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Kar, Saibal and Marjit, Sugata

Centre for Studies in Social Sciences, Calcutta, India

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Saibal Kar

Centre for Studies in Social Sciences, Calcutta, India.

Sugata Marjit

Centre for Studies in Social Sciences, Calcutta, India.

Abstract: This chapter is an extensive review of the existing literature on international migration of labour and its close interactions with international trade in goods and services. In addition, we provide a brief model to show that emigration of labour from a developing country has strong implications for the domestic skilled to unskilled wage movements. In fact, depending on intensity assumptions across sectors and emigration of skilled or unskilled workers, the wage gap may increase or decrease.

1. Introduction

Labour flows from the poor to the rich nations have been a crucial component of international economic relations at least to the extent it affects political debate in the developed countries. While international wage differentials should be the major driving force behind such movements, mass migration has also been caused by political violence, oppression and natural calamities. Although theoretical support for the relation between relative income and mass migration is easy to establish, empirical verification for such a connection has been difficult to find. Total international migration, as of present, is estimated at 100 million, less than two percent of world population. About three-fourths of the world population lives in countries whose per-capita income is less than one-tenth of the average in the capital rich countries. Yet, international migration in aggregate has an extraordinarily low responsiveness (elasticity) to international income and wage differences. Changes in international wage differentials do not necessarily translate into changes in migration.

If one seeks to find the answer to the above puzzle exclusively in the domain of economic incentives, frustration is inevitable. A recent study by the OECD Development Centre (1996) precisely tries to do this and reflects very little on the political issues that affect international migration. The fact, that the capital rich nations have never treated the issues of capital and labour mobility on the same footing, seems to bypass a lot of discussions on migration. Since a large part of our analysis will also evolve around economic issues, one should be aware of the limitations of such analyses.

The purpose of this paper is to provide a broad overview of the literature

 on international migration, identify the major areas of research and reflect on the contemporary policy perspective from the viewpoint of the developing world.

The first part of the paper, section 2, deals with a survey of the conventional results. It mainly focuses on the aggregate welfare implications of factor flows in general and labour flows in particular. Empirical evidence, on trade reform, international mobility of labour, "migration hump" and the long run relationship between trade and migration, is briefly discussed.

Mobility of labour as a heterogeneous factor and the impact of such mobility on wage inequality, unemployment and capital formation will be discussed in section 3. We shall attempt a simple and tractable way of understanding the problems associated with labour flows from developing countries.

The way emigration helps the process of development of a poor economy has to do with the expansion of capital stock, physical and human. This may entail a process of rising wages and savings. Such a mechanism may fail to operate due to various reasons. Also there is the issue of 'brain-drain', which may be detrimental to the process of development. Large outflow of skilled people can promote or hurt local skill or capital formation. Section 4 will be devoted towards these issues. Section 5 will conclude the paper.

2.   Overview

W.R. Bohning (1984) is precise in commenting that the effects of international migration depend crucially on the type of movement involved. Every type entails different effects on the receiving as well as the sending country. The typology that follows takes as its starting point the fact that it is the state as an institution rather than the migrant as an

actor which determines contemporary patterns of migration, and it is based on the following definitions of regular migrants.

Regular migrants are non-nationals who possess the authorizations of the state in whose territory they are, that are required by law in respect of entry, stay or work (if they are economically active) and who fulfil the conditions to which their entry, stay or work are subjects.

Regular migration is shaped by economic, political and social forces, primarily those of migrant-receiving countries and looked at from their viewpoints, two broad categories, each having several sub-categories can be distinguished. The first category relates to a policy that does not subject either the stay or the work of non-nationals to restrictions (except in respect of work that involves the exercise of official authority). Three sub-categories under this type can be identified.

(a) There are free migration policies under which countries abolish substantive entry, residence and labor market controls for specified nationalities. This holds true in for instance, the EEC, the Nordic Community Labour Market, the Trans-Tasman Agreement between Australia and New Zealand and that for Syrian Arab Republic in respect of Arab Nationals;

(b) Foreigners may be admitted with a view to be granted permanent residence and in the hope that they would become future citizens. Australia and many English-speaking and Spanish speaking countries of the Americas are perhaps best known for having pursued such a policy, although this was by no means the only type of policy they adopted at one time or another;

(c)   Non-nationals may be permitted to stay indefinitely, in the cases where after a period of time the general restrictions on stay and work are lifted as in many West European countries or where the foreigners who do not qualify for naturalization or who do not wish to change their nationalities are enabled to stay, as in the U.S.

The other broad category, where regularly admitted migrants are subjected to limitations on stay or work can be divided into at least two sub-categories.

(a)   Contract Migration, which usually involves only wage and salary earners. It can once again take several forms: individual as opposed to collective contract migration and migration where the workers are employed on ordinary jobs or as project-tied migrants. Contract migration has been given such names as "workers of distinguished merit and ability", or such labels as " guest worker".

(b)   Official and business migration is the other sub-category. It covers all economically active persons and comprises for e.g. diplomatic or assimilated personnel, transport or media representatives, entertainers or sportsmen, investors or traders and the great variety of employees moving under the auspices of MNCs.

This brief excursion into the typology indicates how diverse contemporary migration is. Visibly, this is a shift from the Classical theory of labour migration, in which economists tended to make the simplifying assumptions that labour could be regarded as homogenous and in the long run perfectly mobile within one country. Apart from that, there was the tendency of a generalization that more attention to capital than labour as a factor of

production was bestowed upon by the Classical approach and most models of economic change based on this approach presupposes very similar behaviour of capital and labour in so far as geographical movement is concerned. They also regarded labour as they regarded capital as a supply ready to meet a demand initiated exogenously and that such supply could vary independently.   If the concept of maximization of returns holds good in this connection, it would be observed that a migration model based on the shifting advantages over different geographical locations is well developed. In this classical theory the advantage was probably thought of as fertile land, later mineral resources and still later advantages derived from the size of the market. These would primarily attract employers, who would then generate a certain demand for labour and cause to initiate a migratory process.

Nevertheless, even a rigorous classical model would admit that in the short run labour is to be paid higher wages in order to be attracted to a certain country, while such induced or may be even autonomous movements in the long run would cause to equalize wages across nations. This stands out as an equilibrium system in the sense that, except for exogenous shocks, regional wage differentials will tend to be lowered, and the optimum system where each worker receives exactly his marginal product will be continually approached. Models of the kind presupposes that exogenous shocks can be taken care of without forcing the system too far out of equilibrium, and that all migratory patterns might be self-correcting, such that following any shock (for e.g. a change in the export market for a particular industry or a natural resources discovery as North Sea gas) the wages in the migrant-sending countries will eventually increase and cause to reverse the direction of migration. However, a situation like this might emerge only with a static population or with

a fixed growth in population, the rate of which do not adversely affect the causes and consequences of migration.

Evidently this might sound too simplistic and a variant of the structure is brought forth in another set of models which are essentially Keynesian, showing that capital was likely to move in the same direction as labour and in effect would intensify and perpetuate the disequilibrium between the gaining and the losing areas. The depressed areas of 1920, which then had much higher unemployment and much higher emigration rates than the remainder of the country (Great Britain, here) were still mainly the depressed areas of 1930s. in spite of a very large net loss of migration over the 20 years. A solution to this problem was sought in Barlow's Report[1] demanding government intervention in the form of assisting or persuading firms to move into declining regions so that the continuing process of declining would be halted and then reversed.

The above two models take it for granted that the level of employment (possibly through its effect on the wage rate) is the determinant of migration. So, the question as to whether migration is self-correcting or cumulative resolves itself into a question of migration's effect on future employment and wages. It may be trivially true that few people wishing to remain in employment move to new areas beyond commuting distance of their existing jobs without having good reasons to believe that they will find employment there. But the models would apply only if employment or wage levels determined net migration flows, and most country experiences suggest strongly that there is no such simple relationship.

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[1] Barlow Report: Royal Commission on "Distribution of the Industrial Population", Cmd. 6153, HMSO (London 1940).

Once it is accepted that the causes of migration patterns are more complex than, and not necessarily related to employment, it becomes easier to understand why the economic models of the above types appear to help so little in evaluating questions about either economic causes or effects of migration and why newer sophisticated analyses are necessitated. In other words, to move towards a more realistic explanation of migration, one has to take into account a number of other economic variables, viz., congestion of the state of an areas infrastructure; geographical factors, viz., the distance from the nearest major population centre; psychological factors, viz., the image of an area and political factors, like new towns or development area policy (Lind, 1969). Naturally, this multiplicity of factors produce a far more complex picture and allows for new approaches to the central question about migration trends – whether they are self-correcting and economically efficient or cumulative and undesirable, to interpret on the whole, the features in terms of present and future policies.

2.II   Gerking and Mutti (1983) are of the opinion that the "guest worker" programmes initiated by western European nations and more recent surge of illegal immigration into the U.S. from Latin America are but two examples of movements of predominantly unskilled workers from less developed countries to developed countries. Understandably, such labour movements suggest that the wages paid to unskilled workers in the receiving countries should fall whereas, that paid to their counterparts in the country of emigration should rise. This appears to explain in a straightforward manner, why proposed liberalization of immigration restrictions in developed countries often met with strenuous objections from labour groups, while at the same time government officials in LDCs tend to view

emigration as a vent for surplus unskilled labour. The authors have established in this paper that, in the context of a static general equilibrium model, when there is a movement of unskilled workers from LDCs to DCs:

(i) Wages paid to this type of labour are likely to fall in both countries, while the returns to all capital owners rise.

(ii) The developed country accumulates capital at the expense of the LDCs.

They also predicted at that stage that, if production technologies differ sufficiently across countries, then the absolute disparity between the wage rates paid to unskilled labour in the two countries may actually increase, which then combined with other results is indicative of the fact that, the then dilemma regarding illegal immigration into the U.S. could be persistent – and in reality it has been because, " even leaving aside the compounding factor of divergent population growth rates, incentives for entry brought about by international wage rate differences may not tend to disappear when emigration to the U.S. occurs."

Sapir (1993) also witnesses that during the 1960s and 1970s employment of foreign labour became an important aspect of Western European economies. The fact suggests that, western European capitalists in structurally weak sectors might have used immigration policies as a means of remaining competitive. Clearly, one way for industries in the industrialized countries to resist the competition from less developed labour-abundant countries, is try to reduce their labour costs and therefore there has to be a crucial relationship in a capital-abundant economy, between trade competition and immigration from labour-abundant countries. He proposes in this regard, that, "within the Ricardo-Viner

(sector-specific) model, a host country protecting its importable sector might experience a welfare gain or loss from an inflow of foreign labour which receives its full (tax-free) marginal product. If workers are paid only in terms of the importable good there will be a gain; if they are paid only in terms of the exportable good, there might be either a loss or a gain. Moreover, these results hold regardless of whether the host country is labour-or-capital-abundant."

While Sapir's conclusion remains conditional and therefore open-ended, Wong (1983) in his paper rank-orders a set of policies or 'regimes', from the viewpoint of overall welfare impact.
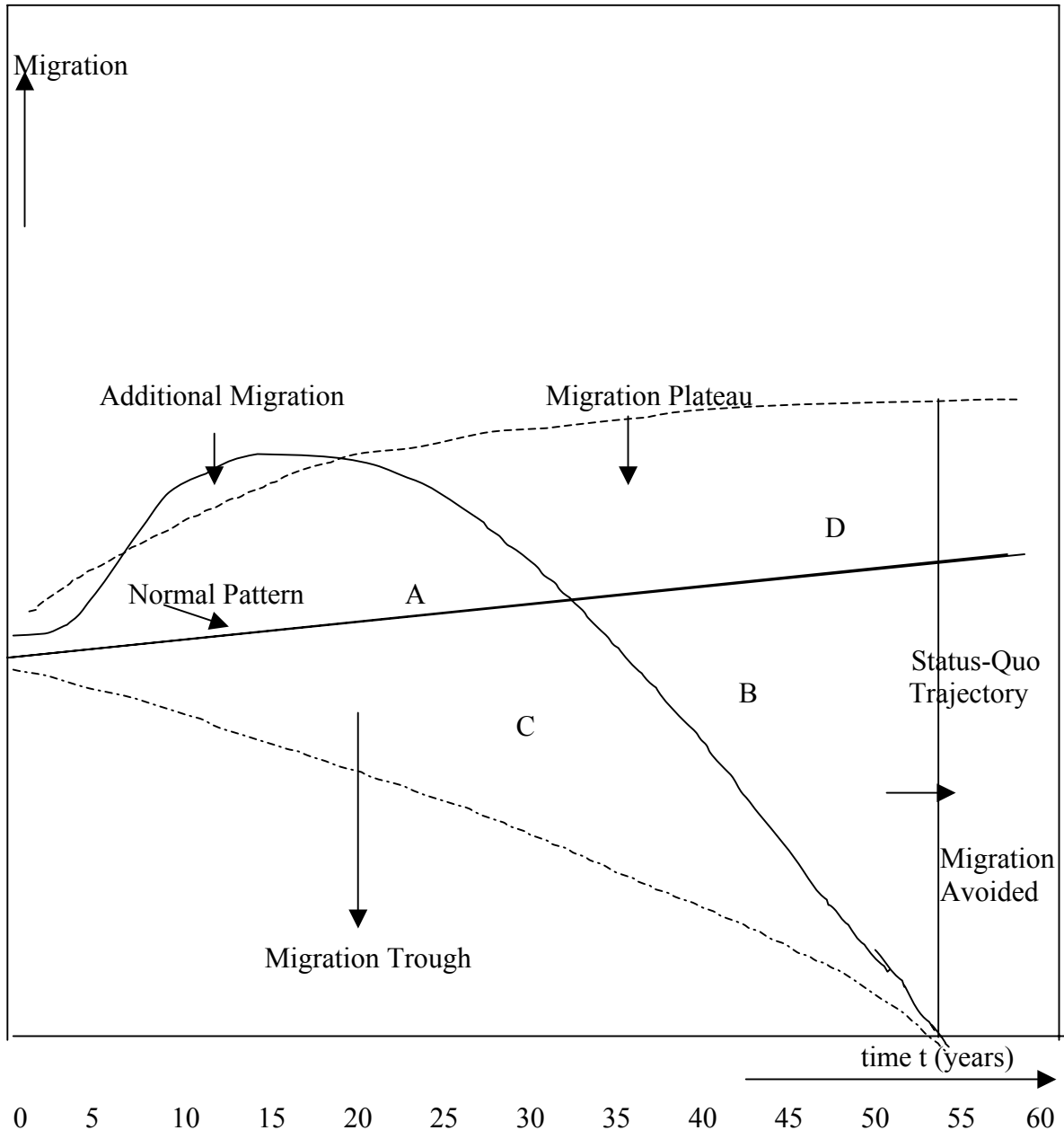
Two possibilities have come up in this paper:

(a)   Given a well-behaved social utility function and diversification in production, the more the national factor-price ratio deviates from and on the same side of the autarkic factor price ratio, the higher welfare level the country will have.

(b)   Given a well-behaved social utility function and diversification in production, the more the combined (national and foreign) factor endowment ratio deviates from and on the same side of the national factor endowment ratio, the higher welfare level the country will have.

Schiff (1996) offers three scenarios under which trade and migration are complements rather than substitutes, i.e. when trade liberalization will temporarily lead to more migration, not less, creating the 'Migration Hump'. Intuitively, trade liberalization by creating new employment in migrant-sending countries, provides families with a means to finance international migration which they could not afford in the past. Secondly, following

trade reforms, with sectors showing specificity in factor usage, there would be some economic costs involved in switching resources from one sector to another. This would lead to some transitional unemployment and therefore increased migration pressure. Finally, if (and in reality, it is) the most protected import-competing sector is labour intensive, then trade liberalization, renders labour unemployed.

It follows from the concept of Migration Hump, that in the aftermath of a trade reform at time zero, the assumed short run complementarity between trade and migration will cause an increase in migration above the status-quo trajectory line, which is rising at a decreasing rate. On the other hand, the assumed long-run substitutability between trade and migration will cause a downslide of the hump much below the trajectory line. So, the migration hump in the short run suggests a net long run 'savings' in unwanted migration as a result of trade reforms.

Figure 1. Migration Hump, Plateau and Trough

Migration

Additional Migration

Migration Plateau

Normal Pattern

A

D

Status-Quo
Trajectory

B

C

Migration
Avoided

Migration Trough

time t (years)

0   5   10   15   20   25   30   35   40   45   50   55   60

t = 0 : Time of Trade Reform

A = Migration Hump, Short-Run Complementarity between Trade and Migration

B = Migration Avoided, Long-run Substitutability between Trade and Migration.

Area (A + D) = Migration Plateau; Area (B + C) = Migration Trough.

It is also assumed in this regard that, the duration and amplitude of the hump are relatively small. Thus, when viewed over a long enough period of time, there is less migration with trade than without it.

If however, trade and migration are substitutes both in the short and in the long run, the migration hump becomes a migration trough. This view is supported by standard trade theory, whereby, specific endowment (L and K) rich countries end up specializing in the commodities they have comparative advantage in. On the other hand, if the standard neoclassical assumptions are relaxed, then even the traditional *2 x 2 x 2* framework might evoke complementarity between trade and migration and henceforth a migration plateau. These are however based on the underlying assumptions that, markets are perfect, adjustments are instantaneous, trade is not due to scale economics and there is no disparity in factor productivity. These features are illustrated in Fig. 1.

The market imperfection induced migration underlies the " New Economics of Labour Migration" pioneered by Oded Stark, where migrants are viewed as financial intermediaries who provide their families with liquidity and income insurance. Stark (1991) argues that, the desire to overcome the risk and capital constraints is a primary motivation for migration. Previously, Katz and Stark (1986), examined the effect of migratory opportunities for children on fertility, when the decision by the child whether or how much to remit is endogenous to the analysis. International migration under asymmetric information has also been extensively dealt with in Katz and Stark (1987), where they introduce a migration model in the absence of costly 'Signalling' and in the presence of time-consuming revelation of true productivity of the migrant workers. It shows that, asymmetric information will tend to reduce the skill level of migrants, by changing

qualitatively as well as quantitatively the distribution of migrant groups in the population. The restoration of informational symmetry reinforces the possibility of migration only by the high-skill and the low-skill groups, with the middle group not migrating. With the same structure, Katz and Stark (1989), also show that when migration is desirable at the lowest skill level, introduction of asymmetric information results in a reduction of the quality and quantity of international migration or has no effect at all. Contrarily, when at the lowest skill level migration is not desirable, introduction of asymmetric information will result in migration by all or by none.

By another strand of analysis, however, the phenomenon of international migration is the one that is characterized by disincentives rather than incentives. It is also much more institutionally determined, than by free economic choices, owing to the existence of immigration quotas sanctioned by developed countries (by national legislation in Great Britain as of 1905, and in U.S. as of 1921). Conversely, there are also some potentially inefficient restrictions on emigration of nationals mainly in the socialist countries as also in the developing countries (for skilled personnel like the doctors and engineers). What appears on the whole with respect to the institutional question is that, there is virtually no international code of conduct that attends the question of how immigration restrictions ought to be operated. The international governance of the issue is provided only by fragmented attention from various agencies like ILO for foreign workers, UN High Commission for Refugees, UNESCO and UNCTAD for Brain Drain etc., and above all there has been a sustained lack of concern in attempting to set up such a supra-national agency (Bhagwati, 1984).

It is further emphasized that, institutions showed a 'deliberate' lack of speed in response to migration that occurred in substantial magnitudes in the post-war era. On the question of postwar international migration flows, Bhagwati (1988) classifies the movement between 'poor to poor' countries as essentially refugee movement that between 'poor to rich' countries as emanated mainly from the west European 'gastarbeiter' programme or that in the OPEC region in late 1970s and so forth.

It is also very important to discuss in this light, the long-debated issue of 'Brain Drain'. As Bhagwati (1988) puts it, 'Brain Drain' is an 'emotive phrase', and preserves the overtone that outflow of skilled manpower is a problem. The author suggests that, a brain drain model and a spillover model can be identically treated and according to the empirical judgement it appears that, substantial outflows often create difficulties for small source countries with limited educational opportunities. He further points out that, for large countries, with wide educational network, emigration of doctors or engineers may not really be a problem, although emigration of 'talented' individuals might stall the domestic institution building process. However, such emigration can pave the path for improving the productivity of distinguished nationals as part of prestigious foreign institutions and enhance opportunities for other nationals to train abroad.

The issue of 'return migration' also requires some attention in this context. Piore (1979) notes that, contributions by migrants in terms of the regional economics development or as a source of significant industrial skills have been generally elusive for the source countries. For the developing countries on the path of industrialization, it is expected that the technical requirements of the job structure would follow the technical evolution of the labour force. The process is such that increasing levels of education and

training are required of the labour force as development proceeds in order to bridge the gap between the skills of the labour force and the requirement of the technology that the countries are introducing. Return migrants in general have not contributed sufficiently towards overcoming this gap.

To see empirically the issue in question, an explicit link between trade reforms and migration is found in Faini and de Melo (1996), who ran a macro simulation for Morocco, revealing that the removal of import restrictions in Morocco shifted the composition of demand in favour of foreign goods. The total impact on employment in the short-run depends critically on the labour-intensity of exports to import-competing goods and in the Moroccan case labour intensive exports expanded (because of real exchange rate depreciation) quickly. There was a reduction of total output on account of now dearer imported inputs and despite all this no distinct effect on employment is visible. The reason is that, the textile being the major item of trade it provided local employment as alternative to short-run migration.

Lee and Roland-Holst (1996) tries a 10-country computable general equilibrium model (CGE), to estimate the impacts of various trade reform measures on employment in the Pacific basin. Though the model does not link countries on the labour side through migration, but trade induced changes in employment and wage disparities across countries suggests the direction, if not the magnitude of changes in migration pressure resulting from trade reform. The remarkable finding of their study is the surprisingly small impact of trade liberalization on total employment in the region, the reason being the fact that for all these countries imports were more labour intensive that exports.

Other empirical support for the analysis with respect to the labour market effects of migration and trade comes from Borjas, Freeman and Katz (1992) in the North American context. They base their analysis on the 1980's finding that the wage and employment-population rate of less-skilled Americans, particularly young men, fell relative to the more-skilled workers. The real earnings of 25-34 year old male high school graduates and dropouts declined, beginning from 1973 as reversing the historic trend. They empirically support the two suggested causes, (a) inflow of less-skilled immigrants, including illegal migrants and (b) the trade deficit. In a later article, Borjas and Freeman (1997) concluded that 44% of the said decline in wages (1980-1995) resulted from immigration.

The study by Borjas and Freeman (1997) contradicts the findings of Altonji and Card (1991), who computed the correlation between the fractions of immigrants in a city and the employment and wage outcomes of natives for 120 major SMSAs (Standard Metropolitan Statistical Areas) over 1970 and 1980 censuses. Here, the basic finding is that, a 1% increase in the fraction of immigrants in a SMSA reduces less-skilled native wages by roughly 1.2%. The least square estimates imply wage reductions of 3%. These were not significant.

According to Rivera-Batiz (1998), the U.S. economy has absorbed millions of workers during this century and yet earnings and living standards have generally gone up. The explanation is that increased labour supply tends to generate other mechanisms in the economy that increase the demand for labour and therefore employment. Any influx that significantly reduces wage in a particular labour market also tends to attract industries in that labour market. Given cheaper labour further reinforced by the continuous process of immigrant inflow, leads to setting of competitive prices in these industries. Over time, then,

there is a higher demand facing these industries and the downward pressure on wages exerted by increased stock of labour is subsequently reversed as demand rises.

Lastly, Kuhn and Wooton (1991) estimate the effect of immigration on the U.S. workers. Based on 430 4-digit manufacturing industries for the years 1960, 1970, 1980 and 1984, the estimate indicates that at least since 1970, factor intensities in U.S. manufacturing show consistent pattern; unskilled and skilled labour are used intensively in import-competing and export industries respectively. They draw a conclusion by which, increased immigration of either skilled or unskilled workers to the U.S. will in the long-run hurt U.S. workers of both types and benefit owners of capital.

3.　　Heterogeneous Skill and Welfare Impact of Migration

An easy way to capture the issue of emigration in the context of a developing country is

to construct an example where different types of labor are used for producing different types of goods. Skilled labour and capital produce a skilled good (X), whereas unskilled labour and capital produce an unskilled good (Y).

Following equations denote competitive conditions before the citizens decide to emigrate. The 'benchmark' model assumes a simple neo-classical world into competitive markets, full-employment and free trade. None of these assumptions is really necessary to derive the basic conclusions.

$$w_S a_{SX} + r a_{KX} = P_X \tag{1}$$

$$w a_{LY} + r a_{KY} = P_Y = 1 \tag{2}$$

where, (w_S, w) are (skilled, unskilled) wages. R is the return to capital and P_X, P_Y prices. a_{ij}'s are input-output ratios dependent on factor prices. The structure here is drawn from Jones (1971) exhibiting a specific-factor model. This is a 'small' economy, which faces exogenously given P_X in the rest of the world.

Consider a case where the rest of the world unskilled wage w^* is greater than w_0, the initial one prevailing within the economy. This calls for labour outflow. Since w^* cannot be affected by such a movement as the country concerned is small, w_0 has to rise up to w^*.

As unskilled labour emigrates, local supply of labour falls and w rises. Under the standard 'Inada' type conditions,

$$\underset{L \to 0}{Lt} \ \frac{\delta w}{\delta L} = \infty, \ w_0 \text{ will rise up to } w^* \text{ for a finite level of outflow.}$$

If L_m is the extent of labour outflow, then, $(w^* - w_0) \ L_m$ will be the addition to 'real income' of this nation and hence the gain in welfare. L_m is basically export of labour and $(w^* - w_0)$ is the additional income per unit of such exports.

A crucial presumption in such analysis is that the economy under consideration has command over this extra income. Suppose a fraction of $(w^* - w_0) \ L_m$ is remitted, that will mean greater real income. Typically, the consumption standards of migrants may improve once they locate themselves abroad. This will tend to reduce the amount of remittance.

Such emigration will reduce r since local unskilled worker becomes more expensive to hire. As r goes down, w_S moves up, given P_X. In fact if the technology in the rest of the world is the same as in the local economy, w_S should go up to w_S^* and r should fall to r^*. Thus the movement of just one type of labour leads to factor price equalization. Skilled

labour does not need to move further since cheaper rental on capital leads to greater skilled

wages for the local economy.

An interesting implication of such an outflow can be traced to the relative income

between the skilled and the unskilled. It can be easily checked from (1) and (2) that $\frac{w_{S0}}{w_0}$

adjusts towards $\frac{w^*_S}{w^*}$ where $\frac{w^*_S}{w^*} > \frac{w_{S0}}{w_0}$. In other words the distribution of income between

the skilled and the unskilled can very well worsen by exporting unskilled labour. Since

$\frac{w^*_S}{w^*}$ is given in the rest of the world and the technology is identical across the globe, the

condition $\frac{w^*_S}{w^*} > \frac{w_{S0}}{w_0}$ boils down to the comparison of the share of capital in production

costs of each sector, θ_{KX} relative to θ_{KY}. If $\theta_{KX} > \theta_{KY}$, w_S will rise more, thus widening the

gap between w_S and w.[2]

Movement of unskilled labour eliminates the incentive for skilled labour to move. If

technological differences across the globe are not so prominent, relative factor abundance

becomes crucial in dictating the wage differential and the consequent movement of labour.

If technological gap is considerable reflecting the productivity gap of similar type of labour,

factor prices will not be equalized between the source country and the rest of the world. But

there will be a tendency for the wages to come together. A lot more labour has to flow out

in that case to bring the wages into line. But once w_S are the same, r in the source country

should still be lower than r^* due to the productivity gap. If the skill sector of the source

country exhibits similar productivity with the rest of the world, w_S will go up even more

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[2] For effects of immigration on wages in one commodity simple model and n-commodity generalization thereof, see Jones and Engerman (1997).

relative to the case with no productivity gap. In fact, w_S is likely to be greater than w_S* worsening the pattern of wage distribution. However, increase in w always improves aggregate real income of the small trading nation and therefore should be encouraged. But emigration of unskilled labour may not lead to the evaporation of labour class-based conflict in the society.

The appealing property of this class of general equilibrium model is that they allow for imperfect factor flows within an economy, unlike the standard long-run type models. This also in a way captures the case of developing nations where smooth sectoral adjustments are difficult to conceive. Our small economy exploits further gains from trade allowing emigration. Note that once w_0 is allowed to adjust up to $w*$ through a continuous process of labour outflow, skilled production continues to expand and the local unskilled sector contracts. If this country has been exporting Y, factor movement substitutes for commodity trade --- a well-known result due to Mundell (1957).

One interesting and much discussed result in trade theory has to do with the effect of changes in factor endowments in tariff-distorted economies. Papers by Johnson (1967), Brecher and Alejandro (1977), Findlay (1985), Jones (1997), Neary and Ruane (1988), Beladi and Marjit (1992), Marjit, Broll and Mitra (1997) etc. discuss different facets of the problem of growth and welfare in protected economies.

As unskilled labour emigrates and as a result the skilled sector expands, the small economy may face an adverse welfare effect if the sector producing the 'skilled' good is protected to start with. Taxing imports causes distortion in consumption and further reduction in volume of imports will accentuate the welfare loss. This has to be offset against the remittance income received from the non-residents. It is obvious that allowing

skilled labour to go is doubly beneficial in the presence of protection, although protection may curtail the incentive for emigration. However, the standard welfare reducing effect of growth in protected sector may not hold with imported intermediates. This has been recently expressed in Marjit and Beladi (1996,1999). Since the standard textbook principal for a small economy is not to restrict trade of any kind, opening up of trade in factors can mitigate the adverse welfare effect of restricting commodity trade.

The results discussed so far, change with introduction of unemployment. Consider a little twist to our existing framework. Suppose the unskilled wage is fixed at $\overline{w}$ to reflect union-pressure in the presence of unemployment. Thus given $\overline{w}$, r is determined from (2) and that in turn determines w_S. The amount of skilled labour determines output in the skilled sector and the capital to be employed there. The rest of the capital employs unskilled labour and in the presence of $\overline{w}$ cannot absorb the entire unskilled labour force. It is obvious that if the unemployed unskilled labour starts moving out, nothing happens to the factor returns and the gains are enormous because for some of them the opportunity cost may be close to zero.

It is instructive to provide the list of the possible welfare impact of outward migration.

1. Migration directly increases national welfare by expanding the set of consumption possibilities available to the locals through increased remittances.

2. With unemployment it is likely that the gain will be more since the opportunity cost of emigration should be very low.

3.   Typically movement of one type of labour should improve wages of other types by inducing a fall in the cost of capital.

4.   Apart from the static welfare effect, remittances may constitute an important contribution towards capital information.

It is also instructive to look at the representative empirical evidences on some of the issues discussed so far. In a fairly detailed discussion on migration, remittances and capital flows in the context of Indian economy, Nayyar (1994) reports certain interesting facts. This is elaborated in table16 of Nayyar (1994).

In 1980s remittances were equivalent to about 2% of aggregate private consumption expenditure, 67% of gross domestic savings and capital formation. However, the division of remittances into consumption and investment are not available from the macroeconomic data. Gulati and Mody (1985) provide an analysis, which suggests that for the state of Kerala, remittances were about 25% of the state domestic product. This proportion was estimated to be as high as 40%-50% in some districts of the state that experienced higher volumes of out-migration.

4.   Migration and Capital Formation

Static welfare effects do not provide a complete picture of the welfare implications of emigration. To the extent capital formation assumes a crucial role in the process of growth and development, one must elaborate the avenues through which remittances stimulate the pace of investment. Remittances are likely to increase both consumption and savings of the local population. Empirically it is very difficult to isolate the impact of remittances on saving and investment at an aggregate level. As elaborated in Nayyar

(1994), at least in the context of the Indian economy, this has been a compelling task. Close scrutiny of the regions which supply substantial number of migrants to the outside world over a specific time period, can be a better strategy to evaluate the investment impact of remittances. It will be interesting to reflect on the structural features of the relationship between migration and capital formation. This can be done by focusing on both the supply side and demand side of the problem. We pick the supply side first.

As argued earlier the inflow of amount $(w^* - w_0)L_m$ adds to the real national income of the trading nation. A part of $(w^* - w_0)L_m$ can go to augment the capital stock. In that case growth takes place through an increase in investment. But $(w^* - w_0)L_m$ can be quite small relative to the size of the capital stock and nothing should change much. Also, the fraction of $(w^* - w_0)L_m$ set apart for raising K, can be very low depending on the time preference of the people deciding on the intertemporal consumption pattern of remittances. One interesting exercise will be to check whether priorities to invest vary across income groups. It is possible that a dollar, which lands in the hands of poor people representing the local community of unskilled migrants, will be utilized differently from the one which goes to the richer income group. The presumption related to the break up of the remittance into consumption and savings for each of the group can go either way and therefore the net impact on investment is anybody's guess.

Following recent work of Galor and Zeira (1993) or Banerjee and Newman (1998), one can forcefully argue that remittances to the poor segment of population can achieve a lot in terms of the formation of human capital. It is now well known that 'inequality' of income can hamper 'growth' in a world with imperfect capital markets. Remittances can be an effective means of bypassing the 'entry-barrier' caused by financial

constraints. In a model with multiple equilibria, unskilled migration can get the economy out of a 'low level equilibrium'.

Typically extra income received from the migrant workers settled or temporarily working abroad can contribute towards local capital formation if and only if the investment is constrained from the supply side. It is quite possible that there might not be sufficient demand for investable funds since investment depends on a set of medium and long-term factors. Thus the prevailing macroeconomic investment should dictate whether investment is resource constrained. But clearly remittances can improve local infrastructural conditions, which in turn, may lead to more investments. Again a way of evaluating such an impact is to look for case studies since the aggregate data may not be suited for such an exercise. Whether remittances have helped the growth of small business in places like Kerala, is still an open question. Even if one admits that the process of human development in Kerala must have been influenced by the remittances from the Middle East, yet Kerala has not shown remarkable progress in terms of industrial investment and employment. These issues require substantial applied work at the micro level.[3]

One important contribution of net factor income from abroad is to allow the government to adjust periodic balance of payment problems. Oil boom in the mid-70s led to massive temporary emigration of workers, skilled and unskilled, to the Middle East. Export of labour was a major source of foreign exchange earnings for India, and it helped to curb the negative impact of trade deficits. Nayaar (1994) observes that the per capita remittance from the unskilled workers has been greater than the same received from the skilled workers.

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[3] For related work on remittances of Asian workers from Gulf countries see Gardezi (1997).

It is well known that in the developing world state heavily subsidizes higher education and therefore promotes the growth of human capital. This is justified by the 'social return' on human capital which private financiers are not likely to internalize. Large exodus of skilled engineers, managers, scientists and technical personnel away from the developing world does not allow the local economy to recover the social costs of training. In a way the developing world indirectly subsidizes the higher education system in the richer nations with high quality undergraduate training. Needless to say that a large chunk of such emigration eventually leads to permanent settlements. Apart from the fact that such brains do not produce the required externality effects on the local economy, valuable taxpayers' money is hardly recovered. The pricing of higher education is a politically sensitive issue. Often sound economic judgement has to take a backseat because of the shameless hypocrisy of the so-called egalitarian student movement. Higher education invariably accommodates students coming from more privileged segments of the society and they always oppose vehemently if the subsidy is reduced even by a bit. It will be interesting to study the impact of subsidized education on the net resource inflow to the local economy and the role of emigration in dictating the magnitude of such an impact.

Endnotes

1.   Basic welfare function algebra involves the 'change in welfare' function (Caves and

Jones, 1985).

$$d\Omega = P_X dD_X + dD_Y \qquad\qquad (D_X, D_Y \text{ are demands})$$

$$= dw_0(\overline{L} - L_m) - w_0 dL_m + w^* dL_m + dr\overline{K} + dw_s \overline{S}$$

where w_0 is the initial pre-emigration unskilled wage. Note that,

$$dw_0(\overline{L} - L_m) + dr\overline{K} + dw_s \overline{S} = P_X d_X + d_Y$$

since, L_m stands for export of labour. One needs to add $(w^* - w_0)dL_m$ as the change

in income due to emigration. If one uses the competitive equilibrium and full

employment conditions, one gets $d\Omega = (w^* - w_0)dL_m$, as $P_X d_X + d_Y$ vanishes due

to the familiar envelope conditions, since $w > w_0$ it pays to send unskilled people

abroad.

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