for the year 2000–01

Powr06: per capita power availability across states for the year 2005–06

TelD-06: teledensity (number of telephone lines per 100 people) for the year 2006

UVA01: real gross value added of urban unorganised manufacturing for the year 2000–01

UVA06: real gross value added of urban unorganised manufacturing for the year 2005–06

OrgVA01: real gross value added of organised manufacturing for the year 2000–01

OrgVA06: real gross value added of organised manufacturing for the year 2005–06

RInv01: real investment of rural unorganised manufacturing for the year 2000–01

RInv06: real investment of rural unorganised manufacturing for the year 2005–06

NSDPSrv-01: real net state domestic product from service sector for the year 2000–01

NSDPSrv-06: real net state domestic product from service sector for the year 2005–06

3.4   Concluding Remarks

The prime objective of the paper is to analyse the puzzle of the non-transition of the vast informal sector in India—an absence of transformation towards comprehensive capitalistic dynamics. We propose that, essentially, such a non-transition of the informality and, hence, a lack of structural transformation of the overall economy itself develop the symptoms like the dual phenomena of high rates of growth in the formal sector along with persistence and even a spread of the informality. In explaining these intriguingly dichotomous phenomena, we have hypothesised that there are dualities within the informality across its traditional/petty/rural and modern/advanced/urban segments. Further, the relations of these varied segments with the rest of the economy, especially with the formal sector and agriculture, are diverse and structurally determined. These varieties of relations are, in fact, the fundamental reason for the observed phenomena of non-transition of the informality.

While the modern segment of informality bears a positive relationship with the formal sectors, the traditional counterpart is engaged in a bitter resource conflict with the former. Hence, even though this formality–petty informality contradiction remains hidden, there are inherent clashes. However, the formality itself and/or the state take up crucial measures to check these conflicts, for the sake of the overall political–economic system.

The formal sector, because of its own typically dispersed production organisation/network, has to depend on and, hence, has to have the modern segments of the informality growing. Now, as these modern informal segments, in its turn, have to depend on crucial basic resources, the formality cannot go on grabbing these resources and grow beyond an optimum rate. Our empirical exercise indicates this typical case with respect to *infs* in India. Consequently, the formal sector itself cannot or does not want to transform the formal–informal composite towards comprehensive capitalism. Conversely, it has to promote the informality for its own unhindered expansion. Thus, we have an economic explanation for the puzzle of coexistence and growth of modernity along with persistence and spread of the informality (as noted by Sanyal, 2007; Chatterjee, 2008; Bhattacharya, 2010; Basile, 2013; Breman, 2013; Chakrabarti, 2009, 2013, and specifically, detailed in Chakrabarti, 2016).

Further, we propose analytically: as the basic resource availability grows and relaxes the supply-side constraints for the economy as a whole and, hence, as the formal sector expands with the help of its accumulation process, both the modern and traditional informal activities swell. Though the economy as a whole grows, there is lack of transformation—the formality and informality simultaneously grow. We have 'a huge reserve army waiting to be incorporated in the (formalised) labour process becomes stigmatised as a redundant mass, an excessive burden that *cannot be included, now or in future,* in the economy and society' (Breman, 2013, pp. 142; emphasis added). Thus, based on the theoretical and empirical analyses it is proposed that the formal sector may be playing crucial roles (with the support from the state) in ensuring the existence and spread of informality and, simultaneously, threatening

this very existence (of informality) because of an inherent resource conflict; this is a crucial dilemma of the modern capital.

Appendix 1

See Table 3.3.

Table 3.3 Description of 2-digit manufacturing industries in India

NIC Division 2004	Description of the manufacturing sector
15	Manufacture of food products and beverages
16	Manufacture of tobacco products
17	Manufacture of textiles
18	Manufacture of wearing apparel; dressing and dyeing of fur
19	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
20	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
21	Manufacture of paper and paper products
22	Publishing, printing and reproduction of recorded media
23	Manufacture of coke, refined petroleum products and nuclear fuel
24	Manufacture of chemicals and chemical products
25	Manufacture of rubber and plastics products
26	Manufacture of other non-metallic mineral products
27	Manufacture of basic metals
28	Manufacture of fabricated metal products, except machinery and equipment
29	Manufacture of machinery and equipment n.e.c
30	Manufacture of office, accounting and computing machinery
31	Manufacture of electrical machinery and apparatus n.e.c
32	Manufacture of radio, television and communication equipment and apparatus
33	Manufacture of medical, precision and optical instruments, watches and clocks
34	Manufacture of motor vehicles, trailers and semi-trailers
35	Manufacture of other transport equipment
36	Manufacture of furniture; manufacturing n.e.c

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