Title	NORTH-SOUTH TRADE, ECONOMIC BACKWARDNESS AND POPULATION PROBLEM
Sub Title	
Author	GUPTA, Manash Ranjan
Publisher	Keio Economic Society, Keio University
Publication year	1996
Jtitle	Keio economic studies Vol.33, No.1 (1996.) ,p.51- 62
JaLC DOI	
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Notes	
Genre	Journal Article
URL	https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AA00260492-19960001-0051

KEIO ECONOMIC STUDIES 33 (1), 51–62 (1996)

NORTH–SOUTH TRADE, ECONOMIC BACKWARDNESS AND POPULATION PROBLEM

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First version received April 1994; final version accepted June 1994

Abstract: The paper develops a model of north–south trade with a neo-classical north and a mobile capital Harris–Todaro south. It is shown that the south may be caught into a low level equilibrium trap if it is over-populated.

1. INTRODUCTION

North–South models have been developed to analyse the growth of a developed economy (North) and a less developed economy (South) as a simultaneous phenomenon. The pioneering paper in this area is of Findlay (1980) where the North and the South are linked through trade; and the terms of trade emerge as the mechanism linking the growth rates. Burgstaller and Saavedra Rivano (1984) extends the analysis of Findlay (1980) introducing perfect capital mobility between the North and the South. Both the models concentrate their analysis on the steady-state behaviour of this two country world and on the comparative dynamic exercises with respect to different parameters. Also both the models assume North to be a Solow type neo classical economy and South to be a Lewis type dual economy characterized by the unlimited supply of labour reflected in the horizontal supply curve of labour at a constant real wage rate.[1]

One way of modeling the underdeveloped economies is to adopt the Lewisian framework. And an alternative is to consider the Harris–Todaro (1970) framework. In this paper, we assume South to be a mobile capital Harris–Todaro economy as considered by Corden and Findlay (1975). We consider free and unrestricted trade between the North and the South and also perfect capital mobility between them. Balance of trade equilibrium determines the terms of trade and the perfect capital mobility leads to the equalization of the effective rates of return on capital. North invests a constant fraction of its output and the South invests its entire

[1] There are some other North–South models too. Quibria (1986) considers both North and South to be neo-classical type. Sarkar (1989) presents a Keynesian model of North-South trade. In Dutta (1986), South is of Lewisian type; but North is featured as a Keynes–Kalecki economy where supply would be perfectly elastic at a price equal to a mark-up on variable cost and employment (and output) is determined by the level of investment.

domestic capital income plus a fraction of foreign capital income which is collected as tax revenue. We get an interesting property of the steady state equilibrium in this case.

Labour-endowment of the South determines the location of the steady state equilibrium point. If the South is over populated, i.e. its labour endowment is very large, South may be caught into a low level equilibrium trap—a stable steady state equilibrium characterized by a low level of Southern capital stock—which ultimately results into a low level of per-capita income and a poor degree of urbanization. The mechanism bringing this low level equilibrium trap in this North–South model is different from that in the works of Nelson (1958), Leibenstein (1957) etc. who first viewed underdevelopment in this way.

In the works of Nelson (1958), Leibenstein (1957) etc., this convergence to the low level equilibrium trap is essentially a problem of a closed economy. This follows from the assumption that the rate of population growth is a positive function of the per capita income. But in this North–South model, a large size of population (a high labour endowment) in the South brings such a trap through its adverse effect on the terms of trade and foreign capital inflow. We consider a mobile capital Harris–Todaro South where the factor prices are determined independent of factor endowment. So an increase in the labour endowment in the South raises the total wage income (of all the labourers) in the same proportion. This raises the import demand for Northern product and the terms of trade moves against South. This lowers the Northern rate of return on foreign investment (investment in the South) and hence adversely affects the foreign capital flow in the South. So one source of investment in the South-tax revenue from foreign capital income- is reduced; and hence South may converge to a steady state equilibrium with a low level of capital stock. This role of population size in the South on the nature of the long run equilibrium has not been considered in the earlier North–South models of Findlay (1980), Burgstaller and Saavedra Rivano (1984) because they consider a Lewisian South where there is a horizontal supply curve of labour and labour supply is unlimited. If labour endowment (population size) does not appear as a parameter in modeling the South, we can not get any comparative dynamic result with respect to the Southern population size.[2]

The South may be caught into the trap because the terms of trade moves against South. So one solution to get out of the trap is to design export promotion policies which will increase the Northern demand for Southern products and hence will improve the terms of trade. The policy prescription derives its importance as the over populated countries like India, Bangladesh and China have not adopted

[2] Both Findlay (1980) and Burgstaller and Saavedra-Rivano (1984) analyse the effects of an exogenous rise in Southern demand for Northern product; and all the Southern development indicators deteriorate
in this case. The link between the rise in demand and population size in the South was absent in their analysis. In a Lewisian South, what they consider, income can not be related to the population-size (labour endowment). But in a mobile capital Harris–Todaro South wage income (and hence demand for Northern product) is positively related to the size of the population.

export promotion policies and achieved a limited success in raising the per capita income.

The plan of the paper is as follows. Section 2 describes the model. The North is described in the section 2.1 and the South is in the section 2.2. The convergence to the steady state equilibrium is analysed in the section 3. The problem of low level equilibrium trap and the effectiveness of export promotion policy are analysed in the section 4. Concluding remarks are made in the section 5.

2. THE MODEL

The world is divided into two regions—a North and a South. There is capital flow from North to South and the commodities are also traded. For the sake of simplicity, we assume that two different commodities are produced in these two regions. We assume free and unrestricted trade between the two countries. Balance of trade equilibrium in the South is ensured by the flexibility in the terms of trade. Since it is a two country model, balance of trade equilibrium in the South automatically implies the balance of trade equilibrium in the North. Also we assume perfect capital mobility between the North and the South.

2.1 *The North*

North produces the product using capital as the only variable input. Labour is an input in the production function. But it is fixed in supply and the perfect flexibility of the wage rate always ensures full employment. So in the production function, it is a fixed factor.[3]

The production function of the North is given by the following:

$$Y_N = F_N(K_N - K_F, \bar{L}_N) . \tag{1}$$

Here Y_N, K_N and $\bar{L}_N$ represent the level of output, capital stock and labour endowment in the North at a particular point of time. K_F represents the capital out flow from the North to the South. This production function satisfies all the standard properties including CRS. Capital is measured in terms of the Northern commodity.

Let r_{FN} be the effective rate of return on the foreign capital in the South i.e., the capital flowing from North. Then the capital flow from North to South must satisfy the following equality:

$$(\partial Y_N/\partial K_F) = r_{FN} . \tag{2}$$

This implies that the marginal productivity of capital in the North, in equilibrium, is equal to the effective rate of return in the South. This is the condition for perfect capital mobility what we assume in this paper.[4]

[3] There is no migration of labour from the South to the North.

[4] An assumption adopted from the existing literature. For example, see Quibria (1986). Burgstaller and Saavedra-Rivano (1984).

A part of the domestic output of the North is saved and invested. Also the net foreign capital income is brought back to the country and is invested there. The Northern capital stock depreciates at a constant rate. So the net investment in the North is given by the following:

$$\dot{K}_N = s Y_N + r_{FN} K_F - D_N K_N \,. \tag{3}$$

Where s and D_N represent the constant savings income ratio and the rate of depreciation respectively.

2.2 *The South*

The South is a two sector Harris–Todaro economy with perfect mobility of capital[5] between the two sectorsone urban and the other rural.[6] Both the sectors produce the same commodity using capital and labour as two inputs; and the production functions in the two sectors satisfy all the standard neo classical properties including CRS. Urban wage rate is institutionally fixed and the rural wage rate is determined by the marginal productivity pricing of labour. Labour force migrates from the rural to the urban sector; and this migration mechanism follows the Harris–Todaro (1970) theory. This wage rigidity in the urban sector along with the expected income maximizing behaviour of the migrants[7] explains urban unemployment in the migration equilibrium. Entire wage income is consumed and the domestic capital income is invested. A constant fraction of the foreign capital income is taxed and invested. The rest of the foreign capital income is repatriated.

Let U and R stand for the urban and the rural sector respectively. Other notations are the followings:

Y_i = Average productivity of labour in the ith sector for i = U and R.
k_i = Capital labour ratio in the ith sector for i = U and R.
r_i = Interest rate on capital in the ith sector for i = U and R.
$\bar{W}_U$ = Institutionally fixed urban wage rate.
W_R = Rural wage rate.
L_i = Level of employment in the ith sector for i = U and R.
λ = Ratio of urban unemployment to urban employment.
P = Terms of trade, i.e. the price of the Southern commodity in terms of the Northern commodity.
K_s = Stock of domestic capital in the South measured in terms of the Northern product.
K_F = Stock of foreign capital in the South obtained from the North.
$\bar{L}_s$ = Given labour endowment in the economy.
D_s = Rate of depreciation of capital stock in the South.
$1-\theta$ = Proportion of foreign capital income taxed away and invested in the

[5] Southern domestic capital plus foreign capital.
[6] An economy considered by Corden and Findlay (1975).
[7] This is the Harris–Todaro migration mechanism.

South.

The equational structure of the sub-model is the following:

$$y_i = f_i(k_i) \qquad \text{with} \quad f_i^1 > 0 \quad \text{and} \quad f_i^{11} < 0 \tag{4}$$

is the intensive production function of the ith sector for $i = \text{U}$ and R.

$$f_{\text{U}}(k_{\text{U}}) - f'_{\text{U}}(k_{\text{U}})k_{\text{U}} = \bar{w}_{\text{U}} \tag{5}$$

is the equality between the marginal productivity of labour and the wage rate in the urban sector—a condition for profit maximization in that sector.

Similarly the profit maximizing behaviour of the rural sector producer leads to the following equation:

$$f_{\text{R}}(k_{\text{R}}) - f'_{\text{R}}(k_{\text{R}})k_{\text{R}} = w_{\text{R}} \, . \tag{6}$$

Interest rates in the two sectors are determined following the rule of marginal productivity pricing. Hence,

$$r_i = f'_i(k_i) \tag{7}$$

for the ith sector for $i = \text{U}$ and R.

Perfect capital mobility between the two sectors leads to the following equilibrium condition:

$$r_{\text{U}} = r_{\text{R}} = r \, . \tag{8}$$

Harris–Todaro migration equilibrium condition is given by the following:

$$(1+\lambda)W_{\text{R}} = \bar{W}_{\text{U}} \, . \tag{9}$$

Here, $(1/(1+\lambda))$ is the ratio of urban employment to the urban labour force (employed plus unemployed). So it is the probability of the representative rural migrant getting an urban job. So $(\bar{W}_{\text{U}}/(1+\lambda))$ is his expected urban wage rate; and, in migration equilibrium, expected urban wage is equal to the actual rural wage, W_{R}.

Full utilization of the capital stock leads to the following equation:

$$k_{\text{U}}L_{\text{U}} + k_{\text{R}}L_{\text{R}} = K_{\text{s}} + K_{\text{F}} \, . \tag{10}$$

Also, we have,

$$(1+\lambda)L_{\text{U}} + L_{\text{R}} = \bar{L}_{\text{s}} \, . \tag{11}$$

A static mobile capital Harris–Todaro model is described by the equations (4)–(11). Important results following from such a model are summarized here in the form of the following propositions:

PROPOSITION 1. *The determination of factor prices, factor intensities and unemployment rate are independent of the level of factor endowments.*

PROPOSITION 2. *An increase in K_{s} and/or K_{F} raises the urban employment, L_{U}*

and lowers rural employment, L_R, if $k_U > k_R(1+\lambda)$. But an increase in $\bar{L}_s$ lowers L_U and raises L_R in this case.

The intuition and mathematical proofs are well known in the literature; and are not repeated here. But we mention these with special weightage because these play an important role in deriving the comparative dynamic results of this paper.

Note that, $P\theta r$ is the net rate of return per unit of foreign capital that North receives in terms of its own product from the South. Hence

$$r_{FN} = rP\theta \,. \tag{12}$$

The differential equation showing the rate of change of Southern capital stock measured in terms of Northern product is given by the following:

$$\dot{K}_s = PrK_s + P(1-\theta)rK_F - D_sK_s \,. \tag{13}$$

Equilibrium value of the terms of trade is determined by the balance of trade equality in the South. It is given by the following:

$$X_s(P, \beta)P = M_s(P, W_R L_R + \bar{W}_U L_U) \,. \tag{14}$$

Hence $X_s(\cdot, \cdot)$ is the export function of the South in terms of the Southern commodity. $(\partial X_s/\partial P) < 0$ because North demands less of Southern product when its price rises. β is an index of export promotion policy and $(\partial X_s/\partial\beta) > 0$. $M_s(\cdot, \cdot)$ is the import function of the South. Here M_s is a positive function of P because South demands more of the Northern product when its price falls. Also M_s is positively related to $(W_R L_R + \bar{W}_U L_U)$ which is the total wage income in the South and is consumed. This implies that the income effect on the import in the South is positive.[8]

In the Harris–Todaro model, per capita wage income is always equal to the rural wage rate.[9] Hence we have

$$\bar{W}_U L_U + W_R L_R = W_R \bar{L}_s \,;$$

and then equation (14) can be written as follows:

$$X_s(P, \beta)P = M_s(P, W_R \cdot \bar{L}_s) \,. \tag{14.1}$$

This solves for the equilibrium value of P and the equilibrium is stable if the price elasticity of export is greater than unity. The following proposition can be established easily.

PROPOSITION 3. *If the balance of trade equilibrium is stable, an increase in W_R and/or $\bar{L}_s$ leads to a decrease in P.*

Here equilibrium value of P is independent of the Southern capital stock, K_s, because we have assumed that only wage income in the South is consumed. If a

[8] Note that, the income effect on the import in the North is assumed to be nil—a simplifying assumption.

[9] Wellknown to the readers of Harris–Todaro model.

fraction of capitalists' income in the South is also consumed, then an increase in K_s will also lower P.

Note that all these three propositions are placed in 'The Model' section because these are the results well known in the literature and are not innovative results of this paper.

3. THE DYNAMIC RESULTS

Equations (3) and (13) are the two equations of motion of the system; and their solutions give us the time path of capital accumulation of the two countries.

Here s, D_s and D_N are institutional and technological constants. Constancy of the urban wage rate in the South makes the fixity of the equilibrium value of r. Given θ, equation (2) solves K_F as a function of K_N. Since, the marginal productivity of capital in the North is a decreasing function of $(K_N - K_F)$, using CRS property equation (2) can be written as follows:

$$K_N - K_F = g(\theta rp) \cdot \bar{L}_N \qquad \text{with} \quad g^1(\cdot) < 0 \,. \tag{2.1}$$

Now using equations (1) and (2.1) we have,

$$Y_N = F_N(g(P\theta r)\bar{L}_N, \bar{L}_N) = \bar{Y}_N \,. \tag{1.1}$$

Now the equations (3) and (13) can be written as follows:

$$\dot{K}_N = s\bar{Y}_N + P \cdot \theta \cdot r \cdot K_N - \theta rp \cdot g(P\theta r) \cdot \bar{L}_N - D_N K_N$$

or,

$$\dot{K}_N = (sF_N(g(p\theta r), 1) - \theta \cdot r \cdot p \cdot g(P\theta r))\bar{L}_N + (P\theta r - D_N)K_N \tag{3.1}$$

and,

$$\dot{K}_s = (rp - D_s)K_s + (1-\theta)rpK_N - P(1-\theta)rg(p\theta r)\bar{L}_N \,. \tag{13.1}$$

We now turn to analyse the steady state equilibrium and the comparative dynamics of the system. In steady-state, $\dot{K}_N = \dot{K}_s = 0$. Hence from equations (3.1) and (13.1) we have

$$K_N = \frac{(F_N(g(p\theta r), 1) - p\theta r \cdot g(P\theta r))\bar{L}_N}{D_N - \theta rP} = K_N^* \tag{3.2}$$

and,

$$(rP - D_s)K_s + (1-\theta)prK_N = (1-\theta)rpg(p\theta r)\bar{L}_N \,. \tag{13.2}$$

We assume $sF_N(g(P\theta r), 1) > P\theta rg(P\theta r)$. This implies that the North saves more than its domestic capital income. In this case $K_N^* > 0$ only if $D_N > \theta rp$. With this assumption, equation (3.2) can be shown by a horizontal straight line in the Figs. 1 and 2. Note that if $D_N > \theta rP$, then $(d\dot{K}_N/dK_N) < 0$ (obtained from equation (3.1)). So $D_N > \theta rP$ is the condition of stability.

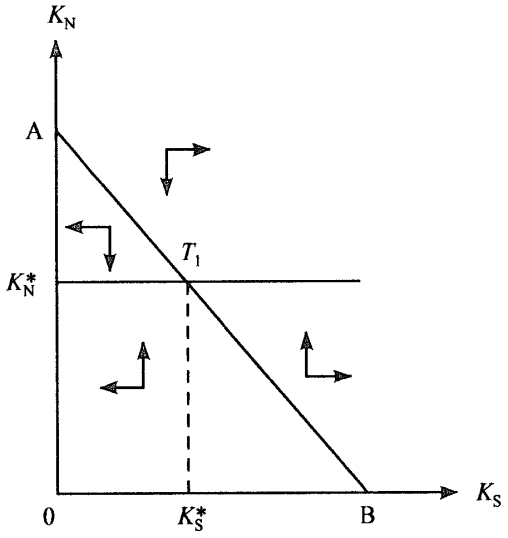

Fig. 1.

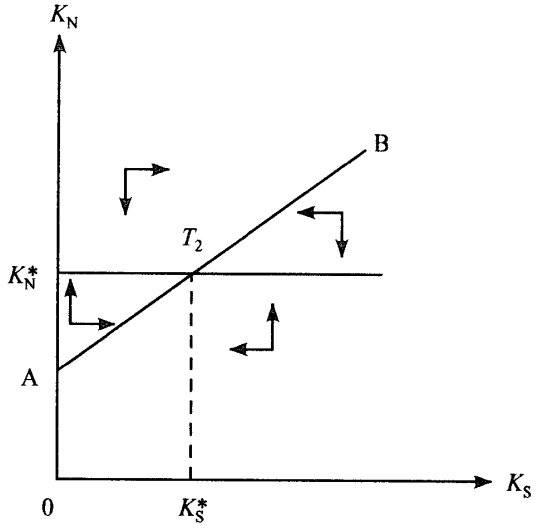

Fig. 2.

Equation (13.2) also represents a straight line in the Figs. 1 and 2; and its slope is determined by the relation between rP and D_s. If $Pr > D_s$, i.e., the rate of return on capital exceeds the rate of depreciation in the South, then equation (13.2) represents a negatively sloped straight line with $0 < \theta < 1$ (see Fig. 1). In the opposite case with $pr < D_s$, this straight line slopes positively (see Fig. 2).

Long run equilibrium points are obtained when these two straight lines intersect each other. Point T_1 in the Fig. 1 is an unstable equilibrium point; and T_2 represents a stable equilibrium point in the Fig. 2. Note that, in the Fig. 2, AB slopes positively when $Pr < D_s$, and in this case $(d\dot{K}_s/dK_s) < 0$ (obtained from the equation (13.2)). So $Pr < D_s$ is a necessary condition of stability. For comparative dynamic exercises, we should concentrate our analysis to the stable equilibrium point shown in the Fig. 2.

There are a number of parameters involved in the two differential equations; and, wih respect to each of them, one can make a comparative dynamic analysis. We do not describe all these here.[10] We emphasize on only one such exercise in the next section; and before that, we draw the attention of the readers on some special points. Firstly, in Findlay (1980), $\dot{K}_N = 0$ locus is independent of the South's parameters. This is not true in this model. Equation (13.2) incorporates,[11] θ, r and $\bar{L}_s$. So a change in any of the South's parameters affect the steady state capital stock of the North. Secondly, in this paper, $\dot{K}_N = 0$ locus is independent of K_s. We consider a mobile capital Harris–Todaro South. So the total wage income in the South, $W_R\bar{L}_s$ is independent[12] of K_s. We have assumed that the capitalists' income is not consumed. Hence P is independent of K_s. But in a Lewisian South, total

[10] It is an wastage of time and journal's pages if these exercises do not give any interesting innovative results specially after thirteen years of Findlay (1980).

[11] Note that P is affected by L_s.

[12] This follows from Proposition 1.

wage income is a linear function of the capital stock. So the terms of trade becomes a function of Southern capital stock even if the capitalists' income is not consumed. So the Northern capital accumulation is not independent of Southern capital accumulation in a model with a Lewisian South. This is the case of Burgstaller and Saavedra-Rivano (1984). However, if a part of the capitalists' income is consumed, P becomes a function of K_s. Equation (3.2) incorporates P; and $\dot{K}_N=0$ locus is not necessarily a horizontal straight line even in this model. Thirdly, in a world of capital immobility, $K_F=0$ and equation (2) does not exist. So $\dot{K}_N=0$ locus is independent of any of the Southern parameters. This is the case of Findlay (1980). However, with $K_F=0$, from equation (13), we find that $\dot{K}_s=0$ is satisfied only if $rP=D_s$. In this model with a mobile capital Harris–Todaro South, both r and P are independent of K_s. So the convergence to the steady state of the South is not guaranteed. But in a Lewisian South, the convergence to the steady state is automatic even with capital immobility because there P is a function of K_s. This is the mechanism ensuring the convergence of the South to the steady state in the model of Findlay (1980). However, if a part of the capitalists' income is consumed, the sensitivity of equilibrium P to K_s ensures the convergence to the steady state even in a world of capital immobility.

4. LOW LEVEL EQUILIBRIUM TRAP

We consider the comparative dynamic results on the long run equilibrium point with respect to the change in the Southern labour endowment, $\bar{L}_s$. Note that in this model, a rise in $\bar{L}_s$ leads to a fall in P only; and it is basically an exercise with respect to P only.

First, we consider equation (13.2) i.e., the AB Curve in the Fig. 2. Here $OA=g(P\theta r)\bar{L}_N$. A fall in P (due to a rise in $\bar{L}_s$) raises $g(\cdot)$ and hence OA. The slope of the AB line is given by

$$(dK_N/dK_s)=\frac{D_s-rP}{(1-\theta)Pr}$$

and this is increased with a fall in P. So the AB curve shifts upward when P falls, i.e. $\bar{L}_s$ rises.

The effect of a fall in P on the $\dot{K}_N=0$ locus is not clear. It becomes clear looking at equation (3.2). A fall in P raises the denominator, $(D_N-Pr\theta)$. Also $F_N(g(P\theta r), 1)$ rises with a fall in P because $(\partial F_N/\partial g)>0$ and $g^1(\cdot)<0$. If the production function of the North is Cobb–Douglas, then $rP\theta g(\theta rP)$ is independent of P. So both the numerator and the denominator of the R.H.S. of equation (3.2) are increased when P falls. So $\dot{K}_N=0$ locus may shift in either direction; or, may not shift at all.[13]

If $\dot{K}_N=0$ locus does not shift upward then an upward shift of $\dot{K}_s=0$ locus, i.e., AB straight line, in the Fig. 2 implies a shift of the long run equilibrium point in

[13] In the very special case when the numerator and the denominator change in the same proportion.

the South–West direction. The new equilibrium is characterized by a lower level of capital stock of the South. So we can prove the following proposition:

PROPOSITION 4. *The higher the labour endowment (population size) of the South, the lower will be its long run equilibrium capital stock.*

This is the most important innovative result of this exercise. This implies that the South will be caught into a low level equilibrium trap if it is over populated. A low level of capital stock and a high level of labour endowment implies a low degree of urbanization in the South when it is featured as a mobile capital Harris–Todaro economy. This is clear from the Proposition 2 of this paper. Obviously, this is valid if $k_u > (1+\lambda)k_R$ which implies that the urban sector of the South is more capital intensive than the rural sector in the value sense.[14]

If the number of capitalists in the South is denoted by a constant, A, then the per capita income in the South, denoted by Y, is given by the following:

$$Y = \frac{r \cdot K_s^*}{\bar{L}_s + A} + \frac{W_R \cdot \bar{L}_s}{\bar{L}_s \cdot A}.$$

With increase in $\bar{L}_s$, K_s^* falls. But r and W_R remain same (see Proposition -1). Since A is a constant, a rise in $\bar{L}_s$ will lower the first term significantly. But the second term will increase marginally in the process if A takes a very low value. Oviously the per-capita income will be reduced if the negative effect on the first term dominates the positive effect on the second term.

This is how we establish a theory of backwardness resulting from the over population problem. North–South trade and capital mobility play an important role here. We can establish this theory only when the South is a mobile capital Harris–Todaro economy. Then the larger size of population (labour endowment) implies higher wage income and lower terms of trade. This lower terms of trade produces adverse effect on the capital accumulation in the South. This theory can not be developed when the South is a Lewisian economy. There capital stock determines the level of employment and hence the wage income. So the link between the wage income and the size of the population does not exist. Hence terms of trade remains insensitive to the population size.

With a policy of export promotion, however, the South may reach a new long-run equilibrium state with a higher level of capital stock. A greater emphasis on export promotion implies higher value of β and this leads to a shift of the AB straight line in the North-East direction. So K_s^* rises in the new equilibrium.

5. CONCLUSION

Using a North–South model of trade this paper presents a theory of economic

[14] Multiplying both sides of this inequality by $(r/\bar{W}_U)$ and then using the equation (9) we get, $(rk_U/\bar{W}_U) > (rk_R/W_R)$. But this is a standard assumption used in the mobile capital Harris–Todaro models.

backwardness of the low income countries; and the population size appears as an important obstacle to economic development. Over population as a constraint to economic development was first viewed by the authors of the trap models like Nelson (1958), Leibenstein (1957) etc. However, in the literature of the dual economy models based on the Lewisian framework, over population appears as a blessing rather than a curse. Over population ensures the existence of unlimited supply of labour and this helps the dual economies to develop at a high rate keeping the wage rate fixed at the subsistance level. Even in the North–South models with Lewisian South, this advantage of over population is not lost.[15]

Harris–Todaro type of models have become more fashionable in recent years of analysing the problems of less developed countries. We consider a North–South model with a Harris–Todaro type South and then attempt to explain the economic backwardness in terms of the large size of population. In the long run equilibrium, in our model, over population leads to low per capita income and low degree of urbanization in the South. Different low and middle income countries are subject to a substantial cross section variations in terms of population density, per capita income and the degree of urbanization. Our theoretical result can not be accepted unless supported by a cross country empirical analysis.

If we take a small sample of low and middle income countries[16] which includes India, Bangladesh, Pakistan, Srilanka, China, Indonesia, Thailand, Argentina and Brazil, we can get a negative correlation between per capita income and the population density defined with respect to the geographical area. But this is probably lost if the sample is expanded including many of the African countries like Mozambique, Ethiopia, Tanzania, Somalia, Malawi, Chad, Uganda, Zaire etc. However, a non-negative correlation between population density (with respect to geographical area) and the per-capita income across the low and middle income countries does not necessarily refute our theoretical result. Population density with respect to the geographical area of the country is not an appropriate index of over population in the cross country analysis. Population density should be defined with respect to the effective resource potential of the country[17] and this effective resource potentiality of a country is not necessarily reflected in the size of her geographical area. Also the sample should include only those low income countries with substantial share of trade with the developed countries.

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[15] In the words of Findlay (1980), "The most basic assumption of all, of course, has been that the South enjoys unlimited supplies of labour at a fixed real wage."

[16] From the list of the countries available in the 'World Development Report' published by the World Bank.

[17] Unfortunately, the World Development Reports presents crosscountry data on population size and geographical area only.

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