

ON- THE –JOB SEARCH, URBAN INFORMAL SECTOR AND DEVELOPMENT POLICIES
– A GENERAL EQUILIBRIUM ANALYSIS *

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ABSTRACT :

The purpose of this paper is to examine the Fields (1989) proposition¹ in a multi sector general equilibrium model with perfect and imperfect capital mobility². The effects of different fiscal policies on the equilibrium rate of urban unemployment are also examined here³. The main findings are more efficient on-the-job search from the rural sector raises equilibrium urban unemployment rate whereas increased job search efficiency from the urban informal sector lowers this rate. Again urban subsidy policy lowers the equilibrium urban unemployment rate and rural subsidy policy raises this rate. Urban formal sector enlargement leads to a change in ex-ante and ex-post labour force in the rural sector even if urban informal sector wage rate is constant. All the results are obtained both in the case of perfect and imperfect capital mobility.

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1. INTRODUCTION :

The inclusion of the urban informal sector in the analysis of economic development of a LDC is now a traditional culture in the discourse of development. Very recently, the urban informal sector has assumed immense importance in the process of international globalization. Development Economists care the urban informal sector due to its high labour absorbing potentials, low wage cost, forward and backward linkages to the urban formal sector.

There has been substantial theoretical models on the urban informal sector which includes the models of Fields (1987,1989), Quibria (1988), Dutta Choudhury (1989), Grinols (1991), Khan (1992 A, 1992b), Chandra and Khan (1993), Gupta (1993, 1997), Lundborg (1990), Rauch (1991)etc. All the models walk on the Harries -Todaro (1970) track. Excepts Fields and Gupta, none of them considers open urban unemployment in migration equilibrium⁴.

Most of the theoretical models show that the main source of labour in the urban informal sector is the migrants⁵. The interesting point is that the migrants are also job-searchers. They search for a job in the urban formal sector. The job search theory explains clearly why unemployment exists in the Urban sector despite the presence of the urban informal sector. People, migrating to the Urban sector, may remain unemployed for full time job search. It is assumed that full time job search is more efficient than part-time job search for getting high paid urban formal job. The idea of Job-search has been incorporated in the models of Fields (1975, 1989), Majumder (1975), Steel(1978), Stark (1982) and cole and Sanders (1985). Most of the models explain job-search interms of the expected income from different Search strategy. Fields (1975) considers three types of job-search: Job search from the agricultural sector, job-search from the urban informal sector and full time job-search. Fields (1989) also extends his earlier model to distinguish between ex-ante job search and ex-post employment. Stark (1982) explains job-search in a two period planning horizon where search technologies are not sector independent. Further, the literature on job-search also shows that ‘family and friends contact’ may reduce the job-search cost⁷

Another important concept in Job-search is the ‘graduation theory’. This theory states a strategy to stay in the urban informal sector and search part time for high paid urban formal sector job. However, this theory fails if the urban formal sector directly recruits workers from the rural sector (see Majumder 1987) or if urban informal sector workers prefer self employment to the

urban formal sector job. (see squire 1981) or if urban informal sector workers think urban informal sector job as permanent source of income (see Sethuraman, 1981). Moreover, most of the theoretical models on the graduation theory adopts partial equilibrium analysis. The partial equilibrium analysis can not touch many aspects, like supply-demand imbalance in the analysis of development of a LDC. So, a more general equilibrium analysis of job- search is desirable to highlight the efficacy of different Development policy in a LDC having strong urban informal sector. The present paper builds a job-search model in a general equilibrium framework by incorporating perfect and imperfect capital mobility. Like Fields (1989), the paper also considers a distinction between the ex-ante allocation of labour among different job-search strategies and the ex-post allocation of labour among different sectors.

The paper shows that the more efficient on the job search from the rural sector the more will be urban unemployment rate, whereas the increase in the efficiency of on the job search from the urban informal sector lowers the equilibrium rate of urban unemployment. This result is obtained in both the case of perfect and imperfect capital mobility. The first result contradicts the Fields (1989) proposition.

We also find that urban formal sector enlargement affects ex-post and ex-ante employment in the Rural Sector even if the wage rate in the urban informal sector is constant. However, Fields (1989) has shown that urban formal sector enlargement does not affect rural wage rate, ex-post and ex-ante employment in the rural sector if the wage rate in the urban informal sector is invariant to this sector's employment. Further, the paper also examines the effects of different fiscal Policies on the equilibrium rate of urban unemployment both in the case of perfect and imperfect capital mobility

The model of imperfect capital mobility is described in Section 2. This section covers the assumption, notations, equations, working of the model and the comparative static effects. The first model is extended in Section 3. Section 4 is devoted to conclusions of the paper.

2. THE MODEL

2.1 ASSUMPTIONS :

The paper builds a three sector model of a small open economy. The three sectors are the urban formal sector, the urban informal sector and the rural sector. The products of all the three sectors are internationally traded⁸. The assumption of small open economy gives constant product prices⁹ in each sector.

All the three sectors use both labour and capital as inputs. The production function of all the sectors are subject to the Law of constant return to scale and diminishing marginal

productivity to each input. All the markets are competitive and in the long run equilibrium, product price is matched exactly by the unit cost of production in each sector.

There are two types of capital : formal capital and informal capital. Informal capital is specific to the urban informal sector only¹⁰ . Formal capital is mobile between the urban formal sector and the rural sector. Thus, we have a common rental on capital in the urban informal sector and the rural sector. The endowment of two types of capital are fixed and fully employed. However, the fixed amount of total labour force in the economy is not fully employed.

It is assumed that each worker search for urban formal sector jobs, perhaps, because of its highest paying potentials. I, like Fields (1989), consider three different job-search strategies. The first strategy describes full time jobs search as remaining unemployed at the beginning. We find this type of job search in Harris – Todaro (1970), Harberger (1971), Mincer (1976), Gramlich (1970), Stiglitz (1982) and McDonald and Solow (1985) and Fields (1989) .

If a person, searching full time for urban formal sector jobs, becomes successful, he can earn high Urban formal wage with a specific probability of getting urban formal sector job, which is endogenous and earns zero, as unemployed if he becomes unsuccessful.

The second strategy is to remain in the rural sector and search part time for urban formal sector jobs. In this strategy, the success gives high paid urban formal sector jobs, while failure means to remains in the rural sector and earn rural wage.

The third strategy implies to search for urban formal sector jobs while working in the urban informal sector. It is assumed that job search from the urban informal sector is more efficient than the job-search from the rural sector because of the closeness of the urban informal sector to the urban formal sector. In this strategy, also success gives urban formal sector job and failure means to remain employed in the urban informal sector.

Each search strategy has expected income. In equilibrium, the expected income from the three strategies would be equal. This is the basis of allocation of labour force among three strategies . In the case of job-search, a person may get job in the sector where he does not stay at the beginning. Thus, the number of ex-ante job searchers differs from the ex-post labour force. For this reason, Fields (1989) distinguishes between the ex-ante allocation of labour among different search strategies and the ex-post allocation of labour among different sectors.

The urban formal sector wage rate is institutionally given where as the two other wage rates are perfectly flexible¹² Urban unemployment exists in our stylized economy as people

devote full time to search urban formal sector jobs and full time job-search is more efficient than part time job search.

2.2 NOTATIONS

$j = u, r, i$

u = Urban formal sector

r = Rural Sector.

i = Urban informal sector.

X_j = Level of out put in the j^{th} Sector.

f_j = Intensive production function of the j^{th} sector.

k_j = Capital-labour ratio in the j^{th} sector.

L_j = Ex-ante amount of labour in the t^{th} job-search strategy $\forall t = 1, 2, 3$.

P_j = Effective price of the product produced in the j^{th} sector.

c_j = Unit cost of production in the j^{th} sector.

$\overline{W_u}$ = Fixed urban formal wage rate.

W_i = Urban informal wage rate.

W_r = Rural wage rate.

R = Rate of return on formal capital.

R_i = Rate of return on informal capital.

λ = Probability of getting urban formal sector jobs.

θ = Efficiency on-the- job search in the rural sector.

Ψ = Efficiency on – the – job search in the urban informal sector.

L = Total Labour endowment in the economy.

K_i = Stock of informal capital in the economy.

K_f = Stock of formal capital in the economy.

U = Level of urban unemployment.

β = Employment augmenting parameter in the urban formal sector

Y = domestic factor income.

2.3

THE EQUATIONS :

The intensive production functions of the three sectors are given by :

$$X_u = L_u f_u(k_u) \dots \dots \dots (1) ;$$

$$X_r = L_r f_r(k_r) \dots \dots \dots (2) ; \text{ and}$$

$$X_i = L_i f_i(k_i) \dots \dots \dots (3)$$

Where $f'_j(.) > 0$ and $f''_j(.) < 0 \forall \dots j = u, r, i$.

The longrun competitive equilibrium in the three sectors are given by the following equations :

$$P_u = C_u(W_u, R) \dots \dots \dots (4) ;$$

$$P_r = C_r(W_r, R) \dots \dots \dots (5) ; \text{ and}$$

$$P_i = C_i(W_i, R_i) \dots \dots \dots (6)$$

The probability of getting urban formal sector job is :

$$\lambda = L_u / (L_1 + \theta L_2 + \Psi L_3) \dots \dots \dots (7)$$

Where $(L_1 + \theta L_2 + \Psi L_3)$ in the total number of job seekers.

The ex-ante allocation of labours among the different job-search strategy is made interms of expected income from search strategies. Thus, in equilibrium, the expected income from each search strategy will be equal and we get,

$$\lambda \overline{W_u} = \theta \lambda \overline{W_u} + (1-\theta\lambda) W_r = \Psi \lambda \overline{W_u} + (1-\Psi\lambda) W_i \dots \dots \dots (8)$$

The number of people searching urban formal sector jobs from the rural sector is L_2 . Out of L_2 , $\theta\lambda L_2$ people get employment in the urban formal sector. Thus, the ex-post number of workers in the rural sector is :

$$L_r = L_2 (1- \theta\lambda) \dots \dots \dots (9).$$

Similarly, the ex-post number of workers in the urban informal sector is :

$$L_i = L_i (1-\Psi\lambda) \dots \dots \dots (10)$$

The ex-ante and the ex-post endowments of labour are given by the following equations.

$$L_1 + L_2 + L_3 = L \dots \dots \dots (11) ; \text{ and}$$

$$L_u + L_r + L_i + U = L \dots \dots \dots (12)$$

The endowment equations for informal and formal capital are given by

$$k_i L_i = K_i \dots \dots \dots (13) ; \text{ and}$$

$$k_u L_u + k_r L_r = K_f \dots \dots \dots (14)$$

The employment function for the urban formal sector is given by :

$$L_u = h(\overline{W_u}) + \beta \dots \dots \dots (15)$$

The domestic factor income of the economy is :

$$Y = \overline{W}_u L_u + W_r L_r + W_i L_i + R_i K_i + R K_f \dots\dots\dots(16)$$

Using equations (8) , (11) and (16) we get,

$$Y = \lambda \overline{W}_u L + R_i K_i + R K_f \dots\dots\dots(16.1)$$

This set of equations carry the life story of the model.

2.4 WORKING OF THE MODEL :

The model deals with sixteen endogenous variables ; $X_u, X_r, X_i, L_u, L_r, L_i, L_1, L_2, L_3, W_r, W_i, R, R_i, \lambda, U, Y$ which are solved from equations (1-15) and (16.1). Given \overline{W}_u and P_u, R can be obtained from equation (4). Substituting the value of R into equation (5) we get W_r , given P_r . Now, given θ and Ψ , the expression (8) yields λ and W_i . Once W_i is known, R_i is found from equation (6), given P_i . Since capital intensities are functions of wage-rental ratios, the equilibrium values of wage rates and rentals give the optimum capital intensities: k_u, k_r and k_i . Now, L_i is obtained from equation (13), given K_i . L_u is obtained from equation 15, given \overline{W}_u and β . After substituting the equilibrium values of k_u, k_r and L_u , one can get the equilibrium L_r , given K_f . L_2 is known from equation (9) as L_r and λ are already determined, given θ . Similarly, we get L_3 from equation (10) as L_i and λ are known, given Ψ . Equation (11) yields L_1 , given L_2, L_3 and L . Similarly, U is determined from equation (12) as L_u, L_r and L_i are already obtained and L is given. X_u, X_r and X_i can be determined from the set of equations (1-3), since L_u, L_r, L_i, k_u, k_r and k_i are already known.

Finally, one can get equilibrium Y from equation (16.1) as all factor prices and ex-post amount of labour are already known and \overline{W}_u, K_i and K_f are given.

This completes the entire determination of the model.

2.5 COMPARATIVE STATIC EFFECTS

2.5.1 CHANGE IN θ :

Suppose, on-the-job search efficiency from the rural sector increases. This raises θ . Assume, for simplicity, $\Psi = 0$. The equation (8) becomes $\lambda \overline{W}_u = \theta \lambda \overline{W}_u + (1-\theta\lambda) W_r = W_i \dots(8.1)$. If θ rises, λ and W_i go up, given \overline{W}_u and W_r (see equation ..(8.1)). Equation (6) shows that when W_i rises R_i falls, given P_i . Thus, k_i rises and L_i falls (see equation (13)). k_u, k_r remain unaffected, since W_r, R do not change with θ and \overline{W}_u, P_u and P_r are given.

Given k_u , k_r and L_u , L_r also remains constant. The ex-post labour endowment equation (equation (12)) shows that as L_i falls U rises, given L_u , L_r and L .

The equilibrium rate of urban unemployment is $U/(L-L_r)$. As U rises and L_r remains unchanged, $U/(L-L_r)$ also rises. This result builds the following proposition :

PROPOSITION 1 : The more efficient on the job search from the rural sector the more will be the equilibrium rate of urban unemployment. Thus, the Field's (1989) proposition is not valid in this case.

2.5.2 CHANGE IN Ψ :

If the job-search from the urban informal sector becomes more efficient, Ψ increases. From equation (8) it is obvious that W_i falls if Ψ rises, given W_r , λ . When W_i falls, R_i rises, given P_i (see equation (6)). Thus k_i falls and L_i rises, given K_i (See equation (13)). Given \overline{W}_u , L_u does not change and so also L_r , given k_u and k_r and k_f . Given P_u , P_r and \overline{W}_u , W_r and R remain invariant and thus, k_u , k_r remain fixed.

So, U falls as L_i rises with unchanged L_u & L_r . As L is given and L_r does not change, the ex-post urban labour force remains unchanged. Thus, the equilibrium rate of urban unemployment falls. This result builds the following proposition :

PROPOSITION 2 :

The more efficient on-the-job search from the urban informal sector, the lower will be the level of urban unemployment and so also the equilibrium rate of urban unemployment. Thus, the Field's (1989) proposition is valid in this case.

2.5.3 CHANGE IN P_u :

If output subsidy is given to the urban formal sector, P_u rises. The rise in P_u leads to a rise in R , given \overline{W}_u . Again, given P_r , the rising R implies a falling W_r . Thus, both k_u and k_r fall. Now, equation (8) shows that a fall in W_r leads to a fall in λ , which again lowers W_i . Then, R_i rises given P_i . So, k_i also falls and L_i rises, given K_i . Equation (14) shows that given K_f and L_u , the falling k_u and k_r implies a rising L_r . Thus U falls. The equilibrium Rate of urban unemployment may also be written as $1 - \left[\frac{L_u + L_i}{L - L_r} \right]$. As both L_i & L_r rise and L_u remains unchanged, the fraction $(L_u + L_i) / (L - L_r)$ rises and so the equilibrium rate of urban unemployment falls. This leads to the following proposition :

PROPOSITION 3 : Subsidization to the urban formal sector lowers both the urban unemployment and the equilibrium rate of urban unemployment.

2.5.4 CHANGE IN P_r :

Subsidisation to the Rural sector raises P_r . The increased P_r leads to a rise in W_r , given R . Thus, k_r rises. k_u and L_u do not change, given P_u , $\overline{W_u}$ and β . So equation (14) shows that L_r falls. Now, a rise in W_r means a rise in λ , given θ and $\overline{W_u}$, which inturn also raises W_i (see equation (8)). So, R_i falls given P_i . Thus k_i rises and L_i falls, given K_i . As both L_i and L_r fall and L_u does not change, U rises. The ratio $[(L_u + L_i) / (L - L_r)]$ falls and so the equilibrium rate of urban unemployment rises. Thus we have the proposition.

PROPOSITION 4 :- If subsidies are given to the rural sector, both the level of urban unemployment and the equilibrium Rate of urban unemployment rise.

2.5.5. CHANGE IN P_i :

Suppose output subsidy is given to the urban informal sector. This raises P_i , which, inturn, also raises R_i , given W_i . Here, W_i does not change because R , W_r and λ remains invariant with a change in P_i . As R_i rises with given W_i , k_i falls and so L_i rises given K_i . k_u , k_r , L_u and L_r do not change. So, a rise in L_i means a fall in U . This also implies a fall in the equilibrium rate of urban unemployment. So, we get the following proposition.

PROPOSITION 5 : If the government. subsidises the urban informal sector, the level of urban unemployment and the equilibrium rate of urban unemployment fall.

2.5.6 CHANGE IN β :

If the government adopts any employment augmenting policy in the urban formal sector, β rises. Equation (15) implies that L_u rises, given $\overline{W_u}$. The rise in β has no effect on R and W_r . So k_u and k_r do not change at all. So, L_r falls. L_i does not change since β has no connection with L_i .

Now, $dL_u = d\beta$

And $k_u dL_u + k_r dL_r = 0$

So, $dL_r = - (k_u / k_r) d\beta$.

$$\text{Thus, } dL_u + dL_r = d\beta - \left(\frac{k_u}{k_r} \right) d\beta = \left(\frac{k_r - k_u}{k_r} \right) d\beta < 0,$$

since $k_r < k_u$ (assumed). Thus, $(L_u + L_r)$ falls. So, U rises.

$$\text{The equilibrium rate of urban unemployment is } \mu = \frac{U}{L - L_r}$$

$$\frac{d\mu}{d\beta} = \frac{-1}{k_r (L - L_r)^2} [k_r L - K_f - k_u L_i]$$

$$\frac{d\mu}{d\beta} > 0 \quad \text{if } k_r L < K_f$$

Thus we have the following proposition :

PROPOSITION 6 : An expansion of the Urban formal sector raises the equilibrium rate of Urban unemployment if $Lk_r < K_f$

Fields (1989) has shown that the expansion of the urban formal sector has no impact on the wage rate, the number of ex-ante job searchers and the ex-post employment in one sector if the wage rate in the other sector does not change with the level of employment in that sector. In this model we find that W_i , L_i and L_3 do not change with β . The reason is as follows. Given P_u and W_u , R can not change and so also W_r , given P_r . The equation (13) shows that with W_u , W_r , θ all constant, λ remaining unchanged and so also W_i . Equation (6) implies a constant R_i , given W_i and P_i . Thus, K_i does not change and so also L_i , given K_i . From equation (10) we find that L_3 does not change since L_i , θ and λ remain the same. Thus, the UFS enlargement causes no change in the UIS. This result is obtained without the assumption that rural wage rate is invariant to the level of employment in the rural sector. The small country assumption is responsible for constant rural wage in this model. However if we assume constant W_i , then equation (13) shows that λ and W_r do not change, given θ , ψ and W_u . So, R also remains constant. This means, k_u , k_r do not change at all. On the other hand, L_u rises as β rises, given W_u . From equation (14) we find that L_r falls since L_u rises and k_u , k_r and k_f are constant. Equation (9) shows that L_2 will also fall since θ and λ are constant and L_r falls. Thus, we do not get Field's (1989) result if we assume constant wage rate for the UIS.

PERFECT CAPITAL MOBILITY AND NON TRADED GOODS FOR THE UIS

In this section the first model is extended with two directions. First capital is perfectly mobile among the three sectors. We find this type of capital mobility in Chandra and Khan(1993); second, UIS produces non- traded goods.

3.1 THE EQUATIONS :

We assume perfect capital mobility among all the three sectors. Thus we have a common rental on capital. The material balance equation for Capital is given by :

$$K_u L_u + k_r L_r + k_i L_i = K \dots\dots\dots(14.1)$$

We also assume that the UIS produces non-traded goods whose price is determined by the demand-supply forces of the product. Let the demand for UIS product be $D_i = D(P_i)$, assuming income effect is nil. The market clearing for the UIS gives .

$$D(P_i) = X_i = L_i f_i(k_i) \dots\dots\dots(17)$$

Equation (6) is modified as $P_i = C_i(W_i, R) \dots\dots\dots(6.1)$

Equations (1) - (12) , (15) and (16.1) remain as they were in section 2.

This model also satisfies the decomposable property. R , W_r , W_i , P_i and λ are determined from equations (4) - (7) Changes in factor endowments do not affect these five endogenous variables and so also the capital intensities.

3.3 WORKING OF THE MODEL

In this model P_i is no longer given. Equation (6.1) determines equilibrium P_i , given equilibrium W_i and equilibrium R . W_i and R are obtained like the first model. L_i is determined from equation (17) after determining the equilibrium values of P_i and k_i . All other endogenous variables are determined like the first model.

3.4 COMPARATIVE STATIC EFFECTS :

3.4.1. CHANGE IN θ :

ASSUME $\psi = 0$. A rise in θ raises λ and W_i , since θ does not enter in the determination of W_r , R . Higher W_i implies higher P_i , given R and thus lower $D(P_i)$. On the other hand, as W_i rises and R remains constant, k_i rises. Then from equation (17) we get lower L_i following higher P_i and k_i , L_u , k_u and k_r do not change given W_u , R , W_r and k_i rises, so $(L_i + L_i)$ falls [(see equation (14.1)] From equation (12) it is obvious that U will rise. Again, k_i rises and k_u , k_r remain the same. So,

there is excess demand for capital. Following Rybczynski theorem, capital intensive sector contracts and labour intensive sector expands. Since capital intensive sector remains the same due to rigid UFS wage, the rural sector expands. Thus, the ex-post urban labour force i.e., $(L - L_r)$ falls.

Hence the equilibrium rate of urban unemployment rises. Thus we get the following proposition.

PROPOSITION 7 :

A rise in the job-search efficiency from the rural sector raises both urban unemployment and the equilibrium rate of urban unemployment.

The same result is obtained in the first model where informal sector uses sector specific capital.

3.4.2 CHANGE IN ψ

Consider $\theta = 0$ and ψ is increased. Equation (8) becomes $\lambda W_u = W_r = \psi \lambda W_u + (1 - \psi \lambda) W_i$. W_r does not change since ψ does not affect the determination of W_r . So λ does not change, but W_r falls if ψ rises. Given R , fall in W_i implies fall in P_i . So $D(P_i)$ rises and X_i also rises. Falling W_i with constant R means lower k_i , which implies higher L_i to maintain equilibrium for the UIS. Now lower K_i and invariant L_u , K_u and K_r means higher $(L_r + L_i)$ and so U falls. Moreover as K_i falls and K_u , K_r do not change, there is excess supply of capital. This means capital intensive sector expands and labour intensive sector contracts. So L_r falls. As a result export urban labour force rises. Hence, the equilibrium rate of urban unemployment falls. This bears to the following proposition.

PROPOSITION 8 :

A rise in the job-search efficiency from the UIS lowers both the level and the rate of urban unemployment.

The same result is obtained in the first model.

3.4.3 CHANGE IN P_u :

Subsidisation to the UFS raises P_u which raises R and lowers W_r (see equations (4)(5)). From equations (8) it is found that lower W_r implies lower value of λ and W_i , given W_u , θ and ψ . As W_i falls and R rises, the net effect on P_i is indeterminate. So, the market clearing equation for the UIS implies that L_i may move in any direction even if K_i falls. All the factor intensities K_i , K_r and K_u fall due to increased P_u . This has two implications : first, $(L_u + L_r + L_i)$ rises given K and thus, U falls; second, there is excess supply of capital. So the labour intensive contracts. That

means L_r falls. Thus, U falls and the ex post urban labour force ($L-L_r$) rises. This causes the equilibrium rate of urban unemployment to fall. This result gives us the following proposition.

PROPOSITION 9 :

Subsidisation to UFS lowers both the level and the rate of urban unemployment.

The same result is obtained in the first model.

3.4.4 CHANGE IN P_r :

Suppose P_r is increased due to subsidization to the rural sector. This raises W_r , given R . The higher W_r means higher λ and higher W_i . Thus, both K_r and K_i rise. A higher W_i with invariant R implies higher P_i , which means lower $D(P_i)$. Since K_i rises, lower demand for the UIS product implies low L_i . As K_r and K_i rise and K_u does not change ($L_u + L_r + L_i$) falls and so U rises.

Further, as K_r and K_i rise and K_u is constant, there is excess demand for capital. This means, the labour intensive sector expands. So L_r rises and ($L-L_r$) falls. Thus, the equilibrium rate of urban unemployment rises. Hence, the proposition is :

PROPOSITION 10

A rise in P_r due to the subsidisation to the Rural sector raises both U and the equilibrium rate of urban unemployment.

3.4. 5 CHANGE IN β

Any employment augmenting programme in the UFS pertains to the same result what is obtained in the first model.

4. CONCLUSION :

This paper examines the Fields (1989) proposition and the impact of different fiscal policies on the level and the rate of urban unemployment . We consider both the imperfect and the perfect capital mobility among the three sectors. Most surprisingly, we get the same results in both cases.

We find that the Fields (1989) proposition is valid in the model of perfect and imperfect capital mobility if we consider on the –job search from the UIS. However, if job-search from the RS becomes more efficient urban unemployment rate rises in both cases.

We analyse job-search in a more general framework which includes also the product market and the capital market. The comparative static results show that subsidisation to the UFS lowers both the level and the rate of urban unemployment in equilibrium. We get this effect both in the models of perfect and imperfect capital mobility. However, this is quite uncommon from the Harris-Todars (1970) model where we find any urban development programme intensifies the problem of urban unemployment. On the other hand, the paper also shows that subsidization to the rural sector raises both urban unemployment and the rate of urban unemployment . This also contradicts the Harris-Todars (1970) policy which states that rural development is a solution to the problem of urban unemployment.

The UFS enlargement raises the ex-ante and the ex-post employment in the rural sector even if the UIS wage rate remains constant. This contradicts the Fields (1989) result which states that the modern sector enlargement leaves the wage rate, ex-ante and ex-post employment in the RS unchanged if the urban traditional sector's wage rate is invariable to the level of employment in this sector. We also find that the UFS enlargement may enhance both the level and the rate of urban unemployment in equilibrium We get the same result in the case of perfect and imperfect capital mobility.

The present work re-examines the Fields (1989) proposition regarding the impact of job-search efficiency and modern sector enlargement. Our treatment is somewhat more general than Fields (1989). First, we consider product market and capital market also along with the labour market, Secondly, we introduce perfect and imperfect capital mobility among the UFS, UIS and the RS; thirdly, UIS wage rate and RS wage rate are determined without asking any specific wage functions Moreover, to drive all the presuppositions of the model we have not assumed subsistence rural wage rate anywhere. However, Field's (1989) assumed this to derive the relation between job-search efficiency and the equilibrium rate of urban unemployment. Like Fields (1989), the present paper also assumes UFS employment as a function of wage rate in this sector and the UFS employment is constant due to the institutionally given UFS wage rate. As a more general treatment we may introduce endogenous UFS wage and re-examine the Fields (1989) result once again. Further, like Fields (1989) the job-search efficiency is assumed to be constant. However, such efficiency may vary over time with the economic dynamism and educational level of the job seekers. Future research on the job-research efficiency should consider this aspect.

FOOT NOTE

* This is related to the Research work of the Author who is registered for Ph. D Degree in the University of Calcutta.

1. Fields (1989) has shown that the more efficient on-the job-search from the rural sector lowers the equilibrium rate of urban unemployment. The same result is obtained when we consider job-search from the UIS. Fields (1989) has also shown that modern sector enlargement leaves the wage rate, the level of ex-ante and ex-post employment in one of the other sectors unchanged if the wage rate of the other sector is invariant to that sector's employment.
2. We find perfect capital mobility in the CK (1993) model and imperfect capital mobility in the models of Grimols (1991) and M. R. Gupta (1997). However, in this model we consider imperfect capital mobility as assumed by Grimols (1991)
3. Fields (1989) has not considered product market. Thus, the question of effects of fiscal policy on the eqn rate of urban unemployment does not arise.
4. Fields (1989) explains urban unemployment in a framework where people remain unemployed for full time searching for UFS jobs. Gupta(1993) explains urban unemployment in terms of market clearing for the rural sector's product whose price is fixed.
5. In reality we also find UIS without any migrants. Sec
6. Job-search efficiency, according to Fields' (1989), depends upon two things : how much time is devoted to job-search and how close the job-searchers to the UFS. For this reason job-search from the UIS is more efficient than that of from the Rs.
7. See Banerjee and Kandur (1981, P.16) and Fields (1975)
8. Grims (1991), Chandra and Khan (1993) and Gupta (1997) assume that the UIS produces internationally traded goods. This assumption is not unrealistic.
9. Here, product prices are equal to the given international prices plus the rate of output subsidies given to the producers.
10. We find this is the Grimols (1991) model.
11. See Fields (1989)
12. UFS wage rate is rigid due to effective wage legislation and unionisation of labour. Fields (1989) assume constant rural wage and UIS wage rate is equal to the average labour productivity in this sector.

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