Structural Reforms and Sustainable Livelihood of Informal Sector Workers: A Theoretical Inquiry

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Abstract: Informality is one of the most widespread and significant global challenges impacting the world of work since the onset of globalization. The informal sector, which employs over 60% of the world's adult population, contributes around 35% to GDP in advanced economies and 15% in low and middle-income countries. Despite its economic role, this sector leaves workers highly vulnerable to a range of risks and insecurities (OECD, 2019). The informal sector, though has traditionally been viewed as a 'catch basin' for those who cannot find jobs in the formal sector, low wages in the informal sector has remained the major obstacle to achieving sustainable livelihood. More than 60% of workers in this sector are denied the prospects of a minimum wage (India Development Report, 2024). Decent wages have subsequent impacts on the enhancement of productivity and reduction of poverty, while promoting 'Sustainable Livelihood' encompassing the basic means of living of the people coupled with the potential of the economy to outperform shocks and stresses. While the size of the informal sector expanded with the process of globalization, the calls for structural reforms multiplied across the developing world. The impact of such structural reforms on informality and in particular on the dimensions of sustainable livelihood, generate considerable scholarly interest and inquiry. Thus, in this paper we purpose to theoretically analyse the possible outcome of two reforms in the form of liberalized investment policy and credit market reform on the wage income of the informal sector workers in a small open developing economy using a three-sector general equilibrium model with or without unemployment. There are both labour market and commodity market distortions in the forms of exogenously given high wage and tariff protection of the import-competing sectors. We have found that both the reforms improve the wage income of the informal sector workers under a couple of reasonable conditions. The basic model has then been extended to include Harris Todaro type urban unemployment. The basic result of the full employment model holds. Additionally, we could possibly explain jobless growth in a liberalized regime.

Keywords: informal labour markets, neoclassical models of trade, wages, international investment.
JEL Classification: J46, F11, E24, F21

2. Introduction: Context and Rationale for the Study

Informality may be considered as an integral organ in most developing and emerging economies of the world including India which is home to 450 million informal workers which comprise 90% of the total workforce of the country. It has significance and glaring effects on the economy of a country, and it is pertinent to investigate the pernicious nature of this sector. 45% of the GDP of the Indian economy came from this sector for the FY 2022-23 and around 110 million workers were 'brushed up' by the existing 65 million Indian informal sector enterprises which further highlights the importance it encompasses (NAS, 2024). It is undoubtedly a glaring gospel that informality is an unacknowledged 'engine of progress' for India and this necessitates a comprehensive statistical survey and scrutiny of the informal sector for incorporating relevant policies and reforms for further improvement (ASUSE, 2022-23; Harriss-White, 2025).

What truly motivates us to test into the workings of the informal sector, one that is frequently ignored is due the criticality of the informal sector from a macroeconomic perspective (Marjit et al., 2023) In times of financial emergency, not all nations are hit the same way. In economies with a noteworthy informal sector, the impacts of financial shocks play out quite differently. They regularly encounter gentler blows-demand shocks hurt less, and supply disturbances do not drive costs up as strongly. That's since the informal sector acts as a natural cushion, venturing in when the formal economy falters. Unlike wealthier nations, where such a fall back is restricted, this adaptability helps developing economies assimilate shocks more viably. Keeping true to this thought, the informal sector plays a pivotal role in our study as we analyze the impacts of incorporating structural reforms to enhance the functioning of this sector.

It has been found in several studies that keeping with the pace of globalization, the size of the informal sector in the developing countries has also increased rapidly and with its growing importance in employment generation, policy makers and economists have been concentrating on the working condition and the welfare of the informal workers. Though globalization sounds like a single term it's actually a policy package consisting of a number of structural reforms ranging from investment and trade liberalization, labour market reform to credit market reforms. These policies, as claimed by policymakers round the world, were supposed to take the developing countries to higher growth orbits, the benefits of which would definitely percolate to the bottom-rung of the society consisting of the poorer section of the working population who are generally employed in the informal sector.

As envisioned, the goal of reaching the pinnacle of India's development by 2027 requires stringent economic reforms (Financial Times, 2025). Structural reforms, especially those related to liberalized investment policies and credit market reforms in context of the present paper, may have positive transformative impacts on the informal sector namely creation of jobs and skills transfer via creation of capital, upgradation of operations, access to affordable credit and financial security among many others. Presently, spanning over the industries like agriculture, construction, services, transportation, lodging and some manufacturing sectors, the informal sector typically characterizes issues of low wages, lack of social protection, job insecurity, dearth of access to credit, want of legal protection and rigid regulations to name a few which may pose a challenge to the development of an economy and raise questions about the welfare of its workers. This contrasts with the Sustainable Development Goal (SDG) 8, which advocates for decent work for all in addition to sustained economic growth and full employment in the economy. SDG 8 is multidimensional as it spans across both the economical and societal aspects of the society (Dalampira & Nastis, 2019).

It is no surprise that given the issues of informality, the informal sector workers are disadvantaged as they are vulnerable to economic shocks, witnessed in the recent past by both human-caused demonetization of high-valued currency notes and the rollout of GST; and natural – COVID-19 pandemic. Thus, it is quintessential to provide informal workers with adequate protection and welfare means, and this wherein comes in the role of structural reforms in general and FDI inflows in particular to facilitate the integration of the sector into the mainstream economy and allow for a sustainable livelihood in this sector.

Moreover, female entrepreneurship in rural areas, poverty alleviation, youth, social entrepreneurship, and institutions are propounded as important concepts for economic development in Tabares et al. (2022). The working poor and informal workers are as entitled to equal opportunities in work-life balance and fair pay as the high-income levels of the society. Only with these measures in place can they achieve a higher wellbeing (Harr et al., 2018). Also, it is paramount to remember that poverty is multidimensional and multifaceted so care should be taken to assess, analyze and diagnose vulnerabilities and deficiencies and accordingly put into place required mechanisms and policies.

‘Livelihood’ is a broad term which encompasses people and their assets, capabilities and means of living while ‘sustainable’ is added to the term when the livelihood proves to have the potential to easily outperform shocks and stresses while still serving the purpose of the preceding generation (Chambers and Conway, 1992). Conway (1983) in his work embodies the concept of ‘put the last first’ and value is embodied by the modern sustainable livelihood framework developed by Natarajan et. al. (2022) tailored to meet the expectation of the 21st CE; more specifically, a century dominated by climate change and globalization and their impacts on the informal sector.

It is quintessential to understand that to alleviate extreme poverty and inequalities that exists in the rural sector, mostly characterized by informality, the path to achieve sustainability of livelihood and creating value in the economy requires opportunities of self-employment. These opportunities have a subsequent impact on the economic growth of the economy and at the center of all these desires lies rural entrepreneurship (Mishra, 2021; Mishra et al., 2020; Pato and Teixeira, 2016; Aggarwal et al., 2019). Also, the importance of fair and regular wages in the informal sector cannot be understated. It helps to reduce vulnerability and dependency of informal workers for basic requirements and provide financial resilience. Also, this creates an opportunity for them to invest in education and skills enhancement for protection against unforeseen external shocks.

The next question that arises is what role economic reforms play in an informal sector. As mentioned in the preceding discussions, Informality is characteristic for encompassing ‘extra-legal’ activities which are indulged by ‘extortion’ by the political forces of the economy. In a study done by Mandal et. al., 2017, it is observed that inclusion of economic reforms into the economy is followed by- a fall in informal wages and return to extortionists accompanied by an increase in informal output as the number of extortionist activities go up; while flexibility of capital between the formal and informal sector may allow informal wage to increase.

An important observation made in regards to the unprecedented decline in the absolute number of workers in the Indian economy in recent times has been a subject of debate and a matter of public concern. A closer look at the data for the period 2011–12 and 2017–18 shows that is the net result of a dynamic process of job creation and destruction. To give a brief historical idea, since the 1990s, post-reform India has seen faster GDP growth but slower job creation. Employment elasticity dropped from 0.51 during the pre-reform period to just 0.18 in the post-reform period. By 2005–10, even with 9% GDP growth, employment rose by just 0.1% (Mazumdar and Bhattacharjee, 2019). This highlighted a troubling trend in India's growth story—economic expansion without job creation, or what they call 'jobless growth'. Between 2011–12 and 2017–18, even as output grew at nearly 7% annually, employment actually declined. Their research shows that for every 1% increase in growth, job creation has been negligible or even negative—indicating a displacement of workers rather than absorption. Rural areas were hit especially hard, with the rural workforce share falling from 71% to 67.5%. In short, India's growth has increasingly failed to translate into jobs, making it more a case of 'job-loss growth'(Kannan and Raveendran, 2019).

On this note, there remains a pertinent question as to whether in reality such reforms could produce favourable impacts on the decent work conditions of the informal sector, particularly the underlying conditions for such desirable effects and thus there has been a lacuna of existing theoretical as well as empirical literature on the impacts of structural reforms, specifically in the case of the informal sector.

The present paper departs from this entire gamut of literature, as it considers a three-sector general equilibrium model with two informal sectors, one of which is a non-traded final good sector. We would like to approach the problem from a different aspect than the existing literature. In the current scenario of economic reforms, we would analyze two particularly important reforms, namely- a credit market reform and investment liberalization (inflow of FDI) and the effect of these reforms on the informal wage of informal workers in a sustainable livelihood framework in the backdrop of a small open developing economy. Under a set of reasonable conditions, we observe that both these reforms lead to an improvement in the wage income of the informal sector. The distinctive feature of our study lies in its grounding in trade theory, through which we examine the redistributive implications of reforms and policies using tools from welfare economics and general equilibrium modelling. We base our analysis on an economy that allows for cases of both full employment as well as unemployment. There exist distortions in both the labor as well as commodity markets, in the form of exogenously set high wages and tariff protection in import-competing sectors. We specifically build upon the seminal contributions of Jones (1965), Jones (1971) and Jones (1974) incorporating the concept of factor intensity to broaden the analytical scope. We go a step further in the model and incorporate the Harris-Todaro-type urban unemployment. However, we observe that the results in the precedent full employment analysis remain the same.

Subsequent structure of the paper goes as follows: A review of theoretical frameworks has been done in Section 3. Section 4 incorporates a few empirical footprints and Section 5 gives a brief idea of the research contribution and Methodology for the paper. Section 6 and 7 include the analytic framework of the model along with an analysis on effects of structural reforms on sustainable livelihoods. We have provided a theoretical robustness check for the model in Section 8 and have provided an extension to the model in Section 9. Concluding remarks and recommendations are given in Section 10. Subsequently, Section 11 comprises the limitations of the model. And we have concluded by providing the appendices and references in Sections 12 and 13 respectively.

3. *Review of Theoretical Frameworks*

The Harris Todaro Framework is one of the prominent theoretical models for the economic reforms and has been able to attract the keen interest of many prominent researchers. Khan (1982) has considered a mobile version of the Harris Todaro model with urban employment. Grinols (1991) introduced a third sector in the form of the urban informal sector which absorbs the unemployed urban workers. Similar analysis has also been done by Chandra and Khan (1993). Most of these researches have produced the result that the immiserating consequence put forward by Brecher and Alejandro (1977) holds good.

An extension to economic reforms has been done by Ghosh & Mandal (2018), wherein they show the interdependence between trade liberalization and bureaucratic reforms in an economy having both formal as well as informal sectors and their impacts on outputs. Trade liberalization leads to contraction of both the informal and manufacturing sectors while bureaucratic reforms result in a fall in the informal wages but a rise in the informal output. Additionally, the authors emphasize the negative ramifications of corruption on the trade and economic development of an economy and only by reducing the cost of this corruption can the informal wages seek to rise at any point.

However, many papers like Marjit and Beladi (1996), Chaudhuri (2005,2007) show that foreign capital might produce favorable effects on the welfare, taking into consideration some essential features of the developing economies. Kar et al (2004) studies the effects of capital mobility and informal wage. They try to answer the two basic questions, whether liberal trade policy hurts informal workers and whether militant labour unionism helps the non3-unionized workers. Their result shows that if capital is allowed to move freely between sectors, then the answer to the questions will be in the negative. Chaudhuri and Yabuuchi (2008) show that the inflows of foreign capital improve the wage inequality when the low skilled sector is capital intensive, but the relative wage gap may widen if the high skill sector is capital intensive. The model takes into consideration the skill components, i.e., sectors using high skill labour and sectors using low skill labor.

Yabuuchi (2005) examined the effects of the exogenous inflow of foreign capital on outputs, unemployment, and welfare in a Harris-Todaro framework, where the product of the informal sector is used as an industrial input in the urban informal sector. The results show that the investment increases the output of the invested sector, it may decrease the unemployment, redistributing national income from the capital owners to the labourers. They also show that contrary to popular wisdom, welfare may increase. Yabuuchi, Beladi and Wei (2005) extended the basic H-T model to include the urban informal sector. The effects of the exogenous inflow of foreign capital on outputs, unemployment and welfare are examined in the model. Their model consists of three sectors, two urban sectors and one rural sector. This paper shows that, as investment increases the output of the invested sector, unemployment may decrease, hence redistributing national income from capital to labour. They also show that there is a possibility of welfare improvement, contrary to the conventional wisdom. However, the result is dependent on several assumptions like the sector specificity of capital, a constant informal wage and the intermediate input being technically independent of either labour or capital in the manufacturing production.

Another important work in this context has been done by Marjit (2003) who has examined the outcome of trade liberalization on the informal wage using a three-sector general equilibrium model with two informal sectors. In his model, one of the two informal sectors produces a non-traded input for the formal sector and capital is mobile only between the two informal sectors of the economy. Marjit (2003) has found that trade liberalization may increase the informal sector wage under certain conditions. He argues that the positive effect on the informal wage would be strengthened if capital mobility between the informal and formal sectors is allowed.

Another paper worth mentioning is the one by Chaudhuri and Banerjee (2007) wherein they have examined the impacts of different liberalized policies with the help of a 3-sector full-employment model where one of the two informal sectors produce a non-traded input for the formal sector which can be either an agro-based industry or a manufacturing sector. Capital can be mobile either between the two informal sectors or between the non-traded informal sector and the formal sector. The paper which is closely akin to the present analysis is a paper by Chaudhuri and Chaudhuri (2019), which examines the welfare consequences of the foreign direct investment flows and credit market reform in a developing open economy context.

4. *Empirical Footprints*

There remains an urgent need to bring up more centrally the needs of the rural livelihoods in an ever changing global setup. There are a number of theoretical studies that examine the impacts of this globalization on the informal sector in developing economy but owing to the underdeveloped empirical studies on the same, Pham (2017), incorporates a new Bayesian Model Averaging Technique to highlight the principal indicators affecting informality – namely 'trade integration, diversification and concentration, de facto and de jure financial openness[1] and social globalization. Existing literature on this issue have contrasting views on the linkages between informality and trade openness e.g. on one hand a reduction in the tariffs is seen to positively impact informal sector wages and employment based on the Harris-Todaro (1970) migration model- the use of which we have made in the subsequent portion of our study; Chandra and Khan (1993) and Marjit et. al. (2007) studies; and on the other we find trade openness leading to a reduction in the size of the informal sector (Beladi and Yabuuchi, 2001).

It is typically seen that research attention for developing and transitioning economies encompasses the formal sector space and sometimes overlooks its large and quintessential informal counterpart. Nevertheless, there is a lacuna of empirical as well as theoretical work done with the informal sector as the limelight. Global empirical and theoretical evidence supports the claim that the strategic incorporation of FDI, specifically into a developing economy engenders economic growth via the spill-over effect (Tintin, 2012; African Development Bank Recommendations, 2015; Ray et. al., 2015; Findlay, 1978). Performances of countries like China, Malaysia, Singapore, Korea, Indonesia, and Vietnam in the 1980s and 1990s after accepting huge FDI inflows into their economies are testimony of this statement and India is undergoing a transition to this stage with the recent global FDI features. This is made possible as FDI inflows to the host economy perpetuates an expansion in the capital, technological and organizational expertise of the economy. Specifically, if we look at the impacts FDI may have on

[1] In the context of openness, de facto refers to the actual state of affairs, indicated by the extent of integration or interaction with the world and de jure refers to the restrictions on such openness via legal and statutory frameworks.

the informal sector, development of new supply chains and export-oriented industries may have their spill-over effects on informal sectors provided adequate backwards linkages exist.

Testimony to the positive effects of business internationalization on the informal sector is provided by numerous empirical papers wherein though not directly but FDI flows into the formal sector primarily has a spillover effect into the informal sector through production outsourcing - provided economy witnesses flexibility of either the labor market policies or institutions- leading to expansion in the informal sector scale of production along with visible positive impact on the GVA (Gross Value Added) of the unorganized sector (Blomstrom et. al., 1994; Borensztein et. al., 1998; Bloomstorm & Kokko, 2003). This outsourcing by the formal sector is guided by the opportunity of low production costs associated with production in the informal sector. To this extent we also examine how business internationalization may prompt relaxation of credit or capital constraints in the formal sector due to capital inflow. A practical proof to this may be the Japanese economy.

However, it is important to note that there are varying opinions when it comes to literature on the influences of FDI on economic growth. In the context of developing economies, many recognized the negative effects of FDI on economic growth (Griffin, 1970; Singer, 1950; Saquib et. al., 2013; Herzer, 2012). Owing to the inconsistencies in the results of these studies, it is crucial to understand that to measure the impact of FDI flow on economic progress of developing economies, other determinants like domestic investment, infrastructure, inflation, and global trade also play a role. And since these vary across sectors, impacts of FDI are sector specific.

On analysis of panel data of four South Asian countries- Bangladesh, India, Pakistan and Sri Lanka, it is to be noted that overall FDI may have a positive impact on economic growth but based on its sector composition FDI has the greatest impact on the secondary sector (e.g., manufacturing sector) (Chaudhary et. al., 2020).

The interaction between the formal and informal sector can further be studied in the light of a rise in employment as well as wages in the informal sector. It can be considered as a by-product of the structural transformation leading to the service sector growth due to capital investment which precedes the path to poverty alleviation (Marjit et. al., 2020). The expansion of the service sector (non-agricultural sector) is critical for economic growth (Todaro & Smith, 2003) as the structural shift of labor to a more productive sector, raises informal workers wages and reduces poverty as the per capita income in the economy witnesses a rise (Aggarwal & Kumar, 2012).

5. *Research Contribution and Methodology*

The existing theoretical literature on structural reforms in developing economies has generally treated distortions in labor, capital, and commodity markets in isolation. Few, if any, models comprehensively examine the combined impact of these distortions on the sustainability of livelihoods, particularly within the informal sector. Furthermore, there remains a significant gap in understanding how structural reforms, especially in the form of foreign direct investment (FDI) and credit market liberalization, jointly influence the informal workforce's capacity to maintain sustainable livelihoods in the presence of multiple market imperfections.

This study aims to address these theoretical gaps by constructing a simplified two-sector general equilibrium model that simultaneously incorporates distortions in the labor, capital, and commodity markets. This integrated framework allows for a more realistic analysis of how dual structural reforms, namely FDI inflows and credit market reforms, under capital constraints, interact with existing market distortions and affect livelihood outcomes in the informal sector.

By focusing on the informal sector, which constitutes a substantial portion of employment in developing economies, the model offers fresh insights into the mechanisms through which structural reforms can either support or undermine sustainable livelihood strategies. The theoretical analysis reveals several key outcomes with direct policy implications, particularly regarding the design of reform packages that are sensitive to the vulnerabilities of informal workers and the distortions embedded in the broader economic system.

This inquiry thus contributes to the theoretical literature by offering an integrated approach to analyzing structural reforms and by emphasizing the sustainable livelihood dimension, an aspect often overlooked in conventional welfare-based analyses.

6. *Analytical Framework and Model Specification*

The model uses a general equilibrium framework. It considers a three-sector, small open developing economy constituting three sectors- agriculture (A), non-tradable final industrial good (I), and manufacturing sector (M). Sector A and I are informal, whereas sector M is formal. A produces commodities using three factors of production, namely land, labour, capital, with labour and capital adopting fixed coefficient production technology; it is the exporting sector. Sector M and I both use labour and capital as factors of production only. The highly skilled manufacturing sector, M, which has import tariff protection, produces an import-competing good using capital and unskilled workers.

Since we assume here the economy to be small and open, it has allowed the consideration of internationally given product prices for the agricultural and manufacturing sector. Production function in each sector is assumed to be linearly homogeneous and is subject to declining marginal productivity for each variable input. Competitive market conditions underlie production in each sector. The price of non-traded goods sector, I, is assumed to be endogenously determined. For simplicity, we assume the price of the agricultural sector to be the numeraire. Additionally, a credit market imperfection is incorporated in the model in the form of a markup β, between the formal and informal sector rates of interest. Typically, the informal sector rate of interest is higher in developing countries due to the lack of collateral in the hands of the informal sector workers, and hence, without loss of generality, we consider it to be higher in magnitude than the formal sector rate of interest.

The structure of equations in the proposed framework has been described using the following notations:

w = wage rate of unskilled labour in the informal sector;

R = rate of return on land (specific to the agricultural sector);

w^* = wage rate of unskilled labour in the formal manufacturing sector;

i = rate of return on capital;

a_{ij}= quantity of the i-th input required for the production of one unit of output of the j- th sector; i =L, K; j=A, M, I

P_j= price of the j-th sector where j=M, A, I

t = tariff rate on the import of the product of sector M in ad-valorem sense

X_j= Quantity of output of the jth sector

i = rate of return in manufacturing sector

r = rate of return on capital in the informal sector

L = labour stock

K = capital stock

β= mark-up over the formal rate of interest

θ_{ij} = distributive share of factor j in the production of products of sector i

λ_{ij} = proportion of the i-th factor used in the production of the j-th sector; i =L, K; j=A, M, I

S_{jk}^{i} = the partial elasticity of substitution between factors j and k in the i-th sector

^ = proportional change

The structure of equations is considered next. The following three equations present the conditions representing equilibrium under perfect competition:

$wa_{LA} + Ra_{NA} + ia_{KA} = P_A = 1$ --(1)

$wa_{LI} + ia_{KI} = P_I$ --(2)

$w^*a_{LM} + ra_{KM} = (1+t)P_M$ ---(3)

i=βr (where β>1) --(4)

The following equations present the full-employment conditions:

$a_{NA}X_A = \bar{N}$ --(5)

$a_{LA}X_A + a_{LI}X_I + a_{LM}X_M = \bar{L}$ --(6)

$a_{KA}X_A + a_{KI}X_I + a_{KM}X_m = K = \overline{K_D} + K_F$ ---(7)

The national income is expressed in domestic prices using the following equation:

$Y = \omega\bar{L} + (\omega^* - \omega)a_{LM}X_M + R\bar{N} + \beta r(K_A + K_I) + rK_M + tP_M(D_M - X_M) - rK_F$ ------------------(8)

The demand equations for the manufacturing and industrial sector are enumerated as below:

$D_M = D_M((1+t)P_M, Y)$ ---(9)

$D_I = D_I(P_I, Y)$ ---(10)

Equilibrium condition for non-traded commodity is given as:

$D_I = X_I$ ---(11)

There are eleven equations and eleven unknowns in the model. Hence, a determinable (though indecomposable) system is obtained.

The price system is presented by equations (1) to (3), the credit market imperfection by equation (4), and the output system by equations (5) to (7), followed by the national income equation by equation (8), the demand equations (9) and (10), and lastly the market-clearing condition of I-th sector in equation (11).

The solving of the equations is presented as follows: From eq (3), r is determined since w^* and P_M are known. From eq.(4), the value of i is determined. From eq. (2) $w = w(P_I)$, and from eq. (1), it can be surmised that $R = R(\omega) = R(\omega(P_I)) = R(P_I)$.

Thereafter, the input coefficients can also be obtained, since all a_{ij} (except a_{KM} and a_{LM}) are functions of P_I . From eq.(5) $X_A = X_A(a_{NA}(\mathrm{R}, w))$ => $X_A = X_A(a_{NA}(\mathrm{P_I}))$.

From eq. (6) and (7) simultaneously we find values of X_M and X_I as for of P_I . From (8) and (9) and $D_M = D_M(P_I)$ and from (10) $D_\perp = D_I(P_I)$. Once, P_I is determined , the values of all other endogenous variables get determined and the model is solved.

Equation (7) can be interpreted in terms of a negatively sloped KK locus in the P_I and X_I space, such that the equilibrium is maintained in the capital market.

Similarly, equation (6) can be expressed in terms of an analogous positively sloped LL locus which is the locus in the P_I and X_I space, and maintains the equilibrium in the labour market.
The equilibrium values of P_I and X_I are obtained at the intersection of LL and KK locus (see figure 1).

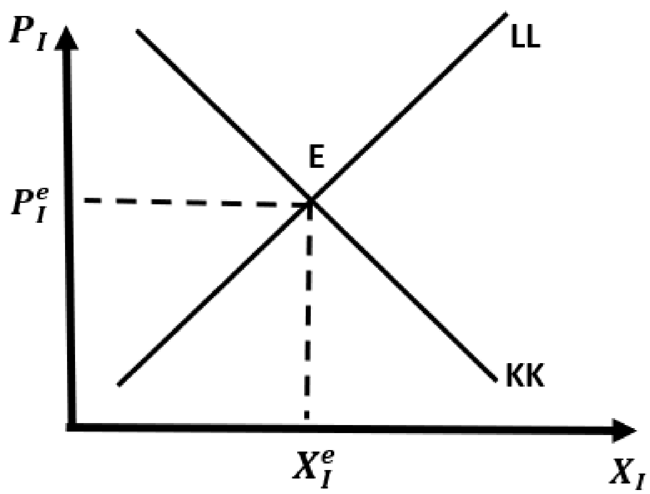

Figure 1: interaction of full-employment conditions.

7. *Effect of Structural Reforms on Sustainable Livelihood*

We consider two types of structural reforms- firstly, in the form of an investment liberalisation policy, targeted towards the import-competing formal-manufacturing sector, and secondly, in the form of a credit market reform which shows a fall in the markup β.
The consequences of these structural reforms are presented in this section.

(A). Effect of Investment Liberalization on Informal Wage

Proposition 1: **FDI leads to an increase in the price of the non-traded good, P_I, and thereby causes the informal wage of the economy to rise under either of the two conditions:**
(a) When the value of income elasticity of demand for non-traded good (E_Y) is very low.
(b) When E_Y is not insignificant, the labour reallocation effect outweighs the tariff revenue effect.

Foreign Direct Investment (FDI) in the given model not only influences the internal dynamics of sectoral employment and prices but also carries important implications for sustainable livelihoods, especially in developing economies where informal employment forms a significant share of the labour force. Investment liberalization policy is indicated in the model by an inflow of foreign direct investment (FDI) which is operationalised through an increase in the capital stock K ($=K_d + K_F$) in the economy.
From the mathematical results stated in appendix (1), it is clear that the policy can affect factor prices (except 'r') both directly as well as indirectly, via a change in the price of the non-traded good, P_I. Inflows of foreign capital led to an expansion of the formal sector (sector M) and a contraction of the informal agricultural sector (sector A), through a Rybczynski effect, since the former sector is more capital intensive than the latter one. As sector M expands, more labor is demanded, which comes from sector A. Although the demand for labour in sector A is given, with supply of labour falling due to a labour outflow, the informal wage 'w' rises. The rise in 'w' is the direct effect of FDI inflow.

As ‘w’ rises, the aggregate wage income rises due to a positive labour reallocation effect since labour reallocates itself from the low-wage paying sector (sector A) to the high wage paying sector (sector M). Again as FDI gets channelized into the formal sector (sector M) which pays lower return to capital (r) than that in the informal sector (i), aggregate domestic capital income falls. This is the negative capital reallocation effect. Moreover, as sector M expands which is the import competing sector, the imports fall as a result of FDI inflow. This would imply a fall in the tariff revenue. Thus we get a negative tariff revenue effect.

So, aggregate income (Y) will- (a) rise due to positive labor reallocation effect (b) fall due to negative capital reallocation effect (c) fall due to negative tariff revenue effect and hence Y will rise if the magnitude of labor reallocation effect is greater than the combined magnitude of the tariff revenue and capital reallocation effect.

Now, due to FDI inflow if Y rises according to the aforesaid condition then given the supply of non-traded good, demand for it goes up which would result in shooting up of the price of non-traded good P_I if either in absence of any significance of E_Y, the stability condition of the market for non-traded final good entails a positive impact of FDI inflow on P_I, or if E_Y is significant, labour reallocation effect outweighs the negative tariff revenue effect. Finally, when we look at the zero profit condition for the non-traded sector, we find that as P_I rises, ‘w’ must rise to maintain sector I’s zero profit condition because ‘r’ is determined from eq.(3). Thus, there is a reinforcing mechanism where higher formal sector expansion leads indirectly to better remuneration in the informal sector- a rare and valuable outcome for economies with dual labour markets.

From the standpoint of sustainable livelihood, this suggests a pathway where FDI-driven formal sector growth can improve the informal sector, provided structural and price conditions align. Higher informal wages mean better capacity for household savings, education investment, and health spending, all of which strengthen the social foundations of sustainability. However, this hinges on the extent of capital mobility, sectoral elasticity, and labour absorption capacity of the formal sector. If these parameters are unfavorable- e.g., if the formal sector cannot absorb enough informal workers or if E_Y is too high- the benefits may be muted or unevenly distributed.

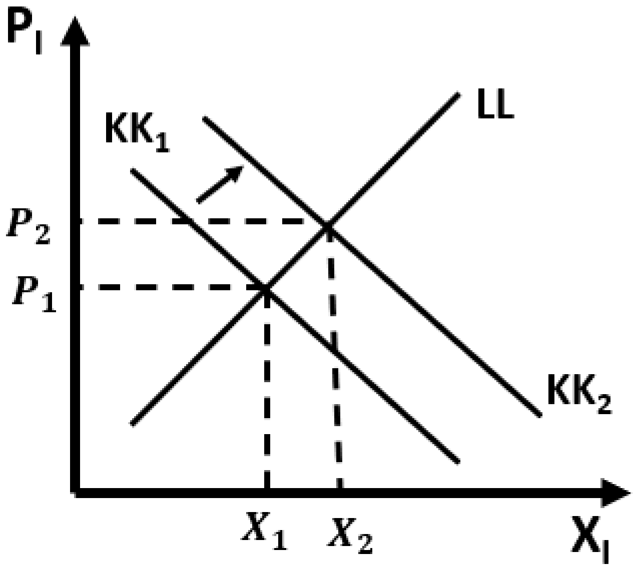

Figure 2: impact of FDI

This effect can be graphically illustrated using a parallel rightward shift in the KK locus to KK_2 due to an inflow of foreign direct investment. The intersection of the shifted KK locus with the LL locus gives us the new equilibrium price and output of the informal manufacturing sector, both undergoing an increase (see figure 2).

(B). Effect of Credit Market Reform on Informal Wage

Proposition 2: A credit market reform leads to an increase in the price of the non-traded good, P_I, and thereby causes the informal wage of the economy to rise under the necessary condition that:- $\left(\frac{1}{\theta_{LI}}\right)\left(\frac{\widehat{P_I}}{\hat{\beta}}\right) > \left(\frac{\theta_{KI}}{\theta_{LI}}\right)$

As a result of the credit market reform, the markup over the formal lending rate, which the informal moneylenders charge in the informal credit market will fall i.e. the value of β falls in order to bridge the gap between the formal and the informal sector rates of interest. This implies that there is an immediate fall in i due to fall in 'βr'. As the interest burden on informal producers falls, profitability in the sector improves, which triggers a rise in the informal wage w due to the zero-profit condition. Given P_I , w rises to satisfy the zero profit condition in sector I. w rises in sector A as well, but here, a_{LA} and a_{KA} are given due to fixed coefficient production technology assumption, so as w rises given R, the wage-rental ratio increases. As a result of this, labour has become dearer than land. This motivates the producers to substitute labour by land. Hence, rearranging equation (5), we get a_{NA} rises, which implies that $X_A = \frac{\bar{N}}{a_{NA}}$ also falls and hence sector A contracts.

From factor intensity condition: $\frac{\theta_{LA}}{\theta_{LI}} > \frac{\theta_{KA}}{\theta_{KI}}$ and $\frac{\theta_{LI}}{\theta_{LM}} > \frac{\theta_{KI}}{\theta_{KM}}$

When sector A contracts, it releases both labour and capital which must be absorbed in both sector I and M, but all the released labour cannot be absorbed by sector M. When labour is released, sector I expands due to the **Rybczynski type effect**. When sector I expands, demand for labour rises, implying an increased wage w. Some of the labour released from sector A is absorbed in sector I, while those who get jobs in sector M will earn a higher wage w* in sector M. Thus the Labour Reallocation Effect is positive as a whole. Released capital from sector A shifted to sector M which pays a lower interest rate, due to which Capital Reallocation Effect is negative. Now sector M expands and the amount of imports goes down. This leads to a fall in tariff revenue implying a negative Tariff Revenue Effect. The net effect on aggregate income Y depends on the relative strengths of these opposing forces. Income will rise if the positive labour reallocation effect outweighs the combined negative effects of reduced capital income and falling tariff revenue.

However, the sustainability of these gains is contingent on several factors. If the fall in tariff revenue and capital income undermines public spending or investment, it could indirectly harm those dependent on state support or capital returns. To ensure long-term livelihood sustainability, credit market reform must be complemented by broader financial inclusion policies, skill development initiatives to aid sectoral transitions, and social safety nets to protect vulnerable groups during periods of structural adjustment. Thus, while credit market reform can be a powerful catalyst for improving informal wages and strengthening livelihood security, its full potential can only be realized within a supportive policy framework that addresses its associated trade-offs.

$\therefore$ Income will rise iff, $|LRE| \rangle |CRE+TRE|$.

8. Theoretical Robustness Check

Due to the theoretical nature of the model, it is not possible to conduct a robustness check empirically, using econometric modelling. However, to conduct a theoretical robustness check, the model has been extended to incorporate the framework of the seminal model of development economics- the Harris-Todaro model, relaxing the full-employment conditions.

Thereby, the equational structure undergoes certain modifications, as highlighted henceforth.

$wa_{LA} + Ra_{NA} + ia_{KA} = P_{A=}1$ --(1)

$wa_{LI} + ia_{KI} = P_I$ --(2)

$w^* a_{LM} + ra_{KM} = (1+t)P_M$ ---(3)

$i = \beta r$ (where β>1) ---(4)

$a_{NA}X_A = \bar{N}$ --(5)

$a_{KA}X_A + a_{KI}X_I + a_{KM}X_M = \bar{K} = K_D + K_F$ --(6)

The price and output system stay unperturbed.

In presence of urban unemployment, labour endowment eq becomes –

$a_{LA}X_A + a_{LI}X_I + a_{LM}X_M + L_U = \bar{L}$ ---(7)

$Y = w\bar{L} + R\bar{N} + i(K_A + K_I) + rK_M + tP_M(D_M - X_M) - {}_rK_F$)--------------------------------(8)

$D_M = D_M(P_M^*(1+t), Y)$ ---(9)

$D_I = D_I(P_I, Y)$ --(10)

$D_I = X_I$ --(11)

Harris-Todaro Migration equilibrium condition is given by:

$$\omega^* \left(\frac{a_{LM}x_M}{a_{LM}X_M+L_U}\right) = w \text{--}(12)$$

Using (12) and (17) we have –

$$a_{LA}X_A + a_{LI}X_I + \frac{w^*}{w}(a_{LM}X_M) = \bar{L} \text{--}(12.1)$$

Without loss of generality, we assume, $\left(\frac{a_{KM}}{a_{LM}}\right) > \left(\frac{a_{KI}}{a_{LI}}\right)$.

This implies that sector M is more capital intensive than sector I.

So we have twelve endogenous variables and twelve independent equations (1), (2), (3), (4), (5), (6), (7), (8), (9), (10), (11), (12).

The system is indecomposable as the factor prices cannot be solved from the price system alone. From equation (3), we can determine 'r'. Then from equation (4), we can determine 'i'. From equation (2), 'w' is determined in terms of P_I From equation (5), $X_A = \frac{\bar{N}}{a_{NA}}$. Hence we get in terms of P_I. Then solving equations (6), (7) and (12) simultaneously, we get $X_M, X_I \text{ and } L_U$ in terms of P_I . From equation (8) and (9), we get Y and D_M in terms of P_I respectively. Finally, using equation (11), we find P_I and then all other endogenous variables are determined.

9. *Effect of Structural Reforms in Extended Model*

(A) Effect on Informal Wage

Proposition 3: Both credit market reform and FDI inflow the national income of the economy will increase under the condition that magnitude of labor reallocation effect will be greater than the collective magnitude of credit market effect and tariff revenue effect.

FDI inflow in the economy generates the Rybczynski effect—due to which sector M expands and sector I contracts. This has two impacts—direct effect and induced effect. Given the demand for commodity I, supply of good I falls. This reduction in the supply of the non-traded goods, given constant demand, leads to a rise in the price of commodity I. [See eq. (2)].

From the zero profit condition, the informal wage, w, has to increase. From eq. (1) as w rises, return to land, R, falls. So the wage–rental ratio increases in sector A. Labour becomes dearer and land becomes cheaper. So producers in sector A will substitute land for labour. So a_{NA} rises and a_{LA} falls as a result of which sector A contracts. This is the **direct effect**.

As sector A contracts, it will release both labour and capital. Since sector M is more capital intensive than sector I, the additional capital will be absorbed in this sector and sector M will expand even more. But the rate of return to capital in sector M is less than the other two sectors, so the capital reallocation effect will be negative. As sector M expands, it will require more labour which will come from sector A. The prevailing wage rate in sector M is higher than the other two sectors. Therefore the aggregate wage of the economy increases indicating that the Labour Reallocation Effect will be positive.

As sector M expands, the amount of X_M produced will be higher. So volume of import falls, which in turn reduces the tariff revenue. Thus the Tariff Revenue Effect will also be negative.

There will be one positive effect—Labour Reallocation Effect and two negative effects—Capital Reallocation Effect and Tariff Revenue Effect. National income(Y) will increase iff the magnitude of positive Labour Reallocation Effect outweighs the sum of two negative values of capital reallocation effect and tariff revenue effect.

We have considered an imperfection in the credit market. Now we consider a credit market reform. This credit market reform can be implemented by any government policy or regulation. As a result of credit market reform, the markup over the formal lending rate, which the informal moneylenders charge in the informal credit market will fall i.e. the value of β falls.

As β falls, the value of informal credit rate, i, will also fall. Given $P_{I,}$ the informal wage will increase to satisfy the zero profit condition, return to land R have to rise → wage–rental ratio increases. Here the effect of change in wage–rental ratio will trace out in the same manner as the effect of FDI inflow.

The combined impact of both reforms thus hinges on a common mechanism: contraction of sector A, expansion of sectors M and I, and reallocation of labour and capital across sectors. Both reforms result in a positive labour reallocation effect, as workers move from lower-paying to higher-paying sectors, enhancing overall wage income. However, they also result in a negative capital reallocation effect due to declining returns on capital, and a negative tariff revenue effect due to import substitution by the expanding formal sector. Therefore, the rise in national income depends on whether the positive effect of labour reallocation outweighs the sum of the negative effects associated with capital reallocation and tariff revenue loss.

From a sustainable livelihood perspective, this outcome is particularly relevant. If managed properly, these reforms can boost household incomes, expand access to formal employment, and reduce vulnerability by shifting workers from low-productivity, insecure jobs in sector A to more productive opportunities in sectors I and M. However, if the negative effects are substantial and unaddressed—such as falling public revenue or reduced returns to small informal capital owners—then the long-term benefits might be unevenly distributed. Hence, for national income to rise and translate into broad-based sustainable livelihoods, complementary policies must be designed to manage these sectoral transitions, ensure inclusivity, and support those displaced or adversely affected by the reforms.

B) Effect on Unemployment

Proposition 4: In a 3x3 Harris Todaro Economy with a non-traded informal sector that produces a final commodity only for domestic consumption the problem of urban unemployment of labour might improve following a liberalized investment policy.

In the migration equilibrium, the expected urban wage for a prospective rural migrant equals the actual wage in the rural sector. FDI inflows affect the migration equilibrium in two primary ways. First, the urban sector expands because of the Rybczynski effect, in a manner analogous to the original model. This leads to an increase in the number of jobs available in this sector.

Hence the expected urban wage for a prospective rural migrant $\frac{w^*}{\left(1+\frac{L_u}{a_{LM}X_M}\right)}$ rises as the probability of getting a job in this sector rises for every worker. This paves the way for fresh migration from the rural to urban sector. This is the centrifugal force that drives the rural workers to move away from the rural sector. If the rural sector wage remains unchanged, the number of new jobs created in the urban sector falls short of the number of new migrants into the urban sector. This is the standard result as obtained in the two sector mobile capital HT model of Corden and Findlay (1975). In such a situation, the level of urban unemployment rises unambiguously. Nonetheless, in the present setup, the price of the non-traded good rises and leads to an increase in the competitive rural wage under the condition as stated in the last proposition. This is the centripetal force that prevents rural workers from migrating into the urban sector. Thus, there are clearly two opposite effects working on the determination of the size of the unemployed urban workforce. If the latter effect outweighs the former, the level of unemployment falls. This happens under the condition as specified in the last proposition.

From a sustainable livelihood perspective, this outcome is particularly significant. When rural wages increase and migration pressure subsides, households are more likely to sustain their livelihoods in their native regions without being forced into urban informal employment. This enhances the long-term viability of rural life by stabilizing incomes, reducing distress migration, and easing pressure on urban infrastructure. Simultaneously, the expansion of capital-intensive urban sectors through FDI can create more stable, higher-paying jobs in formal sectors, improving the quality of urban employment.

Thus FDI flows are not necessarily worsening unemployment. We have seen that there are two opposite effects on the unemployment problem. An increase in the rural wage (the centripetal force) tends to reduce the gravity of the problem while an expansion of the urban sector (the centrifugal force) aggravates the unemployment situation. The relative strengths of the two forces determine the final outcome. It is quite possible that the relative magnitudes of the two opposite forces are more or less equal to each other, thereby producing little or no impact on the employment scenario. If this is the case, the country will experience a "jobless growth". In fact, many of the developing countries, including India, have experienced such a type of growth in the liberalized economic regime.

In conclusion, a liberalized investment regime, when paired with complementary policies that strengthen rural wage mechanisms and support informal sector resilience, has the potential to reduce urban unemployment and promote sustainable livelihoods. The effectiveness of such a regime depends crucially on the balance between the forces of rural retention and urban attraction in determining migration outcomes.

10. Conclusions and Policy Recommendations

The global prevalence of informality and the challenge it poses to the achievement of decent work, provided the motivation to develop this paper which aims to explore the impact of structural reforms- specifically, liberalized investment policy and credit market reforms- on the informal sector considered within the premise of a small open developing economy. The prime concern of the paper is to investigate the wage dynamics in the informal sector when economic liberalisation is brought into the economy under two conditions- full employment and Harris-Todaro type urban unemployment.

Keeping to our four central propositions we find that in the cases of both liberalised investment policy and credit market reforms, a positive effect is seen on informal wages and national income with the underlying condition of dominance of the positive labour reallocation effect over the combined negative effects of reduced tariff revenue and credit contraction. This positive effect remains persistent even in the case of urban unemployment and this expounds the concept of 'jobless growth'. Additionally, the liberalized investment policy may amount to an increase in the price of non-traded goods in the full employment economy provided that the income elasticity of demand for this good is low and also, to a reduction of urban unemployment by improvement of the plight of the informal sector. Credit market reforms also show positive correlation with the price of the non-traded goods.

However, it is quintessential to understand that careful structuring and sequencing of these structural reforms are crucial to meet the target for achieving decent work in the informal sector. Constraints may emerge to the long-run equilibrium benefits from investment liberalisation. In the face of rigid labour market conditions this may subsequently dampen the positive impacts on informal wages. In contrast to this, complementing the investment liberalisation with specific credit market and trade reforms especially, tariff reduction may enhance the positive effects on informal wage and national income without aggravating urban unemployment in the process. Gradual tariff rationalization, combined with sector-specific support and reinvestment of FDI-induced gains into informal enterprise upgrading, can ensure that trade openness contributes to, rather than detracts from, livelihood sustainability.

In sum, structural reforms in a small open developing economy have the potential to enhance informal sector outcomes and contribute to the broader goals of decent work and sustainable livelihoods. However, this requires a deliberate and coordinated strategy that recognizes the heterogeneity of the informal economy. Only through such a calibrated approach can developing economies harness the full potential of liberalization while safeguarding the livelihoods of those who remain most exposed to its risks. Proper strategizing efforts on the part of the implementation of policies may provide a deliberate course for developing economies to achieve sustainability for the informal sector and in turn amplify the quality of this sector. It brings us closer to the greater global goal of decent work for all.

11. Limitations and Scope of Further Research

A notable limitation of this chapter lies in its reliance on a static analytical framework to assess the impact of structural reforms on decent work opportunities. While this approach facilitates a clear exposition of the immediate effects of policy changes, it fails to capture the temporal evolution of these impacts. In reality, the transition dynamics—such as inter-sectoral labour mobility, capital reallocation over time, and the cumulative effects of policy sequencing—are inherently dynamic processes. A dynamic general equilibrium framework would therefore be more suitable for comprehensively analysing long-term outcomes, particularly those related to the sustainability of informal livelihoods and the persistence of employment gains.

Furthermore, the model abstracts from the urban informal sector, which constitutes a substantial share of employment in many developing economies. By omitting this segment, the analysis overlooks a critical dimension of how structural reforms affect labour markets, especially in urban settings where informal employment often serves as a buffer against limited formal sector opportunities.

In addition, the paper confines its analysis of decent work to wage and employment dimensions within the informal sector. However, the broader decent work agenda—as outlined by the International Labour Organization—includes other essential components such as workplace safety, social protection, job security, and workers' rights. These aspects are not incorporated into the model, thereby narrowing the scope of the conclusions drawn. Also, the propositions made in this model could be better established if they could have been corroborated by empirical evidence. However, such evidence is not available for the type of policy intervention discussed in this discourse. Future research may consider further work in this regard.

12. *Appendices*

Appendix 1: Effect of investment liberalization policy on factor prices and output composition

Differentiating eq. (1), (2) and using (4) we have:-

$$\hat{\omega} = \frac{\overline{\hat{P}_I \theta_{KI} \hat{\beta}}}{\theta_{LI}}$$

$$\hat{R} = -\frac{\theta_{LA}}{\theta_{LI}\theta_{NA}}\hat{P}_I + \left(\frac{\theta_{LA}\theta_{KI}}{\theta_{LI}\theta_{NA}} - \frac{\theta_{KA}}{\theta_{NA}}\right)\hat{\beta}$$

From equation (3), r is determined as a function of ω^*, P_M and t. As all these values are given, r is constant, ie. $\hat{r} = 0$

Since $\hat{r} = 0, \hat{x}_A = -\hat{a}_{NA}$ $(\because \lambda_{NA} = 1)$

Substituting the values, we get,

$$\hat{X}_A = -S_{NL}^{A}\left[\left(\frac{1}{\theta_{LI}} + \frac{\theta_{LA}}{\theta_{LI}\theta_{NA}}\right)\hat{P}_I - \left\{\left(\frac{\theta_{KI}}{\theta_{LI}} + \frac{\theta_{LA}\theta_{KI}}{\theta_{LI}\theta_{NA}} - \frac{\theta_{KA}}{\theta_{NA}}\right\}\hat{\beta}\right]$$

Here, S_{jk}^{i} is the partial elasticity of substitution between factors j and k in the i-th sector.

$S_{NL}^{A} + S_{NN}^{A} = 0$ (since production function is homogeneous of degree one and production coefficients are homogeneous of degree zero)

Differentiating eq-n $(6), (7)$ and using $(A \cdot 1 \cdot 1)$ and (A.1.2) we have-

$$\lambda_{LI}\hat{X}_I + \lambda_{LM}\hat{X}_M = F\hat{P}_I + B\hat{\beta} \qquad (A.1.3)$$

$$\lambda_{KI}\hat{X}_I + \lambda_{KM}\hat{X}_M = \hat{k} + C\hat{P}_I + D\beta \qquad (A.1.4)$$

where, $\mathrm{F} = 2S_{NL}^{A}\lambda_{LA}\left(\frac{1}{\theta_{LI}} + \frac{\theta_{LA}}{\theta_{LI}\theta_{NA}}\right) - \frac{\lambda_{LI}S_{LL}^{I}}{\theta_{LI}} > 0$

$$\mathrm{B} = -\lambda_{LI}(S_{LK}^{I} - \frac{\theta_{KI}S_{LL}^{I}}{\theta_{LI}}) < 0$$

$$C = \lambda_{\mathrm{KA}}S_{\mathrm{NL}}^{A}\left(\frac{1}{\theta_{LI}} + \frac{\theta_{LA}}{\theta_{LI}\,\theta_{NA}}\right) - \left[\frac{\lambda_{\mathrm{KI}}S_{kL}^{I}}{\theta_{LI}}\right) < 0$$

$$D = \frac{S_{NL}^{A}S_{Kl}^{I}}{\theta_{NA}\theta_{LI}}(\theta_{KI} - \theta_{KA}) > 0$$

Representing eq $(A \cdot 1 \cdot 3)$ and $(A.1.4)$ in matrix form -

$$\begin{bmatrix} \lambda_{LI} & \lambda_{LM} \\ \hat{\lambda}_{KI} & \lambda_{KM} \end{bmatrix}\begin{bmatrix} \hat{X}_I \\ \hat{x}_M \end{bmatrix} = \begin{bmatrix} F \quad \hat{P}_I + B\hat{\beta} \\ \hat{K} + C\hat{P}_I + D\hat{\beta} \end{bmatrix} \qquad (A \cdot I \cdot 5)$$

Solving, $\underline{\hat{X}_{\mathrm{M}}=\lambda_{\mathrm{LI}}\hat{k}+\hat{P}_I(\lambda_{LI}C-\lambda_{KI}F)+\hat{\beta}(\lambda_{\mathrm{LI}}\mathrm{D}-\lambda_{KI}B)}$
$|\lambda|$

$\underline{\hat{X}_I=\hat{P}_I(\lambda_{KM}F-\lambda_{LM}C)-\lambda_{lM}\hat{k}+\hat{\beta}(\lambda_{KM}B-\lambda_{lM}\mathrm{D})}$
$|\lambda|$

where, $|\lambda| = \left(\lambda_{LI}\lambda_{kM} - \lambda_{LM}\lambda_{kI}\right) > 0$ (A.1.8)

Appendix 2: Determination of stability condition for the non-traded final commodity market

Here we consider the national income at domestic price and the demand function of non-traded final commodity, in the given expression,

$$Y = \omega L + (w^{*} - w)a_{Lm}X_m + R\bar{N} + \beta r(K_A + K_I) + rK_M + tP_M(D_M - X_m) - rK_F - (8)$$

And $D_I = D_I(P_I, Y) - (10)$

Differentiating eq. (8) we have -

$$\hat{Y} = \frac{v}{Y}\left[(\omega^* - \omega)L_M \hat{L_M} + P_I X_I \hat{P}_I - tP_M X_M \hat{X}_M + r(\beta - 1)\left(K_A \hat{K}_A + K_I \hat{K}_I\right)\right] \quad - (A.2.1)$$

where, $v = \dfrac{1+t}{1+t(1-m)}$

Differentiating eq. (10) and using $(A \cdot 2 \cdot 1)$, we have,

$$\hat{D}_I = E_{P_I}\hat{P}_I + E_Y \frac{v}{Y}\left[\{(\omega^* - \omega)L - tP_M X_M\}\widehat{X_M} + P_I X_I \hat{P}_I + r(\beta - 1)\left(K_A \widehat{K_A} + K_I \widehat{K_I}\right)\right]$$

Using (A.1.6) and (A.2.2), we can derive,

$$\left(\frac{\hat{D}_I}{\hat{P}_I} - \frac{\hat{X}_I}{\hat{P}_I}\right) = E_{P_I} + E_Y \frac{v}{Y}[\{(\omega^* - \omega)L_M - tP_M X_M\}H + P_I X_I\}] - E \quad (A \cdot 2 \cdot 3)$$

For the stability of the equilibrium for the market of non-traded good in sector I, we require

$$\left[\frac{\hat{D}_I}{\hat{P}_I} - \frac{\hat{X}_I}{\hat{P}_I}\right] = \Delta_1 < 0$$

Where, $E = \dfrac{\lambda_{kM}F - \lambda_{LMC}}{|\lambda|}$

and $H = \dfrac{(\lambda_{LI}C - \lambda_{kI}F)}{|\lambda|}$

Appendix 3: Impact of FDI flow on the price of the non-traded good and informal wage

From the equilibrium condition of the non-traded good and using the stability condition we can write

$$\hat{D}_I = \hat{X}_I \quad - [(A \cdot 3 \cdot 1)$$

$$\therefore \frac{\hat{P}_I}{\hat{K}} = \frac{1}{\Delta_1} \quad [0 - q\left\{\frac{E_Y^v}{Y}\{(w^* - w)L_m - tP_m X_m\}\}\right]$$

Here, $Q = \frac{\lambda_{LI}}{|\lambda_1|} > 0$ and, $0 = -\frac{\lambda_{LM}}{|\lambda_1|} < 0$

So it can be concluded that due to foreign capital inflow, price of non-traded final commodity increases if labour reallocation effect outweighs tariff revenue effect

Again from $(A \cdot 1 \cdot 1)$ and using $\hat{\beta} = 0$ we find

$\frac{\hat{\omega}}{\hat{k}} = \frac{1}{\theta_{LI}}\left(\frac{\hat{P}_I}{\hat{k}}\right) > 0$ if labour reallocation effect dominates over tariff revenue effect.

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