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Studies in Indian informal sector

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STUDIES IN INDIAN INFORMAL SECTOR

BY

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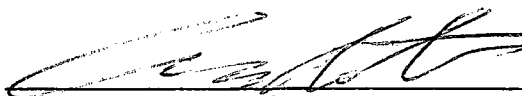
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DEDICATION

I dedicate this dissertation to my best friend, the guiding light of my life and my husband, Partha.

ACKNOWLEDGEMENTS

I would not have been able to write this dissertation, do my research, and come to this country, or even study economics, had it not been for the constant an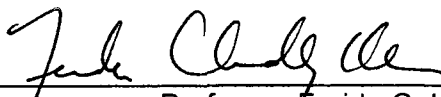d unconditional support of my husband Partha. He has put a lot of faith in my potential, exhausted all his resources to send me to this country, and chose the uncertainty of a long-distance relationship over a secured life. The intellectually stimulating environment that he has created and maintained at home gave me the motivation to not just work on this dissertation, but also to become a critical human being. It is not possible to express in words my gratitude to him for all that he has done for me.

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ABSTRACT

STUDIES IN INDIAN INFORMAL SECTOR

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This dissertation contributes to the literature in two ways. It explores the link between the trade liberalization policies and the informal sector wages, and examines the economy of the self-employed sector of India. Specifically, this dissertation (i) develops a general equilibrium model incorporating the self-employed sector as a separate informal sector and demonstrates the connection between the trade liberalization policies and the informal sector wages; (ii) presents a system analysis for the economy of the self-employed sector; (iii) highlights the distinctive characteristics of the self-employed sector and generates a better understanding of the difference between the self-employed and the wage-working sectors.

There are a number of studies focusing on the impact of the changing policy environment in the developing countries on the informal sector. While most of them are in agreement that the size of the informal sector has grown post-trade reforms in the developing countries, there is still no consensus about the impact of the reforms on the terms of informal work, particularly the wages. The

theoretical model developed in this dissertation shows that the current understanding changes significantly when the self-employed sector is incorporated into the analysis. The extent of self-employment plays a crucial role in determining the link between the trade liberalization policies and the informal sector wages. This model emphasizes that the growing self-employment and informalization of the formal sector workers in India can result in non-increasing informal sector wages.

The analysis of the economic system of the self-employed sector generates important insights about the production relationships prevailing in this sector. A microcosm of self-employed occupations of India is developed and the occupations are categorized according to location, gender and types of products. The system of production is analyzed to find out the difference of this sector with other wage-working sectors. The extra-legal and extra-capitalist nature of production highlights the inadequacy of the abstract modeling in capturing the economic characteristics of this sector. The *Kinship Associations* build the informal institutions and determine the terms of input valuations. This dissertation also demonstrates the importance of maintaining the community ties in helping the productive capacity of the self-employed sector.

INTRODUCTION

The informal sector is the largest livelihood generating sector in a number of developing countries and it is crucial for development economists to explain how the economy of this sector works. The adoption of trade liberalization policies by a number of developing countries has made it challenging for the economists to analyze the responses of the informal sector to the said policies. Again, a growing number of poor people now work as self-employed. Although there are a number of studies that attempt to explain the working conditions and well-being of the subcontracted informal sector, there is a serious lack of research on the self-employed sector. This dissertation fills that gap by incorporating the self-employed sector as a sector separate from the subcontracted informal sector and shedding some light on the economy of the self-employed sector.

Chapter 1 presents a review of the existing literature on informal sector. This chapter discusses the extent of ambiguity and divergence present in the literature that emerges from the variety of definitions, meanings and categorizations of informal sector. A historical account of coining the term *Informal* is provided in this chapter. On one hand, informal sector is perceived as a sector consisting of marginal economic activities that meet survival needs of

the poor population and are unrelated to the formal sector (ILO 1972, Hart 1973, Sethuraman 1976, Tokman 1978, Breman 1996). Such a perception of informal sector understands the slow economic growth rate as a reason behind the growth of this sector. On the other hand, some researchers (such as Birkbeck 1978, Moser 1978, Beneria 1989, Capecchi 1989, Castells and Portes 1989) understand the informal sector as a sector subjugated to the formal sector, which help the latter reduce its cost of production. According to this view, there are different modes of production in an economy that coexist interdependently, and that the very nature of the capitalist development, or rather the lack of it leads to the growth and permanence of the informal sector. Again, researchers like Hernando De Soto (1989) emphasize a legal framework that originates and helps grow the informal sector. This view tells us that the state regulations lead an entrepreneur to choose to become informal in order to avoid such legal bindings. Expectedly, such legalist understanding of the informal sector favors elimination of, or at the least reduction of state regulations.

Chapter 1 shows that the debate over the origin and definition of informal sector does not answer the common query about the genesis of this sector, that is, why did this sector come into picture. Instead of finding answer to this question, this chapter reflects upon the justification of this question and takes a different standpoint. The position is that, the informal sector was always already there, and it is the formal sector whose origin needs to be questioned. A future research project will explore this standpoint.

A thorough examination of the literature on Indian trade liberalization experience and on Indian informal sector follows. It is noted in this chapter, that no previous study has considered the self-employed sector as a separate and important informal sector. All of the studies that focus upon the response of the informal sector to the changing macroeconomic policies assume that the informal sector is a subordinate sector to the formal sector; it mirrors the formal sector in terms of production processes and exists only to produce intermediate goods for the formal sector. A study of the impact of the changing macroeconomic policies on the well-being of the informal sector workers was much needed, where the self-employed sector would be considered as an informal sector different from the subcontracted informal sector. This dissertation takes up this challenge to propose such an economic exercise.

Moreover, chapter 1 reviews the literature on the self-employed sector, most of which are done by sociologists and anthropologists. This dissertation is the first ever economic study of the self-employed sector. It builds upon the concept of reciprocal services propagated by Sahlins (1972), Gaughan and Ferman (1987).

This dissertation differentiates between subcontracted and self-employed informal sector and gives both their due importance by considering them as two separate sectors. Specifically, this dissertation contributes to the existing understanding of the informal sector in the following ways.

(i)   It sheds new light on the response of the informal sector wages to the trade liberalization policies.

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(ii)   It examines the general characteristics of the self-employed sector to help better understand this sector.

(iii)   It traces out the role the *Kinship Association* plays in determining the production relationships within the self-employed sector and thereby emphasizes the importance of policies that maintain or at the least do not perturb the community ties the self-employed people belong to.

Chapter 2 formulates a four-sector general equilibrium model, to examine the impact of trade liberalization policies on the wages of the informal sector. the model is built upon the existing theory of a small open economy, and uses a falling tariff rate as an indicator of trade liberalization (as happened in many developing countries including India). The model includes a formal import-competing manufacturing sector employing formal labor, capital and an intermediate commodity produced by informal sector, a non-traded subcontracted informal sector producing intermediate goods for the formal sector using informal labor and capital, a non-traded self-employed informal sector producing petty goods and services using informal labor and social capital and an agricultural export sector using informal labor and land. The two major improvements that this modeling exercise brings over the previous studies are that there is capital mobility between the formal and subcontracted informal sector (unlike, for example, the assumption of Marjit 2003), and that there are two informal sectors instead of only one intermediate goods-producing informal sector (unlike, for example, Goldberg and Pavcnik 2003 and Marjit 2003). The comparative static analysis brings out some very intriguing results, which

depends upon the fraction of labor employed and labor's share in the self-employed sector.

Chapter 3 examines the characteristics of the economy of the self-employed sector. The goal of this chapter was to find out the general economic pattern that prevails across various self-employed occupations seen in India. The relations of production are analyzed and the features of the costs of production are studied in this chapter, in order to find out the determinants of the said relationships. It is demonstrated that the logic of abstract modeling falls short in explaining the production relations existing in this sector, and instead the major determinant of such relations is identified. This chapter shows that the law of marginal productivity often fails to reflect the determination of input values in the self-employed sector. By recognizing the role of *Kinship Associations* in the determination of input values, this chapter emphasizes the role of policies aimed at protecting and/or not harming the community ties, which help the self-employed population avail the inputs of production.

The rest of the dissertation is organized as the following. Chapter 1 presents a detailed study of the existing literature on the definition and origin of informal sector. It also reviews the literature on the Indian experience of trade liberalization, and the studies on the impact the liberalization policies had on the informal sector in the developing countries including India. The gaps in the existing literature are identified, which are attempted to fill in the next two chapters. Chapter 2 formulates a theoretical model, and solves it to trace out the role of the self-employed sector in affecting how the trade liberalization policies

determine the wages of the informal sector. Chapter 3 examines the economic characteristics of the self-employed sector of India and shows the determinants of the production relations that exist in this sector. This chapter also argues in favor of the noneconomic determination of such relationships. Chapter 4 provides a brief summary of the dissertation and ends with some important concluding remarks.

CHAPTER 1

A LITERATURE REVIEW ON INFORMAL ECONOMY

1.1 Introduction

The informal sector has long been a significant feature of both industrialized and less developed economies. Yet, this is an ambiguous and broad category that allows various definitions and analyses of its meaning. The ambiguity becomes overwhelming when the political and ideological debate surrounding the concept and scope of the informal sector is concerned. A study of the informal sector requires a clear understanding and description of the definitions and dynamics of the informal sector. This chapter contributes to the understanding of one of the fundamental structural features of contemporary world economies, namely, the informal sector.

Numerous researches on the impact of trade reform on various sectors of an economy have been conducted. In particular, the impact on the informal sector has been studied to be positive (Currie and Harrison, 1997; Goldberg and Pavcnik, 2003; Sinha and Harris-White, 2007). A majority of the studies have concentrated on the size and growth of the informal sector. The impact on the income of the people working in the informal sector has rarely been a point of study, particularly in case of Indian informal sector (except Marjit, 2003; Marjit and Maiti, 2006).

Researches that have explored the impact of trade reform on informal sector, have always neglected the self-employed informal segment. In all those studies including that of Marjit (2003), informal sector is either just a mirror of its formal counterpart (Goldberg and Pavcnik, 2003) or is solely the producer of intermediate good for the formal sector (Marjit 2003). Studies that do consider some type of petty consumer goods sector (similar to the self-employed sector) ignore the crucial fact that such a sector produces on a very meager amount of capital (Marjit and Maiti, 2006), and it uses social capital, for example, the community, family and/or village network too. There are a number of sociological studies of the self-employed sector, but without much insight about the general pattern of the economy of this sector.

The rest of the chapter is organized in the following manner. Section 1.2-1.4 includes discussion on the origin, categorization and definition of the sector, its historical importance and ideological and political biases present in various analyses. Section 1.5 discusses the history and importance of trade reforms and the Indian experience of trade liberalization. It also includes the existing understanding about Indian informal sector, responses of Indian informal sector to the trade reform policies and what we know about the wage impact of Trade reform. A discussion of the literatures on self-employed sector follows in section 1.6. Section 1.7 highlights the concept of economic dualism proposed by Arthur Lewis in 1954, its relevance today and its major criticisms. Section 1.8 summarizes the main findings of this chapter.

1.2 Genesis of the Term *Informal Sector*

Keith Hart, at the time a lecturer of Social Anthropology with the Overseas Development Group at the University of East Anglia, Norwich first coined the term 'informality' in his 1970 article on the small scale entrepreneurs of Ghana published in Journal of Development Studies,. By this, Hart meant the low-income economic activities of the urban sub-proletariat population in Accra, Ghana. More specifically, Hart singled-out the urban service providers who are rarely organized in a way an established 'firm' would be. Hart primarily studied Frafras, a migrant Mole-Dagbane linguistic group living in the savannah region of Northern Ghana, which constituted about 3% of Ghanaian population at the time of the study. Small scale indigenous entrepreneurs providing heterogeneous services had been the major constitutive part of the Ghanaian urban 'unorganized' sector. But Hart points to two main reasons for this sector being left out of the ambit of central planning; on one hand, the sheer variety of occupations in the 'unorganized' sector made it incomprehensible to the development planning body and on the other, it was the western ethnocentric view of what an entrepreneur means. Indigenous entrepreneurs were never seen as anything but petty traders, and thus, were always considered to be in line to get into the formal 'countable' workforce. Hart effectively pointed out that there are different layers of exploitation even in the production relationships prevailing in the unorganized sector, although he is insistent upon differentiating between the exploitation of a wage worker in a formal firm and that within a society where obligations are diffuse and fundamentally reciprocal. For example, a Ghanaian

entrepreneur may often underpay the co-villagers he employs in his road-building project, yet it generates livelihood for the employees who were otherwise left out of the jurisdiction of central planning. A Ghanaian trader can often be found guilty of hoarding and avoiding taxation, yet he helps his otherwise destitute fellow kinsmen in feeding their families. For this reason, Hart argues that the use and often exploitation of, say, kinship relationships for personal gain is not necessarily similar to the exploitation of 'formal' workers employed in a factory. Nevertheless, Hart is wary of idealizing either kind of exploitation. Hart does not find it wise to consider one kind of exploitation as better than the other.

Again, in the 1973 study of the Frafras, Hart argued that price inflation, inadequate wages and an increasing surplus of labor to the requirement of the urban labor market have been the reason leading to the growing informality of the urban income-generating activities of the sub-proletariat population of Accra, Ghana.

Hart proposed that the income and expenditure patterns in the presence of informality are much more complex than in a 'formal' economy. In the absence of sufficient income, a large part of the working urban population very commonly engaged in multiple jobs and/or work for longer hours. Such arrangements were possible through informal understanding between the worker and the time and work-record keepers. Some of the multiple jobs held by a worker would frequently be both within as well as outside the organized labor force. In other words, the opportunity structure of the formal sector denied a positive margin between the income and expenditure for a large working population. Thus,

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informality is generated as a response to the 'failure' of the formal sector to generate sufficient livelihood, according to Hart. For Hart, informality is primarily an urban phenomenon. Also, illegitimacy, that is evasion of the law at some point of informal activities, has been all-pervasive in the population that Hart had studied.

The size of the informal sector varies across countries, but it is central to the understanding of the development processes. When development is interpreted as the process of a widening industrial base and diminishing the size of the agricultural sector, it is easy to see the 'informal' economic activities as peripheral and transient. Such an outlook often results in claiming the 'scarcity of entrepreneurs', while, on the contrary, Hart argued that a re-defining of the term 'entrepreneur' is crucial to account for the contributions of the 'informal' economic activities to the development of a region.

Hernando De Soto (1989) has emphasized the similar point of defining entrepreneur, but from a different perspective. For De Soto, everyone who produces and sells something in the market should be considered as an entrepreneur. State should not bind any such entrepreneurial activity in legalities, as that dampens the entrepreneurial incentive of people. Thus for De Soto, state legislation appears to be a hindrance in the way of realizing full-fledged development of businesses, and therefore the productive capacity of an economy.

The next section discusses various definitions of the informal sector, particularly with respect to the role of the state and its regulations.

1.3 Definition(s) of Informal Sector

The term 'informal' has been defined in various different, sometimes related ways. Keith Hart, the Social Anthropologist identified as one who first used the term 'informal', defines this sector as predominantly the urban service providing sector in the context of Third World, which works outside the formal institutional arrangements. In the study of the Frafras migrated from the northern Ghana to the Ghanaian capital Accra, Hart (1970, 1973) emphasizes his use of the term 'informal' is synonymous with the urban self-employed population, who earn a living outside the formal wage economy. This definition entails an almost incomprehensible heterogeneity of economic activities, which Hart recognizes. No distinction is made between an illegal migrant construction worker and a street-side food vendor selling one pot of food each day. Moreover, this definition does not provide any clear idea about how to understand and categorize the hoarding or bribery of a registered entrepreneur.

The International Labor Organization (1972) published a report on Kenyan employment situation, where informality is defined as any activity that avoids government regulations and taxes. According to this definition, informal economy would be much larger than what it is according to Hart's definition (1970, 1973). This is because anyone who avoids regulations and/or taxes would be a part of the informal economy, even if that person is officially registered as a formal sector employee. Initially, according to ILO, the informal sector was aimed at providing subsistence to families and it was looked at as a 'problem'. This view of

informal sector as a 'problem' has prevailed for the larger part of the past forty years. The ILO argued that (formal) employment generation and reducing income inequality are the only two ways to 'solve' the problem of 'informal sector'.

Such view of the informal sector as a 'problem' privileges a legal construct over a structural determination. If legality is to be considered the parameter of measuring formality and/or informality, it leads to severe undermining of the creativity and the capacity of livelihood generation of billions of world's population, just because they do not follow state regulations. It also moves our gaze away from the incapability of the formal sector to include them as *legal* workforce.

The informal sector has also been defined as an entity that does not have any legal status. Such importance on regulatory framework has first been put by Hernando De Soto (1989). In his much cited and celebrated book, "The Other Path: The Invisible Revolution in the Third World", De Soto studies the Peruvian urban economy in the capital city of Lima and maintains that it is the migrants from the rural areas, who constitute the informal economy.[1] De Soto emphasizes the role of state regulations in creating the space for illegality, and thereby, informality.[2] For him, the 'mercantile' state stands as an impediment to businesses. Without the state and its regulations, even the street vendor would be able to realize her/his enormous potential as an entrepreneur. In other words,

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[1] Raul Zibechi (2010) provides an account of the urban informal economy of Salvador, Brazil.

[2] De Soto (1989), Chapter 1, Pp xiv.

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the restriction on individual freedom by the state is responsible for the underdeveloped conditions of informal economic activities. Therefore, a complete retreat of the state and abolition of regulations would be the conditions for blurring the distinction between formal and informal activities, and thus building the capacity of the informal economy.

The informal economy has grown into being a common sense notion. Yet, it seems hard to put forth a complete and concise definition of this sector. Two prominent sociologists, Manuel Castells and Alejandro Portes have laid out a compelling conceptualization of the informal economy. Understanding the informal economy as a process rather than an object is a better way to acknowledge its historical realities, according to Castells and Portes (1989). For them, it is too simplistic to identify the informal economy as an area merely for survival activities of marginalized and destitute people. Rather, it is economically dynamic and a source of significant income generation though in an unregulated fashion. It is true that a lot of people engage in such unregulated economic activity out of desperation, but such desperation for survival can be found in the formal economy too. For example, a lower ranked security personnel or a lower division clerk, who are part of the formal economy often accept a wage reduction in order to hold on to their secured job. The range of variety of occupations that fall into the category of informal can sometimes encompass such economic activities that earn an income higher than many formal occupations. In that sense, poverty is not a unique characterization of the informal economy.

The informal economic activities comprise of specific forms of production relationship, employing a huge number of workers in both advanced industrialized as well as less developed countries. Thus, informal sector may include both a street-food vendor and a temporary employee in the Silicon Valley. Castells and Portes were among the first researchers who moved away from the traditional notions of economic dualism and social marginality when it comes to the study of informal economic activities. They have attempted to redefine the production relations that fall under the realm of informal sector.

The prevalence of a single worker being engaged in both formal and informal economic activities makes it impossible to define informality as a characteristic of individual workers. A single worker employed in a formal unionized firm can also work as informal cash-for-service plumber (or a mechanic or a private tutor or any other occupation) in a single day or in different time of a month or a year. Hence, the central feature differentiating formal from informal work is that the latter is unregulated by the institutions of the society, in a legal and social environment. This is the main observation of Castells and Portes.

Such a feature emphasizes the precedence of the existence of a formal economy; in the sense that informal economy exists because there is a formal part of the economy. In other words, it is the institutional regulatory apparatus that leads individual actors to try to escape it by engaging more and more into informal economy.[3] This logic tells us that if there were no institutionalization or regulation of any kind, there would not be any difference between formal and

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[3] Castells and Portes (1989), pp. 12-13.

informal economy. The emphasis here is on the positive relationship between the extent of institutional regulation and that of informality. Hernando De Soto (1989) argues the same, in favor of the elimination of all state regulative apparatus. It implies that informality would tend to decrease if regulations are reduced.

But this logic tends to fail in explaining the real-world experience of the countries with their respective informal sectors. Once a country adopts open economic policies, institutional regulations tend to loosen up gradually. All the sectors including trade, agriculture, finance etc. are subjected to the free-market reforms, in order to reduce the regulatory costs. A majority of the developing countries have undertaken such reforms. But contrary to the logic explained above, the informal economy has grown in size. For example, in India, the informal economy has grown from engaging 40% of the workforce to 93%, from 1990 to 2005, 1991 being the year of adopting the open economic policies.[4] This phenomenon has been recognized much earlier by Castells and Portes (1989) too in the Latin American countries, and according to them, it is a novel social trend, different from the conventional view of informality. Castells and Portes summarizes the conventional view as the following, the informal sector is just a 'lag' from traditional production relationships, which is not quite a traditional sector, rather a temporary reservoir of labor waiting in transit between the traditional and the modern *formal* sector. Tokman (2006, 2007) is one of the most prominent researchers who argue such conventional view of the informal sector. For Tokman (2006, 2007), informal sector is in need of an overhauling of policies

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[4] National Commission for Enterprises in Unorganized Sector (2007)

that will increase the capability of the informal workers to integrate into the modernization process. The modernization process is never clearly defined, but the lack of entrepreneurial capacity of the informal workers is pointed as pre-modern. It is precisely this view of the capacity of the informal sector that Keith Hart (1970, 1973) vehemently criticized.

This new phenomenon of a growing informal economy while institutional regulations are dwindling, has established itself through the expansion of formal-informal subcontracted relationships. Chris Birkbeck (1979) and Juan Carlos Fortuna and Susana Prates (1989), in their studies of Colombian and Uruguayan informal economies respectively, have argued that informal activities are a form of disguised wage labor that denies the laborers the basic rights common to even a traditional proletarian work relationship.

Although institutional regulations, such as labor regulations that provide bargaining power to the workers, trade barriers that protect domestic producers from foreign competition, financial sector regulations where state has a greater control over credit distribution etc. are in a gradual decline in majority of the developing economies, the extent of the existing regulations is still not negligible. The persistence and growth of informality in this context raises another pertinent question. Contrary to the claim that exploitative and uncontrolled work relationships are not a feature of advanced capitalism, we observe the increase in the number of sweatshops, export processing zones and special economic zones in the developing countries. On one hand, it contradicts the notion that regulations are still large enough, and on the other, it shows that the policies of

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advanced capitalism have created a situation where intense competition has brought forward informal arrangements to reduce cost.

Castells and Portes have been two of the most prominent proponents of the view that 'informal' sector is neither peripheral nor transient; on the contrary, it is an integral component of any national economy, particularly in the developing nations.[5]

Marxist writings have been of the view that workers engaged in informal economic activities are disguised proletarians, who face exploitation just like formal sector workers, but only through indirect channels. Contrary to the dual economy framework proposed by the neoclassical economics, Marxist approaches considered the informal sector as a 'socially and historically determined mode of production subordinated to and subsumed by capitalism.'[6] When people are forced to work for livelihood without any protection by trade unions or by the state, their idea of 'common interest' weakens. Therefore, informal economic activities act as an obstacle to collective solidarity and political mobilization (Bonacich and Light, 1991, Fernandez-Kelly 2006). Again, according to Sanyal and Bhattacharya (2009), the threat of capital moving towards places those allow it to provide lesser wages and work standards results in a race to the bottom. In their 2009 essay, Sanyal and Bhattacharya argue that the study of labor is almost always about wage-labor, whereas the postcolonial developing

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[5] Castells and Portes discuss the centrality and extent of growth of the informal sector in Latin American countries in much detail, in their 1989 book, pp 15-24.

[6] Wilson (1998), pp. 5.

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world is incomprehensible with such a singular characterization of labor. This is particularly relevant in the studies on informal labor. Since the prevalent type of labor in the developing world is self-employment, the typical form of wage employment in capitalist production sphere is insufficient to understand self-employment. The alienation of labor from capital common to the capitalist theory of production proves to be inapplicable to the self-employed workers.[7] This is increasingly becoming a challenge for researchers and policy makers because of the growth of this extra-capitalist space. Sanyal and Bhattacharya describes informal sector as follows,

> [I]t is asserting its presence as one in which a large section of the population reproduces the material conditions of their ever-precarious existence by engaging in concrete economic activities governed by a logic that is fundamentally different from the one that animates the world of capitalist production.[8]

Again, the dependency theory had viewed the informal sector in yet another different way. The impost-substitution and export-orientation policies required to import heavy machinery. The sophisticated technology led to higher capital-labor ration, thereby creating a surplus labor force. The more capital intensive the production processes became, the lesser the scope of formal sector employment were (Wilson, 1998). This unleashed a process of employment generation with a low capital-labor ratios, unskilled as well as unremunerated

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[7] Sanyal and Bhattacharya (2009), pp. 35

[8] Sanyal and Bhattacharya (2009), pp. 36.

family labor, easy entry, low star-up costs, low labor productivity and simpler technology. This sector is conceptualized as the informal sector, which may or may not interact with the formal sector for fulfilling the requirement of inputs and selling the finished product. According to the dependency theorists, particularly the researchers at the PREALC (Regional Program for Employment in Latin America and the Caribbean), small-scale manufacturers of the informal sector will be displaced by modern capitalist industries, whereas it will take longer for the large-scale commercial establishments to replace the service providers and the small commercial establishments such as vendors (Wilson 1998).

Jan Breman (1996) have defined informal sector not as a primarily urban economic issue. In writings including that of Hart and De Soto, informality was generated by rural-urban migration. Breman criticized such a conception of informality, and emphasized the existence of a rural informal sector. For Breman, it is no longer a subset of urban economy, rather was both a rural and urban phenomenon. When the rural informal economy is overlooked, the concept of informality partly loses its policy relevance, according to Breman.[9] Without the inclusion of rural informal economy into the definition of informality, we lose sight of one of the largest arenas of informal activity, namely, agriculture. It is incorrect to consider non-agrarian economic activities as tied to the urban economy. For example, traditional occupations such as artisans, craftsmen, goldsmiths, blacksmiths, potters, and bullock-cart drivers have been significant in the third-world countryside (Kundu, Sarangi and Das, 2003). The rural non-agrarian

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[9] Jagannathan (1987) also emphasizes the same point.

economy is anything but trivial. For example, in India, by the end of 1980s, such economic activities generated livelihood for one out of every four male and for one out of every six female rural working person.[10]

Barbara Harris-White and Anushree Sinha (2007) provide a more clarified and comprehensive definition of informal economy. According to them, informal economy involves the processes of producing goods and services that are not state-regulated, are legitimate (and sometimes black or illegal too) and compete with the goods and services of the formal economy. This economy includes petty trade, subsistence production, and small-scale commercial production along with the casualization of labor by the formal entrepreneurs. Harris-White and Sinha argue, in line with Castells and Portes (1989), that informal economy should be considered as a permanent feature of the growth process. Also, Harris-White (2002, 2003) point towards the highly differentiated nature of informal economy, as have other researchers like Castells and Portes (1989) and Breman (1996). Informal accumulation and extensive informal labor market exist in large economic spaces created and protected for petty productions, trade, services that do not lead to accumulation and do not entail any right.

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[10] Chadha (1993), pp 324-5.

1.4 Origin of Informal Sector

Almost all the researchers are of the view that the causes of the process of Informalization must be traced within the specific historical, social, economic and political experiences of each country or region in question. Despite this, some common themes seem to resonate in the studies in informal sectors of various countries.

The most commonly prevailing idea is that the structural changes an economy experiences gives rise to a transient and peripheral cluster of 'cottage industries', which is called 'informal' or 'unorganized' sector. For example, the structural changes brought about by the global economic crisis of 1970s and later by the structural adjustment policies adopted by the developing countries are usually considered the factors behind the 'creation' of informal economy. This notion may be true, but only partly. A number of countries, both in the developed as well as developing world, already had a sizable population working in the same occupations and in the similar 'unorganized' manner even before such structural changes came into place. For example, about 46% of the working population earned their living by engaging in informal activities in the Latin American countries in 1950. [11] Also, around 50% of the US working population was involved in informal sector in 1950, which stands at around 30% in 1980.[12] The informal activities are defined as those undertaken for survival of the families

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[11] Castells and Portes 1989 combine information from various sources in Table 1.1, pp 17.

[12] Castells and Portes 1989, Table 1.2, pp 19

of the worker using very little capital and extensive family labor, and activities that are at the edge of the law (Castells and Portes, 1989). Similar situation prevailed in European countries like Italy and Spain, for example, where significant number of people worked in unregistered 'firms' that generated livelihood for the workers along with significant volume of exports.[13] Hence, the structural economic changes may have resulted in the growth of the informal economy, but it cannot fully explain the 'origin' of it.

The use and 'misuse' of power by the labor unions seem to be the second important reason behind the genesis of 'informal' economy, according to a number of authors. For example, Sebastian Brusco in his 1982 article in Cambridge Journal of Economics explains that the rising power of the left-wing labor unions starting in the mid-1960s had led to rapid vertical disintegration and more decentralization in the Emilia-Romagna region of Italy. Researchers like Sabel (1982), Castells (1980), Sassen-Koob (1988) also have identified the impact of unionization on the interest of corporate capitalism and the resultant process of subcontracting and Informalization. But Castells and Portes (1989) and Sassen-Koob (1984, 1988) are cautious about not considering unionization as a singular reason for the genesis of informal economy. Unionization, at the most, has been a problem for the business-owners as the former became an obstacle to capital accumulation of the latter. The case of the automobile firm *Fiat* is an example of this. *Fiat,* after facing reduced profit, shut-down production in its own factories and increased subcontracting and multiple sourcing, as a response

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[13] Castells and Portes 1989, Table 1.4, pp 24.

to the social victories of the Italian labor unions starting in 1969 (Brusco, 1982; Sabel, 1982; Capecchi, 1989).

Thus, one of the reasons which partly explain the genesis of the informal economy is unionization. The question that arises here is that, why, then, do we see a growth of informal economic activities in the developing countries that have undergone significant labor reform?[14] Contrary to what we should expect given the conflict of interest between unionization and corporate interest, we see a much more rapid growth of Informalization in places where labor unions have been made illegal or illegitimate. The Latin American countries that have undertaken labor market reform have not shown any different tendency than what countries that have not yet embraced such reform have shown. Moreover, if we look at the sectors that are experiencing faster and higher extent of Informalization, we see that firms in such sectors (special economic zones with various assembly line productions, restaurants, construction, urban service providers etc.) were small and quite less unionized (Morales and Mines 1985, Stepick 1989). Hence, some other reason must be there that answers such apparent contradiction and answers the above-mentioned question.

The third reason could be the impact of international competition on domestic firms. As the national economies integrate more and more, domestic firms find subcontracting and employing casual labors a way of reducing costs. This is perhaps one of the most cited reason in a number of recent studies in

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[14] Here labor reform implies deregulation of labor market, with elimination of strict minimum wage and reduction of legal protection to the workers (Edwards, 2005).

informal economy (Goldberg and Pavcnik 2003, Marjit 2003, Marjit and Maiti 2006 are prominent among others). This reason draws on another potential factor giving rise to informalization, the structural economic changes discussed earlier. Such structural changes have been accompanied by a large part of the working population becoming unemployed through contraction of formal employment (IDRC documentation, and a lot of other case studies in informal sector of various countries tell the similar story) and lose bargaining power to the point of accepting any remuneration that is greater than zero. If the previously employed population had not lost bargaining power, it would have been hard for the businesses facing foreign competition to use the process of cutting labor cost as the major way to keep up competitiveness in the integrated world market. Nevertheless, the structural changes economies have undergone prove to be an irreversible process, in the sense that, the disenfranchised population is never absorbed back into the formal economy even after the economic crisis is over. Those people continue living at the margins of the rules and organizational arrangements even when the income of the nation starts to grow once again (Massey and Meagan 1982). According to Castells and Portes,

> The small-scale and face-to-face features of these activities make living through the crisis a more manageable experience than waiting in line for relief from impersonal bureaucracies (Castells and Portes 1989, pp 29).

The similar lack of bargaining power is also seen at the national level, where any increase or proper enforcement of any sort of state regulation is enough for capital investment and therefore foreign businesses to move away from the country. Special economic zones[15] established in a number of developing countries are relevant to consider in this matter. If China or India does not allow the special economic zones to operate according to the 'special' rules, foreign businesses find themselves free to leave.[16] Obtaining comparative advantage over competitors and vis-à-vis own formal regulations leads the newly industrialized countries to Informalization.

A fourth reason may be the reaction of the businesses to the state regulation, in terms of tax, social legislation, health and environment. Businesses find any and all regulations put in place by a welfare state as hindrance to capital accumulation. In short, welfare state is the reason for the movement of vertical disintegration that businesses have undertaken in post World War II period. But this may raise a relevant question, as to whether there was no informalization pre-welfare state world.

A lack of research seeks to trace back the reason behind the genesis of informal sector beyond a point or try to answer the above-mentioned question.

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[15] Special economic zones are like sanctuaries, only difference is that it is for big businesses. Productions in such zones are allowed to operate in a virtually free, zero-regulation market for labor, other inputs, and infrastructure. This includes the arbitrariness of setting the input costs including wages.

[16] Wong (1982) provides a detailed analysis of Chinese special economic zones. Agarwal (2007), Banerjee-Guha (2008) among others analyze the economy of the Indian Special economic zones.

Most, if not all, studies explore the reason in the adjustment of the businesses with the regulatory dynamics of an economy. I extend their analysis one step further to find out the answer to the above-mentioned question.

It would be erroneous to claim that Informalization is a post-World War II, or, to be more specific, a post-welfare state process. Colonial histories from the African, Latin American as well as Asian countries prove the opposite, that is, small-scale 'unrecorded' or 'unregistered' entrepreneurship was a common phenomenon. The reason for those being 'unorganized' is the absence of any book-keeping modern state. Thus, looking for reasons behind the 'origin' (and not 'growth') of the informal economy in the reaction of the businesses either to unionization or to state regulations would not provide a complete explanation. Unregulated and unorganized small-scale economic activities were always already present in an economy before any central authority began any sociological survey or started collecting data or information. Any historical account of economic activities and occupations prevailing in a country would reveal the extent of their informal economy. Almost all types of informal economic activity (including illegitimate ones) were present, for example, in the Indian subcontinent even prior to the colonial rule. For example, the spice producers, the farmers, the food processors, craftsmen all were 'unregulated'.[17] When post-colonial capital tried to succeed other modes of production, it needed to create

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[17] A number of old economic accounts mention such 'casual' or 'unregulated' occupations, including Dutt (1902), Habib (1982, 2006), Habib and Raychaudhuri (1982), Kumar and Desai (1983), Thapar (1980), and Basu and Sen (2008).

'zones' where the profit can be confined, to ensure its reinvestment. In an economy with various unorganized non-capitalist economic activities, such 'zoning' were possible through the redefining of the ownerships of the means of production. For example, an automobile factory can be built on a piece of land which is used by a family (for agricultural purposes, cattle grazing or for pottery purposes) for generations, only through the transfer of ownership of the land.[18] Such zoning also redefined what is formal and what is informal. In this sense, inability to account for 'all' type and scale of occupations seem inherent to capitalist production processes.

My attempt here is to shift away from the conventional method of researching reason for the genesis of Informalization in the reaction of businesses to regulations. It is not to deny the role of businesses in responding to various types of regulations through greater Informalization, but to point out the incompleteness of the reasons found in this way. In other words, I want to emphasize the inability of the reasons found in such ways (already discussed earlier) in explaining the 'genesis'. The discussion of the genesis of informal sector often instead diverts towards the analysis of the 'growth' of Informalization. It is necessary to think beyond the traditional 'business-first' approach (by which I mean the approach to think about businesses as something that existed historically, at least prior to the occupations that fall under the category of non-capitalist 'unorganized' activities) to find our answer, and recognize that historical

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[18] Acquisition of land, forest, hills and mines have become increasingly significant for industrialization in developing countries. Such transfer of ownership proves the pre-existence of non-capitalist 'unorganized' economic activities.

accounts vouch for the existence and prevalence of 'unregulated' small-scale entrepreneurial activities in a time before the modern welfare state became reality. Hence it is crucial to understand the chronology in a reversed manner, that is, 'informal' or 'unorganized' economy precedes 'formal' economy. Then, the 'genesis' of informality becomes a historical, rather than an economic question. The late David Gordon (1972) appropriately noted that,

> [T]he distinction between the two sectors is not so much technologically but historically determined.[19]

Informality is what characterizes various historical occupations, such as vendors, porters, garbage collectors, service providers (barbers, cobblers, janitors, blacksmiths, potters, teachers, mechanics etc.), prostitutes etc. and these were already generating livelihood for enormous sections of the population in a number of countries, and before the capitalist production system became central driving force. Welfare state, with its legal framework is a much newer political entity that created the enclaves of modern industrial production and government administration. Informality is a system older than both the capitalist economic system and the political entity named welfare state. Thus, if we are to find the 'origin' of informal sector in the reaction of formal businesses, we are essentially following the 'formal-first-informal-second' chronology, which is likely to result in an incomplete analysis, as I have shown here. Conceptualizing the

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[19] Gordon (1972), pp. 47.

origin of informality solely as an effect of modernization would be both incorrect and incomplete. Jan Breman (1996) would argue that it is the emergence of formal sector employment that requires explanation, rather than informal economy.[20]

No single reason can be sufficient to explain the genesis and growth of the informal economy. At the least, it is a combination of various factors described earlier. Informality is at the same time the legacy of colonial domination, a footprint of pre-capitalist social formations and part and parcel of the more contemporary capitalist growth process.

1.5 Trade Reforms and Indian Informal Sector

Trade Reforms policies had been adopted by the government of India in 1991. It works as a natural experiment for those who want to study the responses to such a change in policies from various sectors on an economy. Numerous studies have been conducted to understand the phenomenon of changing national economic policies from being an inward-looking to globalized, as well as the impact on the economic performance of the country. But the number of studies has been far fewer that explores the impact on the informal sector, particularly on the income opportunities available in this sector. This section highlights the understanding so far of the trade reforms policies of India and reviews a set of most prominent literature on its impact on the informal sector.

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[20] Breman (1996), pp. 5.

1.5.1 Trade Reforms as a Component of Structural Adjustment Program

Trade reforms have been an important component of the policies adopted by majority of the developing countries starting in late 1970s. Such set of policies were called the Structural Adjustment Program. This section discusses the origin of the Structural Adjustment Program and reason for its implementation in the developing countries.

Until the mid 1970s the third world countries were borrowing heavily from the banks and financial institutions in the first world. It was the period when majority of those countries became independent and were learning to build their own nations. The developing countries in the post war period were known for experimenting with various inward-looking economic policies, viz., the import substitution, export promotion, infant industry protection, and high trade barriers. The interest rate charges were rising sharply and the terms of trade, i.e., the ratio of prices paid and received for the goods and services traded were gradually moving against the borrower countries. By the end of the 1970s the accumulated debt of the third world countries increased the vulnerability of those poor nations as their *creditworthiness* declined. The late 1970s and early 1980s had seen the formulation and implementation of the *stabilization* measures designed by the two Bretton Woods institutions, the International Monetary Fund (IMF). Once the conditionalities of the IMF loan led the borrowing countries to reduce government spending, food and fuel prices soared and created social unrest in a number of

countries (SAFPRI, 2004). That is when the World Bank started to provide funds on conditions of structural and institutional reforms that would have gradual rather than immediate impact. Thus, the entire program had two phases. First it is the short-term macroeconomic stabilization and then comes the implementation of structural overhauling. Such stabilization measures are sometimes called the conditionalities (particularly by the IMF) and more popularly called Structural Adjustment Program (SAP). The SAP generally imposes strict fiscal and monetary *disciplines* upon the borrower nations. It is also called the Washington Consensus, a term coined by economist John Williamson in 1989. The measures were designed to ensure the recovery of the loaned money, by generating savings and foreign exchange. It included measures of currency devaluation, trade liberalization, investment deregulation, and privatization of public utilities, marketing state enterprises, reforms of agricultural sector, financial sector and the labor market and liberalization of almost all domestic markets. In short, the SAP was targeted at reducing the role of the state. By 1992, the total amount lent by the World Bank was $5847 million, which was 27% of the bank's total commitment. So far, more than 70 countries have been subjected to the SAP (IMF Report, 1999; SAFPRI, 2004).

1.5.2 Trade Reforms: The Indian Experience

In 1991, the ruling party, Indian National Congress, elected P.V. Narasimha Rao as the new prime minister, after the assassination of his predecessor Rajiv Gandhi. That very year saw a dramatic change in economic

policies, proposed by the Finance minister, Dr. Manmohan Singh. Before 1991, India was in the pursuit of inward-oriented economic strategies for the four decades following independence in 1947. Such insulation against foreign trade often has been referred to as a pessimistic and hostile attitude towards the conditions of globalization at large. In pre-1991 period, the import-weighted average of tariffs for all imports was 87%, with tariffs on some imports standing as high as 300%. It was 164% on consumer goods (Indian Ministry of Finance, 2001).

In the 1980s, India experienced moderate economic growth, but the fiscal deficit, along with foreign commercial debt and the debt service ratio showed a rising trend. The requirement of financing large capital expenditures and imports of machinery and raw materials and oil made India remain dependent heavily upon foreign borrowing. As a result, India has seen a steep rise in its foreign debt liabilities from $23.5 billion in 1980 to $83.8 billion in 1991 (Budget papers of India 1982-83, 1992-93). Almost 28% of total government revenue was spent on debt services. The problem aggravated when the world oil price rose sharply on the aftermath of the Gulf War, especially because oil accounted for the single largest imported item in India. The fiscal deficit grew from 6.3% of the GDP during the seventh five-year planning period (1985-1989) to 8.2% in 1990-91 (Indian Planning Commission, 1989, 1991). The internal debt burden increased from 35% of the GDP in 1980 to 53% in 1990 (Indian Planning Commission, 1991). Faced with the said crises, government of India adopted a major structural adjustment program in 1991. The reform came as a response to the external

payment problem and was a part of the IMF bailout condition. IMF insisted upon an immediate structural reform, while providing loans to India (Joshi, 1996; Dutt, 2003). In October 1991, the Government of India got the approval of a standby arrangement of $2.3 billion for over a period of twenty months from the IMF, a $500 million Structural Adjustment loan with the World Bank and $250 million hydrocarbon sector loan with the Asian Development Bank (ADB) (Budget reports of India 1992-93). Although the pace of the program was moderate in comparative perspectives, it was a very sharp one according to Indian record. The reform included replacement of import licensing with tradable import permits and a rapid reduction of tariff rates. It also proposed elimination of licensing for new entry and the expansion of capacity in manufacturing sector. Following the reform, the import-weighted average tariff rate for all imports declined to 24.6% in 1996-97 and to 30.2% in 1999-2000. The new millennium brought abolition of quantity restrictions in most imports (Srinivasan, 2001; World Bank, 2000a Annex Table 6.6). The reform dramatically changed the across-industry tariff structure, by reducing the tariff differences across industries. This implies that the industries experiencing higher protection in the pre-reform period have seen higher tariff reduction. There have been reductions in non-tariff barriers (NTB) too, although the decline happened at a much slower pace, most of the elimination came by 1998. The government of India devalued rupee, the Indian currency, by 23 percent and cut down subsidies and transfers to public enterprises to reduce fiscal deficit, along with liberalizing the banking sector, forming the tax reform committee and gradual disinvestment of government

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equity in profitable public sector enterprises. The government also adopted new market friendly industrial policy to open up more and more areas for private domestic and foreign investment (IEG-World Bank, 1996).

1.5.3 Indian Informal Sector

Informal economy in India is significantly large, incorporating various types of occupations and huge population. According to the International Labor Organization, the non-agricultural informal employment has been estimated at 83% for the time period between 1994 and 2000 (ILO, 2002). According to the official statistics of India, the enterprises whose economic activities are unregulated and unrecorded by any legal provisions are called the unorganized enterprises (National Accounts Statistics, Government of India). Informal sector, thus, is perceived as a subset of the unorganized sector. Again, according to the National Sample Survey Organization (NSSO), informal own-account firms and their employees constitute the informal sector. Under the 1949 Factories Act of India, firms that are registered, fall under the category of formal enterprises. Such a categorization carries ambiguity about the labor process. For example, a very small firm with fifteen workers can be registered and can have labor unions, while an unregistered firm can deny the entry of unions among a workforce of hundred. Another way by which informality has been recognized is the type of labor. For example, family labor is always recognized as informal, even in a registered enterprise (Adam and Harris-White, 2007). Existence of labor laws has been

another categorizing factor. All the registered firms in India are legally required to keep a set of labor laws and their very existence works as an incentive for employing casual workers (Adam and Harris-White, 2007).

It took the government of India until 2004 to establish an organization devoted to the unorganized sector. It is the National Commission for enterprises in the Unorganized Sector (NCEUS). This was an important move from buying into the traditional idea of informal sector as a temporary holding ground for workers to wait for the 'proper' formal employment (ILO 1973). According to the NCEUS report, about 92 per cent of the total workforce of about 457 million was employed in the informal or unorganized sector as of 2004-05 (NCEUS, 2007).

1.5.4 Impact of Trade Reforms on Informal Sector

There is little doubt about the fact that informal sector has been a growing sector (Currie and Harrison, 1997; Stallings and Peres, 2000; Carr and Chen, 2001; Goldberg and Pavcnik, 2003; Harris-White, 2003; Jhabvala et al. 2003; Sinha and Adam, 2007). In the available literature on informal sector and its response to the trade reforms policies, the size of the sector and its change has been the most studied question. Moreover, informal sectors in the Latin American countries have seen the maximum number of studies on the question of the impact of trade reform policies.

Goldberg and Pavcnik (2003) have studied a partial equilibrium model with dynamic efficiency wage for Brazil and Colombia. In their study, Goldberg and

Pavcnik consider the casually employed workers of the formal manufacturing sector as the informal sector, and using the data for 1980s and 1990s, their empirical analysis show no link between trade liberalization policies of Brazil and its informal employment. On the other hand, the Colombian informal sector has shown somewhat significant increase in its size in the time preceding the adoption of labor reform policies. The theory considers that the firms, facing demand uncertainty, hire workers from the pools of formal (protected by labor market legislations, and the cost of firing a formal worker is very high) and informal (cost of firing an informal worker is lower than a formal worker, as there are no benefit and legal protection) workforce. Formal workers usually receive efficiency wage, while the informal worker receive the reservation wage. Protected by the labor law, formal workers have tendency to shirk, which leads the firms to incur a higher cost for formal workers. Eventually, wages to the formal workers are higher than the informal wages. The firm maximizes profit subject to cost constraint. A comparative static analysis represents the negative impact of a price shock on employment. This result crucially depends upon the labor regulations, in the sense that a strict regulation leads to a larger negative impact of trade reforms on formal employment. The empirical analysis resulted in highlighting the role of labor reform policies as stated above. Therefore, Brazilian trade reform policies proved to be insignificant in increasing the size of informal employment. The informal employment grew in the post trade reforms period in Columbia, only for the time preceding labor reform.

Currie and Harrison (1997) was the predecessor of Goldberg and Pavcnik in terms of providing empirical analyses of the impact of trade reform policies on the size of the informal sector. Currie and Harrison studied the Moroccan informal sector after the trade liberalization policies were implemented, and found that formal enterprises increased the hiring of casual workers after the liberalization program was adopted.

In a more recent paper, Hasan, Mitra and Ramaswamy (2007) empirically examined the impact of trade reforms in India on labor demand elasticities in the manufacturing sector. Using the data on employment and tariff rates from 1980-1997, Hasan, Mitra and Ramaswamy estimate the labor demand function to find out that a declining trade barrier leads to an increasing labor demand elasticity and that the share of labor in output and value added has declined with trade reforms. Although this study does not focus on the informal labor, the negative relationship between tariff rates and labor demand elasticity is insightful. It implies that as trade barriers decrease, (formal) labor employment is expected to increase along with a decline in wages. Although the wages have gone down over the reform years in India, formal sector employment has not increased, which makes the distinction between the formal and informal labor unclear in this study.[21] This study also finds out that the share of labor in output declines due to a decreasing bargaining power of labor in the manufacturing power. Evidently, higher authority of the manufacturing firms in hiring and firing of labor results in

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[21] NCEUS 2007.

lower labor demand elasticity and therefore tends to contribute to the increase in informalization of labor.

Contrary to what social scientists like Hart (1972), Jagannathan (1987), Castells and Portes (1989) argued, studies like Currie and Harrison (1997) and Goldberg and Pavcnik (2003) consider informality as a type of labor rather than as a type of occupation or work. Such an approach misses the huge population who work both in the formal and informal sector, seasonally, annually, monthly, or even daily.

Apart from a number of partial equilibrium analyses, where informal sector meant only the casual/temporary workers employed by the formal firm to avoid providing any benefit beyond wages or any intervention of labor union, there are a few studies that consider informal sector as a separate sector. Sinha and Adam (2007) have done such an analysis of Indian economy. According to this study, around 88 per cent of Indian workers were engaged in informal activities and the informal sector, in 2003. This study emphasizes the importance of a macroeconomic analysis of the impact of trade reforms on informal sector. Sinha and Adam present a computable general equilibrium model using the data set from the Social Accounting Matrix framework generated in Sinha, Siddiqui and Munjal (2007). The Sinha and Adam Computable General Equilibrium model examines trade liberalization as economic shocks and analyze the economic ramifications of those shocks in a static framework. The relative higher labor intensity in informal firms characterizes the difference between the technical aspects of production in formal and informal firms. The economy consists of two

sectors, one that produces high technology good, which is formal, and the other one, the informal sector produces a relatively low technology good. The informal sector pays no tax, unlike its formal counterpart. The case studies that have been used to build the social accounting matrix show that formal sector worker earn about 3.5 times more than the informal sector workers. The usual assumptions of perfect competition and full employment are made in this study. The results show an expansion of informal employment.

The next section describes the findings of the studies that have explored the wage impact of trade reforms.

1.5.5 Trade Reforms and Indian Informal Sector Wages

Studies that have focused upon the role trade reforms played in affecting the informal sector, were mostly interested in understanding whether the informal sector grows in the post trade reforms period. Few of them have looked beyond the issue of size, to understand the economic development issues relating the informal sector. Those who have studied the wage impact of trade liberalization policies, Kelley (1994) and Marjit (2003) are two most relevant researches. Their results are contradictory, just like their approaches.

Kelley (1994) developed a computable general equilibrium model for the Peruvian economy. He suggests that although the informal sector is significantly large in size and its economic importance is undeniable in the developing countries, there is a serious dearth of understanding about the macroeconomic

implications of informal activities. This has partly been due to the lack of data or information. But conversely, the lack of macroeconomic approach has created such lack of information. The main result of Kelly's study is that the informal sector income, along with the formal sector output decreases as trade is liberalized and foreign competition is on the rise. This is due to the initial difference between the formal and the informal sector wages. Such difference causes informal output to replace its formal counterpart. Workers remaining in the formal pool of employment receive higher real wage, but the displaced workers and those who are in the informal production activities suffer losses. According to Kelley, informal sector workers are better served by policies when they are placed within the macroeconomic framework. This anticipation is based upon the idea that once informal sector is within the reach of policies, informal production is supposed to decrease and formal employment is supposed to grow. In other words, re-replacement of informal activities by formal production is the only way for the economic development of informal workers. But despite such macroeconomic placement of informal sector, it is still on the rise in the developing countries and formal employment has not been able to grow enough to replace informal activities. Therefore, Kelley's anticipation remains unfulfilled.

Among the studies that have looked into the impact of liberalized trade regime on the informal sector wages in India, Marjit (2003) is the most prominent one. This study is the most important reference point for the current study as described in chapter 2. Marjit proposes a simple general equilibrium model to understand the wage impact of a tariff reduction. The research question asked in

this study is what happens to the informal sector wage when the formal sector output falls due to a fall in its price. The formal sector output price reflects a falling tariff barrier as this is the import competing sector. Marjit shows that informal sector wage is supposed to rise along with the informal sector employment. The requirement for this result to hold is the immobility of capital between the formal and the informal sector.

A three sector small open economy is proposed, where there is one formal, one informal and one agricultural sector. The formal sector is import competing, the informal sector is non-traded, and the agricultural sector is export sector. The model is specified as below. For the sake of convenience, the model is reproduced here with the notations used in the model proposed in chapter 2.

Sector 1: import-competing formal manufacturing sector producing output X, using formal labor, capital (K_X) and an intermediate good Y produced by the informal sector. This sector is capital intensive.

Sector 2: non-traded informal manufacturing sector producing intermediate good Y for the formal sector, using informal labor and capital (K) This sector is capital intensive too.

Sector 3: export sector producing output A, using informal labor and capital (K).

The assumptions are that capital is sector specific, i.e. $K_X \neq K$. Also, resources are fully employed, i.e. there is no unemployment; the labor market always clears. The wage paid to the formal labor employed in the formal sector is institutionally determined by the negotiations between the labor unions and the

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employer firms, whereas the wage earned by the informal worker is competitively determined. Clearly, formal wage (W_F) is greater than the informal wage (W_I). The prices of the outputs X, Y and A are P_X, P_Y and P_A respectively. The rental rate of capitals K_x and K are r and R respectively. The total stock of capital and labor in the economy is K and L respectively. $P_X{}^*$ represents the foreign price.

The price system is given as:

$$a_{LX}W_F + a_{KX}r + a_{YX}P_Y = P_X(1+t) = P_X{}^* \qquad \ldots(1)$$

$$a_{LY}W_I + a_{KY}R = P_Y \qquad \ldots(2)$$

$$a_{LA}W_I + a_{KA}R = P_A \qquad \ldots(3)$$

The full-employment conditions are given as:

$$a_{LX}X + a_{LY}Y + a_{LA}A = L \qquad \ldots(4)$$

$$a_{KX}X = K_X \qquad \ldots(5)$$

$$a_{KY}Y + a_{KA}A = K \qquad \ldots(6)$$

The demand-supply balance in sector Y is given as:

$$Y_d = a_{YX}X = Y_S = Y \qquad \ldots(7)$$

a_{ij} is defined as the unit input requirements, that is, the amount of unit i needed to produce one unit of output j. a_{YX} is assumed to be fixed. K_X and L are substitutes. Given P_X, P_A, L, K, K_X and W_F, we can determine W_I, R, r, P_Y, X, A and Y. Determination of the general equilibrium is possible in the following manner. Given a P_Y, r is determined from equation (1). X is determined from equation (5). a_{ij} are determined from the given factor prices as there exists the assumption of

constant returns to scale technology. Therefore how much labor is formally employed and how much is informal can also be determined. Y and X are determined from equations (4) and (5). W_l and R are determined from equations (2) and (3). Once Y is known, Y_d is known too. If P_Y is arbitrary, Y_d and Y_S will not match. In that case, the excess demand function is given as follows,

$$Y_d (P_Y) = Y_S (P_Y) = E (P_Y) \qquad \qquad ...(8)$$

Equation (7) holds if and only if E (P_Y) = 0. Let, this is true for $P_Y = P_Y^e$, that is a particular price of Y that clears the market of Y. If P_Y^e exists and $P_Y^e > 0$, then the entire system is solved.

The comparative static analysis looks at the impact of a lowered P_X on the informal wage W_l. The import competing manufacturing formal sector is protected by tariff. A policy of deregulation or liberalization will lower the price of this sector (P_X). A process of contraction of X will start. As a result, labor will leave sector X and will crowd in sector Y or A. Since capital is sector specific in this model, K_X stays stuck in sector X. Capital is specific to sectors Y and A, therefore Y_d will fall, Y_s will rise, leading to a fall in P_Y^e. If Y is capital intensive relative to A, R will fall and W_l will rise, according to the Stolper-Samuelson theorem (which says that a rise in the prices of a commodity will increase the real reward of the factor used intensively in the sector and decrease the real reward of the other factor)[22]. Again, as X contracts, Y_d falls, labor moves to Y and A. If Y is capital intensive, Y contracts and A expands. Therefore, according to the Rybczynsky theorem

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[22] Wong (1995), pp. 31.

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(which says that, for constant commodity and factor prices, an increase in the endowment of a factor will increase by a greater proportion the output of the sector which uses the factor intensively, and decrease the output of the other sector, given there is no factor intensity reversal, production diversification)[23], W_I may fall. Thus the impact on W_I becomes ambiguous.

However, if formal labor share in total employment is negligible and if Y is capital intensive, a fall in P_X will lead to a rise in nominal and real informal wage.

Form the price system and the full employment conditions, the expressions for the price of Y and the informal wage are obtained as the following:

$$\widehat{P_Y^e} = \frac{\widehat{P_X}\frac{\delta_X}{\theta_{KX}}(\theta_{LX}+\frac{\lambda_{LX}\lambda_{KA}}{|\lambda|})}{\frac{\delta_Y}{|\theta||\lambda|}+\frac{\delta_X\theta_{YK}}{\theta_{KX}}(\theta_{LX}+\frac{\lambda_{LX}\lambda_{KA}}{|\lambda|})} \qquad ...(9)$$

$$\widehat{W_I} = \frac{\theta_{KA}}{|\theta|}\widehat{P_Y^e} \qquad ...(10)$$

where λ_{LX}, λ_{KA} are the shares of X and A in aggregate workforce and informal capital, that is, $\lambda_{LX} = \frac{L_X}{L}$ and $\lambda_{KA} = \frac{K_A}{K}$. $|\theta|$, $|\lambda|$ are the factor intensity determinants in the informal segment. Clearly, the both should have the same sign. Therefore, $|\theta|$, $|\lambda| > 0$. θ's are the cost shares of L, K and Y in X. $\delta_X > 0$ is the elasticity of factor substitution, between K_X and L in sector X. $\delta_Y > 0$ is the supply elasticity of Y, which shows the response in Y_S due to a rise in P_Y when the resources supply in the informal segment is fixed. The impact of the release

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[23] Wong (1995), pp. 34.

of additional labor from the formal sector is ignored here. Equation (9) shows the general equilibrium relation between $P_Y{}^e$ and P_X.

It is argued in this model that a fall in P_X leads to a rise in W_I, if and only if $\lambda_{LX} \approx 0$ (that is close to zero) and $|\theta| < 0$ or $|\lambda| < 0$.

If Y is capital intensive, $|\theta| < 0$ or $|\lambda| < 0$. From equation (9), $\widehat{P_X} < 0$ leads to $P_Y{}^e < 0$ if $|\theta| < 0$. From equation (9), if λ_{LX} is close to zero, coefficient of $\widehat{P_X}$ is positive. If $\lambda_{LX} > 0$ and Y is capital intensive, i.e. $|\lambda| < 0$, the sign of the coefficient of $\widehat{P_X}$ is unclear. For the stability purpose, the denominator of the coefficient in equation (9) must be positive. Therefore all action should be in numerator.

If $\lambda_{LX} \approx 0$ and $|\theta| < 0$, $|\lambda| < 0$, then a fall in P_X leads to a fall in $P_Y{}^e$ and therefore a fall in W_I. Therefore, if Y is labor intensive relative to A, W_I falls due to a fall in P_X. Also, if $\lambda_{LX} \approx 0$, and $|\lambda| < 0$, $(\theta_{LX} + \frac{\lambda_{LX}\lambda_{KA}}{|\lambda|})$ cannot be negative.

Hence, the above general equilibrium exercise concludes that a fall in the price of the import competing formal sector due to a fall in tariff rate results in a rise in informal sector wages, if and only if the informal sector is capital intensive, the formal employment is negligible and most importantly, if capital is immobile between formal and informal sectors.

Marjit (2003) developed the general equilibrium model, but did not provide any link with the Indian economy. A later study by Marjit and Maiti (2006) attempts to link the state-wise data on the growth of informal sector real fixed capital stock and the growth of informal sector real wage in India. This study argued that the results obtained from the above general equilibrium model is valid if the capital formation in the informal sector grows.

The current study as described in chapter 2 differs from Marjit (2003) in two places. First, informal sector, unlike Marjit, is considered not to be a single sector producing just the intermediate good. Instead, there are two informal sectors, both non-traded. One of them produces intermediate good for the formal import-competing sector and the other produces petty consumer goods and services. This is a much needed improvement, particularly relevant in Indian context where the petty consumer goods and services producing sector, i.e. the self-employed sector is the largest employment generating sector and it is growing (NCEUS, 2007, 2008). Second, capital is considered to be mobile between the formal and the informal sector. Given the variety of informal occupations in India, it is more realistic to differentiate a capital using informal sector producing intermediate goods from another informal sector that does not use capital.[24] Also, it may not be the case that the formal sector wage is completely fixed at a given level, especially when the formal sector is facing international competition.

1.6 Self-Employment Sector

This section reviews the existing literature on the economy of the self-employed sector. A number of studies focusing on the self-employed sector have already been discussed in earlier sections, particularly those considering the

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[24] NCEUS (2007) and the NSSO reports on the unorganized sector show evidence of informal sector capital formation and its growth.

subcontracted and self-employed sector together. Yet, there are some studies solely on this sector, which require added attention.

Self-employment sector is the biggest component of the informal sector in a number of developing countries. In India, about 258.3 million out of 422.6 million people work as self-employed (NCEUS 2007). Conceptually, the self-employment sector is quite a broad term, encompassing enormous variety of occupations and transactions. Most commonly, self-employment sector is meant to comprise of semi-independent peasants with small assets, petty commodity producers and traders, along with small family businesses (Harris-White, 2003). The dynamics of the economic activities in the self-employed sector include utilization of labor at various levels, such as family, religion, village, community or caste.[25] Harris-White (2003) has used the novel idea of social structures of accumulation in understanding the dynamics of the informal sector. According to this idea, a major part of any developing economy is usually regulated by social structures that are resistant or immune to any change in policies of the state.[26] The idea of social structures of accumulation (SSA) emphasizes the extent of non-engagement between the state and a large part of its population. The latter depends more upon its ties with the social institutions than on the legal-institutional structures put in place by the state. The social institutions include rules and regulations of family, religion, caste, community, village or town. The accumulations at each level of the social institutions have its own dynamics. For

[25] Harris-White (2003), pp. 19.

[26] Harris-White (2003), pp. 14-15.

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example, gendered appropriation of income within the family, income generated and accumulated by the religious or caste majority, or, that by the majority determined by the power structure within a community.

.Most of the studies done on the self-employed sector of various countries have rightly acknowledged the entrepreneurial capacity and contribution of this sector. Keith Hart (1970), while coining the term Informal Sector, stressed upon the significance of the entrepreneurial contribution of the urban self-employed service-providing sector in Accra, Ghana. Hart also argued that the Western ethnocentric approach to economic studies often disregard the capability and contribution of the self-employed sector due to their preoccupation with the issues of 'firms' and 'businessmen'. Such studies tend to follow the definition of an 'entrepreneur' where a firm employs labor, uses other factors of production, produces goods and services, and sells them for profit. Any economic activity that does not seem to exactly follow this definition, are usually ignored and labeled as marginal and transient. Hart's study of the Ghanaian urban self-employed sector laid out the significance of the self-employed entrepreneurs in livelihood generation for a large population. Hart provides a detailed discussion of who should be considered an 'entrepreneur'. Discussions on African economies, or for that matter, of Indian economy too, carry the underlying singularity of the idea of an entrepreneur, which is often ethnocentric in nature. The Ghanaian reporter who characterized this view of entrepreneur said the following:

...little reliance can be placed on the Ghanaian entrepreneur for rapid development...the Ghanaian businessman's attitude to growth is very different from the typical entrepreneur in the early eighteenth and nineteenth centuries in England, for example. He remains, even when trading on a fairly large scale, in his approach essentially a petty trader. He is in business primarily to make money and to spend the money as he makes it on a higher standard of living and (somewhat unwillingly) in support of his numerous relations. No doubt a government firmly convinced of the virtues of private enterprise could encourage the capitalistic virtues in the course of time.[27]

This approach has remained prevalent in much of the studies on the developing economies, and this has partly been responsible in the neglect of the self-employed capacity building. Clearly, the vagueness about the fate of the profit earned seemed to have reinforced this view that there can be only one kind of entrepreneur. In other words, the income earned by the self-employed entrepreneur is equated with the profit earned by the capitalist entrepreneur, and that has been expected to be reinvested in order for it to be taken seriously. The tremendous amount of diversification in the interest of the self-employed entrepreneur has contributed in the lack of understanding of this sector. The income earned in this sector is spent on maintaining the entrepreneur's familial responsibilities, as the above quote mentions, and it can also be spent on various other interests. Such interests, from the point of view of capitalist accumulation, are unproductive and therefore not to be incorporated in the study of economic development. This is justified by the ethnocentric idea of a homogeneous set of

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[27] J. W. Williams (1963), pp. 196-97, quoted in Hart (1970), pp. 107.

prescriptions for curing underdevelopment, or, in other words, this is an ethnocentric view of development (Hart, 1970).

The vagueness about the productiveness of the income earned in the self-employed sector is not the only type to be seen, the production, consumption, investment and reproduction are interrelated with each other in much complexity. As a result a clear calculation of profit or net income seems impossible, according to Harris-White, (2009). It may be argued that an imputed wage analysis, where the income earned is considered as the sum of the wage (determined by the opportunity cost) and the rental payment for the equipments the self-employed worker uses. In that case, the net income may not be hard to find out. But differentiating between the value of opportunity cost and the rental payment turns out to be complicated. This is the point analyzed in chapter 3 of this research.

Heterogeneity of the production processes has been another source of misunderstanding about this sector (Subrahmanya and Jhabvala, 2000). Harris-White (2009) further emphasized the importance of social institutions in maintaining the economic behavior within the self-employed sector. The role of the social institutions such as gender, caste, religion or any such identity is often misunderstood due to the neglect of the co-existence of social and economic processes.[28] Social institutions are the basis of the supply of factors of production in the self-employed sector, and they also influence income distribution and well-

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[28] Harris-White (2009), pp. 171.

being (Harris-White 2003, 2009; Jagannathan, 1987). Harris-White points out that the lack of understanding about the impacts the social institutions have in determining economic well-being leads to the failure of social policies in reaching the disenfranchised population.[29]

Harris-White (2009) categorizes well-being of the self-employed workers using four features. Insecurity i.e. lacks of rights, poverty, risk and vulnerability and coercion are the four features of self-employed sector that determine the extent of well-being of the population working in this sector. Not all types of self-employed occupations show all four of these features, but certain level of generalization proves to be effective in understanding the connection between work and well-being, according to Harris-White.

Little or no property rights, rights to public goods and public services such as infrastructure, health, education, social security and sanitation tend to maintain certain level of insecurity within the self-employed sector. Poverty has shown to be entangled with the self-employment sector, as almost all poor people work in the self-employed sector (while the opposite may not necessarily be true). A majority of the self-employed population live a risky life with the threat of frequent diseases, death, old-age impairment and child and maternal mortality, all of which tend to have a positive relation with the economic productivity of the population. In other words, the poorer the population is, the riskier their lives are. The risk factor tends to be high in certain kinds of work the self-employed people

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[29] Harris-White (2009), pp. 172. The 'disenfranchised population' would entail the self-employed workers who live below or on the poverty line.

engage in. Dealing with hazardous material, low and dangerous quality inputs of production and machinery, irregular and long work hours and potentially risky way of work (for example, standing for excessively long hours, endearing the harsh weather, regularly carrying excess weight, engaging in repetitive movements etc) adds to the vulnerability of a majority of the self-employed population. Coercive ties to increasing debt, unpaid work, harassments at various levels (including sexual harassment, police harassments, public harassments etc) are also part and parcel of various occupations within the self-employed sector (Harris-White, 2009).

Joseph Gaughan and Louis Ferman in their 1987 article on informal economy emphasized the role of noneconomic institutions in determining the economic performance of the informal self-employed sector. Gaughan and Ferman point out the diffused boundary between the personal, intimate spheres of family and community and the conventional economic sphere. While the advancement of industrial capitalist modes of production has overshadowed the important economic role of family and household, such kinship networks have proved to be much more durable and lasting over the history. Gaughan and Ferman (1987) highlighted the reason of the 'excess' population engaged in self-employed activities to be the displacement of people from traditional agricultural work.[30] The pressure from turning agricultural land in to grazing land, factories or increasing economic burden through higher rents or taxes have resulted in a

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[30] This is another reason behind the rise in informal economic activities that studies like Marjit (2003) and Marjit and Maiti (2006) do not address.

mass displacement, the majority of which have been absorbed in the self-employed sector. In the situations of mass out-migration from the traditional agricultural sector, Gaughan and Ferman identify the shortcomings of many developmental models drawn from the Western European or North American history. In this article, they counter the Western ethnocentric notion of unilinear development. According to them, it is important to recognize that many development models developed in the developed world 'do not apply' to places where industrial growth fail to match with the economic and demographic pressures.[31] If the industrial capitalist modes of production are considered to be the only path for development, anything beyond the notion of 'atomized individual' making transactions in an impersonal marketplace is bound to be overlooked. The notion of kinship and community-based economic activities that are based on local cultural norms and the idea of reciprocal responsibilities of human beings should be considered as no less important, if one needs to understand the economy of the informal self-employed sector.[32]

Marshall Sahlins' (1972) typology of reciprocities provides us the understanding of 'generalized reciprocity', 'balanced reciprocity', and 'negative reciprocity'. Although Sahlins applied these types in analyzing the old traditional societies, such typology becomes important to understand the modes of production in the self-employed sector. Gaughan and Ferman (1987) apply the

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[31] Gaughan and Ferman (1987), pp. 17-18.

[32] Gaughan and Ferman (1987), pp. 18.

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typology in explaining the influence of social institutions in determining well-being of the informal self-employed population. The putatively altruistic transactions like voluntary food sharing, the equivalent exchanges of materials between two economic agents, or the forms of appropriations aimed at maximizing utilitarian advantage even when the return is greater than what is offered, are the three forms of reciprocities that prevail in the self-employed economies. The degree of kinship bonding determines the type of reciprocity one engages in. For example, familial and residential groups depend primarily upon generalized reciprocities; village, tribe or similar larger communities rely on balanced reciprocities, and negative reciprocities are found in groups outside such known communities, where the economic agents are strangers to each other.[33]

Gaughan and Ferman (1987) further stress the notion of 'economic work'. When the noneconomic institutions are to be given their due significance, the questions of what is work, value and profit require new understanding. The often non-cash exchanges within the self-employed economy challenges the compartmentalization of 'social' and 'economic' work. Moreover, if the community in question is well-integrated, the failure of one member is often resisted by the others, making the idea of competitive rational economic agent somewhat inapplicable. Gaughan and Ferman note,

> A well-integrated community resists allowing one of its own to fall
> into truly intolerable economic circumstances and will often send
> forth its own informal safety net. This is particularly observable in

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[33] Gaughan and Ferman (1987), pp. 19.

disadvantaged communities where very scarce resources must be shared in order to ensure the survival of the network.[34]

In the question of illegal or criminal transactions, Gaughan and Ferman apply the concept of negative reciprocity. According to them, irregular activities are the extreme manifestation of negative reciprocities, such as dealing in legally forbidden goods, gambling, loan-sharking, prostitution etc. They point out that such activities fall into the fuzzy territory between criminal and the social and irregular economies.

Although the differentiation between the outright criminal and the irregular activities may not seem compelling, the persistence of such activities along with other associational economic activities within the informal sphere of the economy requires further understanding. Conventional economic theory often falls short of explaining the dependence of more and more people on the informal self-employed sector for livelihood parallel to the spread of the industrial capitalist modes of production in the formal sector. Gaughan and Ferman (1987) understand that,

> ...it is reasonable to see this persistence as not simply a vestige of earlier modes, but rather as manifesting a spontaneous human disposition toward reciprocity and cooperation founded upon the means of biological and social reproduction.[35]

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[34] Gaughan and Ferman (1987), pp. 21.

[35] Gaughan and Ferman (1987), pp. 23.

1.7 Conclusion

This literature review provides important insights into the study of informal sector and traces out the contradictory understanding of the origin, definition and the measure of informal sector. It also summarizes the contemporary understanding of the well-being of the people working as informal labor, and points out that a clearer understanding is required. The literatures on the informal sector show that the economy of the self-employed sector is in need of a better assessment, through the recognition of the roles the social institutions play. The literature review demonstrates that it is not appropriate to conceptualize the informal sector as a mere substitute or compliment of the traditional economic activities, nor has it grown due to the failure of the traditional modes of production. Instead, the informal sector has been a crucial economic sphere for the maintenance of social life. It also shows that the conventional notion of 'firms' or 'businesses' prove to be inadequate in explaining the informal economic activities. A major goal of this literature review has been to create a space for the current research projects, namely, the modeling exercise on the impact of trade reforms on the informal sector wages and the demonstration of the economy of the self-employed sector. The next chapter develops a four-sector simple general equilibrium model to find out the theoretical rationale behind the nature of the change of informal sector wage in the post-trade reforms period. This model has been developed for a small open economy. The model has been built upon the

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premise laid out by the earlier studies, particularly, the ones done by Marjit (2003). The model contributes to the literature by allowing one to understand the role trade reform policies play in changing the informal sector wage. The third chapter demonstrates the pattern of the economy of self-employed sector in a third world country. The roles of social institutions, which challenge the accepted categories of 'economic behavior', are evaluated in the study. This study bridges the gap between the anthropological, sociological and economic analyses of the self-employed economy, and thereby contributes to the understanding of the socially cohesive nature of 'work' and 'value of work'. By analyzing the socially embedded nature of 'economic development', this study improves our overall perception about development. It recognizes the significance of the noneconomic (such as the social, political and historical) aspects of a community life, in determining its economic capability and contribution to the people. If one is to understand the development processes and prospects of a community, such noneconomic aspects must be given their due importance.

CHAPTER 2

TRADE REFORMS AND INDIAN INFORMAL SECTOR WAGES: A THEORETICAL CONTRIBUTION

2.1 Introduction

Understanding responses of various sectors in an economy to liberalized trade has become increasingly important. The reason is that a number of the developing economies have been undertaking trade liberalization policies and various sectors of the economy have been going through adjustments and rearrangements. The economic performance of an economy depends crucially upon the adjustments the sectors go through. A number of studies have demonstrated that the informal or unorganized sector of the majority of developing countries tends to grow in size as a reaction to trade reform policies (Yamada, 1996; Currie and Harrison, 1997; Goldberg and Pavcnik, 2003; Rouse, 2004; Sinha and Harris-White, 2007; NCEUS, 2007). Contrary to the earlier understanding of the sector, the informal sector did not disappear through transferring labor to the formal sector. Instead, economists and social scientists have become convinced of the permanence of its existence (Castells and Portes, 1989; De Soto, 1989; Breman, 1996; Fernandez-Kelly, 2006; Harris-White, 2002, 2003, 2007). A new challenge for the researchers is to study the economic

prospects related to the sector. It is necessary to understand how the income of the population working in the informal sector is affected by the policies of trade reforms. This is because an increasing number of developing countries are adopting new economic policies promoting privatization, freer trade and financial as well as labor market liberalization. Despite its importance, the impact of trade reforms on the informal sector wages remains a mostly neglected matter.

A contribution of this study is to fill this gap in the literature, by formulating a theoretical model, which examines how a falling tariff rate affects the wages in the informal sector. It builds partly upon the Marjit (2003) model, but shifts away from the specifications by making a novel distinction between the *informal subcontracted sector* and the *informal self-employed sector* and incorporating them into a simple general equilibrium model. Despite being the largest employment generating sector in a number of developing countries including India, the self-employed sector has never been incorporated into any prior economic study of the informal sector. Hence its inclusion into the model is an improvement over previously available studies. Such an improvement allows us to better understand the conditions and directions of trade liberalization policies' impact on the informal sector wages.

The rest of the chapter is organized in the following manner. Section 2.2 develops the theoretical model. This model is built upon the simple general equilibrium models traditionally used in international trade. The next section describes and discusses all the assumptions. Section 2.3 develops and makes use of the comparative static analysis to find out the impact of decreasing trade

barrier on informal sector wage. Section 2.4 discusses the links between the falling tariff barrier and informal wage, as well as the implications of the results. Section 2.5 summarizes the analysis work and concludes by highlighting the contributions of this work.

2.2 Theoretical Framework

The economic model incorporating the informal sector has been formulated following the more common general equilibrium framework used by International trade theorists. Such simple general equilibrium models have been used for different purposes by Kar and Marjit (2001), Marjit and Beladi (2001). Marjit (2003) and Marjit and Maiti (2006) has made use of the similar framework for the same purpose of understanding the wage impact of trade reforms. The model generated in this work differs significantly from the previously used version in terms of its dimensions and other specifications, but the underlying assumptions of perfect competition and constant returns technology has remained the common thread. The assumptions of perfectly competitive output markets and the constant returns to technology are crucial for this particular modeling exercise. The model in this study consists of four sectors producing four goods. There are four inputs used by the sectors.

(i) Sector X

Sector X is the formal sector, producing a manufacturing good. This sector is the only import-competing sector in the economy. This sector produces output X following constant returns technology and operates in a perfectly competitive market.[1] The production of output follows the production function as described below:

$$X = f_X (K,L,Y) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (2.1)$$

The production function summarizes the input-output relationship in sector X. Output X is produced using capital, labor and an intermediate good Y. Y is produced in the informal sector, which is described in the following subsection. The production function is assumed to be increasing, concave and linearly homogenous. It is differentiable up to the necessary order in inputs.[2]

The firm sells its output at price P_X. Capital is paid according to the value of its marginal product. The rental rate of capital is r and Y is paid its per unit price P_Y. The value of labor is determined in a slightly different way. Labor is hired until the point where the value of the marginal product of labor equals the

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[1] The assumption of perfect competition has often faced criticism from a number of economists, particularly those who are skeptical about the neoclassical economic modeling. For example, the import-substituting industries of the mid to late 20th century in the developing part of the world were oligopolistic. This research considers perfect competition for the sake of convenience and simplicity.

[2] The specific form of the production function would be similar to a Leontief function.

institutionally determined wage W_F.[3] This implies a restriction on the labor employment in this sector; thereby a higher capital-labor ratio is present in this sector (higher than what it would have been in the presence of a competitively determined wage instead of an institutionally determined wage). The institutional determination of the wage in this sector could be due to the presence of labor unions, minimum wage law, public sector pay policies or any other reason.[4] No differentiation among labor types is assumed in this model. As a result, those who can find work in sector X, get paid a wage that is higher than that is of other sectors, without being qualitatively different from workers working in those other sectors. In other words, labor is imperfectly mobile between sector X and the rest of the economy.

Since this is the import competing sector, the domestic market supply of X is shared by the domestic producers of X and the imports of X. Thus the demand-supply balance follows the relationship as stated below:

$$X_d (P_X) = X_s (P_X) = X' + X_{IM} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (2.2)$$

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[3] The institutionally determined wage in the modern (formal) sector is considered in Harris and Todaro (1970), where the workers are paid according to their value of marginal product until the point where the marginal product is equal to the politically determined minimum urban wage. This implies the existence of unemployment in the urban sector. But in the model formulated in this research there exists free entry of labor into the informal sectors, which in effect absorbs those whoever wants to work.

[4] For example, some larger Indian firms are not allowed to lay off workers, resulting in low employment and economic efficiency level (Besley and Burgess, 2004). Also, the resolutions of the Indian trade unions (which are almost always affiliated with the political parties) indicate the similar restrictions.

where $X^{\prime}$ is the domestically produced output and X_{IM} is the amount of X imported. It is assumed that a $P_X > 0$ exists for which the market clears. The price P_X is determined internationally, implying that the economy in question is a small open economy.

The usual economic implication of cost-minimization is assumed here, hence there is the scope of substitution between the inputs if any of the inputs become relatively expensive to the firm. This is not applicable to the intermediate good Y. The assumption here is that there is zero substitutability between capital and the intermediate good, or between labor and the intermediate good. Thus, a fixed amount of the intermediate good is essential for the production of each unit of output X. The assumption of zero substitutability between the intermediate good and other inputs is a simplifying but not an unrealistic assumption. For example, if sector X is assumed to be an industry such that it subcontracts sector Y to produce items like shoes, apparels or processed food items and labels and markets the good as a final product, then a fixed proportional use of the intermediate good (i.e. those items produced by sector Y) is possible. This analogy can include various different types of good.

The unit cost function for the firm is as the following:

$$C_X(W_F, r, P_Y) = \min_{a_{LX}, a_{KX}} \ [a_{LX}W_F + a_{KX}r : F_X(a_{LX}, a_{KX}) \geq 1] \ \dots\dots\dots\dots\dots\dots(2.3)$$

The solution values of a_{LX} and a_{KX} are the cost-minimizing unit factor requirements for sector X. Since production of output in this sector takes place

under the condition of perfect competition, the price of the output will be equal to the unit costs of the inputs. This implication generates the following relationship:

$$a_{LX}W_F + a_{KX}r + a_{YX}P_Y = P_X \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2.4')$$

Without the loss of generality, $a_{YX} = 1$ is assumed, so that the above relationship can be re-written as,

$$a_{LX}W_F + a_{KX}r + P_Y = P_X \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2.4)$$

Since this is the import-competing sector, a fall in the tariff rate will be reflected through the price of this sector. Thus equation 2.3 can be rewritten as follows:

$$a_{LX}W_F + a_{KX}r + a_{YX}P_Y = P_X^* + t = P_X \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2.5)$$

where t denotes the per-unit tariff imposed on the imported part of the output X. this is the sector that first captures any change in the tariff rate. Therefore, a trade liberalization policy will result in a fall in the price of output X.

(ii)   Sector Y

This is a non-traded informal sector, producing the intermediate good Y. It is subcontracted by the formal manufacturing sector for the supply of intermediate good Y. It operates under constant returns technology and in a

perfectly competitive market. The production takes place following the production function:

$$Y = f_Y (K,L) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2.6)$$

The above production function is increasing, concave, linearly homogenous and differentiable up to the necessary order in inputs, according to the assumption. The price of output, as indicated previously, is P_Y. The values of the marginal product of the inputs determine the payments. Since this is the informal sector and there exists free entry, the labor working in this sector receives the competitive informal wage, W_I, where $W_I < W_F$, by assumption.

The entire output of Y is sold to the formal manufacturing sector X as an intermediate commodity. Therefore, a change in the size of the output in sector X impacts Y directly. The demand-supply balance in sector Y follows the relationship as stated below:

$$Y = Y_d = Y_s = a_{YX}X = X \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2.7)$$

Any arbitrary price of Y may lead to excesses in the Y market. In order for equation 2.6 to hold, $E(P_Y) = (Y_d - Y_s) = 0$ is required. This is assumed to take place for P_Y and that a $P_Y > 0$ exists.

The cost minimization condition implies substitutability between capital and labor in this sector. The unit cost function looks like the following:

$$C_Y(W_I, r) = \min_{a_{LY}, a_{KY}} \ [a_{LY} W_I + a_{KY} r : F_Y(a_{LY}, a_{KY}) \geq 1] \ \dots\dots\dots\dots\dots\dots\dots(2.8)$$

The cost minimizing unit factor requirements are obtained as a_{LY}, a_{KY}. Perfectly competitive market generates the equality between the costs of inputs and price of the output. This gives the following relationship:

$$a_{LY} W_I + a_{KY} r = P_Y \ \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2.9)$$

In this study, contrary to the considerations of earlier studies, sector Y is not the only informal sector. This study takes into account the other, usually neglected part of the informal sector, the self-employed sector. Incorporation of the self-employed sector as a separate independent sector is crucial, given its vast size and the difference with sector Y, i.e. the informal subcontracted sector.

(iii)　　Sector S

Sector S is the informal self-employed sector, producing output S, a combination of petty consumer goods and services. The consumer goods and services produced with meager input and sold at a lower price is often termed as petty consumer goods and services (Hart 1973, Breman 1996, Harris-White

2002, Power 2006). The usual assumption of constant returns to scale technology and a perfectly competitive market is also used here.[5] The inputs and output have the usual relationship according to the following production function:

$$S = f_S \ (L, \ C) \ \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(2.10)$$

where C denotes social capital. The reason behind using a social capital is the meager amount of various other types of capital used in this sector and the difficulty of conceiving the rental rates of each types of capital. For example, a street food vendor produces her/his product using own/family labor and a mix of different other inputs including the utensils, the ingredients, the fuel, the cooking space etc. all of which could either be bought or rented with or without the assistance of family or community. Again, a maid-servant sells her service which includes labor, transportation, community network as social capital etc. The difference between various types of capital can be ambiguous. Moreover, calculating the little amounts of capital used by the workers in this sector poses a technical challenge (Jellineck, 1997; Harris-White, 2002; Power, 2006). It is more appropriate to use social capital that determines the availability of all the inputs of production, however small in amount it is. A well-networked or socially well-connected (with the neighborhood, village, town or language-religion-caste groups) worker is assumed to have the access to the various other capitals and

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[5] The assumption of perfect competition is assumed here for the purpose of convenience and simplicity. Chapter 3 of this research examines the impact of the relaxation of this assumption.

equipment required to engage in the production process. It lends clarity to the study without taking any significant insights away.

The price of output S is considered as P_S. The output S is consumed domestically, as this is a non-tradable sector. A particular value of $P_S{}' > 0$ is assumed to exist for which the market for the consumption goods produced by the self-employed sector clears. The demand-supply balance is given as:

$$E_S(P_S) = S_d(P_S) - S_s(P_S) = 0 \text{..(2.11)}$$

for $P_S > 0$.

The inputs of production are paid according to the value of their marginal product. The implications and limitations of this assumption are discussed in chapter 3. Detailed analysis of the relaxation of this assumption is included there too. The labor working in this sector is essentially informal, earning the informal wage W_I (this can be considered as some imputed wage). The rental rate of the social capital is r^C. Substitutability between labor and the social capital implies the following unit cost function:

$$C_S(W_I, r^C) = \min_{a_{LS},\, a_{CS}} [a_{LS} W_I + a_{CS} r^C : F_S(a_{LS}, a_{CS}) \geq 1] \text{..........................(2.12)}$$

a_{LS}, a_{CS} are the cost minimizing unit input requirement in this sector. The assumption of perfect competition provides the following equality between the factor costs and the price of the output:

$$a_{LS} W_I + a_{CS} r^C = P_S \text{..(2.13)}$$

(iv)   Sector A

The fourth sector of the model economy of this study is the agricultural sector producing output A. It is the export sector, producing agricultural commodities using labor, capital and land[6]. The assumptions of constant returns technology and perfect competition are applied in this sector as well. The production follows the following functional relationship:

$$A = f_A (L, K, T) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(2.14)$$

where T stands for land input. This production function, similar to the productions functions of the other three sectors, is assumed to be increasing, concave, linearly homogenous and differentiable up to the necessary order in inputs. Since this is the export sector, the total produce of A is divided among the domestic and the world market. The demand-supply balance is obtained for a positive price $P_A > 0$:

$$A_d + A_{EX} = A_S \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(2.15)$$

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[6] The agricultural trade data available from the Indian Ministry of Agriculture annual reports show that the agricultural export is substantial, both in terms of volume and money value, although the composition of agricultural export has changed to become predominantly cash crops.

where A_d and A_{EX} are sold in the domestic and international markets, respectively, and A_S is the supply of the agricultural products.

For $P_A = P_A > 0$,

$$E_A(P_A) = A_d(P_A) - A_s(P_A) = 0 \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2.16)$$

The rental rate of land is denoted by R. The labor working in the agricultural sector is predominantly informal, hence the wage rate in this sector is W_I. Substitutability between the inputs land and labor is reflected by the unit cost function:

$$C_A(W_I, R) = \min_{a_{LA}, a_{KA}, a_{TA}} [a_{LA} W_I + a_{TA} R + a_{KA} r : F_A(a_{LA}, a_{KA}, a_{TA}) \geq 1]\dots\dots\dots(2.17)$$

where a_{LA}, a_{KA}, a_{TA} denote the cost minimizing unit factor requirements of this sector. The price setting equation is obtained as follows, under the assumption of a perfectly competitive market:

$$a_{LA} W_I + a_{KA} r + a_{TA} R = P_A \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2.18)$$

Hence, equations 2.5, 2.9, 2.14 and 2.19 generate the following price system:

$$a_{LX} W_F + a_{KX} r + a_{YX} P_Y = P_X^* + t = P_X \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2.5)$$

$$a_{LY} W_I + a_{KY} r = P_Y \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2.9)$$

$$a_{LS} W_I + a_{CS} r^C = P_S \quad \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots (2.13)$$

$$a_{LA} W_I + a_{KA} r + a_{TA} R = P_A \quad \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots (2.18)$$

A crucial assumption in the work is of full employment. The input markets are assumed always to be cleared completely; in other words, there is no open unemployment in the economy. The existence of full employment can be expressed by the following functional relationships:

$$a_{KX} X + a_{KY} Y + a_{KA} A = K \quad \dots \dots \dots \dots \dots \dots \dots \dots \dots (2.19)$$

$$a_{LX} X + a_{LY} Y + a_{LS} S + a_{LA} A = L \quad \dots \dots \dots \dots \dots \dots \dots (2.20)$$

$$a_{CS} S = C \quad \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots (2.21)$$

$$a_{TA} A = T \quad \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots (2.22)$$

The above equations reflect that the sums of the cost minimizing derived demand for the inputs are equal to the respective stock of inputs available in the economy. Constant returns to scale technology and inter-sectoral factor mobility are the two important assumptions underlying the existence of the full employment conditions. It is to be remembered here that labor is not perfectly mobile between sector X and the rest of the economy. However, workers who cannot get absorbed in the formal manufacturing sector are assumed to move into the informal sectors. All those workers are assumed to get absorbed into the informal sectors, leading to the clearing of the labor market.

Another important assumption is about the relative factor intensities of the sectors. The formal manufacturing sector is expectedly a more capital intensive sector, than the subcontracted informal sector. Again, the informal subcontracted sector is assumed to be more capital intensive than the agricultural sector. The self-employed sector is labor intensive. This is in line with the majority of the self-employed works undertaken in India, which is usually labor intensive. The points of interest here are the following:

$$K_X/L_X > K_Y/L_Y > K_A/L_A.$$

The general equilibrium model formulated above can now be determined as follows. The point of entry can be the tariff rate, which is given by government policy. Given t, the price equations can determine the factor prices W_I, r, r^C and R. Formal wage W_F is institutionally determined. The factor coefficients are determined from the price system. Then, equation 2.21 determines S and 2.22 determines A. Similarly, X and Y are determined from equations 2.19 and 2.20. Hence, the entire model is determined in this way.

The next section presents the comparative static analysis and its implications. For the sake of convenience, the agricultural commodity can be considered as the numeraire, since the economy concerned is a small open economy. Hence, the price $P_A = 1$. Also, the prices of the petty consumer goods and services do not change much, therefore is assumed to remain largely fixed. This is particularly true if we consider the urban self-employed workers, such as the street vendors, hawkers, maid-servants, recyclers as parts of this sector.

Their earnings do not change easily. These assumptions help to find the link(s) between a declining tariff rate and informal sector wage.

2.3 Modeling the Links between Trade Reforms and Informal Sector Wages

A comparative static analysis is undertaken, in order to understand the impact of falling trade barriers. Trade liberalization policies are reflected through a fall in the exogenous tariff rate, t. Since the price of the formal import-competing sector was protected by the tariff, a liberalized trade regime results in a fall in P_X.

(i)   The Price System

Total differentiation of equations 2.5, 2.9, 2.13 and 2.18, collecting terms and the use of envelope theorem give the following set of equations:

$$\widehat{W_F}\theta_{LX} + \hat{r}\theta_{KX} = \widehat{P_X} - \theta_{LX}\widehat{P_Y}$$

$$\widehat{W_I}\theta_{LY} + \hat{r}\theta_{KY} = \widehat{P_Y}$$

$$\widehat{W_I}\theta_{LS} + \hat{r_C}\theta_{CS} = \widehat{P_S}$$

$$\widehat{W_I}\theta_{LA} + \hat{r}\theta_{KA} + \widehat{R}\theta_{TA} = \widehat{P_A}$$

$$\text{where } \theta_{ji} = \frac{\text{factor price}_j a_{ji}}{P_i} = \text{share of factor j in sector i.}$$

The formal sector wage has been assumed to be institutionally given as W_F. Hence $\widehat{W_F} = 0$. Using Cramer's rule, the factor prices can be solved from the above set of equations.

$$\widehat{W_I} = -\frac{1}{|\theta|}[(\widehat{P_X} - \theta_{YX}\widehat{P_Y})\theta_{KY}\theta_{CS}\theta_{TA} + \widehat{P_Y}\theta_{KX}\theta_{CS}\theta_{TA}] \quad\text{......................................(2.23)}$$

$$\widehat{r} = -\frac{1}{|\theta|}[(\widehat{P_X} - \theta_{YX}\widehat{P_Y})\theta_{LY}\theta_{CS}\theta_{TA}] \quad\text{.....................................(2.24)}$$

$$\widehat{r_C} = -\frac{1}{|\theta|}[\theta_{KX}\theta_{LY}\theta_{TA}\widehat{P_S} - (\widehat{P_X} - \theta_{YX}\widehat{P_Y})\theta_{KY}\theta_{CS}\theta_{TA}] \quad\text{.................. (2.25)}$$

$$\widehat{R} = -\frac{1}{|\theta|}[\theta_{KX}\theta_{LY}\theta_{CS}\widehat{P_A} + \theta_{KX}\theta_{LA}\theta_{CS}\widehat{P_Y} - (\widehat{P_X} - \theta_{YX}\widehat{P_Y})\theta_{LY}\theta_{CS}\theta_{KA}] \quad\text{............. (2.26)}$$

where $|\theta| = -\theta_{KX}\theta_{LY}\theta_{CS}\theta_{TA}$. Since the formal manufacturing sector is capital intensive, $|\theta| < 0$.

(ii)   The Full Employment Conditions:

Similar to the price system, the full employment conditions are differentiated totally, and after collecting terms and using envelope theorem, the following set of equations are obtained:

$$\lambda_{KX}\widehat{X} + \lambda_{KY}\widehat{Y} + \lambda_{KA}\widehat{A} = \widehat{K} - (\lambda_{KX}\widehat{a_{KX}} + \lambda_{KY}\widehat{a_{KY}} + \lambda_{KA}\widehat{a_{KA}}) \quad\text{..........................(2.27)}$$

$$\lambda_{LX}\widehat{X} + \lambda_{LY}\widehat{Y} + \lambda_{LS}\widehat{S} + \lambda_{LA}\widehat{A} = \widehat{L} - (\lambda_{LX}\widehat{a_{LX}} + \lambda_{LY}\widehat{a_{LY}} + \lambda_{LS}\widehat{a_{LS}} + \lambda_{LA}\widehat{a_{LA}}) \quad\text{........ (2.28)}$$

$$\lambda_{CS}\widehat{S} = \widehat{C} - \lambda_{CS}\widehat{a_{CS}} \quad\text{... (2.29)}$$

$$\lambda_{TA}\widehat{A} = \widehat{T} - \lambda_{TA}\widehat{a_{TA}} \quad\text{... (2.30)}$$

where $\lambda_{ji} = \frac{a_{ji}i}{\sum j}$ = fraction of factor j employed in sector i.

Now the elasticities of substitution are defined as follows:

$$\sigma_X = \frac{\widehat{a_{KX}} - \widehat{a_{LX}}}{\widehat{W_F} - \hat{r}}$$

$$\sigma_Y = \frac{\widehat{a_{KY}} - \widehat{a_{LY}}}{\widehat{W_I} - \hat{r}}$$

$$\sigma_S = \frac{\widehat{a_{LS}} - \widehat{a_{CS}}}{\hat{r_C} - \widehat{W_I}}$$

$$\sigma_A^{KT} = \frac{\widehat{a_{KA}} - \widehat{a_{TA}}}{\hat{r} - \widehat{R}}$$

$$\sigma_A^{KL} = \frac{\widehat{a_{KA}} - \widehat{a_{LA}}}{\hat{r} - \widehat{W_I}}$$

Because of the zero substitutability between labor and the intermediate good, or between capital and the intermediate good,

$$\sigma_X = \frac{\widehat{a_{YX}} - \widehat{a_{LX}}}{\widehat{W_F} - \widehat{P_Y}} = \frac{\widehat{a_{YX}} - \widehat{a_{KX}}}{\hat{r} - \widehat{P_Y}} = 0.$$

The elasticities of substitution are used to solve for the change in the unit factor requirements, $\widehat{a_{LA}}$ from the cost minimization conditions:

$$\theta_{LX}\widehat{a_{LX}} + \theta_{KX}\widehat{a_{KX}} + \theta_{YX}\widehat{a_{YX}} = 0$$

$$\theta_{LY}\widehat{a_{LY}} + \theta_{KY}\widehat{a_{KY}} = 0$$

$$\theta_{LA}\widehat{a_{LS}} + \theta_{CS}\widehat{a_{CS}} = 0$$

$$\theta_{LA}\widehat{a_{LA}} + \theta_{KA}\widehat{a_{KA}} + \theta_{TA}\widehat{a_{TA}} = 0$$

The above conditions are obtained using the envelope theorem from the first order conditions of cost minimization.

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Equations 2.27 – 2.30 now can be rewritten as follows:

$$\lambda_{KX}\widehat{X} + \lambda_{KY}\widehat{Y} = \widehat{K} - [-\lambda_{KX}\frac{\sigma_X\theta_{LX}\widehat{r}}{(\theta_{LX}+\theta_{KX})} + \lambda_{KY}\frac{\sigma_Y\theta_{LY}(\widehat{W_I}-\widehat{r})}{(\theta_{LY}+\theta_{KY})} - \lambda_{KA}\frac{\sigma_A^{KL}\theta_{LA}(\widehat{W_I}-\widehat{r})}{(\theta_{LA}+\theta_{KA})}]$$

$$\lambda_{LX}\widehat{X} + \lambda_{LY}\widehat{Y} + \lambda_{LS}\widehat{S} + \lambda_{LA}\widehat{A}$$
$$= \widehat{L} - [-\lambda_{LX}\frac{\sigma_X\theta_{KX}\widehat{r}}{(\theta_{LX}+\theta_{KX})} - \lambda_{LY}\frac{\sigma_Y\theta_{KY}(\widehat{W_I}-\widehat{r})}{(\theta_{LY}+\theta_{KY})} + \lambda_{Ls}\frac{\sigma_S\theta_{CS}(\widehat{r_C}-\widehat{W_I})}{(\theta_{CS}+\theta_{LS})}$$
$$+ \lambda_{LA}\frac{\sigma_A^{KL}\theta_{KA}(\widehat{W_I}-\widehat{r})}{(\theta_{LA}+\theta_{TA})}]$$

$$\lambda_{CS}\widehat{S} = \widehat{C} + \lambda_{CS}\frac{\sigma_S\theta_{LS}(\widehat{r_C}-\widehat{W_I})}{(\theta_{CS}+\theta_{LS})}$$

$$\lambda_{TA}\widehat{A} = \widehat{T} - \lambda_{TA}\frac{\sigma_A^{KT}\theta_{KA}(\widehat{r}-\widehat{R})}{(\theta_{KA}+\theta_{TA})}$$

Cramer's rule is used to solve the above system of equations for $\widehat{X}, \widehat{Y}, \widehat{S}, \widehat{A}$.

The expressions are as follows:

$$\widehat{X} = \frac{\begin{array}{c}\lambda_{CS}\lambda_{TA}[-\widehat{r}(\lambda_{LY}\lambda_{KX}\alpha_{KX} + \lambda_{LX}\lambda_{KY}\alpha_{LX}) - (\widehat{W_I}-\widehat{r})(\lambda_{LY}\lambda_{CS}\alpha_{CS} - \lambda_{LY}\lambda_{KA}\alpha_{KA} \\ + \lambda_{LY}\lambda_{CS}\alpha_{LS} + \lambda_{LA}\lambda_{KY}\alpha_{LA}) - (\widehat{r_C}-\widehat{W_I})(\lambda_{LS}\lambda_{KY}\alpha_{LS} + \lambda_{LS}\lambda_{KY}\alpha_{CS}) \\ -(\widehat{r}-\widehat{R})(\lambda_{LA}\lambda_{KY}\alpha_{TA} + \lambda_{LY}\lambda_{KA}\alpha_{TA})]\end{array}}{|\lambda|}$$

$$\dots\dots\dots\dots(2.31)$$

$$\widehat{Y}$$
$$= \frac{\begin{array}{c}\lambda_{CS}\lambda_{TA}[\widehat{r}(\lambda_{LX}\lambda_{KX}\alpha_{LX} + \lambda_{LX}\lambda_{KX}\alpha_{KX}) - (\widehat{W_I}-\widehat{r})(\lambda_{KY}\lambda_{LX}\alpha_{KY} - \lambda_{KX}\lambda_{LA}\alpha_{LA} - \lambda_{KA}\lambda_{LX}\alpha_{KA}) \\ -(\widehat{r_C}-\widehat{W_I})(\lambda_{LY}\lambda_{KS}\alpha_{LS} - \lambda_{LS}\lambda_{KX}\alpha_{CS}) + (\widehat{r}-\widehat{R})(\lambda_{LA}\lambda_{KX}\alpha_{TA} + \lambda_{LX}\lambda_{KA}\alpha_{TA})\end{array}}{|\lambda|}$$

$$\dots\dots\dots\dots(2.32)$$

$$\hat{S} = \frac{\lambda_{TA}(\lambda_{KX}\lambda_{LY} - \lambda_{LX}\lambda_{KY})[\hat{C} - \alpha_{LS}(\hat{r}_C - \widehat{W_I})]}{|\lambda|}$$

$$................(2.33)$$

$$\hat{A} = \frac{\lambda_{CS}(\lambda_{KX}\lambda_{LY} - \lambda_{LX}\lambda_{KY})[\hat{T} - \alpha_{LA}(\widehat{W_I} - \hat{R})]}{|\lambda|}$$

$$................(2.34)$$

where $|\lambda| = \lambda_{CS}\lambda_{TA}(\lambda_{KY}\lambda_{LX} - \lambda_{KX}\lambda_{LY})$

$\alpha_{LX} = \sigma_X\theta_{LX}\delta_X$

$\alpha_{KX} = \sigma_X\theta_{KX}\delta_X$

$\alpha_{KY} = \sigma_Y\theta_{KY}\delta_Y$

$\alpha_{LY} = \sigma_Y\theta_{LY}\delta_Y$

$\alpha_{TA} = \sigma_A^{KT}\theta_{KA}\delta_A^{KT}$

$\alpha_{LA} = \sigma_A^{KL}\theta_{KA}\delta_A^{KL}$

$\alpha_{KA} = \sigma_A^{KL}\theta_{LA}\delta_A^{KL}$

$\alpha_{CS} = \sigma_S\theta_{CS}\delta_S$

$\alpha_{LS} = \sigma_S\theta_{LS}\delta_S$

$\delta_X = \dfrac{1}{(\theta_{LX} + \theta_{KX})}$

$\delta_Y = \dfrac{1}{(\theta_{LY} + \theta_{KY})}$

$\delta_S = \dfrac{1}{(\theta_{CS} + \theta_{LS})}$

$\delta_A^{KL} = \dfrac{1}{(\theta_{LA} + \theta_{KA})}$

$$\delta_A^{KT} = \frac{1}{(\theta_{TA} + \theta_{KA})}$$

Now the expressions for the factor prices obtained as equations 2.23, 2.24, 2.25 and 2.26 are used to find the following expressions for $\hat{X}$ and $\hat{Y}$. Also, according to the assumptions of this model, the agricultural good is the numeraire good, and the price of the self-employed good takes longer than the prices of the other goods to change. Therefore, $\widehat{P_A} = 0$ and $\widehat{P_S} = 0$.

$$
\begin{aligned}
\hat{X} = \frac{1}{|\lambda||\theta|} \lambda_{CS}\lambda_{TA}\big[& (\theta_{KY} + \theta_{LY})(\lambda_{KA}\lambda_{LY}\alpha_{KA} - \lambda_{CS}\lambda_{LY}\alpha_{CS} - \lambda_{CS}\lambda_{LY}\alpha_{CS} - \lambda_{KY}\lambda_{LS}\alpha_{LS} \\
& - \lambda_{KY}\lambda_{LA}\alpha_{LA} - \lambda_{KY}\lambda_{LS}\alpha_{CS})(\widehat{P_X} - \theta_{LY}\widehat{P_Y}) - \widehat{P_Y}(-\lambda_{KY}\lambda_{LY}\alpha_{KY} \\
& + \lambda_{KA}\lambda_{LY}\alpha_{KA} + \lambda_{KY}\lambda_{LY}\alpha_{LY} - \lambda_{KY}\lambda_{LS}\alpha_{LS} - \lambda_{KY}\lambda_{LA}\alpha_{LA} - \lambda_{KY}\lambda_{LS}\alpha_{CS} \\
& + \lambda_{KY}\lambda_{LA}\alpha_{TA} - \lambda_{KA}\lambda_{LY}\alpha_{TA})\theta_{KX}\big]
\end{aligned}
$$

$$................(2.35)$$

$$
\begin{aligned}
\hat{Y} = \frac{1}{|\lambda||\theta|} \lambda_{CS}\lambda_{TA}\big[& (\theta_{KY} + \theta_{LY})(\lambda_{KY}\lambda_{LA}\alpha_{LA} - \lambda_{KY}\lambda_{LA}\alpha_{KY} - \lambda_{KA}\lambda_{LX}\alpha_{KA})(\widehat{P_X} - \theta_{LY}\widehat{P_Y}) \\
& + \widehat{P_Y}(\lambda_{KX}\lambda_{LY}\alpha_{LS} - \lambda_{KX}\lambda_{LA}\alpha_{LA} - \lambda_{KX}\lambda_{LS}\alpha_{CS} + \lambda_{KX}\lambda_{LA}\alpha_{TA} - \lambda_{KX}\lambda_{LX}\alpha_{KX} \\
& + \lambda_{KA}\lambda_{LX}\alpha_{KA} + \lambda_{KA}\lambda_{LX}\alpha_{TA})\theta_{KX}\big]
\end{aligned}
$$

$$................(2.36)$$

From equation 2.7, the demand-supply balance in sector Y has been obtained as follows:

$$Y = Y_d = Y_s = a_{YX}X$$

Differentiating totally and rearranging terms the following expression can be derived:

$$\widehat{Y_d} = \widehat{Y_s}$$

Using this relationship, equations 2.35 and 2.36 can be interpreted as follows:

$$\widehat{Y_s} = \frac{1}{|\lambda||\theta|}\lambda_{CS}\lambda_{TA}\big[(\theta_{KY} + \theta_{LY})(\lambda_{KY}\lambda_{LA}\alpha_{LA} - \lambda_{KY}\lambda_{LA}\alpha_{KY} - \lambda_{KA}\lambda_{LX}\alpha_{KA})(\widehat{P_X} - \theta_{LY}\widehat{P_Y})$$
$$+ \widehat{P_Y}(\lambda_{KX}\lambda_{LY}\alpha_{LS} - \lambda_{KX}\lambda_{LA}\alpha_{LA} - \lambda_{KX}\lambda_{LS}\alpha_{CS} + \lambda_{KX}\lambda_{LA}\alpha_{TA} - \lambda_{KX}\lambda_{LX}\alpha_{KX}$$
$$+ \lambda_{KA}\lambda_{LX}\alpha_{KA} + \lambda_{KA}\lambda_{LX}\alpha_{TA})\theta_{KX}\big]$$

$$\dots\dots\dots\dots\dots(2.37)$$

$$\widehat{Y_d} = \widehat{X} = \frac{1}{|\lambda||\theta|}\lambda_{CS}\lambda_{TA}\big[(\theta_{KY} + \theta_{LY})(\lambda_{KA}\lambda_{LY}\alpha_{KA} - \lambda_{CS}\lambda_{LY}\alpha_{CS} - \lambda_{CS}\lambda_{LY}\alpha_{CS}$$
$$- \lambda_{KY}\lambda_{LS}\alpha_{LS} - \lambda_{KY}\lambda_{LA}\alpha_{LA} - \lambda_{KY}\lambda_{LS}\alpha_{CS})(\widehat{P_X} - \theta_{LY}\widehat{P_Y}) - \widehat{P_Y}(-\lambda_{KY}\lambda_{LY}\alpha_{KY}$$
$$+ \lambda_{KA}\lambda_{LY}\alpha_{KA} + \lambda_{KY}\lambda_{LY}\alpha_{LY} - \lambda_{KY}\lambda_{LS}\alpha_{LS} - \lambda_{KY}\lambda_{LA}\alpha_{LA} - \lambda_{KY}\lambda_{LS}\alpha_{CS}$$
$$+ \lambda_{KY}\lambda_{LA}\alpha_{TA} - \lambda_{KA}\lambda_{LY}\alpha_{TA})\theta_{KX}\big]$$

$$\dots\dots\dots\dots\dots(2.38)$$

Therefore, the relationship between $\widehat{Y_s}$ and $\widehat{Y_d}$ generates the following:

$$\widehat{P_Y}$$
$$= \frac{\widehat{P_X}(\theta_{KY} + \theta_{LY})(\lambda_{KY}\lambda_{LA}\sigma_A^{KL} - \lambda_{KA}\lambda_{LY}\sigma_A^{KL} - \lambda_{LY}\lambda_{CS}\sigma_S + \lambda_{KY}\lambda_{LS}\sigma_S)}{\theta_{KX}(\lambda_{KX}\lambda_{LA}\sigma_A^{KL} + \lambda_{KA}\lambda_{LX}\sigma_A^{KL} + \lambda_{KA}\lambda_{LY}\sigma_A^{KL} + \lambda_{KY}\lambda_{LA}\sigma_A^{KL} + \lambda_{LY}\lambda_{KY}\sigma_S + \lambda_{LY}\lambda_{KY}\sigma_Y - \lambda_{LS}\lambda_{KY}\sigma_S)}$$

$$\dots\dots\dots\dots(2.39)$$

Finally, plugging the expression obtained above into equation 2.24, the expression for the informal sector wage is reached,

$$\widehat{W_I} = \frac{1}{|\theta|}\theta_{CS}\theta_{TA}\widehat{P_X}\big[\frac{\theta_{KX}\theta_{KY}\varphi + (\theta_{LY}\theta_{KY} + \theta_{KX})(\theta_{KY} + \theta_{LY})\psi}{\theta_{KX}\varphi}\big]$$

$$\dots\dots\dots\dots(2.40)$$

where

$$\varphi = \lambda_{KX}\lambda_{LA}\sigma_A^{KL} + \lambda_{KA}\lambda_{LX}\sigma_A^{KL} + \lambda_{KA}\lambda_{LY}\sigma_A^{KL} + \lambda_{KY}\lambda_{LA}\sigma_A^{KL} + \lambda_{LY}\lambda_{KY}\sigma_S + \lambda_{LY}\lambda_{KY}\sigma_Y - \lambda_{LS}\lambda_{KY}\sigma_S$$

And $\psi = \lambda_{KY}\lambda_{LA}\sigma_A^{KL} - \lambda_{KA}\lambda_{LY}\sigma_A^{KL} - \lambda_{LY}\lambda_{CS}\sigma_S + \lambda_{KY}\lambda_{LS}\sigma_S$

Further simplification gives,

$$\widehat{W_l} = \widehat{P_X}\frac{1}{|\theta|}\frac{\theta_{CS}\theta_{TA}}{\theta_{KX}\varphi}[\theta_{KX}\theta_{KY}\varphi + (\theta_{LY}\theta_{KY} + \theta_{KX})(\theta_{KY} + \theta_{LY})\{\sigma_A^{KL}(\lambda_{LA}\lambda_{KY} - \lambda_{KA}\lambda_{LY})\} - \sigma_S(\lambda_{LY}\lambda_{CS} - \lambda_{KY}\lambda_{LS})]$$

..................(2.41)

The stability condition for the market of Y is,

$$\frac{d(Y_d - Y_s)}{dP_Y} < 0$$

..................(2.42)

This implies that $Y_d = Y_s$ around equilibrium. Therefore,

$$\frac{\widehat{Y_d}}{\widehat{P_Y}} - \frac{\widehat{Y_s}}{\widehat{P_Y}} < 0$$

..................(2.43)

From equations 2.35 and 2.36 are differentiated with respect to P_Y and then the growth rate expressions ($\frac{\widehat{Y_d}}{\widehat{P_Y}}$ and $\frac{\widehat{Y_s}}{\widehat{P_Y}}$) are obtained, which is φ. Therefore, equation 2.43 implies that the denominator of equation 2.39 is negative.

Again, $|\theta|$ is defined as negative, since the formal manufacturing sector is capital intensive.

Hence the sign of $\widehat{W_I}$ depends upon the signs of numerator.

2.4 Discussion

In this section, the following two propositions demonstrate the two possible outcomes of the above modeling exercise. In order to derive the outcomes, equation 2.41 can be rewritten as the following,

$$\widehat{W_I} = \widehat{P_X} \frac{1}{|\theta|} \frac{\theta_{CS}\theta_{TA}}{\theta_{KX}\varphi} [\theta_{KX}\theta_{KY}\varphi + (\theta_{LY}\theta_{KY} + \theta_{KX})(\theta_{KY} + \theta_{LY})[\{\sigma_A^{KL}(\lambda_{LA}\lambda_{KY} - \lambda_{KA}\lambda_{LY})\}$$
$$+ \{\sigma_S(\lambda_{LS}\lambda_{KY} - \lambda_{LY}\lambda_{CS})\}]$$

.................(2.44)

Proposition I : A fall in P_X due to falling tariff, t, may lead to $\widehat{W_I} < 0$ if the following is true:

The ratio of the fractions of labor and social capital employed in the self-employed sector is greater than the ratio of the fractions of labor and capital employed in the informal subcontracted sector.

The formal manufacturing sector is more capital intensive than the informal subcontracted sector, for which $\frac{1}{|\theta|}<0$. The stability condition 2.43 implies that $\varphi<0$. The share of social capital in the self-employed sector, the share of

land in the agricultural sector, the share of capital in the formal manufacturing sector and the informal subcontracted sector and the share of labor in the informal subcontracted sector are all positive. The elasticity of substitution between labor and social capital in the self-employed sector and that between capital and labor in the agricultural sector are both positive. Hence, $\widehat{W_I} \leq 0$ if and only if $(\lambda_{LA}\lambda_{KY} - \lambda_{KA}\lambda_{LY}) > 0$ and $(\lambda_{LS}\lambda_{KY} - \lambda_{LY}\lambda_{CS}) > 0$. In other words, a decreasing informal sector wage requires that, $\frac{\lambda_{LA}}{\lambda_{KA}} > \frac{\lambda_{LY}}{\lambda_{KY}}$ and $\frac{\lambda_{LS}}{\lambda_{CS}} > \frac{\lambda_{LY}}{\lambda_{KY}}$.

This proposition can intuitively be explained as the following. The decrease in tariff rate due to the trade liberalization policies lead to a contraction of the formal manufacturing sector, which is the import-competing sector. As a result, labor is released from this sector, a section of who enter the self-employed sector. The agricultural sector may also absorb a section of the labor released from the formal sector. This also leads to the release of capital from the formal sector, which can end up in the agricultural sector. The data on the gross capital formation in the agricultural sector in India supports this.[7] The relative labor intensity of the agricultural sector compared to the informal subcontracted sector results in $\frac{\lambda_{LA}}{\lambda_{KA}} > \frac{\lambda_{LY}}{\lambda_{KY}}$.

On the other hand, the significant extent of internal displacement of people in India leads to a decline in the employment of social capital in the self-employed sector. This takes place through buying and/or leasing the natural resources, such as land, water, forest, and mines etc. resulting in significant

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[7] Appendix C contains the data.

dispossession of the people depending upon the resources for their subsistence. This gives rise to an influx of self-employed workers, both in the rural and in the urban areas. The extent of internal displacement in India is significant, especially in the period after 1991, the year when the trade liberalization policies were adopted. The special economic zones, export processing zones as well as big industrial projects have led to mass exodus from the areas where local people had established networks to access social capital. As a result, the self-employed sector can be understood as the sector that employs more labor compared to social capital.[8]

Again, employment data on the informal sector clearly shows (NCEUS 2007) that more labor is employed in the self-employed sector than the informal subcontracted sector. Hence the following situations arise:

The labor employment in the self-employed sector grows; the social capital employment in the self-employment sector falls; the labor employment in the informal subcontracted sector grows but less than that in the self-employed sector; and, capital employment in the informal subcontracted sector grows. It can be concluded that the ratio of the labor and social capital employment in the self-employed sector is greater than the ratio of labor and capital employment in the informal subcontracted sector. In other words, $\frac{\lambda_{LS}}{\lambda_{CS}} > \frac{\lambda_{LY}}{\lambda_{KY}}$.

The intuition behind the above analysis can be summarized as the following:

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[8] Reports of the Indian Population Council, the Internal Displacement Monitoring Center state that Also, evictions due to large factories and various special economic enclosures are frequent.

The declining price of the import-competing manufacturing sector due to the declining tariff decreases the labor employment in this sector and more labor is absorbed in the agricultural and self-employed sector. Along with labor, the formal manufacturing sector releases capital as well, which end up in the agricultural sector. The newly absorbed labor force in the self-employed sector faces a reduction in the access to the social capital due to the growing dispossession of the resources and social network. Such dispossession can result from the rearrangement of property rights by the formal import-competing manufacturing sector, which buys/leases resources as an alternative method of reducing cost of production (the first one being the contraction in the formal workforce). Thus, the labor employment in the self-employed sector grows as the social capital dwindles. On the other hand, the labor employment in the informal subcontracted sector is lower than that in the self-employed sector. As a result, the ratio of the labor and social capital employment in the self-employed sector is greater than the ratio of labor and capital employment in the informal subcontracted sector, i.e., $\frac{\lambda_{LS}}{\lambda_{CS}} > \frac{\lambda_{LY}}{\lambda_{KY}}$ is possible.

Proposition II : A fall in P_X due to falling tariff, t, may lead to $\widehat{W_I} > 0$ if the following is true:

The ratio of the fractions of labor and social capital employed in the self-employed sector is less than the ratio of the fractions of labor and capital employed in the informal subcontracted sector.

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In other words, the trade liberalization policy may lead to a rise in informal sector wage iff $\frac{\lambda_{LS}}{\lambda_{CS}} < \frac{\lambda_{LY}}{\lambda_{KY}}$. This is possible only when one the following two conditions are met. First, the employment of social capital falls below that of labor in the self-employed sector because the social or community ties are stronger. This may stem from a lower rate of out-migration from the villages or the states. The second condition is that the share of labor employment is higher in the subcontracted sector than that in the self-employed sector. The first condition can be examined using the available migration date from India. The latest population census data of India (2001) shows that the rural out-migration, both inter and intra-state are comparable and has not decreased over the previous periods (UNDP urban Poverty report 2009, Mitra and Murayama 2008, National Population Commission of India reports). Therefore it is tough to find intuitive support in favor of a lower employment of labor compared to that of the social capital in the self-employed sector. Moreover, the internal displacement data, as discussed above, contradicts this condition. Again, the employment data obtained from the NCEUS (2007) report does not support the second condition. Therefore it is hard to find logical or data support for proposition II.

Both the propositions demonstrate the significance of the self-employed sector in determining the informal sector wage. The outcome of the modeling exercise done in the previous section is clearly dependent upon the employment of labor in the self-employed sector (along with that in the subcontracted sector) and also, on the employment of social capital in the self-employed sector. This intriguing result is relevant from the policy perspective. Since the vast self-

employed sector holds a crucial key to the improvement of the working conditions, precisely the wages of the informal workers, there is ample scope for the policymakers to rethink development policies for the self-employed sector.

2.5 Conclusion

India, like a lot of other developing countries, has started implementing liberalization policies in the early 1990s. Since the liberalization policies influenced the Indian economy very much, it is very important to understand the adjustments different sectors undergoes and the costs associated with the adjustments. The goal of this research was to understand how the wages of the informal sector adjusts in response to the trade liberalization policies. This chapter has generated a four-sector simple general equilibrium model, where there are two types of informal sector, the informal subcontracted sector and the informal self-employed sector, along with the formal manufacturing sector and the agricultural sector. Unlike the previous economic studies, this research gives both types of informal sector their due importance in a neoclassical modeling exercise. The trade liberalization policies are represented by a fall in the tariff rate and therefore a fall in the price of the import competing manufacturing sector. The expression for the change in informal sector wage is obtained by solving the price system and the full employment system with the use of Cramer's rule and envelope theorem. The resultant expression for informal sector wage indicates the importance of the self-employment sector. Despite

certain level of subjectivity, the result shows that a fall in the tariff rate (reflected through the falling price of the import-competing formal manufacturing sector) can lead to a fall in the informal sector wage, if the fraction of labor employed in the self-employed sector compared to that of social capital in this sector is greater than the fraction of labor employed compared to capital in the informal subcontracted sector. Incorporating the self-employed sector as a sector separate from the informal subcontracted sector is an original contribution of this chapter. It allows one to understand the role of the self-employed sector in affecting the working condition of the workers in both types of informal sectors. This is the fundamental way in which this research parts ways with the previous studies in informal sector. This is the first ever economic research where the self-employed sector has been considered as a separate and independent sector, and through the general equilibrium modeling exercise, this research emphasizes the requirement for a better understanding of the self-employed sector. The next chapter of this research examines the production process of the self-employed sector.

CHAPTER 3

THE ECONOMY OF THE SELF-EMPLOYMENT SECTOR

3.1 Introduction

People working as self-employed in the developing countries are often considered as poor and property-less individuals, and therefore their method of production are left out of the economic analysis of wealth generation. Self-employed sector comprises of about 258.3 million people in India (NCEUS 2007). All of the semi-independent peasants with small assets, the petty commodity producers and traders, the small family businesses and various kinds of mobile exchange and productions constitute the self-employed sector. It is crucial to understand the internal dynamics of the economy of the self-employed sector from more than one perspective. No understanding of economic development can be complete without the due attention to the self-employed sector, particularly because of its enormous size and capacity to provide for a huge proportion of the population. In the aftermath of the implementation of the trade liberalization policies in India, i.e. post-1991, the increasing size of the self-employed sector makes its understanding even more important. Among other factors leading to the growth of self-employed sector such as the internal displacement of people due to industrialization and rearrangement of property rights and rural-urban migration, the trade liberalization policies of 1991 is an

important one. Therefore, the economy of the self-employed sector requires attention from the policymakers' point of view as well. As the previous chapter demonstrated, the working condition of the casualized workers of the Indian economy is affected by the economic conditions of the self-employed sector. A clearer perception of the majority of Indian working population necessitates a better understanding of the economy of the self-employed sector.

A majority of the literature on development economics addressing the permanence of the growing informal economy of the developing nations concentrates on the dynamics of the informal subcontracted sector. The informal subcontracted sector employs casual wage workers to produce the goods and services outsourced by the formal sector. But, a larger portion of the informal population is self-employed, and the analyses of the informal sector as well as of the formal-informal interactions are bound to be insufficient unless this self-employed population receives attention. This chapter fills the gap by analyzing the production system of the self-employed sector. Since the trade liberalization policies and their impact on Indian economy gives us the opportunity of a 'natural experiment', this chapter draws primarily on the Indian self-employed sector. In this sense, the study of the self-employed sector provided in this chapter considers India as a case in point. But the understanding generated here may be checked whether it is general enough to be applied in the study of the self-employed sectors of other similar economies.[1]

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[1] It may appear to be quite ambiguous to list the similar economies, where the current study of the Indian self-employed sector can be applied. There can be various ways to find similarity between two economies. The specific features that

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The rest of the chapter is organized in the following manner. Section 3.2 presents a cross-sectional view of the self-employed occupations available in India. This section also explains the methods of categorizations of the occupations. Section 3.3.1 examines the major characteristics of the production processes of self-employed occupations and the method of valuing the inputs. The next section, 3.3.2 examines the costs of production in the self-employed sector. The transfer income earned from various sources including the government welfare programs is important for the survival of the self-employed population, which has been described in section 3.3.3. Section 3.4 strongly argues the non-viability of an optimization exercise for the self-employed sector. Section 3.5 demonstrates the role of the self-employed sector in defying the much celebrated model of dual economy. A summary of the chapter along with some concluding comments follow in section 3.6.

3.2 Self-employed Occupations

According to some researchers, the heterogeneity of the production processes belonging to the self-employed sector leads to the lack of understanding about this sector (Subrahmanya and Jhabvala, 2000, Harris-White, 2009). For a lot of

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might help one to consider two economies similar, especially for the current purpose, should include the historical experience of colonialism, geographical features that influence occupational patters, ratio of population to resources, process of community building according to neighborhood, village/town, religion, caste etc. In other words, any economic and non-economic factor that might influence the production patterns. Of course this list of features here is no way exhaustive.

other economists, it is the non-conformism of the self-employed occupations with the definition of the capitalist entrepreneur that results in the misunderstanding of this sector (Hart 1970). The goal of this subsection is to disentangle the self-employed occupations from a web of confusion about their merit of being entrepreneurs. It explores the definitions of the very words such as 'work' and 'entrepreneur'.

The dictionary definition of the word 'work' says that it is an activity of exerting physical and/or mental effort to do or perform something. A more specific definition of work that is acceptable in Economics would be, "the labor, task, or duty that is one's accustomed means of livelihood" (Merriam-Webster online edition). According to both definitions, the self-employed occupations are far from being marginal or unproductive activities. The question that arises here is that, why then do the economic studies on developing countries tend to consider such a self-employed entrepreneur as marginal or unproductive. This question explains the mainstream's insistence of policies to 'cure' poverty by making the poor engaged in self-employed 'activities' into 'proper' entrepreneur. What is, then, the meaning of the word 'entrepreneur'? What does it mean to be an entrepreneur? According to the dictionary, an entrepreneur is "one who organizes, manages, and assumes the risks of a business or enterprise" (Merriam-Webster dictionary online edition). Again, the Oxford English dictionary defines 'entrepreneur' as "one who undertakes an enterprise; one who owns and manages a business; a person who takes the risk of profit or loss" (Oxford English Dictionary online edition). Since economics tend to define something as

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'business' or 'enterprise' in a very narrow term, a self-employed person hardly falls into the category of 'entrepreneur'. One who does not reinvest her/his accumulated profit into productive investment activities is not considered an 'entrepreneur'.[2] No matter how creative, useful and productive (in terms of the capacity and frequency to produce) a self-employed person is, (s)he always remains a 'petty trader' due to her/his 'unproductive' usage of the income. For example, the following quote of a Ghanaian journalist summarizes how the self-employed sector is characterized.

> [l]ittle reliance can be placed on the Ghanaian entrepreneur for rapid development...the Ghanaian businessman's attitude to growth is very different from the typical entrepreneur in the early eighteenth and nineteenth centuries in England, for example. He remains, even when trading on a fairly large scale, in his approach essentially a petty trader. He is in business primarily to make money and to spend the money as he makes it on a higher standard of living and (somewhat unwillingly) in support of his numerous relations. No doubt a government firmly convinced of the virtues of private enterprise could encourage the capitalistic virtues in the course of time."[3]

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[2] Hart (1970), Gaughan and Ferman (1987) criticize such a narrow and singular use of the term 'entrepreneur'. It has become more like a common-sense matter as to who is considered an 'entrepreneur', such has been the power of a singular economic model of production.

[3] J. W. Williams (1963), pp. 196-97, quoted in Hart (1970), pp. 107. Also, studies like Tamvada (2010), Iyigun and Owen (1999) are plenty in number that dissociate entrepreneurship and the productive capability seen in the self-employed sector.

Tokman (2006, 2007) maintains the similar view that the own-account workers operate outside the ambit of the modern sector where true entrepreneurs work, and that the former is in need of policies that will enable them to integrate into the modernization process. The income earned in this sector is spent on maintaining the entrepreneur's familial responsibilities, as the above quote mentions, and it can also be spent on various other interests. Such interests, from the point of view of capitalist accumulation, are unproductive and therefore not to be incorporated in the study of economic development. This is justified by the ethnocentric idea of a homogeneous set of prescriptions for curing underdevelopment (Hart, 1970).

The current subsection of this chapter puts together a non-exhaustive list of self-employed occupations commonly engaged-in across India. Different ways of categorization of the occupations have been discussed.

Self-employed occupations that exist in India are very hard to put into a single list. Yet it is important to list them, however incomplete it may be, to clarify the difference between the occupations in question and work in other sectors, particularly the casualized wage labor work in the subcontracted informal sector. **Table 3.1** in the next page presents a microcosm of various types of self-employed occupations seen in India. Despite being incomplete, this list reflects the level of variety present in the self-employed sector.

Table 3.1:   Self-employed occupations in India

1. Garbage picker
2. Maid servant
3. Agricultural Worker
4. Tailors
5. Dressmaker
6. Cobbler
7. Barber
8. Janitor
9. Washer (wo)man
10. Plumber
11. Weaver
12. Carpenter
13. Hairdresser
14. Beautician
15. Door-to-door sales person
16. Street vendor – ready-to-eat food
17. Street vendor – vegetable and fish
18. Hawker in trains, buses etc
19. Porter
20. Fisherman
21. Potter
22. Service provider in tourist areas
23. Recycler – paper, glass, old items pickers
24. Household units producing various food items (papad, pickles, clarified butter, molasses etc), package materials (paper packet etc)
25. Rickshaw, cart puller
26. Freelance worker (writer, journalist, photographer etc)
27. Private tutor
28. Bricklayer
29. Mechanic
30. Electrician
31. Blacksmith
32. Moneylender
33. House painter
34. Cigarette roller
35. Newspaper deliverer
36. Milkman
37. Mason
38. Cloth-presser

Table 3.2: Categorization of Self-employed Occupations

Occupations	Rural	Urban	Goods	Services	Female-centric	Male-centric
1. Garbage-picker		√		√		√
2. Maid servant		√		√	√	
3. Agricultural worker						
4.Tailor	√	√	√			√
5. Dressmaker		√	√			√
6. Cobbler	√	√		√		√
7. Barber	√	√		√		√
8. Janitor	√	√		√		√
9. Washer (wo)man	√	√		√	√	√
10. Plumber		√		√		√
11. Weaver	√		√			√
12. Carpenter	√	√		√		√
13. Hairdresser		√		√	√	
14. Beautician		√		√	√	
15. Door-to-door sales person		√	√		√	√
16. Street-vendor (ready-to-eat foods)		√	√		√	√
17. Street-vendor (vegetables and fish)	√	√	√		√	√
18. Hawker in trains, buses		√	√			√
19. Porter		√		√		√
20. Fisherman	√		√			√
21. Potter	√		√			√
22. Service provider in tourist areas	√	√		√	√	√
23. Recycler - paper, glass, old item pickers		√		√		√
24. Household units producing various food items (papad, pickles,	√	√	√		√	

clarified butter, molasses etc), package materials (paper packet etc)						
25. Rickshaw, cart pullers		√		√		√
26. Freelance worker (writer, journalist, photographer)		√		√		√
27. Private tutor	√	√		√	√	√
28. Bricklayer	√	√		√	√	√
29. Mechanic	√	√		√		√
30. Electrician		√		√		√
31. Blacksmith	√		√			√
32. Moneylenders	√	√		√		√
33. House painter	√	√		√		√
34. Cigarette roller	√		√		√	
35. Newspaper deliverer		√	√			√
36. Milkman		√	√			√
37. Mason	√	√	√			√
38. Cloth-presser		√		√	√	√

Source: Own creation, from numerous documentations, newspaper and media reports and sociological studies.

Table 3.2 attempts to categorize the occupations according to three different criteria. The occupations may be rural or urban, goods or service providers and female or male centric. It should be noted here that the categorizations does not indicate any water-tight compartmentalization; - instead it represents the major tendencies of the occupations. In other words, listing plumber or electrician under the category of urban does not mean that those occupations are completely absent from rural India. It only indicates that in most of the cases in India such occupations are seen in urban areas.

On the other hand, potters or free-lance workers like the newspaper reporters, writers and photographers are listed as male-centric, only to emphasize that there are far more male potters and free-lance workers in India than their female counterparts.

Table 3.2 shows some patterns in terms of the categorization of the occupations. First, there are more urban self-employed occupations than rural. The reason behind this phenomenon could be the fact that a majority of the rural population are agricultural, leading to a much lesser variety of rural-self-employed occupations. The greater complexity and interdependence of work and living found in urban spaces create the space for a variety of self-employed occupations. The majority of the self-employed service providers earn their living in the urban areas, which may be due to both a lack of similar demand and affordability in the rural areas. For example, there is low need for a pickles seller, washer-(wo)man or a house-painter as most rural household are self-dependent for such items. Again, hawkers on the bus, rickshaw-pullers or hairdressers are

primarily urban professions. The second observation is that there are more male-centric, self-employed occupations than female-centric. This is due to various reasons. The existing gendered division of labor leads to a pre-specified role playing by male and female self-employed persons. Traditionally, women have worked inside the house, on the family farm or in a family enterprise. Whenever women entered the recognized workforce, it has more been as a wage worker than an independent entrepreneur (Harris-White 2003). Moreover, work of a barber, cobbler, carpenter, fishermen, hawker in trains or buses have traditionally been male work, due to various customs and regulations. Apart from that, women have not taken part in the occupations like porters, rickshaw or cart-pullers, as such heavy manual work has always been for male workers. As a consequence, the majority of female self-employed workers engage in household production of various food items (pickles, clarified butter, molasses, various fried snacks, lentil-dumplings, spicy mixtures, puffed rice, papad, roasted chickpea and peanut, various sweets, candies etc) and package materials (paper packets, hand-rolled jute ropes, weaved baskets etc).

A third observation from **Table 3.2** would be the difference between the number of occupations under the category of goods provider and services provider. There are more service-providing occupations in the self-employed sectors than goods-providing occupations. This is simply because different types of services can be listed as different occupations much more clearly than different types of goods. For example, a number of goods can be grouped under the category of household units producing food items, whereas the services of a

barber, cobbler, janitor, tailor or a mason are hard to group together. For this reason, goods are more grouped together (under the categories of 'street vendors', 'hawkers', 'sales person', or 'household producing food items', for example).

Table 3.2 is meant to represent the types and patterns of different entrepreneurial activities available in the self-employed sector in India. Here the term 'entrepreneurial' is used differently, in a much broader sense than its conventional use. The next subsection explains the production relationships between the self-employed sector, the society and the formal sector.

One important point needs to be noted about the categorization of the self-employed occupations presented before. The Counterparts of a number of the occupations listed in the table are recognized as 'occupations' by the Indian National Classification of Occupations - NCO (2004). The self-employed, small-scale economic activities are clubbed together as 'elementary occupations' in the NCO (such as, garbage-picker, maid servant, cobbler, barber, janitor, washer-woman, door-to-door sales person, both types of street vendors, hawker in trains and buses, porter, fisherman, rickshaw and cart puller, newspaper deliverer, milkman and cloth presser). But, occupations that did not get classified are the followings; Household units producing various food items (papad, pickles, clarified butter, molasses etc.), package materials (paper packet etc.), freelance worker (writer, journalist, photographer), private tutor, moneylender, priest and prostitute.

Figure 3.1: System of Production of the Self-employed Sector
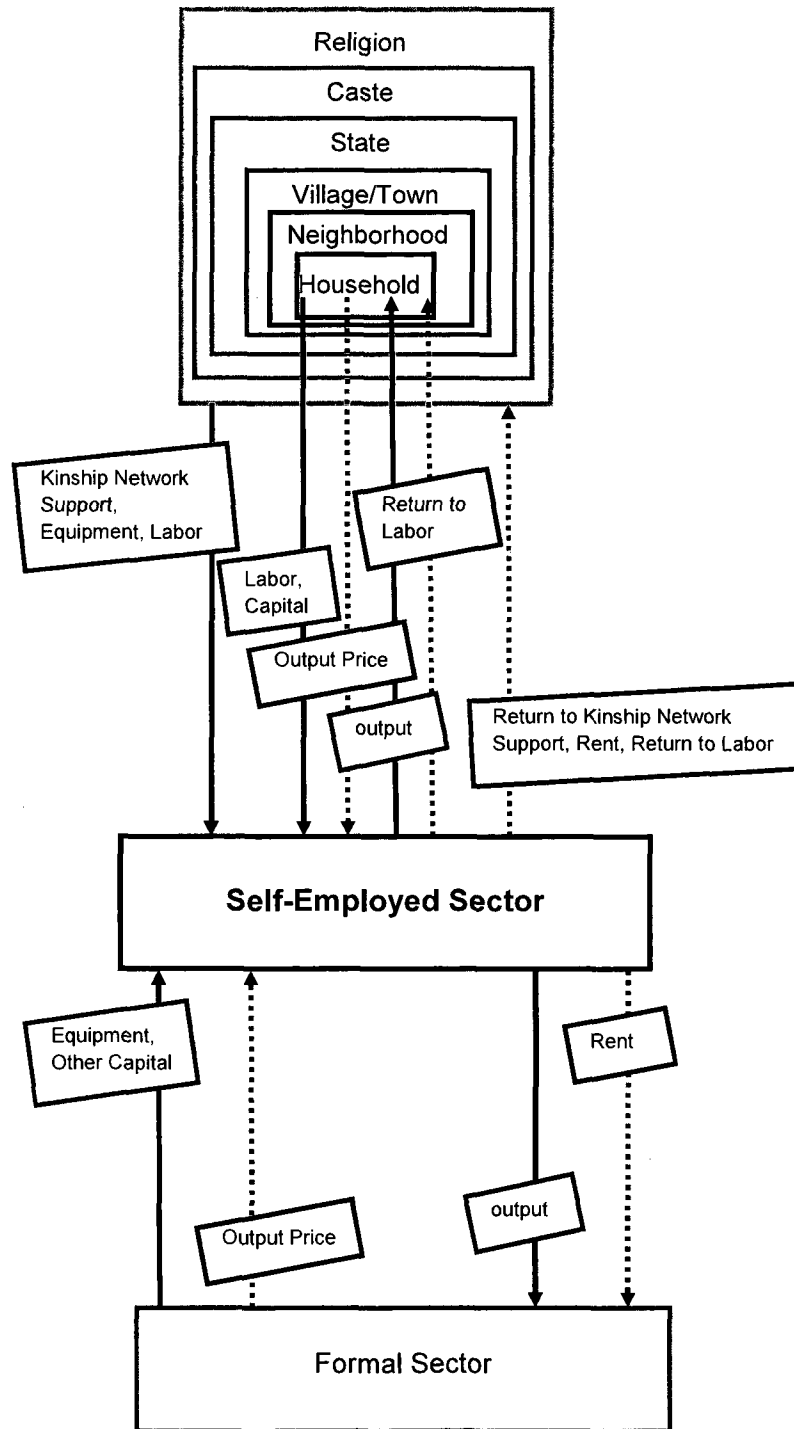
(The solid and the dotted arrows represent physical and monetary flows in the economy)

3.3 System of Production in the Self-employed Sector

3.3.1 Production

3.3.1.1 Major Characteristics

Often-times, the chaotic and complex production system of the self-employed sector is simply left out of economic analyses. This subsection explains the system of production that the self-employed sector follows. **Figure 3.1** represents a concise version of the system of production. The interactions between the self-employed sector, the formal sector and the rest of the society have been demonstrated in this system-diagram. Although the self-employed and the formal sector are integral parts of the society in common terms, this figure considers them as separate entities only to differentiate between their specific economic roles to each other. The society is stratified in the diagram, to emphasize the various types of group-formations. A household is a part of a neighborhood of a village or a town within a state. Several such households can be a part of an imagined group belonging to same caste of religion. Often, groups formed according to caste, language, or religion can transcend the boundaries of states. For example, a Muslim family producing traditional food items made of semolina (used during Muslim religious festivals throughout the year) may still belong to the same religious group even after they migrate from the state of Gujarat to Rajasthan. Again, a cattle-raiser from the state of Bihar belonging to the caste *kahar* can migrate to the state of West Bengal where other *kahars* live

and work as a milkman.[4] Jan Breman (1987) describes similar cases of cross-state migration out of the West Indian state of Gujarat. Such groups ensure the rights to inputs and production processes. For example, access to various types of tangible and intangible inputs of a self-employed street-vendor depends upon her belonging to a particular neighborhood, slum, and/or a particular caste. Or, a maid-servant has a steady access to work due to the community she lives in.

The self-employed sector in **Figure 3.1** involves in two levels of economic interactions with the society. The first is with the household (s)he belongs to, and the other is with the different groups (s)he is a part of. It is to be noted that not every self-employed person interacts economically with all the groups (s)he belongs to at all times. There exists an unwritten understanding of whether (s)he shares resources with her/his fellow slum-dwellers or with those from the same caste group. Such understanding is put in place by the time, space and type of work (s)he engages in. For example, a porter at a train station gets the entry into the job market through the network of his fellow villagers who have migrated to the city and live together in a ghetto. Again, a garbage-picker depends upon the neighborhood (s)he lives in (Sule 2005, Kamat 2010).[5]

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[4] Similar stories of migration are very common in India. Despite frictions among the already migrated, the state-natives and the new migrants, such migrations have allowed people to work as self-employed (along with wage work), particularly in cities. Self-employment among the migrants was possible partly due to the caste, language and religion-based network formations. Daily newspapers (e.g. The Telegraph, 02.24.08) regularly report on the utilization of such vote banks by different political parties.

[5] Also, Power (2006) and Birckbeck (1979) provide detailed account of the economy of the garbage industries of Manila, Philippines and Cali, Colombia respectively.

A self-employed production unit, which can either be a person, a family or an informal enterprise employing labor, depends on the household or various other social groups or networks for resources and inputs. Similarly, the returns to the inputs are determined or at the least, influenced by the support of the network as well. On the other hand, the self-employed sector can also avail itself of the inputs of production from the formal sector in exchange of the payment of rent for capital and other equipments and price for other inputs (such as the gadgets of a hairdresser, carpenter or a tailor). The key point to be noted here is the difference between the procurement and valuation of inputs from the social network groups as compared with the formal sector. Explanation and analysis of this difference is one of the major contributions of this chapter.

3.3.1.2 Valuation of Inputs

A self-employed tailor can rent the sewing machine from a registered machine renting firm and buy the sewing materials such as the needles, the threads and the buttons from a registered shop at a price determined according to the law of demand and supply. The production function in this case may not look different from conventional production functions. If one sewing machine, two needles, three yarns of thread, six buttons and 2 labor hours are required to make one Indian shirt, then the production function can be written as,

$S = \min \{M, N/2, T/3, B/6, L/2\}$

Where M = sewing machine,

N = needle

T = thread

B = button

S = shirt

L = labor hour.

The inputs are paid according to their market determined value of marginal productivities, when they are bought or rented from formal enterprises. Thus, the buyer/renter and the supplier of the inputs come together for the exchange of inputs following the terms of the market. It is not hard to identify the buyer and the supplier of the inputs of production. Inputs thus obtained from the formal sector by the self-employed sector are combined to produce an output that promises a higher value.

Such a method of accessing inputs and the determination of their values do not work in cases when the self-employed sector procures the inputs from the social groups. This is because the self-employed production entities are embedded within the social groups and it is very hard to physically differentiate the producing units and the network it belongs to. The access to inputs follows a different arrangement of property rights. Also, the determination of their values often defies the logic of marginal productivity.

In order to understand the dynamics of the self-employed production processes, it is important to recognize that the concept of property, resources and access to them are very different from what the neoclassical economic theories believe, often intangible and immeasurable. Such intangible property

rights are exercised through behavioral relations among the individuals belonging to a social network as well as the existing norms and conventions of the groups. Such norms and regulations produce informal institutions and lead to wealth-generating productive activities.[6] Such institutions can often be extralegal, as Harris-White (2003) and Jagannathan (1987) pointed out, and can fill the gap created by the weak formal institutions present in the self-employed sector. Rules and regulations of extralegal property rights are byproducts of unwritten conventions. For example, cart-pullers, service providers at a tourist spot, hawkers on trains and buses, or street-vendors follow the regulations of territorial sharing that is a result of many years of unwritten norms prevailing in the area. Preoccupancy with the legality of property rights does not lead one to understand such behavioral arrangements. Again, convenience of repeatedly buying or renting vending carts or raw materials from a single seller leads to an invisible contract that generates input for the buyer/renter and a regular income for the supplier. Such mutually beneficial arrangement relies upon the simple human nature of habit of regularity. And the ensured income stream is the intangible asset which Thorstein Veblen (1908) pointed out in the following quote:
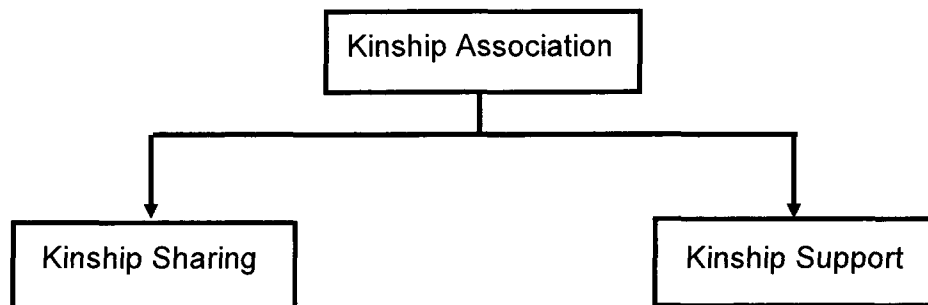
> The intangible assets capitalize the preferential use of certain facts of human nature – habits, propensities, beliefs, aspirations, necessities – to be dealt with under the psychological laws of human motivation.

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[6] Jagannathan (1987) provides extensive analysis of such informal property right arrangements.

The behavioral relationships among and between the social groups as well as among the individuals are crucial determinants of the availability of inputs for various self-employed production endeavors. The informal institutions that emerge out of the behavioral relationships often take a more complex form when the relationships become multi-lateral. If families of three brothers own a plot of land, sell vegetables from the land and run a street-side food-stall, each member of the extended family engages in behavioral relation with each other at multiple levels. This is most commonly seen among the agricultural families or communities. Such multi-lateral informal contracts may take place among bigger groups of same caste, village or religion. Such multi-lateral behavioral relationships indicate the existence of a strong kinship network among the self-employed people. The strength of kinship network often determines or at the least, influences the availability of various inputs of production.

Figure 3.2: Types of Kinship Association

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                    ┌─────────────────────┐
                    │ Kinship Association │
                    └─────────────────────┘
              ┌──────────────┴──────────────┐
              ▼                             ▼
    ┌──────────────────┐          ┌──────────────────┐
    │ Kinship Sharing  │          │ Kinship Support  │
    └──────────────────┘          └──────────────────┘
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The role of a kinship network can be identified at two different levels, as represented in **Figure 3.2**. First, a strong sense of kinship assures the availability of resources through various bi-lateral or multi-lateral informal contracts as discussed above. The Indian joint-family-owned production systems are a good example in this case. Agricultural families and communities, sharing common water, energy sources or pastoral land provide income streams for all those who enter the unwritten contract. Such informal contracts through kinship associations ensuring joint share of resources and access to other inputs like equipment of farming, of a potter, a barber or a cobbler, can be termed as *Kinship Sharing*. *Kinship Sharing* primarily means sharing of common resources.[7] Another type of kinship network support can be identified and separated from *Kinship Sharing*, predominantly in urban areas and among the communities lacking any common resource pool such as pastoral land, forests, village ponds, rivers, watersheds etc. People who migrate from rural to the urban areas after being displaced from their land, often end up in various self-employed occupations.

Rural-urban migration and the increase in the number of urban slum-dwelling, self-employed population are common in the developing countries. Mike Davis (2003) provides an excellent and extensive account of such population in various cities of the developing world. The reason behind the growing urban, self-employed population is manifold. The pressure of turning agricultural land in to grazing land, factories or increasing economic burden through higher rents or taxes have resulted in a mass displacement, the majority of which have been

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[7] Chopra and Dasgupta (2002) discuss different common pool resources in India.

absorbed in the self-employed sector. People who lost access to common resources (such as land, water, forest etc) and started working as a hawker, a rickshaw-puller or a porter, started to rely upon a different kind of kinship network. The bi-lateral contracts between a buyer/renter and the supplier of vending cart or sewing machine or raw materials for making readymade food items start and thrive upon the kinship bond between them. Such kinship may be due to the fact that they both belong to the same village, caste or religion, and can be termed as *Kinship Support*. *Kinship Support* can replace *Kinship Sharing* for those who migrate from rural to urban areas. Those who have been a part of urban self-employed workforce for a longer time and had never been a rural worker, *Kinship Support* turns out to be the only kinship experience they ever had. Such *Kinship Support* becomes a source of sustenance for people who lost their home and access to resources due to the Tehri Dam project in the Himalayan Mountains, the mining projects in the state or Bihar and Jharkhand, or the Sardar Sarovar Dam on River Narmada in Western India.[8]

So far, the role of informal institutions built upon the behavioral relationships has been demonstrated. Two types of kinship association and their roles in ensuring the availability of resources and inputs of production have been laid out as well. A generalized functional relationship between the inputs of production and the output can be represented as the following:

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[8] Numerous accounts are available on the displacement of rural population due to industrial projects, and their dependence on the community they belong to. The Narmada Bachao Andolan is one reliable source of such information. Also the Internal Displacement Monitoring Center regularly documents such displacements and growing support of communities within themselves.

$$Y = f \text{ (Labor, Capital, Equipment)},$$

where Y is the output. The availability of capital and equipments are in part dependent on the strength of the kinship network the producer belongs to. Labor is completely dependent upon the kinship network support. The reason is simple, even when a family member works in a self-employment endeavor, that labor is obtained because of the existence of family. On the other hand, money can be borrowed from a formal sector bank without the help of kinship network. Similarly, equipment can also be borrowed or bought from a registered lender/seller. Therefore, the functional relationship of production can be written as,

$$Y = f \left[L_{KNS}, (aK + K_{KNS}), (bE + E_{KNS}) \right]$$

where a, b are constants denoting the fraction of capital and equipment needed for one unit of output, and aK, bE are the portions of capital and equipment that are obtained without the support of the kinship network. L_{KNS}, K_{KNS}, E_{KNS} are the portions of labor, capital and equipments respectively that are obtained because of the kinship network support (KNS). Clearly, the inputs are perfectly, imperfectly or non substitutable, depending upon a particular occupation. For example, if the above functional relationship of production is considered for a garbage-picker, the equipments or the capital to buy the

equipments (the pointed stick to sort out garbage, the bowl to beg) can be completely substitutable with own hand, where that extra use of hand may be considered as additional labor.[9] On the other hand, a barber, a blacksmith or a cobbler can substitute some amount of labor for equipment and vice-versa, but it may not be possible to fully substitute one input for the other. Again, a cart-puller, a porter, a potter or a rickshaw-puller may not do without their cart, head-frame to carry weight, the pottery-wheel or the rickshaw respectively. Therefore, the equipments are non-substitutable with labor. More labor will not fetch higher output without the other inputs (which is somewhat similar to a fixed-coefficient production function).

Since the above functional relationship is a generalized version of all the self-employed occupations, the extent of returns to scale is hard to specify. Increasing all the inputs may increase the output more than, less than or equally proportionately depending upon the nature of a particular occupation. On the other hand, an intriguing feature of the production relationship existing in the self-employed sector is the often ambiguous existence of diminishing marginal productivity. Non-decreasing marginal productivity may be found in various occupations. For example, garbage-pickers, maid-servants, prostitutes, potters, porters, rickshaw-pullers or even private tutors may produce equal marginal amount of goods or services by increasing labor-hour, while holding other inputs constant. But this may not be applicable in case of other inputs such as capital or

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[9] http://www.nytimes.com/2007/09/27/world/asia/27ragpickers.html

equipment. In other words, the higher the extent of labor intensity higher is the chances of non-decreasing marginal productivity.

3.3.2 Cost of Production

The other side of the functional relationship is cost, which is what this subsection analyzes. The major constitutive part of the cost of production for any self-employed worker (similar to any other type of worker/producer) is the values of inputs. Hence the determination of the values of the inputs is crucial in understanding the nature of costs a self-employed person bears. Since the procurement of inputs differs in terms of their sources (i.e. whether an input is obtained from the formal sector or via the behavioral relationships among various social groups), the determination of the values of the inputs follow two different rules. First is the logic of the value of marginal product (the neoclassical convention) and is applicable to the inputs procured from the formal sector. The rent or price of equipment or the rent of the borrowed capital is paid to the formally registered bank, shop or firm according to the value of its marginal product. Let, the payments for inputs made to the formal sector are labeled as *Formal Payment.*

The second method of value determination is applicable to the inputs acquired from different social groups through various informal institutions. This method is analyzed here through the use of various examples. Let, for the sake of convenience, all payments to the social groups in return to the inputs and

resources are called *Returns to Society*. This is the collective of all the values of capital, labor, equipments as well as other resources. Depending upon the source of the inputs, the costs of each input may or may not be separable. For example, if all the inputs are obtained from the family, the costs are not separable, whereas the cost of the vending cart of a street-food vendor rented from the local lender belonging to the same village can be separated from the return to the labor the vendor's family put in to cook the food.

There can be another component of the cost of production, which includes transportation costs, regular bribes paid to the local political party, local goons and the police for the use of the public space (where the exchange physically takes place), and other miscellaneous payments. If these costs are termed as *Cost of Use*, the total cost of production can be written as follows,

Cost of production = Formal Payments + Returns to Society + Cost of Use.

Clearly, any one of the components above may be equal to zero depending upon the type of occupation one considers. In this analysis, let us assume that Returns to Society $\neq$ 0. This assumption helps us to differentiate between the typical neoclassical convention of production and cost and the cost of production in the self-employed sector, and analyze the process of determination of the values of inputs obtained through informal institutions.

The values of each input can be examined one by one. Let us first turn to capital. Depending upon the requirement of each different occupations, the use of capital may vary widely. For example, a street vendor of food items may need a regular flow of money to buy raw materials, as opposed to a maid-servant, who needs virtually no money to produce her service (excepting the money she needs to buy food to replenish her daily labor). A majority of street vendors (including food and other various items) depend upon money loaned from an informal moneylender, members of extended family or from the village/town community they belong to.[10] The interest rate paid for the loaned capital varies enormously, depending upon highly subjective reasons. If the lender is a known and trustworthy member of a village/town community, the interest rate is much lower than that charged by a moneylender with whom the relationship is impersonal. Interest charged on the loan is even lower when the lender is a family member (NASVI report, 1998). Therefore, the determination of the rate of interest varies according to the strength of the kinship bonding between the lender and the borrower. Although the difference between the interest charged by a moneylender and a community member is usually explained by *Kinship Support* as explained above, but the exact rate of interest charged by, say, a moneylender appears to follow the logic of monopoly. Often, the number of moneylenders is low enough for them to charge a very high and exploitative rate

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[10] The Bhowmik report published after 1998 by the National Alliance of Street Vendors of India (NASVI) shows that about 53-55% of the street vendors surveyed in seven Indian cities loan money from informal moneylenders of members from own community.

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of interest. This may vary depending upon whether the borrower is a regular and known to the moneylender. Such a fact, once again, emphasizes the extent of unwritten informal contract generated through the particular behavioral relationship between the lender and the borrower.

A similar invisible contract determines the rent or the price of equipment rented or bought by various self-employed workers. For example, a vegetable vendor may borrow vegetables from a wholesaler in advance, without any payment upfront, and pays only after the items are sold in the market. Such an arrangement is common among various other types of street vendors, hawkers, carpenters, rickshaw or cart-pullers and many other self-employed persons (NASVI report 1998, India Together report on rickshaw-pullers of Delhi, November 2001, Burke 2010). For an agricultural joint family, the farming equipment such as a plough or other machinery can be used by any family member without any rent or price in return. Instead, there are other services or payments in kind that can take the place of a payment.[11] Such returns can take various forms. For example, a family member, when uses the irrigation pump owned jointly with the rest of the family, may reciprocate by paying for the electricity used to run the pump or by procuring fertilizers for the farm. Similar arrangements are very common among the Indian farming families. A street food vendor or a hawker selling homemade candies on the train may use the utensils

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[11] The transactions in kind represent what is known as the barter system. The presence of such system is one reason behind the inapplicability of the conventional optimization process, as argued in section 3.4 of this chapter.

of her/his family members to prepare the items, and in return pay with food and living space for them (Jellineck 1997, NASVI 1998).

Such services advanced in return are termed as 'reciprocal services' by Gaughan and Ferman (1987), who applied the term originally coined by Marshall Sahlins (1972). Gaughan and Ferman (1987) use the concept of reciprocal services to emphasize the noneconomic institutions in informal self-employed sector. a quick recapitulation of the discussion forwarded in chapter 1 of this research should be sufficient to remind that Sahlins (1972) recommended three types of reciprocal services or responsibilities. They are, *generalized reciprocity*, *balanced reciprocity*, and *negative reciprocity*. The putatively altruistic transactions like voluntary food sharing, the equivalent exchanges of materials between two economic agents, or the forms of appropriations aimed at maximizing utilitarian advantage even when the return is greater than what is offered, are the three forms of reciprocities that prevail in the self-employed economies. The degree of kinship bonding determines the type of reciprocity one engages in. For example, familial and residential groups depend primarily upon generalized reciprocities; village, tribe or similar larger communities rely on balanced reciprocities, and negative reciprocities are found in groups outside such known communities, where the economic agents are strangers to each other (Gaughan and Ferman 1987). Hence, in various modalities of production in the self-employed sector, conventional value of inputs often gets replaced by reciprocal responsibilities, the extent of which is determined by the strength of kinship bonding the producer/worker belongs to.

The similar informal arrangement can be seen in case of the labor input. Since labor is expected to be obtained not from the formal sector, but from the self, the family or any immediate community one is a part of, the return to labor is often determined according to the existing perception of reciprocal responsibilities, which again is often built upon the prevailing norms, customs or conventions of a particular social group. For example, fellow villagers or members of the extended family, same-caste or same-religion group often migrate to the workplace of a self-employed vendor, hawker, porter or a cart-puller to work as an apprentice or helper. (S)he shares the labor in return to food and living space and some expected future earnings (Hart 1970, Jellineck 1997, NASVI report 1998, India Together report 2001).

Hence, it is seen here that the value of inputs are determined through a very subjective, complex process not lending itself to abstract modeling, and are often paid in terms of various reciprocal responsibilities. The degree of kinship association, which could either be *Kinship Sharing* or *Kinship Support,* affirms certain amount of reciprocal services. There are indeed some types of rent or interest payment, the term of which is often influenced by the nature of kinship association one has with the lender. In other words, the strength of kinship bonding decides the proportion of the return to the society that is to be paid in terms of reciprocity.

The third type of payment that constitutes the cost of production is termed here as *Cost of Use*. This includes various regular and irregular payments that are made, especially to carry out the act of exchange. Such payments are far

from being negligible, especially with respect to the meager income of a lot of the self-employed workers. It may include the regular bribe paid to the traffic police, the 'protection money' paid to the local political party and/or the local musclemen in return for no harassment, the fines paid to the municipal authorities to get back the confiscated goods and equipment, money paid to the local clubs or groups under the pretext of festivals etc.(NASVI report 1998, India Together report 2001, Power 2006). It may also include the transportation costs for the daily migrant workers who come to the cities from suburbs to work as maid-servants, vendors, mechanics, plumbers, construction workers etc.[12] The *Cost of Use* is usually a 'transfer payment' paid to people not belonging to the same social group as a self-employed worker. This is another type of impersonal payment (second to the *Formal Payment*). The kinship bond may still work if the self-employed worker belongs to the same political party whose local wing demands the bribe, or if the local goon belongs to the same caste, religion or village. Most often, when the extortionists are from different social group, or when it is the policeman or the local corrupt authority who demands money, the payment made is impersonal and exploitative by nature. Nevertheless, such payments often make up significant part of the cost of production incurred by a self-employed worker.

The cost of production, hence, is a sum of *Formal Payments, Returns to Society and Cost of Use*, as discussed above. A pertinent question may arise

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[12] For example, there are designated vendor compartments in Indian local trains for the vendors to commute with their produces and materials. They vendors usually buy a monthly pass for their commute (though there are often fare evasions)

here, as to whether the determination of the reciprocal services is similar to the determination of the value of marginal product. In other words, whether the factors of production are paid according to the value of their marginal product. Various examples can be thought of, where the amount of reciprocal services is derived from subjective perception of how much a person offering labor or other equipments deserve to be paid. That perception may well stem from completely noneconomic factors, without having anything to do with the marginal productivity of the labor or equipment. For example, when the wife of a hawker puts labor-hours to prepare the candies at home, she receives food and living space equally with her daughter, even when the latter does not put any labor-hour into the work (Hart 1970, Breman 1996, Jellineck 1997, Power 2006). Similarly, the rate of interest charged by a moneylender to a fellow villager belonging to the same caste is lower than what is charged to a borrower from a different social group. The difference is subjectively conceived by the moneylender through an informal negotiation with the borrower, according to the extent of kinship among themselves. The exchanges may well be exploitative in nature, particularly when it takes place between two parties belonging to two different social groups. Such negotiation may not incorporate any study of the marginal product of the capital in question.

One important reason behind the absence of the application of the law of marginal product is the *horizontal division of labor*. In a self-employed production process, the work is divided among the family or community members according to two norms, one's biological capacity and existing cultural conventions.

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Different stages of producing *bidis* (local cigarettes) are done by the family members depending upon their capability, age and gender. For example, the women of the family roll the tobacco, the children prepare the glue and the men carries the cigarettes to the marketplace. Traditionally, smoking or handling cigarettes by women are considered a taboo, children cannot roll tobacco or sell them in the market, and the men are considered inefficient to roll the cigarettes due to their thick fingers. Therefore, the division of labor follows a combination of cultural norms as well as biological feasibility. The division of labor therefore does not follow the hierarchical boss-worker model, and can be termed as *horizontal division of labor* (as opposed to the vertical division seen in wage working sectors). The return the women and children receive in the form of food and living space follows one's specific need, and not the amount of work they have put in. The altruistic sharing of food and other items needed for survival, the equivalent exchange of materials or money, or the exploitative extraction of labor or other inputs for a smaller return, all three types of reciprocity is directed by the subjective perception of kinship association than the value of marginal product.

The absence of the law of marginal product, especially of labor, poses to be one major difference between the production process in the wage working sector and the self-employed sector. The next subsection explains the other types of income earned by various self-employed workers.

3.3.3 Other Income

There are other sources of income that can be earned as well in the self-employed occupations. For example, garbage-pickers regularly sort and select items from the garbage that they use or consume themselves (Sule 2005, Power 2006). Selling such a picked-up good in exchange for consumption items is very common (Gentleman 2007). Again, maid-servants usually receive food and sometimes clothes from the families they work for. Similar transfer payments in kind are common for self-employed people in various other occupations, such as vendors, door-to-door sales persons, washer (wo)men, janitors, priests etc.

Another significant factor contributing to the income of the self-employed workers is the transfer income earned from various government welfare programs. In the case of India, several government welfare program have been in place to assist the poorer section of the population in their survival struggle. For example, the national rural employment guarantee program (NREG) helps the rural poor to get a minimum of 100 days of work at the minimum wage. This income is usually added to the other earning attempts of the rural poor, which is usually in the self-employed sector. Again, the Public Distribution System of India distributes food grains at subsidized prices to the poor population. There are other programs in place such as the National Rural Employment Program (NREP), Rural Labor Employment Guarantee Program (RLEGP), Million Wells Scheme (MWS), National Rural Health Mission (NRHM), among others. Although there were and there still are a number of rearrangements on the part of the government which adversely affected the beneficiaries of such welfare programs,

the programs replenish the income earned by the self-employed population at a varied rate.[13]

3.4 The Inapplicability of Optimization Process

This section explains the reason behind the inapplicability of an optimization process into the understanding of the system of production in the self-employed sector. Before demonstrating the reasons, it is to be noted that there are two types of sectoral economic interactions that the self-employed people engage in. The first interaction is inter-sectoral, between the self-employed and the formal sector and the other one includes the intra-sectoral interactions that take place within the self-employed sector. The inter-sectoral interactions, as examined in the above subsections, often follow the capitalistic model of business, particularly when a self-employed person buys or borrows inputs of production from the formal enterprise, businesses or financial institutions. The rest of this subsection focuses upon the intra-sectoral economic interactions in the self-employed sector, where the buying, selling or borrowing happens between two or more self-employed production units.

The major part of the reason behind the inapplicability of an optimization process lays in the character of the self-employed sector, in the incredibly complex, subjective and ever-changing nature of this sector. The self-employed sector lends itself to a lack of theoretical understanding primarily because of the

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[13] A description of the extent of the welfare programs, their targets and their actual impact is available in Banerjee-Chakraborty (2009), among others.

enormous extent of heterogeneity present in the production processes of its various occupations. This section argues that it is the neoclassical theory of profit maximization that fails to comprehend the self-employed sector. Indeed, a different road can be taken to better understand the productive processes of this sector. In order to create a different way of understanding the self-employed sector, this research builds the stepping stone by providing an organized amalgamation of the reasons for the non-viability of a neoclassical optimization process, in explaining the economy of the self-employed sector.

An optimization process requires the first-order condition to hold. Such necessary first-order condition implies that the value of the marginal product of the inputs is to be equal to the price paid to the inputs. This condition frequently fails to hold in the self-employed sector, which is a major reason behind the incompatibility of the optimization process with the self-employed sector. Often-times, the value of the inputs used in a production process is determined in such a way that does not follow the law of marginal productivity. In other words, the inputs are often paid not according to the value of their marginal products, instead, various informal institutions that emerge out of highly subjective social networks determine the values of the inputs. If, in a self-employed occupation, all or some of the inputs come from within the family (which is often the case for the agricultural worker, the street vendor, the priest, the cigarette-roller or the household unit producing food items and packaged material), there is a preconceived notion of the return each input receives. For example, each one of the family receives the return to their labor according to the concept of what each

person needs, irrespective of how much labor they put in. Such determination of input values follows a cultural norm of understanding one's survival need existing in the community, which the family belongs to. The social and cultural norms prevailing in a community dictates the division of labor in the self-employed occupations. The division of labor existing in the self-employed sector can be labeled as the *horizontal division of labor*, where the boss-employer vertical division is absent. Such *horizontal division of labor* leads to the determination of the returns to the inputs in a way that relies more on the noneconomic understanding of 'need', rather than the 'value of the marginal product'.

In the case of the self-employed occupations that rely upon the communities outside the family, the returns to the inputs frequently follow various noneconomic customs and norms, thereby making the formulation of a neoclassical optimization model impossible. The equipments bought or borrowed, the monetary capital borrowed from outside the family follow the rules of informal negotiations between the buyer/borrower and the seller/lender. The strength of *Kinship Network* determines the types of such negotiations and in turn, the returns to the inputs. The variedness of the types of negotiations present in the self-employed sector does not lend itself to an optimization exercise. The price of the inputs may or may not be paid up front (NASVI report 1998, India Together 2001, Burke 2010); the inputs belonging to a family member may not require any recognizable and/or measurable return (Jellineck 1997, NASVI report 1998); the interest charged for a sum of money borrowed from a moneylender may vary according to whether the borrower belongs to the

same village or caste community (NASVI report 1998); the moneylender may charge the borrower a highly exploitative interest if the borrower is unknown and therefore untrustworthy (Gaughan and Ferman 1987). All these examples emphasize the strength of the underlying *Kinship Network*, which is subjective enough to bar one from undertaking an optimization exercise. The fact that the subjective contracts not only exist in the self-employed sector, but influence the economic activities of the vast population belonging to this sector, requires a better understanding of the role of noneconomic factors in economic decision making.

The extent of the *Kinship Network* leads to the determination of how much return an input will receive, often in the form of *Reciprocal Services*.[14] Borrowing from Marshall Sahlins' much celebrated work on the Original Affluent Society (1972), the *Reciprocal Services* can be understood in three categories, *generalized reciprocity* (the putatively altruistic exchanges, often between the members of the extended family), *balanced reciprocity* (in case of the equivalence of exchange between two economic agents, belonging to the same community) and *negative reciprocity* (the often exploitative exchanges targeted at maximizing utilitarian advantages). Depending upon whether the returns are paid in terms of money or in kind, the *reciprocal services* may or may not follow a barter system. The conditions of reciprocity seem to a large extent replace the

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[14] Sahlins (1972) coined the term *Reciprocal Services* in his analysis of the Original Affluent Society, and Gaughan and Ferman (1987) have later used it in the context of informal workers. Harris-White (2003) uses the term *Social Structures of Accumulation*, which conveys similar meaning.

law of marginal productivity. Moreover, the subjective nature of the *Kinship Support* or *Kinship Sharing* works as the major hindrance for any optimization exercise.

There is another important feature of the self-employed sector, which contributes to the complexity of the economy of the self-employed sector. It is the frequent changes that occur within the sector. The persistence of poverty, inequality and lack of social, economic as well as human rights, which often plague the self-employed sector, lead to the precariousness of the occupations, availability of inputs, as well as the income earned. Such uncertainties at more than one level characterize this sector as an ever-changing sector without proper scope for abstract modeling. Many self-employed workers change occupations or work in more than one occupations at the same time, due to various types of random shocks, risks and vulnerability, or structural factors (Castells and Portes 1989, Harris-White 2002, 2003). The random shocks may hit a self-employed worker or a family in the form of illness, social expenditure, natural calamity, widowhood, riots, accidents, bad harvest or drought, while the risks include the threat of frequent diseases, death, old-age impairment and child and maternal mortality, and several occupational hazards. The risk factor tends to be high in certain kinds of work the self-employed people engage in. Dealing with hazardous material, low and dangerous quality inputs of production and machinery, irregular and long work hours and potentially risky way of work (for example, standing for excessively long hours, endearing the harsh weather, regularly carrying excess weight, engaging in repetitive movements etc) adds to

the vulnerability of a majority of the self-employed population. The rearrangement of property rights to accommodate the pressures of industrialization is one of the most influential structural factors that results in the high level of insecurity within the self-employed sector. The number of internally displaced people in India is exorbitantly high. According to some accounts, anywhere between 21 to 33 million people were displaced to make way for the 3,300 big dams built since the Indian independence in 1947, of which the majority is still awaiting rehabilitation (Mander 1999, pp 7; IDMC online country report on India, Roy 2000). All these factors cumulatively result in the precariousness of the self-employment sector.

Thus, we see that the precariousness prevailing in the self-employed sector along with the frequent replacement of the law of marginal productivity by the subjective informal contracts emerging out of the strength of *Kinship Network* one belongs to, and the prevalence of the noneconomic norms and customs create a complex system of production. And such complexity does not lend itself to any abstract modeling exercise. Rather, a different way of understanding the economy of the self-employed sector is required, if we need to find out the ways of well-being of the people engaged in this sector. Since a significant proportion of the Indian population is self-employed, and since a majority of the poor population works in this sector, a better understanding of this sector is crucial. And for that, it is important to recognize the inapplicability of the neoclassical modeling approach to the study of the economy of the self-employed sector.

A major factor that contributes in the inadequacy of neoclassical abstract modeling exercise is the divergence between the conventional notion of an

'entrepreneur' and the economic activities of the self-employed people. Even if the English language dictionaries indicate that anyone who takes the risk of producing and or trading something can be considered as an 'entrepreneur', *Economics does not include a producer or a trader into the category of* 'entrepreneur' unless (s)he reinvests her/his accumulated profit into productive investment activities. Most of the self-employed people are labeled as 'petty traders' due to their incapacity to accumulate profit. In this narrow sense of the term, the productive capacity and the capacity of generating livelihood for a vast population of the self-employed sector is bound to be overlooked. A better understanding of the economy of the self-employed sector is dependent upon the recognition of the production relations based on the noneconomic and informal institutions, as examined in this chapter. Irrespective of whether a self-employed person fits into the category of an 'entrepreneur', the productive capacity, creativity and persistence of people engaged in the self-employed sector are crucial to acknowledge.

3.5 Policy Implications

So far, policies aimed at the self-employed population have either tried to replenish the income of the self-employed population, or tried to dislocate them in order to reinforce the boundaries of property ownership by the formal sector.[15]

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[15] There is ample evidence of such displacements by the government-private formal sector nexus, starting from the *Operation Sunshine* to remove the street-

The former is targeted at short-term management of the pressing issue of poverty (since most of the working poor are engaged in the self-employed sector), especially for political (electoral) gain. And the latter is based on the claim that the expansion of the formal sector through expanding formal ownership of resources will trickle down to the disenfranchised population through employment generation and various welfare programs. The following question may arise: whether the government and the private formal sector has the right to undermine the capability of the self-employed sector and determine the extent of charity the self-employed sector deserves. Although the answer to this question is beyond the scope of this research, it brings about an important policy implication. The noneconomic factor of *Kinship Network* is demonstrated in this research as crucial in determining virtually all intra-sectoral production relationships. The self-employed sector is extra-legal to the core, and the cornerstone of almost all of the productive activities is the informal institution of *Kinship Network*. Therefore, maintaining the community ties at various levels is of utmost importance, if the survival strategies of the self-employed population are to be given their due space. In many cases, there exists certain level of non-engagement between the state and the self-employed sector, except for periodic income replenishments and/or dislocation by the former. While a displacement leads to the dismantling of the community ties, periodic income replenishments are hard to connect with the fate of the community networks. This research highlights the need of maintaining the community networks, in order not to disrupt

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hawkers in Kolkata, India (Bandyopadhyay 2009) to Displacing the villagers for the POSCO steel plant in Kalinganagar, India (Dash and Samal, 2008).

the livelihood generating efforts of the self-employed population, especially in the absence of any 'trickling down' of the formal sector growth. The community ties can be maintained through the preservation of the basic right of the self-employed population to the common pool resources, which they utilize for the supply of inputs, through *Kinship Sharing* and *Kinship Support*. A policy that protects such right, or at the least does not suspend the right or help disband the *Kinship Network* will be useful for the sector. Since a majority of the poor population earns their living from the self-employed sector, a policy that recognizes the crucial role of *Kinship Network* in determining the production relationships in this sector and acknowledges its contribution in providing for the poor population will prove to be effective.

3.6 Conclusion

This chapter is an attempt to recognize the major characteristics of the production processes the self-employed population of India undertake. One main goal was to trace out the general pattern of the system of production of the self-employed sector. This chapter first identifies and categorizes the major self-employed occupations seen in India. After that, this research proposes a system view of the economy of the self-employed sector, along with the detailed examination of the major features of the production processes. Such examination brings out the differences between the production in the self-employed sector and the sector employing wage workers. the differences help us to reflect upon

the inadequacy of a neoclassical abstract modeling exercise in explaining the economy of the self-employed sector.

This chapter contributes to the existing small number of economic literature on the self-employed sector in three ways. It identifies the main features of the production processes through building a system view of the self-employed economy, examines the determinants of the particular production relations existing in the sector, and demonstrates the reason behind the inadequacy of a neoclassical optimization process.

SUMMARY AND CONCLUSION

This dissertation attempts to incorporate the self-employed sector into the economic discourse about the informal sector. This study also examines the link between two prominent features of the Indian economy, namely, the trade liberalization policies and the informal sector. Specifically, it traces out the impact of the trade liberalization policies on the wages of the informal sector. It brings out the role of the self-employed sector in affecting the informal sector wages.

Chapter 1 presents a thorough review of the existing literature on the definitions and origin of the informal sector, and discusses the extent of the debate existing among the researchers. The complexity, subjectivity and the variety of production relations existing in the informal sector is outlined in this chapter. This chapter finds out that it is quite challenging to put forth a singular definition of the informal sector and to fit this sector into economic models in its entirety. There are at least three competing schools of thought, which define and perceive the informal sector in three different manners. The *Dualist* school considers this sector as a sector consisting of marginal economic activities that arises due to the failure of the formal growth to trickle down. The *Structuralist* school considers this sector as subordinated to the formal sector, helps the formal sector to reduce its cost of production, and arises due to the structural faults of the capitalist development itself. Again, the *Legalist* school believes that it is the state regulations that give rise to the informal sector, through which

entrepreneurs try to evade regulations. According to the *Legalist* school, all state regulations should be eliminated to 'cure' the problem of informal sector. Such ideological differences are expected to lead the researchers to model the informal sector in conflicting ways. But studies that have tried to model this sector have often leaned towards the *Dualist* and the *Legalist* schools of thought. A number of studies have attempted to model the informal sector as either a cluster of workers employed casually by the formal sector, or a sector that exists only to produce intermediate goods for the formal sector. Although this dissertation does not aim at emphasizing one school of thought over the other, it raises two important questions. First, how historically accurate it is to question the origin of the informal sector, presupposing the precedence of the formal sector? And second, why does the informal sector always comprise only of a sector producing intermediate goods for the formal sector? While the first question will be addressed in a future research, this dissertation undertakes the task of filling the gap in the existing body of researches by incorporating the self-employed informal sector.

Chapter 2 traces out the link between the trade liberalization policies and the wages of the informal sector, when the informal self-employed and the informal subcontracted sectors are incorporated as two separate sectors. This is done through developing a four-sector general equilibrium model that is based upon the theory of a small open economy. A major implication that this theoretical model brings out is that the employment in the self-employed sector and the share of labor in this sector plays crucial role in influencing the informal

sector wage, in an environment of diminishing trade barriers. When the trade barriers are decreasing, and the growing foreign competition leads to a contraction of the formal sector, the employment in the growing self-employed sector may increase, to lead to a non-increasing informal sector wage. Similar result may follow from the fact that a growing foreign competition leads the formal sector to encroach upon the resources through various means, thereby dispossessing the poorer section of the population and driving them into the self-employed sector. In either of the cases, the model highlights the role of the self-employed sector in influencing the fate of the informal sector wage.

Chapter 3 examines the economy of the self-employed sector and finds out the general economic features of the production system of this sector. This chapter studies numerous self-employed occupations seen in India, provides a system view of the production processes that the self-employed sector undertakes, analyzes the characteristics of the production relations in this sector and finds out the determinant(s) of the availability of the inputs of production and of the value of the inputs. The strength of the *Kinship Association* a self-employed person belongs to plays crucial role in determining the value of the inputs. This chapter argues that since the tools of the conventional production theory falls short in accommodating the complexity and subjectivity of the self-employed sector, different tools need to be used and if required, invented or borrowed from other social sciences.

One of the directions that this research will head to in future is studying various types of formal-informal interactions in the Indian subcontinent. There is

much more to learn about the informal sector and its interactions with the formal sector, as indicated by the review of the existing literature presented in chapter 1. The self-employed sector often sells goods and services to the households and the formal enterprises at a price that is below the market rate. A future study will examine whether this works as a subsidy to the formal sector growth. This will also help us understand whether informal sector in pro-cyclical in nature.

The reason behind the possible pro-cyclicality needs to be studied as well. Specifically, unlike the prediction of the Dual economy model proposed by Arthur Lewis in 1954, workers come out not only from the traditional agricultural sector but from the modern formal sector as well. The question needs to be answered is that, is such displacement inherent to the structure of capitalist development? If so, how do we re-define development and think about alternative path towards it. One of the future researches will delve into finding an answer to this question.

Another future direction will be towards a historical exploration of the origin of the formal sector. This will be done on the premise of the precedence of the informal economic activities in the Indian subcontinent, as documented by many historians. This research will help us counter the methodological bias of thinking about capitalist businessmen first and as the only type of entrepreneurs. By countering the legalist framework of understanding the informal sector (that it is the state regulations that create informal sector), It will also allow us to better understand the self-employed sector, much of which is extra-legal to the core.

This dissertation took the first step towards a better understanding of the economy of the self-employed sector, and of the role of this sector with respect to

the other sectors in livelihood generation. There is a lot more research that needs to be done, in order to perceive the route for development for the vast majority of people that reside in this sector. Therefore, this dissertation works as an entry point for a long series of effective and insightful studies.

REFERENCES

Adam, C. and B. Harris-White (2007), From Monet to Mondarin: Characterizing Informal Economic Activity in Field Research and Simulation Models, in B. Harris-White, and A. Sinha (eds.) (2007). *Trade Liberalization and India's Informal Economy*, Oxford University Press, Delhi, pp. 15-41.

Amis, P. (1997), *Indian Urban Poverty : What are the Levers for its Effective Alleviation?* IDS Bulletin, vol. 28, no. 2, pp 94-105.

Anderson, J.H. (1998). *The size, origins, and character of Mongolia's informal sector during the transition*, World Bank WP 1916.

Andersson, K. and D. Pacheco (2006), Turning to Forestry for a Way Out of Poverty: Is Formalizing Property Rights Enough? in B. Guha-Khasnobis, R. Kanbur and E. Ostrom (eds.) *Linking the Formal and Informal Economy: Concepts and Policies*, Oxford University Press, Oxford, pp 195-211.

Azuma Y. and Grossman H. (2002), *A Theory of the Informal Sector*, NBER working paper 8823.

Bandyopadhyay, R. (2009), *Hawker's Movement in Kolkata, 1975-2007*, Economic and Political Weekly, vol. 44, no. 17, pp 116-119.

Banerjee B. (1983), *The Role of the Informal Sector in the Migration Process: A Test of Probabilistic Migration Models and Labor Market Segmentation for India*, Oxford Economic Papers, New Series Vol. 35, No. 3 (Nov), pp. 399-422.

Banerjee, N. (1982). Survival of the poor. In H.I. Safa (Ed.), *Towards a political economy of urbanization in third world countries*, pp. 175–188, Oxford University Press, Delhi, Bombay, Calcutta, Madras.

Banerjee-Chakraborty, A. (2009), *Structurally Adjusted Lives (or Deaths?) of Indian Farmers*, The International Journal for Interdisciplinary Social Sciences, vol. 4, no. 10, pp 1-18.

Banerjee-Guha, S.(2008). *Space Relations of Capital and Significance of New Economic Enclaves: SEZs in India*, Economic And Political Weekly, Vol. 43 (47), pp. 51-59.

Basu, R. L. and R. Sen (2008). *Ancient Indian Economic Thought, Relevance for Today*, Rawat Publications, New Delhi.

Bayat, A. (1996), *Cairo's Poor: Dilemmas of Survival and Solidarity*, Middle East Report, Washington DC.

Beneria, L. (1989). Subcontracting and employment dynamics in Mexico City. In A. Portes, M. Castells, and L.A. Benton (Eds.), *The informal economy: Studies in advanced and less developed countries*, pp. 173–189, The Johns Hopkins University Press, Baltimore and London

Besley, T. and R. Burgess (2004), Can Labor Regulation Hinder Economic Performance? Evidence from India, *Quarterly Journal of Economics*, Vol. 19, pp 91-134.

Bhalotra, S. (2002), *The impact of economic liberalization on employment and wages in India*, ILO, Geneva.

Bhattacharya D. (1999), *Organized labor and Economic Liberalization in India: Past, Present and Future*, Labor and Society Programme, Discussion paper no. DP/105/1999, International Institute for labor Studies, Geneva.

Birkbeck, C. (1978), *Self-Employed Proletarians in an Informal Factory: The Case of Cali's Garbage Dump*, World Development vol. 6, no. 9/10.

Breman J. (1996). *Footloose Labor: Working in India's Informal Economy*, Cambridge University Press, Cambridge.

Breman, J. (2010), *India's Social Question in a State of Denial*, Economic and Political Weekly, vol. XLV, no. 23, pp 42-46.

Bromley, R. (1990), *A New Path to Development? The Significance and Impact of Hernando de Soto's Ideas on Underdevelopment, Production, and Reproduction*, Economic Geography, vol. 66, no. 4, pp 328-348.

Brusco, S. (1982), *The 'Emilian' Model: Productive Decentralization and Social Integration*, Cambridge Journal of Economics, vol. 6, pp. 167-84.

Burke, J. (2010), *Rickshaw pullers win right to work Delhi streets*, The Guardian, February 11 - http://www.guardian.co.uk/world/2010/feb/11/rickshaw-ruling-delhi

Capecchi, V. (1989), The Informal Economy and the Development of Flexible Specialization in Emilia-Romagna, in A. Portes, M. Castells, and L.A. Benton (Eds.), *The informal economy: Studies in advanced and less developed countries*, pp 11-37. The Johns Hopkins University Press, Baltimore and London

Carr, M. and M.A. Chen (2001), *Globalization and Informal Economy: How Global Trade and Investment Impact on the Working Poor*, Working Paper on the Informal Economy, ILO, Geneva.

Castells, M. and A. Portes (1989). World Underneath: The Origins, Dynamics, and Effects of the Informal Economy, in A. Portes, M. Castells, and L.A. Benton (Eds.), *The informal economy: Studies in advanced and less developed countries*, pp 11-37. The Johns Hopkins University Press, Baltimore and London

Center for Science and Environment (2008), *Rich Land Poor People – Is Sustainable Mining Possible?* Report on India's state of environment, New Delhi.

Chadha G.K. (1993). *Non-farm employment for rural households in India: Evidence and Prognosis*, The Indian Journal of Labor Economics, 36: pp. 296-327.

Chakrabarti, A. and S. Cullenberg (2003), *Transition and Development in India*, Routledge, New York and London.

Chandra, V. and M.A. Khan (1993), *Foreign Investment in the Presence of an Informal Sector*, Economica vol. 60, pp 79-103.

Chatterjee, P. (2008), *Proja O Tantra*, Anushtup, Kolkata.

Chaudhuri, S. (2000), *Rural-urban Migration, Informal Sector, Urban Unemployment and Development Policies - A theoretical analysis*, Review of Development Economics, no. 4, pp 353-364.

Chen, M.A. (2006), Rethinking the Informal Economy: Linkages with the Formal Economy and the Formal Regulatory Environment, in B. Guha-Khasnobis, R. Kanbur and E. Ostrom (eds.) *Linking the Formal and Informal Economy: Concepts and Policies*, Oxford University Press, Oxford, pp 75-92.

Chopra, K. and P. Dasgupta (2002), *Common Pool Resources in India: Evidence, Significance and Management Initiatives*, report of the research project funded by UK Department for International Development.

Christenson, R.K. (2006), The Global Path: Soft Law and Non-sovereigns Formalizing the Potency of the Informal Sector, in B. Guha-Khasnobis, R. Kanbur and E. Ostrom (eds.) *Linking the Formal and Informal Economy: Concepts and Policies*, Oxford University Press, Oxford, pp 36-57.

Cole, W. E., and F. Bichaka (1991), *The Urban Subsistence Labor Force: towards a policy-oriented and empirically accessible taxonomy*, World Development vol. 19, issue 7, pp 779-789.

Commander, S. and Tolstopiatenko, A. (1997). *A model of the informal economy in transition economies*, WP 122. The William Davidson Institute, University of Michigan.

Currie, J. and A. Harrison (1997), *Sharing the Costs: The Impact of Trade Reforms on Capital and labor in Morocco*, Journal of Labor Economics, vol. 15, no. 3, pp S42-S71.

Dash, K. and K. Samal (2008), *New Mega Projects in Orissa: Protests by Potential Displaced Persons*, Social Change, vol. 38, no. 4, pp 627-644.

Davis, M. (2006), *Planet of Slums*, Verso Books, London.

De Soto, H. (1989). *The other path: The Economic Answer to Terrorism*. Harper and Row, New York.

De Soto, H. (2000), *The Mystery of Capitalism: why capitalism triumphs in the West and fails everywhere else*, Basic Books, New York.

DePalma, A. (1996), *Income Gap in Mexico Grows, and So Do Protests*, New York Times, July 20, p 3.

Dev, M. (2000), *Economic Liberalization and Employment in South Asia*, Economic and Political Weekly, pp 40-51.

Dewan, R. (2005), *Gender Budget Perspectives on Macro and Micro Policies in Small Urban Manufacturies in Greater Mumbai*, Discussion Paper Series-12, Human Development Resource Centre, UNDP, New Delhi.

Dutt P. (2003), Labor Market Outcomes and Trade Reforms: The Case of India, in R. Hasan and D. Mitra (ed.) *The Impact of Trade on Labor: Issues, Perspectives and Experiences from Developing Asia*, Elsevier Science B.V. (North-Holland). pp. 1-45.

Dutta P.V. (2004), *Trade Protection and Inter-Industry Wages in India*, Working Paper of the Poverty Research Unit at Sussex, University of Sussex, no. 27.

Dutt R. C. (1902). *The Economic History of India Under Early British Rule: From the Rise of the British Power in 1757 to the Accession of Queen Victoria in 1837*, Vol. 1, pp. 84-5 (2001 edition), Kegan Paul, Trench Trubner, London.

Edwards, S. (2005), *Labor Reform and Employment in Latin America*, Comparative Labor Law & Policy Journal, vol. 25 issue 2, pp 349-364.

Escobar, A. (1995), *Encountering Development: The Making and Unmaking of the Third World*, Princeton University Press, New Jersey, pp 3-101.

Estellie Smith, M. (1989), The Informal Economy, in S. Plattner (eds.), *Economic Anthropology*, Stanford University Press, California.

Estellie Smith, M. (1990), "A Million Here, A Million There, And Pretty Soon You're Talking Real Money", in M. Estellie Smith (ed.) *Perspectives on the Informal Economy*, University Press of America, New York and London pp 1-22.

Fernandes, L. (2004), *The Politics of Forgetting: Class Politics, State Power and the Restructuring of Urban Space in India*, Urban Studies, vol. 41, no. 12, pp 2415-2430.

Fernandez-Kelly P. (2006). Introduction, in P. Fernandez-Kelly and J. Shefner (eds.), *Out of the Shadows: Political Action and the Informal Economy in Latin America*, pp. 1-22, Pennsylvania State University Press, Pennsylvania.

Fernandez-Kelly, P. & A. M. Garcia (1989), Informalization at the Core: Hispanic Women, Homework, and the Advanced Capitalist State, in A. Portes, M. Castells & L. A. Benton (eds.), *The Informal Economy: Studies in Advanced and Less developed Countries*, Johns Hopkins University Press, Baltimore, pp 247-264.

Furedy, C. (1984), *Survival Strategies of the Urban Poor – Scavenging and Recuperation in Calcutta*, GeoJournal, vol. 8, no. 2, pp 129-136.

Gaughan, J.P. and L.A. Ferman (1987), *Toward an Understanding of the Informal Economy*, in The Annals of The American Academy, 493, pp. 15-25.

Gentleman, A. (2007), *Picking Up Trash by Hand, and Yearning for Dignity*, New York Times, Sept. 27 -
http://www.nytimes.com/2007/09/27/world/asia/27ragpickers.html

Ghose, A.K. (1999), *Current Issues in Employment Policies in India*, Economic and Political Weekly, Vol. 34, No. 36, September 4-10.

Gilbert, A. (1994), *Third World Cities: Poverty, Employment, Gender Roles and the Environment*, Urban Studies, vol. 31, no. 4-5, pp 605-633.

Gilbert, A. and J. Gugler (1992), *Cities, Poverty and Development: Urbanization in the Third World*, 2nd edition, Oxford University Press, Oxford.

Goldberg P. and Pavcnik N. (2001), *Trade, Wages, and the Political Economy of Trade Protection: Evidence from the Colombian Trade* Reforms, Mimeo.

Goldberg P. and Pavcnik N. (2003), *The Response of the Informal Sector to Trade Liberalization*, NBER working paper 9443.

Gordon, D. M. (1972). *Theories of Poverty and Underdevelopment: Orthodox, Radical and Dual Labor Market Perspectives*, Lexington, MA.

Grossman, G. (1982). The 'second economy' of the USSR. In V. Tanzi (Ed.), *The underground economy in the United States and abroad*. Lexington DC: Heath.

Gunewardena, D. (1999), *Urban Poverty in South Asia: What do We Know? What do We Need to Know?* Poverty Reduction and Social Progress: New Trends and Emerging Lessons - Regional dialogue and consultation on WDR2001 for South Asia, April 4-6, Bangladesh.

Habib, I. (1982). *Atlas of the Mughal Empire: Political and Economic Maps*, Oxford University Press, Delhi.

Habib, I. (2006). *Indian Economy, 1858-1914*, Tulika Books, India.

Harris, J. and M. Todaro (1970), Migration, Unemployment and Development: A Two-Sector Analysis, *American Economic Review*, vol. 60, no. 1, pp 126-142.

Harris-White, B. (2002). *Globalization and Insecurity: Political, Economic and Physical Challenges*, Palgrave, London

Harris-White, B. (2003). *India Working: Essays on Society and Economy*, Cambridge University Press, Cambridge

Harris-White, B. and A. Sinha (eds.) (2007). *Trade Liberalization and India's Informal Economy*, Oxford University Press, Delhi.

Hart, K. (1970). Small scale entrepreneurs in Ghana and development planning, *Journal of Development Studies* 6: pp. 104–120.

Hart, K. (1973). Informal income opportunities and urban employment in Ghana, *Journal of Modern African Studies* 11: pp. 61–89.

Hart, K. (2006), Bureaucratic Form and the Informal Economy, in B. Guha-Khasnobis, R. Kanbur and E. Ostrom (eds.) *Linking the Formal and Informal Economy: Concepts and Policies*, Oxford University Press, Oxford, pp 21-35.

Internal Displacement Monitoring Center (IDMC), country profile: India - http://www.internal-displacement.org/idmc/website/countries.nsf/%28httpEnvelopes%29/017EF48C5 08340A1802570B8005A7175?OpenDocument , downloaded on 05/22/10.

International Labor Office (1972). *Employment, income and equality: A strategy for increasing productivity in Kenya*. Geneva: ILO.

International Labor Organization (2002), *Women and Men in the Informal Economy: A Statistical Picture*, ILO Employment Sector, Geneva.

Iyigun, M.F. and A. Owen (1999), *Entrepreneurs, Professionals, and Growth*, Journal of Economic Growth, vol. 4, pp 213-232.

Jagannathan N.V. (1987). *Informal Markets in Developing Countries*, Oxford University Press, Oxford.

Jellineck, L. (1997), Displaced by Modernity: The Saga of a Jakarta Street-Trader's Family from the 1940s to the 1990s, in J.Gugler (ed), *Cities in the Devleoping World: Issues, Theory and Policy*, OUP, pp 139-155.

Jhabvala, R. and R.M. Subramanyam (2000), *The Unorganized Sector: Work Security and Social Protection*, Sage Publications, New Delhi.

John, S., S. Vaite and D. Efroymson (2002), *Tobacco and Poverty: Observations from India and Bangladesh*, Report of the research organized at PATH Canada.

Jones, Y.V. (1988), *Street Peddlers as Entrepreneurs: Economic Adaptation to as Urban Area*, Urban Anthropology, no. 17, pp 143-170.

Kalirajan, K (2004), *The Post-reform Performance of the Manufacturing Sector in India*, Asian Economic Papers, Spring/Summer, Vol. 3, No. 2, pp. 126-157.

Kamat, K.L. (2010), *Rag-pickers of India*, translated from Kannada - http://www.kamat.com/kalranga/bhiksha/begging.htm

Kapur, A. (2010), *Agriculture Left to Die at India's Peril*, New York Times, January 28 - http://www.nytimes.com/2010/01/29/world/asia/29iht-letter.html

Kar S., and S. Marjit (2001), *Informal sector in general equilibrium: welfare effects of trade policy reforms*, International Review of Economics and Finance no. 10, pp 289–300.

Kaufmann, D. and Kaliberda, A. (1996). *Integrating the unofficial economy into the dynamics of post-socialist economies: A framework of analysis and evidence.* Mimeo. World Bank.

Kelkar, V. (1999), *India's Emerging Economic Challenges*, Mimeo.

Khan, A. R. (1998), The impact of globalization in South Asia, in A. S. Bhalla (eds.), *Globalization, Growth and Marginalization*, Macmillan India Ltd., New Delhi.

Kishwar, M. (2001), *Wheels of Misfortune*, India Together, online edition, November.

Kruse, B. (1997), *Employment Generating Program in the Urban Context of India: The Nehru Rozgar Yojana*, IDS Bulletin, vol. 28, no. 2, pp 86-93.

Kumar, D. and M. Desai (eds.) (1983). *The Cambridge Economic History of India: Volume 2, c.1751-c.1970.*

Kundu, A, N. Sarangi and B.P.Das (2003). *Rural Non-farm Employment: An Analysis of Rural Urban Interdependencies*, Working Paper 196, Overseas Development Institute, London, UK.

Leibenstein, H. (1980), On the Economics of Conventions and Institutions: An Exploratory Survey, *Journal of Institutional and Theoretical Economics*, vol. 140, pp 74-86.

Loayza, N, A.M. Oviedo and L. Serven (2006), The Impact of Regulation on Growth and Informality: Cross-Country Evidence, in B. Guha-Khasnobis, R. Kanbur and E. Ostrom (eds.) *Linking the Formal and Informal Economy: Concepts and Policies*, Oxford University Press, Oxford, pp 121-144.

Long, N. and P. Richardson (1978), Informal Sector, Petty Commodity Production, and the Social Relations of Small-scale Enterprise, in J. Clammer (eds.), *The New Economic Anthropology*, St. Martin's Press, New York, pp 176-209.

Malenbaum, W. (1971), *Modern India's Economy*, Charles E. Merill Publishing Company, Ohio.

Mandelman, F.S. and G.V. Montes-Rojas (2009), *Is Self-Employment and Micro-entrepreneurship a Desired Outcome?* World Development, vol. 37, no. 12, pp 1914-1925.

Mander, H., R. Hemadri and V. Nagaraj (1999), *Dams, Displacement, Policy and Law in India*, Case study commissioned by the World Commission on Dams.

Marjit, S. (2003), *Economic reform and informal wage analysis*, Journal of Development Economics no. 72, pp 371-378.

Marjit, S. and D. Maiti (2006), Globalization, Reform and the Informal Sector, in B. Guha-Khasnobis and R. Kanbur (eds.), *Informal Labour Markets and Development*, Palgrave-Macmillan, USA.

Marjit, S. and H. Beladi (2001), *The Stolper-Samuelson Theorem In A Wage-Differential Framework*, The Japanese Economic Review, vol. 53, pp. 177-181.

Meagher, K. (1995), *Crisis, Informalization and Urban Informal Sector in Sub-Saharan Africa*, Development and Change, vol. 26, pp. 259-284.

Mehta, S. (2004), *Maximum City: Bombay Lost and Found*, Vintage Books, New York.

Mel, S. D. McKenzie and C. Woodruff (2008), *Who are the Microenterprise Owners? Evidence from Sri Lanka on Tokman v. de Soto*, Discussion paper no. 3511, The Institute for the Study of Labor (IZA), Bonn, Germany.

Ministry of Agriculture, Government of India (2003-2009), *Agricultural Statistics*, http://dacnet.nic.in/eands/At_Glance_2008/Rates13-14_new.htm

Ministry of Agriculture, Government of India (2003-2004 to 2009-2010), *Annual Reports*, http://dacnet.nic.in/eands/At_Glance_2008/Rates13-14_new.htm

Ministry of Labour, Government of India (2004), *Revised Indian National Classification of Occupations (NCO)*, http://www.dget.nic.in/nco/jobdescription/welcome.html

Mitra, A. and M. Murayama (2008), *Rural to Urban Migration: A District Level Analysis of India*, discussion paper no. 137, Institute of Developing Economies (IDE).

Mitra A. (2005), *Women in the Urban Informal Sector: Perpetuation of Meager Earnings,* Development and Change, Vol. 36, No.2 (March), pp. 291-3716.

Mitra D. and Ural B.P. (2006), *Indian Manufacturing: A Slow Sector in A Rapidly Growing Economy*, from research project on the rise of India and China, jointly undertaken by the World Bank and the Institute of policy Studies, Singapore.

Mohapatra, S., S. Rozelle and R. Goodhue (2007), *The Rise of Self-Employment in Rural China: Development or Distress*, World Development, vol. 35, no. 1, pp 163-181.

Morales, R. and R. Mines (1985), *San Diego's Full-Service Restaurants: A View from the Back of the House*, Report. Center for U.S.-Mexico Studies, university of California, San Diego.

Moser, C. (1978), *Informal Sector or Petty Commodity Production: Dualism or Dependence in Urban Development?* World Development, vol. 6, issue 9-10, pp 1041-1064.

Nagaraj R. (2002), *Trade and Labor Market Linkages in India: Evidence and Issues*, East-West Center Working Paper Series, no. 50.

Narayana, M.R. (2006), Formal and Informal Enterprises: Concept, Definition and Measurement Issues in India, in B. Guha-Khasnobis, R. Kanbur and E. Ostrom

145

(eds.) *Linking the Formal and Informal Economy: Concepts and Policies*, Oxford University Press, Oxford, pp 93-118.

National Commission on Population, Government of India (1971-1999), Survey report on Birth Rate, Death Rate, Infant Mortality Rate & Total Fertility Rate, India and States, http://populationcommission.nic.in/birth.htm

Noponen, H. (1991), *The Dynamics of Work and Survival for the Urban Poor: A Gender Analysis of Panel Data from Madras*, Development and Change, vol. 22, no. 2, pp 233-260.

Panagariya, A. (2002), *Cost of Protection: Where do We Stand?* American Economic Review: Papers and Proceedings, May 2002: 175-179.

Panagariya A. (2004), *India's Trade Reform: Progress, Impact and Future Strategy*, Ideas – Econ WPA, http://ideas.repec.org/p/wpa/wuwpit/0403004.html

Panagariya, A. (2004), *India in the 1980s and 1990s: A Triumph of Reforms*, IMF Working Paper WP/XX/04.

Patnaik, U. (2007), *The Republic of Hunger and Other Essays*, Merlin Press, London.

Power, M. (2006), *The Magic Mountain: Trickle Down Economy in a Philippine Garbage Dump*, Harper's Magazine, Dec.- http://www.harpers.org/archive/2006/12/0081312

Ranis, G. and F. Stewart (1999), *V-Goods and the Role of the Urban Informal Sector in Development*, Economic Development and Cultural Change, vol. 47, no. 2, pp 259-288.

Raychaudhuri, T. and I. Habib (eds.) (1982). *The Cambridge Economic History of India: Volume 1, c. 1200-c. 1750*.

Renooy, P.H. (1990). *The informal economy: Meaning, measurement and social significance*. Amsterdam: Netherlands Geographical Studies.

Roberts, B. (1990), The Informal Sector in Comparative Perspective, in M. Estellie
Smith (ed.), *Perspectives on the Informal Economy*, University Press of America, New York and London, pp 23-48.

Rothermund, D. (2008), *India: The Rise of an Asian Giant*, Yale University Press, Connecticut.

Rouse J. (2004), "Absorbing Informal Sector Operators into Improved Urban Services", Small Enterprise Development, Vol. 15, No. 2 (June), pp. 11-19.

Roy, A. (1999), *The Greater Common Good*, India Book Distributor, Bombay.

Roy, A. (2000), *The Cost of Living*, Frontline, Vol. 17, issue 3.

Sabel, C. (1982), *The Division of Labor in Industry*, Cambridge University Press, Cambridge, UK.

Sahlins, M. (1972), *Stone Age Economics*, Aldine Transaction, New Jersey.

Sanyal, K. (2007), *Rethinking Capitalist Development: Primitive Accumulation, Governmentality and Post-Colonial Capitalism,* Routledge, New York and London.

Sanyal, K. and R. Bhattacharya (2009), *Beyond the Factory: Globalization, Informalization of Production and the New Locations of Labour*, Economic and Political Weekly, vol. XLIV, no. 22 (May 30), pp. 35-44.

Sassen-Koob, S. (1989), New York City's Informal Economy, in A. Portes, M. Castells & L. A. Benton (eds.), *The Informal Economy: Studies in Advanced and Less developed Countries*, Johns Hopkins University Press, Baltimore, pp 60-77.

Sawyer, A. (2006), Social Capital, Survival Strategies, and Their Potential for Post-Conflict Governance in Liberia, in B. Guha-Khasnobis, R. Kanbur and E. Ostrom (eds.) *Linking the Formal and Informal Economy: Concepts and Policies*, Oxford University Press, Oxford, pp 230-245.

Sethuraman, S.V. (1976), *The Urban Informal Sector: Concept, Measurement and Policy*, International Labor Review, no. 114, pp 69-81.

Sethuraman, S.V. (1981), *The Urban Informal Sector in Developing Countries: Employment, Poverty and Environment*, International Labor Office, Geneva.

Sindzingre, A. (2006), The Relevance of the Concepts of Formality and Informality:A Theoretical Appraisal, in B. Guha-Khasnobis, R. Kanbur and E. Ostrom (eds.) *Linking the Formal and Informal Economy: Concepts and Policies*, Oxford University Press, Oxford, pp 58-74.

Sinha A., Sangeeta N. and Siddiqui K. A. (1999), *The Impact of Alternative Policies on the economy with special reference to the Informal Sector: A Multisectoral Study*, National Council for Applied Economic Research, New Delhi.

Soderbaum, F. (2006), Blocking Human Potential: How Formal Policies Block the Informal Economy in the Maputo Corridor, in B. Guha-Khasnobis, R. Kanbur and E. Ostrom (eds.) *Linking the Formal and Informal Economy: Concepts and Policies*, Oxford University Press, Oxford, pp 163-178.

Stallings, B. and W. Peres (2000), *Growth, Employment and Equity: The Impact of the Economic Reforms in Latin America and the Caribbean*, The Brookings Institution Press, Washington DC, Chapter 5, pp. 110-152.

Stepick, A. (1989), Miami's Two Informal Sector, in A. Portes, M. Castells & L. A. Benton (eds.), *The Informal Economy: Studies in Advanced and Less developed Countries*, Johns Hopkins University Press, Baltimore, pp 111-131.

Subrahmanya, R.K.A. and R. Jhabvala (2000), Meeting Basic Needs: The Unorganized Sector and Social Security, in R. Jhabvala and R.K.A. Subrahmanya (eds.), *The Unorganized Sector: Work Security and Social Protection*, Sage Publications, New Delhi, pp. 17-29.

Sule, S. (2005), *Whose Garbage is it Anyway?* India Together, online edition, January - http://www.indiatogether.org/2005/jan/env-ragpick.htm#continue

Swaminathan, M. (1991). *Understanding the informal sector: A survey.* WIDER WP 95.

Tamvada, J.P. (2010), *The Dynamics of Self-Employment in a Developing Country: Evidence from India*, paper presented at the summer conference at Imperial College London Business School, London.

Tendulkar, S., D.K. Sundaram and L.R. Jain (1996), *Macroeconomic Policies and Poverty in India 1966–67 to 1993–94*, Manuscript. ILO, New Delhi.

The International Development Research Center (IDRC), online document on *Informal Employment, Gender and Poverty The Informal Economy* - http://www.idrc.ca/en/ev-83643-201-1-DO_TOPIC.html, downloaded on 06/10/10.

Tokman, V. (2006), *Integrating the Informal Sector in the Modernization Process*, Report of the UN Economic and Social Council, New York.

Tokman, V. (2007), *Modernizing the Informal Sector*, UN Department of Economic and Social Affairs (DESA) working paper no. 42 (June).

United Nations Development Project (2009), *India Urban Poverty Report* - http://data.undp.org.in/poverty_reduction/IUPR_Summary.pdf , downloaded on 06/03/10.

Unni, J. and U. Rani (2002), *Insecurities of Informal Workers in Gujarat, India*, ILO publications, Geneva.

Veblen, T. (1908), On the Nature of Capital, Intangible Assets and the Pecuniary Magnate, *Quarterly Journal of Economics*, vol. 22, pp 104-136.

Wilson, T.D. (1998), *Introduction: Theoretical Approaches to the Informal Sector*, Latin American Perspective, issue 99, vol. 25, no. 2, pp. 3-17.

Women's International Network (2003), *India: Women Beedi Rollers Seek New Ways of Earning a Living - Reports from: Asia and Pacific*, BNET - http://findarticles.com/p/articles/mi_m2872/is_3_29/ai_107121987/

Wong, Kar-Yiu (1995), "International Trade in Goods and Factor Mobility", MIT press, Cambridge, USA, Chapter 1 and 2.

Yamada G. (1996), "Urban Informal Employment and Self-Employment in Developing Countries: Theory and Evidence", Economic Development and Cultural Change, Vol. 44, No. 2 (Jan), pp. 289-314.

Zibechi, R. (2010), *The Homeless in Bahia: The Utopia of "Good Living"*, Axis of Logic, http://axisoflogic.com/artman/publish/printer_59042.shtml

APPENDICES

Figure A.1: Interactions between the Sectors
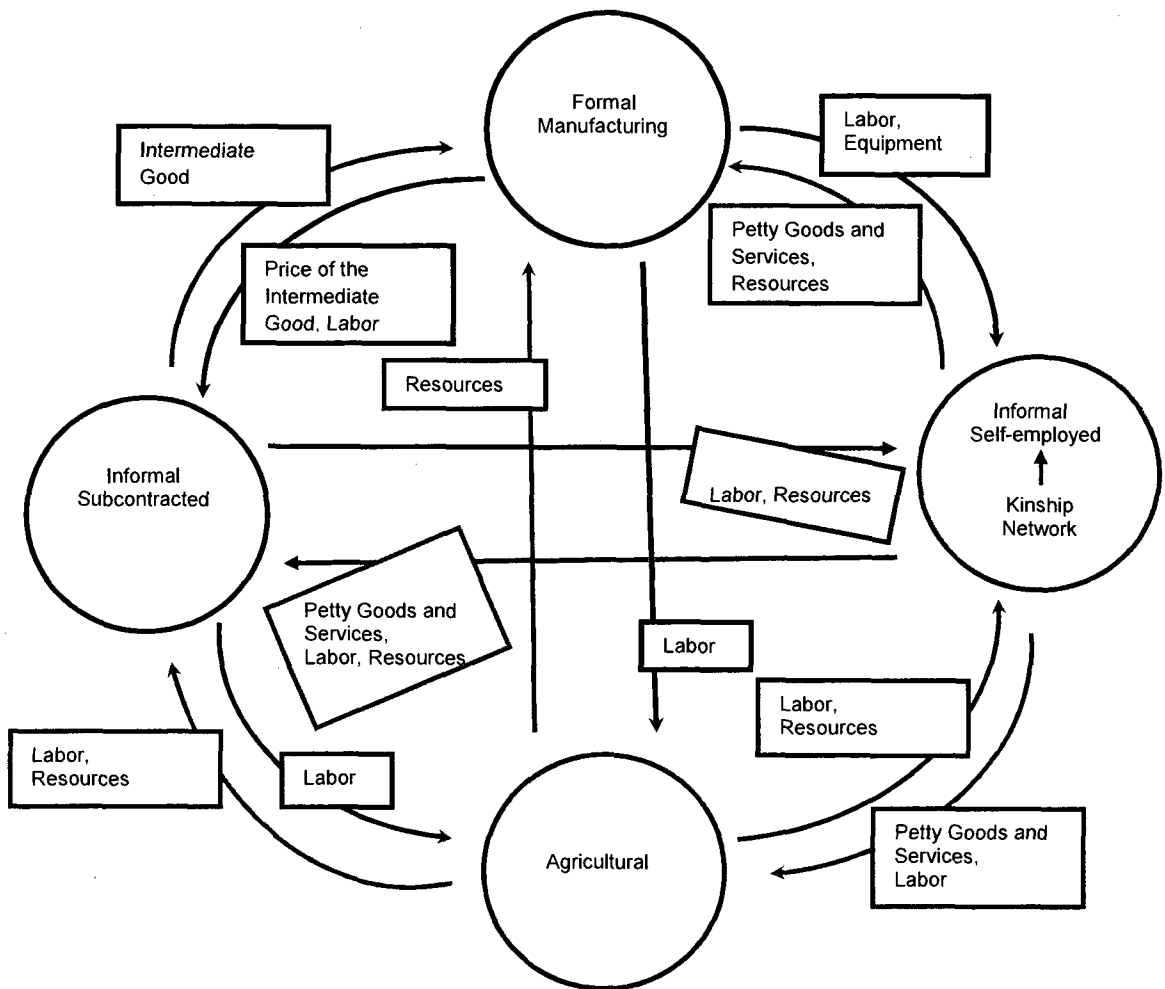
APPENDIX B: STUDIES IN INFORMAL SECTOR

Table B.1: Various Schools of Thought on Informal Sector

Schools of Thought	Origin of Informal Sector	Relation with the Formal Sector	Policy Suggestions	Study
Dualist	Slow economic growth rate compared to high population growth rate	Marginal economic activities that are unrelated to the formal sector	Increasing inclusivity of Economic growth, and/or allowing informal economy to exist	ILO 1972, Hart 1973, Sethuraman 1976, Tokman 1978, Breman 1996
Structuralist	Failure of capitalist development	Subordinated to the formal sector, reduces cost of production of formal sector	Allowing informal sector to exist, as the capitalist development paradigm is structurally incapable of including informal workers	Birkbeck 1978, Moser 1978, Beneria 1989, Capecchi 1989, Castells and Portes 1989
Legalist	To evade state regulations	Independent of formal sector	Eliminate all state regulations	De Soto (1989)

Table B.2: Impact of Trade Reforms on Informal Sector (Major Studies)

Study	Country	Model	Characterization of Informal Sector	Conclusion(s)
Kelley (1994)	Peru	Computable General Equilibrium	Pool of people hired as casual wage-worker	Informal sector income decreased
Currie and Harrison (1997),	Morocco	Partial Equilibrium	Group of people hired by formal firms at a wage lower than formal workers	Informal employment increased, wages decreased
Carr and Chen (2002),	Countries of the South	N.A.	Owners and owner-operators, self-employed, casual wage-workers	Owners and owner-operators are negatively or positively affected, self-employed workers lost income sources, wage-workers grown in number, wages decreased
Marjit (2002)	India	General Equilibrium	A sector producing intermediate goods for the formal manufacturing sector	When capital is immobile between formal and informal sector, informal wage

				increases
Goldberg and Pavcnik (2003)	Brazil, Colombia	Partial Equilibrium	Group of people hired by formal firms at a wage lower than formal workers	Trade reforms leads to growth of informal sector in Colombia until labor reform takes place; No link in Brazil
Sinha and Adam (2007)	India	Computable General Equilibrium	A sector produces low-technology good and pays no tax	Informal employment expanded, formal sector workers earn 3.5 times more wage

APPENDIX C: Data and Definitions

Table C.1: Size of Indian Informal Sector

Sector	Informal Workers in 1999-2000	Informal Workers in 2004-2005
Formal/Organized	20.5	29.1
Informal/Unorganized	341.3	393.5
Total	361.7	422.6

Source: NCEUS, 2007. The numbers are in millions.

Table C.2: Percentage Distribution of Informal Workers across Expenditure Classes

Classes	Regular wage-workers	Casual Workers	Self-Employed	Total
Poor	66.7	90.0	74.7	78.7
Higher income	33.3	10.0	25.3	21.3
Total	100.0	100.0	100.0	100.0

Source: NCEUS, 2007.

Table C.3: Gross Capital Formation (GCF) in Agricultural Sector

Year	GCF
1999-00	501.51
2000-01	464.32
2001-02	603.66
2002-03	618.83
2003-04	618.27
2004-05	788.48
2005-06	975.57
2006-07	1044.89
2007-08	1286.66
2008-09	1753.14

Source: Annual Statistical Reports of the Ministry of Agriculture, Government of India, various years. The numbers are in billions of 2005 rupees

Table C.4: Definitions Used in the Dissertation

Terms	Definitions
Formal Sector	The sector containing registered firms, which pay taxes to the government, employs workers at regular wages and produces manufacturing import-competing goods; the workers are eligible for benefits and protection from the labor law.
Informal Sector	The sector consisting of workers who work either for the registered or unregistered enterprises as casual and/or temporary wage-workers, or as unregistered self-employed workers producing petty consumer goods and services.
Informal Subcontracted Sector	The sector containing firms that are either registered or unregistered employ casual and/or temporary workers and produce intermediate goods for the formal sector; the workers are not eligible for anything beyond hourly/daily wages.
Informal Self-Employed Sector	The sector consisting of people who are self-employed, may or may not employ casual and/or temporary wage-workers and use social capital and labor (family or wage labor) to produce petty consumer goods and services.
Kinship Association	The association of people belonging to same family, caste, village, religion or language group, which influences the terms of input supply among the self-employed population.
Kinship Sharing	The sharing of common resources or

	inputs among the self-employed people belonging to the same kinship network or association.
Kinship Support	The support of people belonging to the same kinship network or association in acquiring the access to inputs or determining the terms of accessing the inputs.
Reciprocal Services	The services rendered to people belonging to the same kinship network or association in return to the availability of inputs; the services may or may not include money (Marshall Sahlins 1972).