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**Internal Migration and Urbanization:
Recent Contributions and New Evidence**

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SUMMARY OF POINTS

Patterns of Internal Migration

- Changing place of residence at least once is quite common in a wide range of countries. Cross country comparisons of migration are made difficult by lack of comparable data. However, four recent LSMS enable comparisons of place to place movement of adults since birth. The fraction of adults who had moved were 61% in Russia (1995), 53 % in Ghana (1988), 35 % in Pakistan (1991) and 23 % in Vietnam (1993). Census data show 8 percent of Thailand's population moved in the five years from 1985-90 and 7 percent of India's population moved from 1976-1981.
- By no means all internal migrants move from rural to urban areas. In some countries, (e.g. India and Ethiopia) intra-rural movement is the most common mode, while in others (Republic of Korea and Peru) inter-urban movement dominates.
- Mobility of rural populations varies considerably. In Ghana and Russia, less than half of all rural resident adults were born in the same place that they now live. In contrast, more than 83 percent of Vietnam's and 68 percent of Pakistan's village adults report being born in the village where they now live.
- Seasonal and temporary migration within the rural sector adds significantly to the relative importance of rural-rural movements in some contexts (such as northern Thailand).
- Migrants are much more likely to move shorter distances. In India, much of the internal migration is therefore within a district. Even rural-urban migrants often move residence over a short distance suggesting that commuting is not always an attractive or viable alternative.
- The fraction of population living in urban areas is significantly higher among countries with higher incomes, though the rise in degree of urbanization tapers off at higher incomes. Even given the level of GDP per capita, the percent of population in urban areas rose significantly over time at the rate of just over 3.5 percentage points per decade from 1960 to 1990.
- Among the 26 developing countries for which data exist, migration plus reclassification of rural areas as urban areas contributed about 39 percent of urban population growth during the 1980s.
- The 'residual' method applied to intercensal data is incapable of distinguishing the role of net urban migration from that of urban reclassification in total urban population growth. More detailed data for India suggest that migration alone contributed about 19 percent of urban population growth from 1960-1980 while reclassification contributed a further 28 percent (20 percent from new towns alone). Similarly, in China where migration plus reclassification has played an important role in total urban population growth, the number of towns more than quadrupled from 1982 to 1990.

- However, a substantial fraction of adults residing in urban areas report having been born in rural areas -- 30 percent in Russia, 29 percent in Vietnam, 20 percent in Pakistan and 18 percent in Ghana. A smaller fraction of the adults living in larger urban areas report being born in a rural area than do the adult populations of the smaller towns
- The role of migration plus reclassification in urban population growth varies considerably across countries (with a coefficient of variation of 0.4 in our sample of 26 developing countries during the 1980s).
- In a broader sample of 46 developing countries from 1960 to 1990, the average contribution of migration plus reclassification to urban population growth is highest in East and South East Asia, followed by South Asia and Sub-Saharan Africa. North Africa and the Middle East, South and Central America are quite similar and have the lowest average contributions
- Countries in which a large fraction of the population already live in urban areas exhibit a significantly smaller role for migration and reclassification in contributing to urban population growth. A diminishing role for rural-urban migration is, of course, to be expected as the rural population base dwindles.
- The role of migration plus reclassification in urban population growth is also lower among the higher income developing countries.
- However the negative association with income levels is largely associated with the larger extent of urbanization in the higher income countries. Once the degree of urbanization is controlled for, the pattern with respect to income levels alters. At lower income levels the role of migration and reclassification in urban population growth rises with income, but beyond a GDP per capita of about 4000 (1985) US dollars this association reverses.
- Even controlling for the degree of urbanization and income levels, considerable regional variation exists in the contribution of migration and reclassification to urbanization. This role is highest in East Asia and South America, followed by North Africa and the Middle East, then Central America and the Caribbean, Sub-Saharan Africa and finally South Asia with the lowest contribution. These regional differences may reflect many components (including geography, fertility, and development strategies).
- Despite the controls which have existed on migration in China, Russia and Vietnam rural-urban migration has been substantial. At least in China, this has been particularly true as market reforms have limited the efficacy of some of the migration controls.
- Our observations suggest that most of the lifetime urban-urban migrants living in large urban areas were born in other large urban areas, rather than small towns.
- In most countries, immigrants tend to concentrate in urban areas and the fraction of the adult

population who have immigrated is typically higher in large towns than in small towns.

The Causes of Internal Migration

Earnings and employment opportunities

- It is well established that the greater the gap in earnings between origin and destination the more likely are working age adults to move.
- It is far less clear how the significant gap in earnings is maintained between rural and urban, formal employment for observationally equivalent workers. There is some recent evidence consistent with efficiency wage explanations of high urban wages and, in some contexts, urban collective bargaining seems to play a significant role. High urban public sector pay has also been a factor in attracting urban migrants, though in some regions this premium has diminished.
- Many migrants to urban areas initially enter the “informal” sector. For some (though by no means all) this is a transitory phase prior to finding more formal employment. However, statistical studies of these patterns are plagued by the lack of precision in defining the informal sector and the evidence is (consequently) mixed as to whether the formal or informal urban sector offers higher pay to observationally equivalent workers.
- Migrants to town initially earn less than observationally equivalent natives, but the evidence indicates that this gap disappears within a few years and may even reverse.
- Findings on whether differences in unemployment rates between locations promote migration are mixed. Limited evidence suggests that migrants often identify their urban job before migrating, but other migrants do appear to search for work after moving, either while in temporary employment or while openly unemployed. However, at least one study maintains that off-farm migration in developing countries will cease only when the earnings gap is entirely closed and hence that uncertainty about employment is irrelevant. It has also been argued (with some supporting evidence) that unemployed workers may have at least as high a chance of re-employment in their home setting where information and contacts are more readily available.
- The location of newly created employment opportunities depends in part upon the development strategy adopted. The hypothesis that import substitution leads to employment concentration in large cities lacks systematic testing, though a case study of India suggests that liberalization has been a factor in promoting the emergence of new towns. However, many other factors also affect the spatial distribution of industrial employment, including the land intensity of production, availability of appropriate infrastructure, agglomeration externalities, tax incentives tied to location, as well as the local cost of labor.

- It has been hypothesized that large towns offer a greater diversity of employment and hence a better chance of re-employment in the event of a lay-off. This might render large towns more attractive to migrating workers. At least one study shows that unemployment rates are lower in larger urban areas, though more systematic evidence on this issue does not seem to exist for the developing economies.
- A case study of Korea suggests an interesting shift in the internal location of industry as development proceeds. As city center land prices rise, land-intensive, low skill manufacturing shifts out of the cities. Simultaneously, at least three factors may contribute to the further concentration of skilled and professional employment in the metropolitan areas: a preference for city living among wealthier, professional classes; externalities to agglomeration of corporate headquarters; and externalities generated by the presence of other skilled and professional employees.

Family and networks

- Possessing a network of family and friends in town may encourage migration into town. Conversely, a well-developed network at home may discourage departure. However, empirical examination of these propositions is hampered by difficulties in eliminating spurious effects, in discerning what advantages the network offers and in defining the scope of a network.
- Migration at the time of marriage, to join or accompany a spouse, does seem common (though not well documented). A few studies also suggest that parents may have the welfare of their off-spring in mind when making their own migration decision.
- Urban migrants often initially settle in ethnically similar neighborhoods, which suggests that networks lower the effective cost of moving in some manner (though this may include provision of security from ethnic conflict). Evidence from some cities even shows that subsequent moves within the city are to new neighborhoods with the same ethnic composition. Moreover, a case study of Cairo is consistent with kinship, regional and common occupational networks affecting labor market outcomes.

Distance

- Migration over short distances is much more common than migration to remote locations. Whether this reflects the greater cost of moving further, lack of information about more remote alternatives or less alienation in a nearby setting remains undetermined.
- However, fewer out-migration opportunities in remote areas tend to generate longer residence which in turn raises the sense of alienation in contemplating moves. The result is pockets of poverty in remote places.

Wealth and capital markets

- Incomplete or imperfect local capital markets may encourage out-migration either directly through restrictions on the ability of families to borrow, or indirectly through effects on employment creation. However the solitary test of this potentially interesting proposition proves inconclusive.
- The opportunity cost of financing costly migrations is probably lower for wealthier families. This has two important implications. First, other things equal, migration may be more common from richer families and this in turn may exacerbate the inequality in incomes. Second, as a region becomes wealthier out-migration may actually increase (up to a point) as the financial constraint is reduced.
- Empirical evidence on these two implications is mixed and controversial. Only a few cross-family studies examine the wealth effect and the results are too mixed to reach any conclusion. Some historical studies do show rising emigration as GDP increases but this is probably largely a reflection of the demographic transition and altered patterns of employment rather than an alleviation of a financing constraint.

Family strategies to contain risks

- One way that families may insure themselves is by having members migrate to locations where times of economic adversity do not normally coincide with those at home. Remittances between the home base and migrant then enable consumption smoothing.
- There is some evidence consistent with the remittance portion of this scenario. However no direct test of whether migration is greater from communities with higher economic risk seems to exist.

Relative economic standing in the community:

- Migrants may not only care about any absolute gain in earnings through migration but also about their relative economic standing in the communities of origin and destination. One study of migration from rural Mexico found that emigration to the US (but not internal migration) was more likely among individuals with low incomes relative to others in their village. However it would clearly be premature to generalize from this evidence.

Availability and quality of amenities.

- Improved amenities in a location may attract industry or permit agricultural expansion. To the extent that this results in employment expansion or higher wages, out-migration may be discouraged and in-migration encouraged.
- Improved local amenities may also have a direct effect upon migrants' decisions, simply by making life in this setting more attractive.
- On the other hand, some forms of improved local amenities could exacerbate net out-migration. It is feasible that improved rural transport could act in this fashion, by affecting

local production patterns and hence perhaps reducing the local demand for labor, and perhaps by making departure and return visits easier (though commuting also becomes an easier alternative to migration).

- Unfortunately no evidence appears to exist on the effects of amenities on migration outcomes in the developing countries. This is a major lacuna in our information. The limited US evidence suggests that amenities indeed affect migration decisions, but the relevant form of amenity differs by population group.

Incidence of violence, disease or disasters.

- It is obvious that episodes of violence and natural disasters result in mass migrations either of internally displaced persons or of international refugees. What is far less well documented is the extent to which on-going violence, political repression and recurrent risk from disasters swell the stream of migrants.
- Studies in a couple of South America countries have shown that higher local assassination rates result in significantly greater out-migration, apparently in addition to any effects that violence has on regional wage differentials. Indeed the study in Guatemala finds no evidence that the incidence of violence alters migrants' responses to given earnings differentials. However, a cross-country analysis of sub-Saharan Africa does find that restrictions on civil liberties reduce migrants' responsiveness to economic incentives to migrate.

Migration controls and incentives

- A few countries have attempted to restrict (or even to force) internal migrations. Unless the state is prepared to take Draconian measures such controls are usually ineffective. In a number of contexts it has been found that expelled migrants soon return. In some of the socialist states, access to jobs, housing, food rations and other state benefits have been tied to a specific location, effectively preventing migration by removing the incentive to move. However, at least in China, the emergence of a more market oriented system has eliminated the efficacy of these controls and migration has duly expanded.

The Economic Consequences of Migration

- A mobile labor force can be an important ingredient in enabling more efficient production in an economy. Where high wages signal high productivity, migration for wage gains generally enhances the efficiency of production.
- Migration may, however, prove either excessive or insufficient to achieve maximum efficiency when market prices fail to convey appropriate signals. These failures include various possibilities for inappropriate wage setting either as a result of market failures or as a result of policies which affect labor costs. Incomplete and imperfect capital markets can also result in misleading wage signals, as can trade or other policies which distort commodity prices. In addition, socially sub-optimal rates of migration prevail when the costs of migration are not

entirely born by the person or family making the migration decision., which is particularly true with respect to overcrowding costs.

- A substantial literature exists on optimal policy packages to deal with specific combinations of distortions. However, implementation of most of these recommendations requires considerable information to achieve an optimal result and, in some cases, even to determine whether a tax or subsidy is required.
- There are too few studies of the total contribution of internal migration to productive efficiency to generalize. A few CGE models permit such analysis but usually omit many of the market imperfections which render the question interesting. A recent evaluation suggests that internal migration contributed about 1% to 1.5% of GDP in Peru in 1979, but this relatively low estimate omits both general equilibrium effects (such as linkages) and dynamic effects (such as accumulation) resulting from the migration.
- In the face of urban un(der)employment it is tempting to recommend a policy of urban job creation. The well-known Harris-Todaro model points out that such a strategy may induce so much additional rural-urban migration as to leave more people unemployed and to diminish total production. These effects may be mitigated, to some extent, when local linkages result in expansion of the urban informal sector induced by an expansion in the formal sector, and by any tendency for new jobs to be taken by initial urban residents on a preferential basis. However, little evidence exists on either feature for the developing countries.
- Much of the early analysis of rural-urban migration in the developing countries assumed urban formal sector wages to be rigidly set by institutional forces. In contrast, there is a growing body of evidence that wages do respond to downward pressures in the presence of unemployment. For example, one study concludes that a doubling of unemployment in urban Cote d'Ivoire caused wages to fall by about 12%. Time series evidence for other countries support the notion of a wage-curve, in which earnings respond to unemployment albeit with a lag. This raises serious doubts about policy recommendations emerging from the literature on rigid wages in which unemployment equilibrates migration flows. Nonetheless some (temporary) corrective action may be warranted, to improve efficiency, where speed of wage adjustment is excessively slow.
- Migration may also impact the rate of savings and accumulation in an economy and hence, perhaps, growth. In particular, it is commonly held that temporary migrants save a larger fraction of their earnings because risk averse migrants save for their return to a lower and less certain income and because the marginal utility derived from consumption while away from the family is low. However, supporting evidence in the context of temporary internal migrants is lacking. Moreover, temporary migration may only raise the propensity to save temporarily.
- Migration may not only change the efficiency of production but profoundly alter the distribution of income through a number of channels.

- Migrants presumably gain from migration unless they make errors in judgement, or a gamble with respect to migration fails to pay off, or migration is not of the migrant's own free will.
- Nonetheless the extent of social mobility associated with migration may vary. The stereo-type of rural-urban migration in Latin America depicts three concentric bands of urban settlement. Bridge head, single migrants initially settle in rented accommodation in the city center where access to work is easier. As the migrant accumulates more wealth and marries, he or she moves to self-help housing on the periphery of the city. Further accumulation permits upgrading this accommodation. The city limits ultimately engulf the intermediate settlement site and the migrant is left in low-income housing between zones of rental housing and shanty towns. However, a study of Quito finds a quite uniform distribution of migrants across the city, which is attributed to policy restrictions on self-help housing and to rent control. Evidence from India suggests that a tiny group of urban migrant households fare extremely poorly, but the average migrant household enjoys a higher living standard than non-migrants, particularly after some time in town. A recent case study of frontier migration in the Tarai of Nepal also reports upward social mobility among migrants but, in this context, the extent of upward mobility is reported to be tiny.
- Migration also affects the incomes of people, both at origin and destination, who do not move. One way that this happens is by altering the pattern of earnings among non-migrants as the supply of migrant labor shifts. Whether wages at origin rise and those at destination decline is, however, not obvious. The skill mix of the migrants in relation to the non-migrants, the nature of substitution between skill categories of labor in production, induced shifts in the pattern of production, and the influence of scale economies each play a role in this outcome. As a result, the evidence on whether migration results in wage convergence is very mixed.
- In the longer run, the departure of skilled migrants can raise the returns to education and training of those left behind, resulting in greater investments in human capital and higher income. Countering this are at least two forces. First, there is some evidence of agglomeration economies driven by a pool of well educated workers. This can imply that departure of skilled personnel actually lowers the returns to education. Second, the education of children left behind by migrating parents faces two opposing forces: migration may provide the resources to finance more and better education; but lack of parental presence may lower commitment to schooling.
- The other major route through which migration may impact incomes of non-migrants is through remittances. The extent to which poor and rich rural families benefit from this is a matter of some dispute. Early village studies in India suggest that rural-urban migration is rare among the very poorest of rural households, more common among agricultural laboring families, declines again among somewhat better-off village households, but that the educated children of the rural elite commonly move to town. Combined with village study observations that net remittances from town to village are small and that the children of the wealthy are

more likely to retain their rural ties and to remit, this implies that remittances may largely benefit relatively affluent rural families. However evidence from a household survey in Mexico presents a different picture in which the dominant form of migration from a village (either internal migration or departure to the US) results in remittances which reduce village income inequality.

Family Risk Strategies

- Individual migrants may remain in more or less active contact with other family members who stay at home, through visits, sending remittances and perhaps ultimately returning home. To the extent that migrants essentially remain active members of the home group, a geographically extended family exists, perhaps straddling separate settlements within the rural sector, straddling the rural-urban divide, or even international boundaries.
- A possible advantage of this strategy is that a family may be able to self-insure, to some extent, by placing members in alternative settings where times of economic crisis do not normally coincide.
- If many families actively straddle the rural-urban divide then perceiving the urban sector and its development as separate from that of the rural sector can be quite misleading.
- There is evidence consistent with consumption smoothing through income sharing within villages and even within wider ethnic communities but direct tests on families, abilities to smooth consumption through migration have not been conducted.
- However studies in Botswana, India and Kenya have each found remittance patterns consistent with family arrangements to offer mutual insurance through migration. In contrast, one study in semi-arid India found that temporary local wage employment was a more common vehicle for insurance in that context. Where commuting for temporary wage employment during a bad state of the local economy is cost-effective, migration and remittance for insurance may be less necessary, but this remains untested.

This paper has two distinct parts. The first is a presentation of existing and new evidence on internal migration patterns in relation to urbanization. The second part of the paper then surveys recent literature on the economics of internal migration in developing countries.

A. Evidence on Patterns of Internal Migration in Relation to Urbanization

The purpose of this section is to examine available information on patterns and magnitudes of internal migration in the developing countries. The first section takes up cross country data derived from population censuses, including very recent evidence compiled from the 1990 round of censuses. The second section then addresses information on a few individual countries, including both analyses from published information and fresh analyses of survey data on five countries. The final section summarizes some of the salient features emerging from these data.

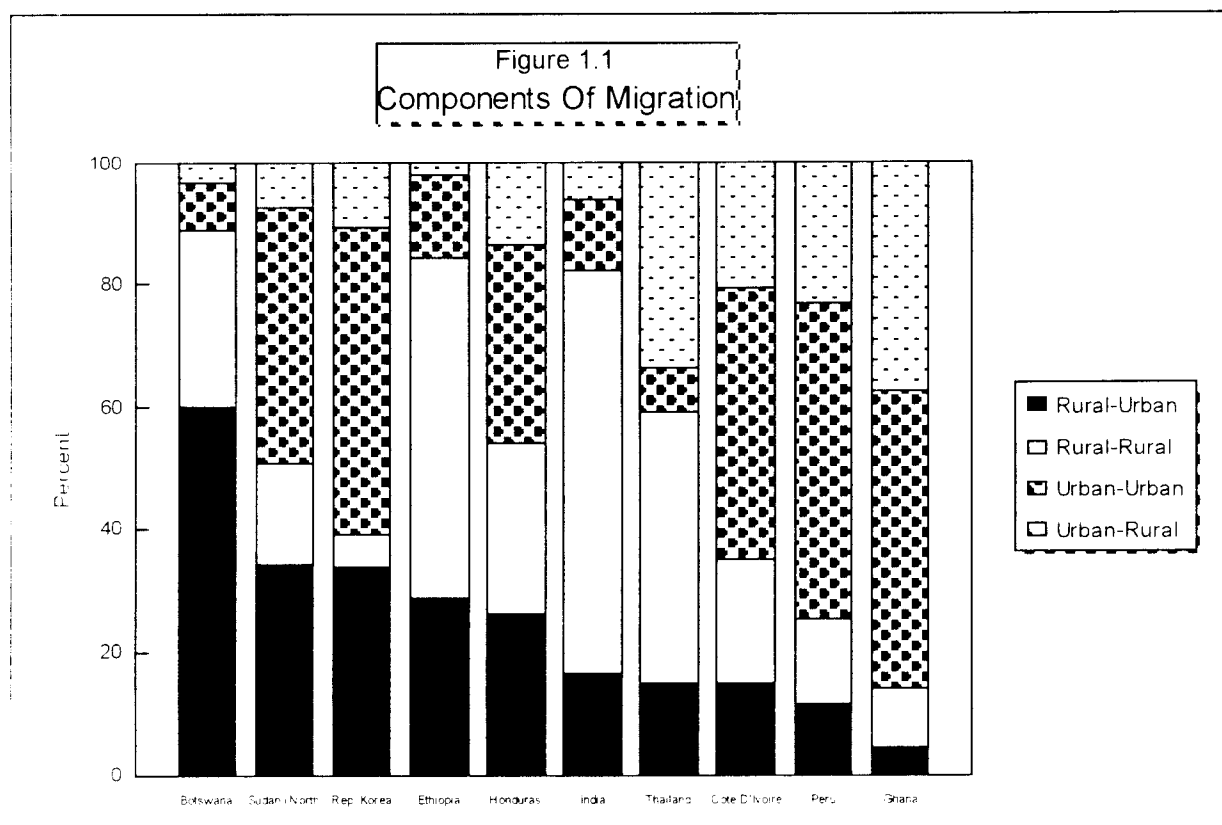
I. Cross-Country Census Information

Comparisons of census data across countries are made difficult by the various definitions of migration that are adopted. Migration is variously defined by place-to-place moves or movements between districts or regions. Migration may refer to place (or region) of birth, of previous residence, or of residence at some fixed point in time. In addition the definition of urban areas varies from country to country. These difficulties notwithstanding, some rough comparisons of cross-country census data are of interest.

(On the relative importance of rural-to-urban migration)

The focus of much of the policy concern with internal migration and of the economics literature on migration falls on rural-to-urban moves. Yet rural-to-urban moves are not necessarily the most common among migrants. In a very recent study, the Population Division of the UN Secretariat distinguishes four classes of internal moves: rural-urban, rural-rural, urban-urban and urban-rural.¹ Figure 1.1 displays the relative frequencies of these categories of migrants for the ten countries where

¹ I am extremely grateful to Dr Hania Zlotnik, Population Division, Department of Economic and Social Affairs of the UN Secretariat for access to data prepared for a 1998 draft report on Population Distribution, Urbanization and Internal Migration. Without access to this seminal work, it would not have been possible to prepare this section of the present paper.



place-to-place migration data are available in a census conducted since 1980.² By no means all migrants move from rural to urban areas. Of the cases in Figure 1.1, only the 1985 Botswana Census reports that a majority of internal migrants are rural-urban movers. In India and Ethiopia most internal migrants move from one rural place to another and in Thailand rural-rural migrants are the largest

2 The year of each census and the basis of migration information are:

Botswana	1985	Place of birth
Sudan (North)	1993	Place of birth
Rep. Korea	1990	Residence in 1985
Ethiopia	1984	Place of birth
Honduras	1983	Residence in 1978
India	1981	Place of birth
Thailand	1994	Residence in 1992
Cote D'Ivoire	1986	Previous residence
Peru	1986	Previous residence
Ghana	1988	Previous residence

category.³ In contrast, in The Republic of Korea and Peru the majority of internal migrants are urban-urban movers. In fact the last three country cases in Figure 1.1 indicate that urban-rural migration exceeded rural-urban migration. These may however be exceptional cases--the country representation in Figure 1.1 is dictated by data availability rather than representing a random sample.

The data displayed in Figure 1.1 show wide variations in the composition of migration streams. It remains unclear what causes these differences, and these data offer too few observations to disentangle this. Certainly there are many potential causes of these differences: a relatively large rural population is likely to result in small urban-urban migration and high intra-rural migration, while rapid growth in the urban economy relative to the rural economy is likely to accelerate net rural-to-urban migration, for instance. Greater attention is given to the many causes of migration in part B of this paper, though it may be noted at this juncture that most of the literature has focused on the causes of rural-urban migration.

Contribution of net rural-urban migration to urban population growth.

The breadth of country analysis possible from census information on reported migration is extremely limited. However, in his seminal contribution, Preston (1979) obtained estimates of the importance of net rural-urban migration to urban population growth, from census data in a fairly broad set of countries, by treating migration as a residual factor. Preston decomposed intercensal urban population growth into natural growth of the initial urban population, net migration into urban areas, and reclassification of rural areas as urban in the later census. Comparing estimates of the natural growth of the initial urban population to reported urban growth, the sum of the remaining two components is then derived as a residual. Preston's results have now been updated by the Population Division of the UN.⁴ Table 1.1 reproduces these results for 26 countries, showing the percentage contribution of migration plus reclassification to urban population growth during the 1980's.

3. In fact there is a great deal of rural-rural movement within Botswana too, though much of this is movement between lands - village and cattle post within a village boundary. See Lucas (1985).

4 See "Population distribution, urbanization and internal migration", draft mimeo, UN, 1998.

Table 1.1
Contribution of Migration Plus Reclassification
to Urban Population Growth During 1980's

	Contribution to Urban Growth (%)	GNP per Capita 1990 (US\$)	Percent of Population Urban 1990
China	71.7	370	33
Botswana	63.6	2040	28
Indonesia	57.7	570	31
Burkina Faso	57.4	330	9
Korea	53.7	5400	72
Philippines	51.0	730	43
Zimbabwe	50.8	640	28
Mali	50.0	270	19
El Salvador	48.3	1110	44
Bolivia	47.6	630	51
Thailand	44.8	1420	23
Ecuador	40.5	980	56
Paraguay	40.4	1110	48
Honduras	38.8	590	44
Brazil	37.9	2680	75
Mexico	32.1	2490	73
Peru	28.6	1160	70
Iran	28.3	2490	57
Panama	28.1	1830	53
Iraq	26.8		71
Argentina	26.3	2370	86
Senegal	25.0	710	38
Cote D'Ivoire	24.5	750	40
Venezuela	20.0	2560	91
Egypt	7.1	600	47
Chile	5.6	1940	86

Sources: "Population distribution, urbanization and internal migration", draft mimeo, UN, 1998.
 GNP from World Development Report, 1992.
 Fraction of population urban from Human Development Report 1992.

In general, the estimates in Table 1.1 are consistent with an important role for migration in urban population growth. For eight countries more than half of the urban population growth during the 1980s resulted from migration and reclassification. For only four of the twenty two countries is natural growth of the indigenous urban population in 1980 estimated to have contributed more than 75 percent of total urban expansion. Nonetheless, the range of estimates in Table 1.1 is very considerable. On what do these differences depend?

Consider, first, the differences in development levels and the fraction of population living in urban areas. In the (fixed country effects) regression reported in Table 1.2, the dependent variable pools data on the percent of population living in urban areas in 52 developing countries in 1960, 1970 and 1980, though the panel is unbalanced as a result of missing data.⁵ As GDP per capita rises, the fraction of population in urban areas at first rises then declines, though the estimated turning point is at nearly 6500 US dollars at 1985 prices, which is beyond the range of almost all of the observations in our sample.⁶ Even given the level of GDP per capita, the percent of population in urban areas rose significantly and substantially over time at the rate of just over 3.5 percentage points per decade according to the results in Table 1.2. The country fixed effects are not reported in Table 1.2. There are however, some significant outliers. Given their income levels, the ten countries with the lowest rates of urbanization were Bangladesh, Botswana, Indonesia, Kenya, Nepal, Sudan, Tanzania, Thailand, Togo and Zimbabwe. At the opposite extreme eight of the ten countries with the highest rates of urbanization, given income levels, were in Latin America: Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay and Venezuela plus Iraq and Israel.

⁵ The year of coverage varies slightly from country to country. Sources:
1960 data: Human Development Report, UNDP, 1992.
1970 data: Demographic Yearbook, UN Population Division, 1979.
1980 data: Demographic Yearbook, UN Population Division, 1988.

⁶ The data reported in Table 1.1 form part of this data set. However, in the regressions, the Summers-Heston measures of GDP per capita are used, at constant, 1985, international prices at the beginning of the relevant decade --- in 1960, 1970 and 1980. Standard errors are computed using White's method which is robust to the presence of heteroskedasticity.

Table 1.2
Regression on Percent of Population Urban
52 Developing Countries, 1960-1980.

	Coefficient	T-statistic
Intercept	15.5	(9.24)
GDP per capita (1000 1985 US\$)	5.71	(4.25)
GDP per capita squared	-.441	(3.34)
1960 dummy	-7.42	(8.60)
1970 dummy	-3.86	(6.17)
52 country dummies not shown		
No. Observations	142	
Adjusted R-squared	0.97	
F-Statistic	93.6	

At moderate and low income levels the fraction of population in urban areas rises with income (albeit with some outliers). In turn, this means that the population base from which rural-to-urban migrants are drawn dwindles, tending to reduce the contribution of migration to urban growth. Thus, as may be seen in Figure 1.2, the contribution of migration and reclassification to urban population growth during the 1980's was lower among countries with higher GNP per capita in 1990. Korea is a clear outlier in this picture, otherwise the remaining countries exhibit a significant negative association between GNP per capita and the contribution of migration plus reclassification to urban population growth.

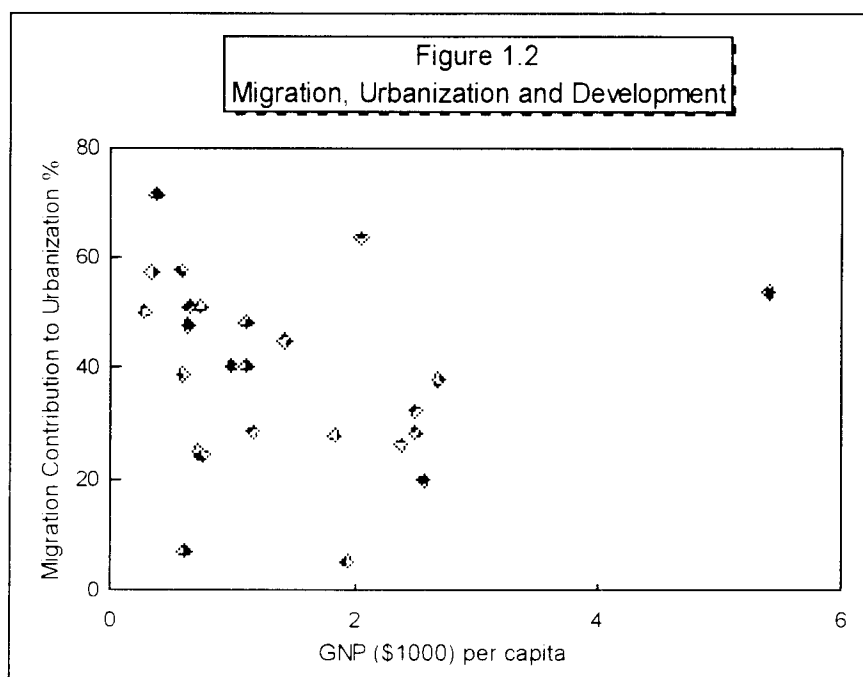


Table 1.3 presents several alternative regressions in which the dependent variable is the fraction of urban population growth attributed to in-migration plus reclassification. The data for these regressions are pooled over 47 countries and three time periods — the three decades between the censuses from 1960 to 1990.⁷

In the first regression in Table 1.3, the contribution of migration plus reclassification is regressed on GDP per capita⁸ and the square of this term. The negative association depicted in Figure 1.2 also holds for this broader data base. Similarly, the second regression in Table 1.3 demonstrates the negative association between the fraction of population already in urban areas and the contribution of migration plus reclassification to urban population growth. Moreover, there is no significant indication that this negative relationship diminishes at high levels of urbanization (the squared term is statistically indistinguishable from zero). This is consistent with a supposition that as the rural population base dwindles the role of migration in urban growth will fall. However, as already noted

⁷ Standard errors are again estimated using White's heteroskedasticity robust approach.

⁸ The Summers-Heston measures of GDP are again used.

in connection with Table 1.2 there is a clear positive association between income levels and fraction of population in urban areas. Once both measures are incorporated into the regressions in Table 1.3 the results consequently change. Thus, in the third regression in Table 1.3 the negative association between fraction of population urbanized survives but the pattern with respect to GDP reverses. In particular, given the fraction of population urbanized, the contribution of migration plus reclassification at first rises then declines with GDP per capita with a turning point at around 4000 1985 US dollars. Rising GDP is associated with more urbanization and this diminishes the contribution of migration to urbanization. However, given the extent of urbanization, higher GDP at first accelerates then diminishes the contribution of migration to urbanization. This third regression also includes dummy variables for the 1960 and 1970 data (excluding the 1980 dummy as a reference point) and the coefficients on these show no tendency for the contribution of migration to decline over time given the extent of urbanization and GDP.

The fourth regression in Table 1.3 adds five regional dummy variables, excluding the dummy for South America as the reference group. This extension leaves the remaining effects essentially unaltered, though the coefficients on the regional dummies indicate wide differences. Given the extent of urbanization and income levels, the role of migration and reclassification in urbanization is lowest in South Asia — about 14 percentage points lower than in East Asia and South America where this contribution is highest. The role of migration plus reclassification in urbanization is somewhat greater in Sub-Saharan Africa than in South Asia and greater still in North Africa and the Middle East — given income levels and the extent of urbanization — but these two regions still exhibit a significantly lower role for migration and reclassification than do South America and East Asia.

These regional patterns are quite different from the simple regional differences which do not control for degree of urbanization and income levels. (See the fifth regression in Table 1.3). In the absence of these controls, South and Central America exhibit approximately the same role for migration and reclassification — the lowest role for any of the regions. East Asia has the highest role in the simple comparison though it does not differ from South America given the differences in income and the extent of prior urbanization. Moreover South Asia and Sub-Saharan Africa each average about 9

percentage points greater contribution of migration and reclassification than does South America though both regions exhibit significantly lower contributions given income and urbanization.

The final regression in Table 1.3 presents a fixed effects estimate which includes a dummy variable for all but one country in the sample. The pattern with respect to the fraction of population urbanized remains in tact though statistical confidence in these findings is much smaller in this fixed effects case, despite little change in the magnitude of the estimated effects. On the other hand, no association at all is found with respect to GDP. This may either reflect a situation where the association with GDP across countries is spurious and does not apply to rising incomes within the typical country, or that the changes in incomes observed in most countries in the sample are insufficient to detect an underlying pattern. The fixed effects estimate shows the countries with exceptionally high contributions of migration to urbanization (*ceteris paribus*) to be Brazil, China, Guyana, Korea, Tunisia, Turkey and Uruguay while the exceptionally low contributions are found in Egypt, Haiti, Nepal, Pakistan, Sudan and Togo.

Table 1.3
Regressions on Contribution of Migration Plus Reclassification
to Urban Population Growth
46 Developing Countries, 1960-1990

	Coefficient (T-statistic)	Coefficient (T-statistic)	Coefficient (T-statistic)	Coefficient (T-statistic)	Coefficient (T-statistic)	Coefficient (T-statistic)
Intercept	.517 (10.73)	.568 (10.93)	.542 (8.21)	.651 (6.45)	.354 (12.46)	.765 (5.16)
Fraction urban		-.464 (1.93)	-.792 (2.56)	-.992 (2.55)		-1.03 (1.17)
Fraction urban squared		.064 (0.25)	.247 (0.74)	.297 (0.76)		.447 (0.57)
GDP per capita	-.059 (1.88)		.090 (2.04)	.078 (1.80)		-.022 (0.39)
GDP per capita squared	.002 (0.42)		-.011 (2.32)	-.007 (1.57)		.001 (0.14)
1960 dummy			-.002 (0.06)	.024 (0.66)		-.071 (1.13)
1970 dummy			-.008 (0.23)	.010 (0.31)		-.002 (0.05)
Central America & Caribbean				-.092 (2.35)	-.014 (0.37)	
South Asia				-.153 (2.00)	.099 (1.59)	
East and SE Asia				.032 (0.65)	.189 (5.09)	
Sub-Saharan Africa				-.114 (2.17)	.092 (1.67)	
N. Africa and Middle East				-.053 (1.36)	.003 (0.74)	
No. country dummies	0	0	0	0	0	46
No. Observations	85	85	85	85	85	85
Adjusted R-Sq.	0.19	0.30	0.29	0.37	0.16	0.49
F-statistic	10.99	18.91	6.80	5.48	4.13	2.37

II. Country Specific Studies

More detailed studies and surveys of migration exist for a few countries and some of these are examined in this section under two main headings: part A summarizes some of the existing studies of migration patterns in individual countries then B presents some fresh evidence on five additional countries.

II.a Prior Studies

China

Four broad phases of internal migration have been identified in the first thirty years of China's post-revolution internal migration.⁹

1950-57: Internal migration "was characterized by major swings in the direction of migration streams, brought about mainly by the campaign of economic rehabilitation ... and the subsequent implementation of the first five-year plan." (Shixun and Xian, 1992, p. 534).

1958-67: "was characterized by a much lower level of migratory activity and a dominance of (urban) outmigration... a large number of urban residents, many of them unemployed youths, were organized to move out of the urban districts, as a consequence of the serious economic setback that resulted from the Great Leap Forward and of the campaign of mobilizing urban youths to support frontier areas". (*Ibid.*, p535).

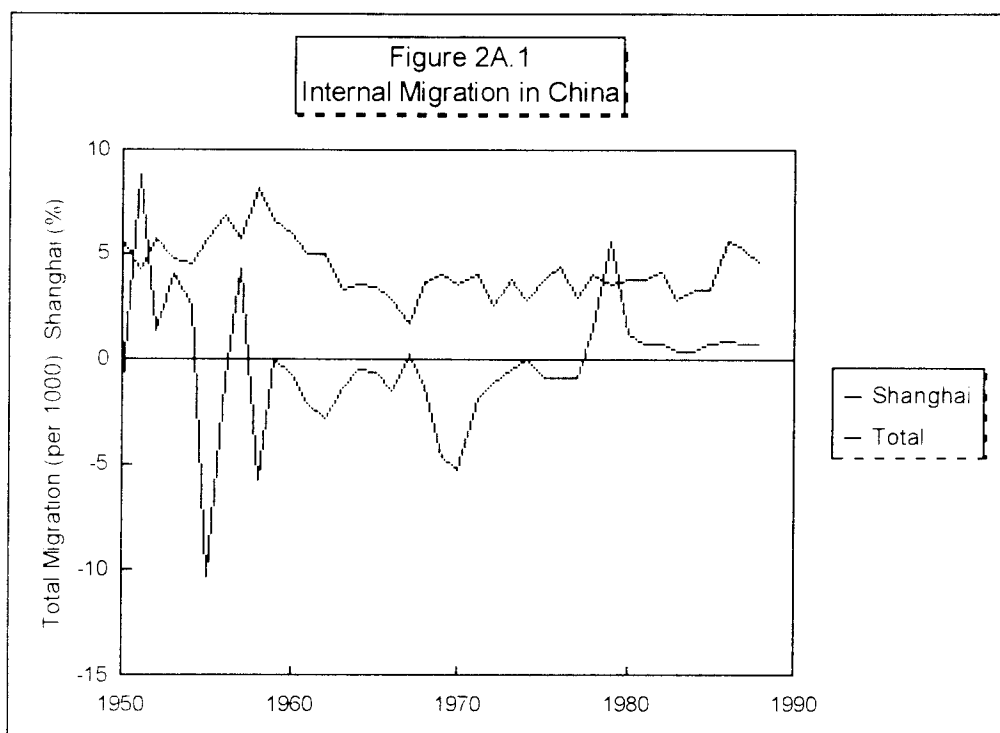
1968-77: During the Cultural Revolution huge numbers of youths were sent to rural areas.

1978-88: The first few years of the decade witnessed a large return migration of people displaced from urban areas during the Cultural Revolution

For much of this period internal migration was controlled by the state, largely through a system of registration. Movement from one province to another requires permission from both provinces and, at least until the 1980's, access to employment, state benefits and food rations required local registration. Figure 2A.1 graphs the net movement of registered migrants arriving in Shanghai city as a percent of Shanghai's population. (Source: Shixun and Xian, 1992). The four phases discussed above may be seen clearly from these data. However, the controls over urban migration began to break down during the 1980's as employers became freer to hire unregistered workers and food

⁹ See the reference to Zhang et al. (1989) in Shixun and Xian (1992).

rationing gave way to the market. As a result, a rise occurred in the 'floating population' of unregistered urban migrants. Figure 2A.1 therefore graphs also the total number of inter-provincial adult migrants per thousand adults based on life-time migration histories.¹⁰ The rise in migration at the time of the Great Leap Forward and Cultural Revolution may be seen. However, in contrast to registered movements there is also a clear rise in the extent of internal migration in the late 1980's.



Comparisons over time of the rate of urbanization in China are obscured by differences between registered and unregistered migrants. (See Table 2A.1). However, if the floating population of urban China was tiny in 1979 then the extent of actual urban transition by 1988 was apparently dramatic. The implied percentage point increase in urbanization was among the highest in the world.¹¹ As a result, as noted in connection with the regressions in Table 1.3, net migration to urban areas plus

10. These data are derived from Liang and White (1996) Table 2.

11. The change in urbanization in China during the 1980s was exceeded only in Korea, Tanzania and Turkey among the 46 developing countries for which data are available.

reclassification of urban areas has been exceptionally high in China, by international standards, given China's income level and extent of existing urbanization. As Chang (1994, p.602) notes, "the effect of government reclassification of urban areas *[in China]* was particularly important during the 1980s. ... the total number of cities had grown from 173 in 1953 to 236 in 1982 to 464 in 1990.. 2664 towns in 1982 and 11,392 towns in 1990". Nonetheless it seems probable that migration has also been a significant contributing factor to urban population growth in the 1980's. Indeed, Shen and Spence (1996) project that urban migration is likely to be sufficiently important to transform the majority of China's population into urban dwellers just after 2010 and for urbanization to exceed two-thirds twenty years later. The UN (1991) projections place these transitions even earlier.¹²

Table 2A.1
Degree of Urbanization in China

Year	Percent Urban	Basis	Source
1979	19.0	Registered	Chang (1994)
1982	20.6	Registered	UN Demographic Yearbook 1988
1988	30.4	De Facto	Shen and Spence (1996)
1990	26.4	Registered	Chang (1994)

The 1988 Fertility and Birth Control Survey contains data on interprovincial moves of individuals during 1983-88. Liang and White (1997) show that migration rates according to these data are far higher than shown by the 1990 Census which omits temporary (unregistered) migrants. For instance the in-migration rate calculated by Liang and White for Beijing Province is about 73 percent higher than the 1990 census rate.¹³ From the 1988 survey, Liang and White regress (in logistic form)

¹² UN (1991). See also Shen (1991, 1993).

¹³ In contrast, Xiaohe, Findlay and Watson (1995) assume that the rural and urban labor markets are entirely segmented noting that "the restrictions on labour mobility are so tight that Harris-Todaro types of queues are not present." (*Ibid.*, p. 575. See also Anderson, 1990).

whether or not each rural resident departed for another province, between 1983 and 1988, on characteristics of the individual (age, education, gender and marital status) and characteristics of the province of origin (population, per capita industrial output, literacy rate, amount of foreign investment and the percent of enterprises which are rural). A conditional logit model of choice of destination province among migrants is also presented. In this latter model, the explanatory variables include the same provincial measures as for the model of out-migration, though in this instance these measures are also allowed to interact with some of the individual characteristics (which do not appear separately)

Liang and White's results on choice of destination among migrants indicate that provinces with higher industrial output per capita attract less migrants and are particularly unlikely to attract temporary migrants. This is a surprising result. Shanghai and Beijing provinces have the highest industrial output per capita and are the two most popular provinces of destination among migrants. However, it seems this pattern does not hold more generally in the data. This may, in part be a result of the fact that Beijing and Shanghai also possess among the highest levels of foreign owned capital and foreign investment is found by Liang and White to attract migrants (and especially temporary migrants who may be less concerned about registration issues). Thus Guangdong, which had by far the highest concentration of foreign capital in 1990, was also among the most common choices for migrants. In contrast, Tianjing province had high industrial output, though comparatively little foreign investment, and attracted relatively few migrants. It seems that industrial production (much of which is relatively capital intensive in the state sector) is not sufficient to attract migrants; the nature of that production matters also and foreign investments seem to have been associated with more attractive alternatives.

Liang and White find that provinces with high proportions of employment in rural enterprises are more likely to be chosen by migrants as a destination (especially the less well educated, temporary migrants) but also have higher chances of out-migration of rural dwellers. The authors note that the latter result is surprising. At least three possible interpretations might be suggested for the observed positive association between out-migration and extent of rural enterprise development. First, the additional wealth generated by the rural enterprises may render (costly)out-migration feasible.

Second, rural enterprises may be established in areas where out-migration is already common, perhaps precisely as a matter of policy design. Third, Benziger (1996, pp.561-2) finds “that access to cities in Hebei is strongly related to rural productivity and factor use, even as early as 1980... Counties with more industry were able to build on this base to pull further ahead of less developed areas.” Since migration to urban areas is normally much more common from villages close to town, Liang and White’s observed positive association between rural enterprise development and out-migration could therefore reflect a spurious effect of proximity to town. It may therefore be premature to conclude that “This gives some initial indication that the government policy of preventing peasants from migrating by encouraging the establishment of rural enterprises does not seem to work.” (Liang and White, 1997, p.331).

India

The preponderance of rural-rural migration in India has already been noted in connection with Figure 1.1. This is examined more closely in Table 2A.2, which is derived from data reported in Economic Commission for Asia and the Pacific (ECAP, 1995). These data refer to the 1981 census on place of previous residence among migrants with duration of residence below five years.

In total about 50 million people changed their place of residence during the five years prior to the 1981 Census, or approximately 7.1 percent of the population. 55.5 percent of the migrants in Table 2A.2 moved from one rural place to another and of these nearly 72 percent (40 percent of all migrants) moved from one rural place to another rural place within the same district. 9.92 million people (1.4 percent of the population) moved from a rural place to an urban area within the five years prior to the 1981 census. However, 4.38 million people moved from an urban to rural area in the same period, leaving a net urban migration of only about 0.8 percent of the population. Of those moving into urban areas 45 percent moved only within their district of origin, indicating the importance of proximity to town and that commuting does not entirely displace migration even for nearby residents. Similarly, nearly 48 percent of urban-rural migrants moved only within the same district.

Nearly 59 percent of all migrants and two-thirds of all rural-rural migrants were females. On the other hand, a slight majority of rural-urban migrants (nearly 54 percent) were male while just over half of urban-rural migrants were female. This suggests that men may be more likely to move to town but also less likely to return to the rural areas.

Table 2A.2
Volume and Gender of Migration Streams
India: 1981 Census

	Millions of Migrants				
	Rural-Rural	Rural-Urban	Urban-Urban	Urban-Rural	Total
Inter-State	2.00	2.08	2.12	0.74	6.94
Inter-District	5.80	3.34	3.69	1.54	14.37
Intra-District	19.97	4.50	2.12	2.10	28.69
Total	27.77	9.92	7.93	4.38	50.00
	Percent Female				
	Rural-Rural	Rural-Urban	Urban-Urban	Urban-Rural	Total
Inter-State	54.00	40.38	48.58	45.95	47.41
Inter-District	63.45	46.71	50.68	51.95	55.05
Intra-District	69.00	49.11	51.89	55.71	63.65
Total	66.76	46.47	50.44	52.74	58.92

Source: Economic Commission for Asia and the Pacific (1995).

Do the low rates of net rural-urban migration imply that migration is relatively unimportant for urban population growth in India? Table 2A.3 reproduces some estimates of the role of migration in India's urban growth reported in ECAP (1995). The fraction of urban growth attributed to net migration plus urban reclassification is 39%, 54% and 40% in the three decades from 1961 to 1991 respectively. The figure for the 1980's places India about in the middle of the countries covered in Table 1.1. However, the censuses of India contain direct information on migration, and places that are newly designated as towns can also be identified in the census. Together these make possible a more detailed breakdown of the sources of urban growth for India than for most developing countries. In each of

the three decades the newly designated towns contributed around 20 percent of urban population growth. During the 1960's and 1970's net migration alone contributed just under 19 percent of urban population growth. Separate estimates of the role of migration alone are not yet available for the 1980's. Migration plus reclassification of existing towns' boundaries contributed some 21 percent of urban growth in the 1980's, though how much of this is attributable to migration is difficult to judge, given the large jumps in the role of boundary redefinition in prior decades.

Table 2A.3
Source of Increase in Urban Population
India: 1961-91

	Increase in Urban Population (Millions)		
	1961-71	1971-81	1981-91
Natural Increase	18.54	22.56	33.87
New Towns	5.75	10.29	10.64
Change in Urban Boundaries	0.26	7.32	11.97
Net Migration	5.65	9.28	

Source: Economic Commission for Asia and the Pacific (1995).

The ECAP (1995) report also reproduces results from the 1983 National Sample Survey on poverty incidence among urban households and migrant households in urban areas. These estimates are reproduced here in Table 2A.4. Migrant households have a slightly higher chance of being in extreme poverty -- with monthly consumption per capita below 15 Rupees — than do other urban households, though more recently arrived migrants are actually closer to the average urban household in this regard. Indeed, the fraction of migrant households (whether recently arrived or not) below the official poverty line of 175 Rs. is lower than the fraction of all urban households in poverty. On the other hand, more than half of migrant households reported consumption in excess of Rs. 200 whereas only 32 percent of all urban households (including migrants) fell in this range. In sum, this suggests that a tiny group of urban migrant households fare extremely poorly, but the average migrant household enjoys a higher living standard than non-migrants, particularly after some time in town. However, it

should be recalled that these comparisons do not adjust for differences in education, age or other attributes of migrants vis-a-vis non-migrants.

Table 2A.4
Expenditure Classes of Urban and Urban Migrant Households
India: 1983

Monthly per capita expenditure (Rs.)	All Urban Households	Migrant Households	Migrants with Residence < 5 Years
0-15	1.8	3.1	2.1
50-117.5	32.4	16.5	25.8
117.5-200	33.8	27.4	33.6
200-300	17.1	23.7	21.0
300+	14.8	29.2	17.5
Total	100.0	100.0	100.0

Source: Economic Commission for Asia and the Pacific (1995).

Thailand

In the five years prior to the decennial censuses in Thailand the fraction of population (ages 5 and over) who moved place of residence fell slightly from 11.6 percent during 1965-70 to 8.0 percent by 1985-90. (See Table 2A.5 which is based on census data reported in ECAP, 1995). These data indicate that the incidence of rural-rural migration fell particularly sharply from nearly 63 percent of migrants during 1965-70 to 41 percent of migrants during 1985-90 (i.e. from 7.3 to 3.2 percent of the population over age 5). Yet rural-rural migration has clearly remained a common practice in Thailand. (See Table 1.1). On the other hand, the rate of gross rural urban migration increased, both as a fraction of migrants and relative to the total population, while net rural-urban migration (apparently)¹⁴ decreased relative to total population.

14. Note however, that this picture is obscured by the high fraction of migrants with unknown origin.

Table 2A.5
Migration and Migration Streams in Thailand

	1965-70	1975-80	1985-90
	Migrants As Percent of Population		
Migrants	11.6	7.6	8.0
	Migration Streams as Percent of Migrants		
Rural-Rural	62.6	52.0	40.9
Urban-Rural	5.4	9.4	12.6
Unknown-Rural	9.0	3.8	10.5
Urban-Urban	8.9	17.2	13.5
Rural-Urban	10.4	14.3	18.3
Unknown-Urban	3.6	3.3	4.1
	100.0	100.0	100.0

Source: Economic Commission for Asia and the Pacific (1995).

The disparity between change in gross and net rural-urban migration raises questions about the patterns of return migration. Moreover, the census data omit temporary and seasonal migrants. The National Migration Survey (NMS) conducted in 1992¹⁵ presents more comprehensive measures, including information on temporary and seasonal migration. In particular, the “NMS recorded 25 per cent moving for more than one month in the five-year period before the survey in 1992, compared to the 8 per cent enumerated by the census as changing their place of residence. Much of this difference is due to inclusion of movements within the urban areas into the migration definition by the NMS ... However, another reason for the differences is the high levels of temporary movement in Thailand” (ECAP 1995 p. 187). This latter feature is brought out in Table 2A.6.

15. The survey was conducted by the Institute for Population and Social Research at Mahidol University.

Table 2A.6
Migrant Types by Region of Current Residence: Thailand 1992

	Migrants by Region of Current Residence (%)					
	Total	Bangkok	Central	North	North East	South
Single Move	64.1	82.4	76.6	54.7	45.9	79.9
Seasonal	18.8	1.9	6.3	20.4	39.3	5.0
Repeat	17.1	15.6	17.1	24.9	14.8	15.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Economic Commission for Asia and the Pacific (1995). Derived from NMS 1992.

Nearly 19 percent of all migrants in the five years prior to the NMS in 1992 are reported to be seasonal migrants. However, seasonal migration into Bangkok does not show up as very important at all. Rather it is in the North and North East regions that seasonal migration is very common relative to other forms of migration, amounting to some 20 and 39 percent of all migrants respectively (though it is not possible to tell how large this is in relation to the population of these regions from the available results). It is also worth noting from Table 2A.6 that 17 percent of all migrants are estimated to be repeat movers (in addition to the 19 percent of seasonal migrants).

II.b New Evidence

In this section, data are examined from six sample surveys in five countries — Ghana, Pakistan, Russia, South Africa and Vietnam.¹⁶

Life Time Migration

Table 2B.1 presents data on lifetime migration patterns among adults (ages 15 and over) from five of the country surveys.¹⁷ Consider first people observed residing in urban areas. The fraction of these populations born in the same (urban) place ranges from 56 percent in Vietnam and Pakistan to 45 percent in Ghana and only 40 percent in Russia. In other words, in all four contexts more than 40 percent of urban adults are migrants who have moved into their urban area. In each context a substantial portion of the urban residents were born in rural areas — around 30 percent in Russia, 29 percent in Vietnam, 20 percent in Pakistan and 18 percent in Ghana. Despite the controls which exist on migration in Vietnam and which have existed in Russia, rural-urban migration has clearly been significant. However, a smaller fraction of the adult populations of the larger towns and cities reports being born in a rural area than do the populations of the smaller towns (with the exception of Ghana). This gap is particularly large in Russia where only 15 percent of adults in the metropolitan areas (Moscow and St Petersburg) were born in rural areas whereas more than 35 percent of adults in other urban areas of Russia were born in rural areas according to the 1992 survey.¹⁸ In contrast the fraction of adults born abroad (presumably largely immigrants) is higher in the large towns than in small towns -- nearly 14 percent of adults living in Accra, for example, were born outside of Ghana and more than 17 percent of adults in Pakistan's cities were born abroad (many, no doubt, born in India prior to partition). On the other hand the 1995 survey of Russia indicates a slightly higher fraction of the

16. The data sources are:
 Ghana Living Standards Survey 1988-89
 Pakistan Integrated Household Survey 1991
 Russia Living Standards Survey 1992 and 1995
 South Africa October Household Survey 1994
 Vietnam Living Standards Survey 1992-93.

17. The data for South Africa do not permit easy identification of whether the place of birth is rural or urban.

18. The differences in migration profiles of metropolitan residents between the 1992 and 1995 surveys seem to reflect some differences in sample coverage of the metropolitan areas rather than a major real change in only three years.

population in towns than in metropolitan areas who were born in other republics of the former Soviet Union. In addition, most of the lifetime urban-urban migrants now living in large urban areas were born in other large urban areas rather than small towns (though in the case of Ghana the split is quite even).

Table 2B.1
Lifetime Migration Patterns:
Ghana, Pakistan, Russia and Vietnam

Ghana

Place of Birth	Current Residence				
	Rural	Urban Areas			
		Total	Semi-Urban	Urban	Accra
Same Place	47.9	45.5	54.6	42.5	32.9
City	2.0	4.1	2.8	4.6	5.8
Large Town	2.9	6.9	3.4	7.4	13.4
Medium Town	9.5	9.6	7.4	11.2	10.5
Small Town	9.6	9.0	8.1	9.8	8.9
Large Village	10.5	8.9	8.4	9.8	7.7
Small Village	13.4	9.5	9.9	7.5	13.7
Abroad	4.2	6.5	5.3	7.2	7.1
Other	0.1	0.0	0.0	0.1	0.0
Total	100.0	100.0	100.0	100.0	100.0

Pakistan

Place of Birth	Current Residence			
	Rural	Urban Areas		
		Total	Town	City
Same Place	68.6	56.7	56.6	56.8
City	1.1	4.6	4.2	5.0
Town	0.8	4.7	6.0	3.6
Rural	23.8	19.7	22.6	17.2
Abroad	5.7	14.2	10.5	17.3
Other	0.1	0.1	0.1	0.1
Total	100.0	100.0	100.0	100.0

Russia (1992)

Place of Birth	Current Residence			
	Rural	Urban Areas		
		Total	Towns	Metropolitan
Same Place	44.1	39.7	36.5	59.2
City	10.3	21.8	22.1	20.2
Town	4.3	5.2	5.4	4.0
Rural	40.6	32.5	35.3	15.5
Other	0.8	0.8	0.7	1.1
Total	100.0	100.0	100.0	100.0

Russia (1995)

Place of Birth	Current Residence			
	Rural	Urban Areas		
		Total	Towns	Metropolitan
Same Place	39.0	38.9	32.1	39.4
Russian City	7.7	13.8	14.6	13.8
Russian Town	4.3	6.8	5.8	6.9
Rural Russia	37.1	28.9	35.4	28.4
Other Republic	8.1	7.8	9.5	7.7
Abroad	0.2	0.4	0.6	0.4
Other	3.6	3.4	2.0	3.4
Total	100.0	100.0	100.0	100.0

Vietnam

Place of Birth	Current Residence			
	Rural	Urban Areas		
		Total	Small Town	Large Towns
Same Place	83.3	56.5	55.8	57.2
City	1.2	7.7	3.9	12.0
Large Town	1.1	3.3	3.1	3.5
Small Town	0.6	1.9	2.7	1.0
Rural	13.8	28.8	33.5	23.5
Abroad	0.2	1.8	1.0	2.8
Other	0.2	0.3	0.5	0.1
Total	100.0	100.0	100.0	100.0

In Ghana and Russia, less than half of all rural resident adults were born in the same place that they now live. In contrast, more than 83 percent of Vietnam's and 68 percent of Pakistan's village adults report being born in the village where they now live. This does not rule out the possibility that some of these villagers may be circular migrants, who have lived elsewhere and returned home. However, the sedentary nature of Vietnam's rural population is striking and may well reflect the limitations which have been imposed on movements. In Pakistan and Vietnam the proportions of rural residents born in urban areas are tiny.¹⁹ However, in Russia about 10 percent of rural adults report being born in a city and in Ghana more than 20 percent of rural adults report being born in an urban area, though most of these are births in small and medium size towns.

One Year migration flow in South Africa

The South Africa October Household Survey asks district of birth but does not report whether the person was born in a rural or urban area. Instead, Table 2B.2 presents information on migration flows from October 1993 to October 1994. Of the adults who had moved into urban areas of South Africa within this one year period 67 percent moved from other urban areas and a further 14 percent from peri-urban areas. In other words the extent of rural-urban migration is exceptionally low, even though overt restrictions on these movements had ceased to be effective some years before. The fraction of migrants who had moved into rural areas from urban and peri-urban areas within the same period is also fairly high, though no higher than the fraction of lifetime rural migrants born in urban areas of Ghana, for example. South Africa also exhibits the same phenomenon noted in conjunction within both Pakistan and Ghana, that immigrants tend to settle in the metropolitan areas.²⁰

19. This is despite a growing tendency for births to rural parents occurring in urban hospitals and hence showing up as urban-rural migration.

20. Not only are immigrants a higher fraction of migrants in metropolitan areas than elsewhere in South Africa but most immigrants in the sample are found in metropolitan areas, though the total number of observations among whom this pattern is noted is quite small.

Table 2B.2
Migration Flows: South Africa October 1993 to October 1994

	Current Residence			
	Rural	Urban Areas		
		Total	Town	Metropolis
Migrants as Percent of Population				
Migrants	1.7	2.7	2.6	2.7
Migrants By Last Residence (%)				
Urban	30.9	67.4	67.5	67.3
Peri-Urban	15.2	14.2	10.2	17.0
Rural	51.7	15.0	21.4	10.7
Abroad	2.1	3.4	0.9	5.0
Total	100.0	100.0	100.0	100.0

Of course within a single year large numbers of migrants are not observed to move. Thus, in Table 2B.2 only 1.7 percent of rural adult residents had moved into the area in the last year and even in urban areas the fraction was only 2.7 percent. Are these proportions small? The answer is no. The sample average for South Africa shows 2.3 percent of adults moving from place to place within a year. A very simple extension would suggest that five times as many would relocate within five years – or approximately 11.4 percent of adults.²¹ In comparison it has already been noted that 8 percent of Thailand's population is estimated to have moved in the five years from 1985-90 (omitting seasonal moves and moves within urban areas) and 7 percent of India's population moved from 1976-1981. On the other hand, some countries do report far higher five year migration rates; the 1990 and 1995 censuses of Korea each show more than 20 percent of the population moving place of residence within the previous five years, for example, in this rapidly growing economy.²²

Once one moves to lifetime migration, the proportion of population moving is of course much higher

21. Given the potential role of repeat and return migrations this simple calculation may be too high.

22. Source: Population Division, Department of Economic and Social Affairs of the UN Secretariat, 1998 draft report, "Population Distribution, Urbanization and Internal Migration".

still. For instance, from the survey information in Table 2B.1 it is estimated that 23 percent of Vietnamese adults are living in a place other than where they were born, 35 percent of Pakistani adults and 53 percent of adults in Ghana. Migrating at least once during life is thus common and in some countries it is very common.

III. Salient Features of Internal Migration Patterns

Despite the rather disparate nature of the information gleaned in the previous two sections, some salient features do begin to emerge from the data.

- Changing place of residence at least once is quite common in a wide range of countries. Cross country comparisons of migration are made difficult by lack of comparable data. However, four recent LSMS enable comparisons of place to place movement of adults since birth. The fraction of adults who had moved were 61% in Russia (1995), 53 % in Ghana (1988), 35 % in Pakistan (1991) and 23 % in Vietnam (1993). Census data show 8 percent of Thailand's population moved in the five years from 1985-90 and 7 percent of India's population moved from 1976-1981
- By no means all internal migrants move from rural to urban areas. In some countries, (e.g. India and Ethiopia) intra-rural movement is the most common mode, while in others (Republic of Korea and Peru) inter-urban movement dominates.
- Mobility of rural populations varies considerably. In Ghana and Russia, less than half of all rural resident adults were born in the same place that they now live. In contrast, more than 83 percent of Vietnam's and 68 percent of Pakistan's village adults report being born in the village where they now live
- Seasonal and temporary migration within the rural sector adds significantly to the relative importance of rural-rural movements in some contexts (such as northern Thailand).
- Migrants are much more likely to move shorter distances. In India, much of the internal migration is therefore within a district. Even rural-urban migrants often move residence over a short distance suggesting that commuting is not always an attractive or viable alternative.
- The fraction of population living in urban areas is significantly higher among countries with higher incomes, though the rise in degree of urbanization tapers off at higher incomes. Even given the level of GDP per capita, the percent of population in urban areas rose significantly over time at the rate of just over 3.5 percentage points per decade from 1960 to 1990.
- Among the 26 developing countries for which data exist, migration plus reclassification of

rural areas as urban areas contributed about 39 percent of urban population growth during the 1980s.

- The 'residual' method applied to intercensal data is incapable of distinguishing the role of net urban migration from that of urban reclassification in total urban population growth. More detailed data for India suggest that migration alone contributed about 19 percent of urban population growth from 1960-1980 while reclassification contributed a further 28 percent (20 percent from new towns alone). Similarly, in China where migration plus reclassification has played an important role in total urban population growth, the number of towns more than quadrupled from 1982 to 1990.
- However, a substantial fraction of adults residing in urban areas report having been born in rural areas -- 30 percent in Russia, 29 percent in Vietnam, 20 percent in Pakistan and 18 percent in Ghana. A smaller fraction of the adults living in larger urban areas report being born in a rural area than do the adult populations of the smaller towns
- The role of migration plus reclassification in urban population growth varies considerably across countries (with a coefficient of variation of 0.4 in our sample of 26 developing countries during the 1980s).
- In a broader sample of 46 developing countries from 1960 to 1990, the average contribution of migration plus reclassification to urban population growth is highest in East and South East Asia, followed by South Asia and Sub-Saharan Africa. North Africa and the Middle East, South and Central America are quite similar and have the lowest average contributions.
- Countries in which a large fraction of the population already live in urban areas exhibit a significantly smaller role for migration and reclassification in contributing to urban population growth. A diminishing role for rural-urban migration is, of course, to be expected as the rural population base dwindles
- The role of migration plus reclassification in urban population growth is also lower among the higher income developing countries.
- However the negative association with income levels is largely associated with the larger extent of urbanization in the higher income countries. Once the degree of urbanization is controlled for, the pattern with respect to income levels alters. At lower income levels the role of migration and reclassification in urban population growth rises with income, but beyond a GDP per capita of about 4000 (1985) US dollars this association reverses.
- Even controlling for the degree of urbanization and income levels, considerable regional variation exists in the contribution of migration and reclassification to urbanization. This role is highest in East Asia and South America, followed by North Africa and the Middle East, then Central America and the Caribbean, Sub-Saharan Africa and finally South Asia with the

lowest contribution. These regional differences may reflect many components (including geography, fertility, and development strategies).

- Despite the controls which have existed on migration in China, Russia and Vietnam rural-urban migration has been substantial. At least in China, this has been particularly true as market reforms have limited the efficacy of some of the migration controls.
- Our observations suggest that most of the lifetime urban-urban migrants living in large urban areas were born in other large urban areas, rather than small towns.
- In most countries, immigrants tend to concentrate in urban areas and the fraction of the adult population who have immigrated is typically higher in large towns than in small towns.

B. Internal Migration in Developing Economies: A Review of Recent Contributions

In Lucas (1997) I surveyed the salient literature on the economics of internal migration in developing countries which had appeared by 1992. Rather than repeat myself, in this section I therefore focus upon new contributions which have appeared since 1992, under three main headings: on the causes of internal migration, the consequences of internal migration, and rural-urban links through family strategies toward migration.

I. On the Causes of Internal Migration

A substantial literature has continued to appear, in the last few years, on the causes of migration. Discussion of these contributions is grouped under seven headings in this section:

- Employment and earnings
- Capital markets
- Social networks, information and altruism
- Distance
- Amenities and fiscal factors
- Intent to return or move on
- Violence and civil liberties

The section closes with a summing up on what seems to be known about the causes of migration both from this literature of the last half-dozen years and from prior contributions.

I. Employment and Earnings

Not surprisingly, much of the focus has fallen upon the role of employment and earnings opportunities in various locations. In the well-known Harris-Todaro framework, rural-to-urban migration is perceived as a process of job search; better paid urban jobs are assumed to be more easily found by urban dwellers. Migrants are attracted by the differential in pay between the rural and urban sectors but also discouraged from moving as the urban unemployment rate rises. The empirical literature of the 1970's and 1980's had already clearly established a tendency to move toward places offering higher pay and perhaps toward places with better chances of finding a job. Nonetheless these perceptions have continued to be refined and buttressed in several directions.

Unemployment as a cause and deterrent to migration.

In the Harris-Todaro model rural unemployment is assumed to be absent. In fact, the rural unemployment rate may even exceed the urban rate in some developing countries.²³ The Harris-Todaro framework may then be generalized to allow for the possibility that rural unemployment acts as a push factor while urban unemployment acts as a deterrent to relocation to urban areas for job search.

In the context of the industrialized nations — and particularly in the US — this dual role for unemployment has received considerable attention. Herzog, Schlottmann and Boehm (1993) survey the resultant empirical findings. They report that individuals who are already unemployed are more likely to migrate, according to studies which incorporate an unemployment dummy variable into studies of individual migration outcomes. On the other hand, the evidence as to whether individuals are more likely to migrate from regions with high unemployment rates is mixed. Thus, Faini et al (1997) note that migration from South to North Italy has slowed despite a rising gap in unemployment rates between the two regions. Indeed, Faini et al. find that almost forty percent of the unemployed in Italy report willingness to take a job only in their own town, which the authors attribute partly to the role of local family and friends in finding a new job and partly to the difficulties of joint job relocation among couples.

Herzog, Schlottmann and Boehm also note that whether the chances of re-employment are higher among migrants than among stayers is unclear from US evidence. One reason suggested for this ambiguity is that migrants may be less familiar with their new situation than are unemployed persons who elect to remain at home. This theme is taken up by Gibbs (1994) who finds that the duration of job search is significantly shorter among US migrants moving to areas with labor market characteristics similar to those of their origin area.

One of the few sources of information on job search among migrants in the developing countries is the specialized survey of migrant, male, heads of household, conducted in Delhi during 1975-6 by

23. On the South African case see Fallon and Lucas (1998).

Biswajit Bannerjee. In a series of studies, based on these data, Bannerjee has shown, *inter alia*, that only 12% were initially unemployed for more than 30 days on arrival in Delhi, 17% had a prearranged job before arriving, but 27% report having no prior information about employment opportunities before arriving.²⁴ Thus, in this context, by no means all of the rural-urban migrants arrive to conduct a job search. However, Bannerjee finds that the chances of possessing a pre-arranged job before arrival is lower among younger adults, among those men who have less education, and among those aspiring to a blue-collar job. Thus, Harris and Todaro's vision of migration to seek employment appears to have greater validity for young, low-skilled men, at least in this one specific context.

More recently, Banerjee and Bucci (1994, 1995) have returned to the same data set to explore the issue of on-the-search among migrants in Delhi, subsequent to finding a first job. The importance of this issue has been emphasized by Fields (1989) who notes that initial unemployment may be brief for migrants if they accept interim employment while continuing to search. About 29 percent of Banerjee and Bucci's sample report explicit on-the-job-search subsequent to entering urban employment. This average combines 39 percent of those with informal wage work and 23 percent of formal sector entrants who report continued on-the-job-search. Moreover, the propensity to continue on-the-job-search is found to be greater among migrants from the rural areas than among those moving from other urban areas. Taken together with Banerjee's earlier findings this lends considerable support to the idea that rural-urban migration is motivated substantially to permit job search, either while initially unemployed or after accepting an interim post.

An opposing view is expressed by Larson and Mundlak (1997) who use cross-country data to analyze off-farm migration in relation to income in the agricultural and non-agricultural sectors. A cleverly specified, non-linear form of the estimated function permits a test of the hypothesis that migration between these sectors ceases at the point where incomes are equated. Having failed to reject this null hypothesis, the authors conclude that "uncertainty does not seem to have an important quantitative effect on the final outcome, nor do market imperfections" (Larson and Mundlak, 1997, p.296). In

24. For references see Lucas (1997).

other words this result is inconsistent with the Todaro vision that migration may cease, despite a persistent wage gap, if the chances of obtaining employment are lower in the high wage setting. However, some reservation must be expressed about the data used for the Larson-Mundlak study. Lacking international observations on migration out of the agricultural areas, these measures are constructed from ILO data on employment in agriculture and in non-agricultural activities under alternative assumptions about the natural growth rates of the agricultural and non-agricultural labor forces. Differences between reported employment and natural expansion are attributed to migration. Of necessity, this construction assumes no unemployment in either sector. It also assumes that switching employment to the non-agricultural sector requires migration, though in some rural areas substantial employment opportunities exist outside of agriculture (either through local, rural non-agricultural jobs or through commuting. See Lucas and Verry, 1996). The measure of incomes adopted by Larson and Mundlak may also be disputed. They correctly point out that some components of non-wage income are relevant to the migration decision, for returns to capital may also differ by location. However, whether the ratio of average products of labor in the two sectors then offers an appropriate measure of alternative incomes could be disputed. Finally, since the income gaps thus proxied in their data prove to be very large indeed, estimating the shape of the migration response function in the neighborhood of a zero income gap requires very tenuous projections.

The rural-urban earnings gap.

There seems widespread agreement that the income and earnings gaps between the average rural and average urban resident are large in most developing countries. One implication is that the incidence of poverty is generally higher in rural areas. (Lipton and Ravallion, 1995). However a number of aspects of the rural-urban earnings differential remain unresolved and the subject of continuing research.

Several studies point to a decline in real public sector pay in Africa during the 1980's. This presumably narrowed the rural-urban gap and at least some observers suggest that the gap may have been reversed for a few countries. "Jamal and Weeks (1992) argue that rural differentials were exaggerated in the [1970's] and that for some African countries the impoverishment of the urban

work force reduced the urban wages below the earnings of farmers. Even if this overstates the case, it is clear that by the 1990's the problem in many countries was not that public-sector pay was too high, but that it was too low for the state effectively to provide law-and-order, property protection, and related public activities." (Freeman, 1993, p.404).

For potential rural-to-urban migrants, what matters is not so much the gap in average earnings between town and countryside but how much more the migrant could actually hope to earn in town. One important distinction between these two concepts is that the average earnings in town include those of native urban dwellers. Can migrants reasonably aspire to receive similar pay to observationally equivalent natives? Vijverberg and Zeager (1994) compare earnings profiles of rural-to-urban migrants with those of urban natives, among regular wage employees in seven urban areas of Tanzania in 1971. Separate earnings profiles for the private and public sectors are estimated for the two population groups, with correction for endogenous switching between sectors. Rural-to-urban migrants are found to receive lower initial earnings in both sectors as compared to urban natives. But the wage gap is eliminated within about ten years, after which migrants' earnings are higher than those of the urban natives. These findings support similar results for US immigrants and for rural-to-urban migrants in the very few prior studies of developing countries.²⁵

One interpretation that might be placed on a finding that migrants' earnings rise more quickly over time than do those of native workers is suggested by Galor and Stark (1991) who hypothesize that migrants work harder than natives to achieve a certain level of target savings before returning to their lower wage origin. On the other hand, as Vijverberg and Zeager point out, if those migrants who are more likely to return home are comparatively well off at origin then this may diminish the incentive to work hard before these migrants return. Perhaps as a result, Vijverberg and Zeager find mixed effects of access to rural land (which is interpreted as likely to encourage return migration) on migrants' urban earnings. It should also be noted that observationally equivalent migrants and natives (identical in terms of a measured vector of characteristics) may not be equivalent in unmeasured ways.

25. For references to the latter, see Lucas (1997). Daneshvary et al. (1992) adopt an earnings frontier approach to examine assimilation of US immigrants into the labor market and provide references on related US material.

A steeper earnings profile for migrants could then reflect employer learning about the hidden talents of some migrants and the return migration of the less successful migrants. To date, this distinction does not appear to have been disentangled successfully.

However, an interesting insight is offered by Yang (1994), based on a survey of migrants in Bangkok in 1977. Yang poses a simple question: if those migrants who, in 1977, expressed an intent to return home actually returned before an imaginary future survey how biased would perceptions be about the total group of migrants in that hypothetical future survey? Unfortunately Yang's study does not cover bias with respect to earnings, but it does include labor force participation as well as such measures as home ownership. The result is that the imputed bias is so small as to be negligible — it seems that (intended) return migrants are not very differentiated in terms of the measures reviewed by Yang.

At a relatively early stage, the Harris-Todaro model was extended to incorporate a low paying urban informal sector. (See, for example, Fields 1975). Work has continued on earnings comparisons in the urban formal and informal sectors, with somewhat mixed results, which in part reflect the confusion over defining an informal sector. A recent contribution in this vein by Marcouiller, Ruiz de Castilla and Woodruff (1997) examines data from El Salvador 1990, Mexico 1990 and Peru 1985-86, adopting two alternative definitions of the informal sector based on firm size and coverage by the social security system. Comparing observationally equivalent workers, and correcting for endogenous selection between sectors, this study finds that the formal sector pays more than the informal sector in El Salvador and Peru, but that the opposite holds for Mexico -- a result which continues to reflect the mixed findings of prior work.²⁶ However, it is not obvious that such findings need profoundly alter our perceptions of migration — no matter which sector offers higher average wages, migration may be seen as a process of searching over a spectrum of job opportunities.

Perceptions of regional wage differentials

Early theories of migration in response to earnings differentials generally assumed that migrants are

26. See also Hofmeyr (1998) on South Africa.

fully informed about employment opportunities open to them; securing a job may be risky but information about the state of the market is complete. An interesting departure from this is presented in Cooper (1994) who considers a scenario in which workers are unsure how much of an observed fluctuation in their pay reflects variations in local market conditions as opposed to national market changes. Cooper examines migration outcomes of young males in the US and finds them to be risk averse when faced with uncertain regional wage information (as measured by forecast errors in wages for observationally equivalent men).

The formation of wage perceptions can also be critical to labor adjustments at times of major structural adjustments in the developing countries (and hence perhaps to the credibility of the reforms themselves. See Fernandez and Rodrik, 1991). However, no empirical study on formation of wage perceptions in the developing countries appears to exist.

What causes the gap between rural and urban earnings?

Although there are questions about how regional earnings differentials are perceived, about the role of the urban informal sector in those differentials, and even whether the differentials would disappear at the point when migration ceases, there seems little dispute that the gap between rural and urban earnings is substantial even for observationally equivalent workers. The most common explanations suggested for the sustained gap may be divided into two: explanations derived from various policy interventions and explanations arising from private decision making in the market. Perhaps the most common examples of the former are minimum wage laws and public pay policy. Market explanations, on the other hand, usually emphasize collective bargaining or some form of efficiency wages. Despite the obvious policy importance of this issue we still lack a consensus on what causes urban wages to remain high.

Certainly in some contexts collective bargaining may be important.²⁷ However, urban wages also seem to be high relative to rural earnings, even in contexts where union membership is small and

27. See Moll (1993), Schultz and Mwabu, (1996), Hofmeyr and Lucas (1998) on the South African case, for example.

unions are quiescent. (Lucas and Verry, 1996). Some skepticism must also be expressed about the likelihood that minimum wage laws are sufficiently well enforced to represent the main cause of high urban wages in many contexts. Perhaps as a result, efficiency wage explanations have been popular. On the other hand, testing efficiency wage theories has proved to be extraordinarily difficult. As Riveros and Bouton (1994) note, even in the US only a couple of case studies directly relate wages to productivity, whereas the more systematic, statistical studies have relied on examining residual, inter-industry wage differentials, after controlling for other factors influencing wages. Moreover, “with regard to the developing countries, studies on wage differentials have been scarce and aimed at more general analyses of industrial patterns”. (Riveros and Bouton 1994, p.710). A pleasant exception is the work by Velenchik (1997) on Zimbabwe.²⁸

Velenchik uses data on matched employees and manufacturing employers collected in Zimbabwe during 1993. The matching data permit Velenchik to examine the role of employer and employee characteristics in influencing wages. Larger firms are found to pay a considerable wage premium (especially for white collar workers) which cannot be attributed to measured worker qualities or job characteristics. The earnings premium is shown to be higher among more capital-intensive firms, where the costs of job vacancies are likely to be high, among white collar workers for whom the unemployment rate is low, and among large firms who use impersonal hiring methods and hence may be concerned to increase applicant quality. These arguments lend support to the importance of efficiency wage premia to aid in hiring. Velenchik also assembles some evidence that monitoring inputs per employee decline with firm size, which suggests a greater potential for shirking among employees of large firms. This might have been taken as support for the view of efficiency wage payments to avoid shirking through a threat of dismissal, but as Velenchik points out the job security laws in Zimbabwe make firing almost impossible. (See Fallon and Lucas, 1993). On the other hand the evidence is consistent with efficiency wage payments to reduce voluntary turnover, in the sense that turnover costs are likely to be greater among white collar workers and that the payment of higher wages in larger firms may help generate the observed lower quit rate. In addition, the evidence is also

28. See also Robbins (1989) cited in Riveros and Bouton (1994).

consistent with rent sharing forms of efficiency wages, since large firms appear to be more profitable, offering greater rents to be shared. Thus, as Velenchik (1997, p.305) notes, the evidence is “consistent with, but not conclusive proof of, hiring, turnover, and morale based notions of efficiency wages”.

Estimating the effect of employment opportunities on migration.

As noted in the introduction to this section, even prior to the period covered by this survey it seemed reasonably well established that one important factor in promoting internal migration is the availability of higher pay. Nonetheless our confidence in such statements is limited by the difficulty in making appropriate earnings comparisons. Since we do not normally observe the pay which a migrant rejected at home, some projection of these earnings is necessary. However, a number of elements of bias may creep into such comparisons. Vijverberg (1995) takes the analysis of bias in regional wage comparisons, arising from sample selection, to a new level of complexity in his study based on the Cote D’Ivoire 1985-87 Living Standards Survey. In particular, Vijverberg estimates a reduced form model of the decision to migrate between rural areas, Abidjan and other urban areas within Cote D’Ivoire, nested within which is the outcome of holding a wage job or not. The focus of this study is on the effect of selectivity in these decisions on estimated patterns of earnings. The results suggest that any bias from selection in who performs the wage jobs dominates the effect of bias from regional selection. On the other hand, since the nested selection model is estimated in reduced form, the role of wages in affecting both of these levels of decision is not examined.

Although several structural models, relating migration decisions to employment opportunities, were estimated for developing countries at an earlier stage, (albeit with less sophistication in correcting for bias in associated wage patterns) their popularity seems to have waned. I know of no such estimates that have appeared in the last six years. This may be judicious, since it is not clear how much more we should gain from further estimates along these lines.

City size, agglomeration and migration.

Krugman and Elizondo (1996) make the reasonable assumption that employment creation is a major cause of urban migration, note that many of the world's largest cities exist in the developing countries and therefore ask why employment creation has focused on the giant metropolises in the developing countries. Their answer is trade policy. In the theoretical model developed by Krugman and Elizondo, raising barriers to imports concentrates production in whichever city center is initially largest. The reason is that the size of markets for products is largest in that center and products manufactured elsewhere within the country have to pay transport costs to reach the large market. This sets in motion a centrifugal force and whichever city is initially largest grows and hence generates an even larger market. This process is limited by a centripetal force: as the metropolis expands, land prices in the city center rise, forcing additional workers to reside further from the center with loss of work time from additional commuting. "... in other words the giant Third World metropolis is an unintended by-product of import-substitution policies, and will tend to shrink as developing countries liberalize." (Krugman and Elizondo, 1996, p.137). The source of this conclusion is not emphasized by Krugman and Elizondo, but seems to stem from the assumption that imported goods pay identical transport costs no matter where they are bought within the country. This means that liberalization breaks the transport cost disadvantage of the smaller cities and the centripetal forces then enable a stable equilibrium with a more even distribution of city sizes. Of course, the assumption that imports are available at equal prices throughout the country may not be reasonable for all geographical settings. Nonetheless, this framework raises some interesting questions which have yet to be investigated empirically.²⁹

Somewhat related evidence is offered by Alperovich (1993) who examines the rate of unemployment by city size across the 53, non-Arab, Israeli cities with populations over ten thousand. The idea is that "Employment levels in firms fluctuate for random, seasonal, cyclical, and secular reasons. To the extent that fluctuations are not correlated among firms, an urban area with many employers can provide for more nearly full employment..." (Alperovich, 1993, p. 347). The study shows both that the rate of unemployment is lower in larger cities and that long spells of unemployment are less

29. See, however, the paper by Ades and Glaeser (1994) cited in Krugman and Elizondo.

common in larger cities. To the extent that migrants are attracted by a lower incidence of unemployment, this type of argument might then reinforce some of the hypothesized effects put forward by Krugman and Elizondo.

One simplifying assumption made by Krugman and Elizondo is that all production within a city occurs at one point in the city center, enabling them to ignore the distribution of employment within the city and hence its implications for commuting costs. Park (1993) examines the distribution of industries within and around Seoul. Firms' headquarters tend to be located in Seoul. During the 1970's, when the Korean development strategy emphasized heavy industries, most manufacturing plants were concentrated in industrial estates in the suburbs of Seoul. However, during the 1980's Park describes a process in which hi-tech firms concentrated in the capital region whereas mass manufacturing and standardized processes shifted to the peripheral regions. In this later stage a few smaller firms did not separate headquarters from their hi-tech production in which case manufacturing was located in the city center itself. Presumably the land-intensive, mass production activities are deterred by high land prices from producing in the city center and even from production in the capital region at a later stage. Park attributes the concentration of headquarters to externalities from proximity to Government offices and financial services (though without supporting evidence). However, Park also maintains that high skill, high income workers prefer to live in the city, offering an incentive for hi-tech industries to produce nearby. The patterns described by Park would have interesting implications for the dynamics of urban migration. As standardized production processes become less concentrated in major metropolitan areas these cities presumably become less of a magnet for low skilled workers. On the other hand, the continued concentration of professional services plus hi-tech jobs in the metropolises would suggest that migration to these areas should become increasingly dominated by educated workers.

The evidence seems insufficient to draw strong conclusions along these lines. However, at least two recent studies buttress some aspects of this picture. The first, by Parikh and Thorbecke (1996), finds elements in India's industrial development which parallel some of the patterns noted by Park for Korea. In particular, Parikh and Thorbecke (1996, p.351) note of India that "...in the early 1970s

when the second and third Five-Year Plans were emphasizing creation of large industrial units, especially basic industries. Industrialization was taking place in a few pockets, having little impact on the surrounding areas. The industrial scene in the 1990s is quite different. Industries are being established outside the megalopolies; many small industrial towns have come into existence, and the process of rural industrialization appears under way.” Parikh and Thorbecke use social accounting matrices to emphasize the importance of forward and backward local linkages which provide multiple expansionary effects from nearby industrial development.³⁰

The second study which buttresses some of the picture emerging from Park’s description of Seoul’s industrial development is by Rauch (1993). This study notes that several contributions to the new economic growth theory assume a positive production externality arising from human capital; in other words a worker, with any given level of human capital, is made more productive the higher is the education of other local workers. Typically it is supposed that knowledge or skills are shared through formal and informal contacts between workers. Rauch explores this idea empirically in the context of US cities, showing that earnings of a worker are positively associated with the average level of education of other workers in the SMSA, given the individual worker’s own education. Rauch attempts to allow for the possibility that this positive association could reflect spurious differences in US cities, such as the presence of research based universities, or reflect the effects of more able workers selecting cities with higher education levels. However, Rauch’s attempts along these lines fail to eliminate the observed positive association. In terms of our migration dynamics picture, this would reinforce the notion that more highly educated people will tend to concentrate in a few cities. Whichever cities have a high initial level of human capital among their workers will (*ceteris paribus*) be able to attract the better educated migrants and this process snowballs. (See also Ciccone and Hall, 1996).

2. Capital Markets

Incomplete or imperfect capital markets may play several roles in affecting migration decisions. (See

30. See also Evans (1992) on small town development and rural links in a case study for Kenya.

Lucas, 1997). For instance, the limited ability of poor households to borrow may restrict their members from investing in costly migrations (such as moves abroad). Alternatively, incomplete rental or sales markets for certain assets (such as land or locally specific information) may discourage departure. A further possibility is explored by Katz and Stark (1986). They suppose that returns on (rural) investments may increase with the amount invested (up to some point). For example, new agricultural technologies may offer high rewards provided a minimum investment is made. Given limited possibilities of borrowing for such investments, even a risk averse person may be induced to migrate to town and gamble on accumulating sufficient funds to reap a high reward on his or her investment.

Morrison (1994) tests this idea, from Katz and Stark, using 1991 census data on 1985-1990 inter-provincial migration in Ecuador. As Morrison (1994, pp.290-291) notes, "In a general equilibrium framework ... disequilibrium in one market must be reflected by disequilibrium in some other market. So the labor market may be in disequilibrium as well, but the fundamental cause may be capital market imperfections... Are low origin wages due to labor or capital market conditions?" As both Morrison (1994) and Katz and Stark (1986) note, this distinction can affect an appropriate choice of policy instruments - - if the source of the problem is a capital market failure then some form of policy to improve upon the operations of the credit market may be warranted. To begin to disentangle this, Morrison regresses interprovincial migration flows on differences in wages, distance and several indicators of capital market conditions at origin. In particular, Morrison considers two main measures of capital market conditions — the amount of agricultural credit disbursed per capita and the fraction of total agricultural loans given in the form of small loans. Recognizing that these variables "measure the degree of capital market imperfection only very imperfectly" (p.297) Morrison considers also two instrumental variables: provincial land quality and change in area cropped in banana. The implied elasticities of migration response to the capital market measures are about as high as with respect to the wage differential measures, though in an analysis of variance exercise Morrison finds the wage measures dominate. As a result, Morrison concludes that "These results do not contradict the conventional wisdom that labor market conditions are the prime determinants of internal migration flows, but ... Capital market conditions also play an important role" (p.299). It would be premature

to place too much emphasis on the importance of capital market imperfections from these findings, if only because Morrison's findings with respect to the various indicators of capital market conditions are of limited statistical significance. Nonetheless, the line of inquiry would seem worth further consideration.

3. Social Networks, Information and Altruism

There is a considerable body of sociological evidence suggesting that potential migrants with contacts in town are more likely to move. In a recent paper, Carrington, Detragiache and Vishwanath (1996) formalize this notion in a theoretical framework, by assuming that moving costs decrease with the stock of prior migrants. The result is that migration flows are spread out over time and gather momentum

Empirical work on the role of prior migration in promoting further migration can be difficult to interpret. First, it is difficult to distinguish whether the prior migration causes the continuing migration or whether both are caused by a common factor. Second, several factors may underlie declining moving costs: for instance, contacts in town may help with finding a job, provide initial housing or provide more complete information on opportunities in town (though this might diminish migration instead). Not very much is known about these separate components. Third, an appropriate definition for a network of contacts is not immediately obvious; does this refer solely to close relatives, to friends from the same village, or to people from a wider kinship or ethnic group?

Despite these difficulties, some useful recent contributions have appeared. Assaad (1997) looks at the role of networks in affecting access to construction craft jobs in Egypt. Assaad's indicators of networks include measures of whether a worker had relatives in the construction sector at the time of entry, region of residence at the time of entry and of birth, an index of concentration of construction workers in each worker's community of residence at entry, and an index of construction activity in the district of entry. From estimates of a model of selection into craft and non-craft occupations and of earnings in both occupations, Assaad finds statistically weak evidence that kinship ties and concentration of construction workers at origin result in somewhat higher pay, but do not

aid access to craft jobs given pay. On the other hand, region of origin plays a significant role in determining occupational outcome, with workers from upper Egypt being less likely to enter craft occupations. Since this regional effect is unlikely to reflect a distaste for craft occupations, Assaad concludes that it reflects barriers to entry based upon origin (though it would seem difficult to rule out other unobserved differences such as quality of education). Nonetheless, Assaad's results are consistent with kinship, regional and common occupational networks affecting labor market outcomes.

Ahmad (1992) also notes that migrants arriving in Karachi tend to settle in neighborhoods where residents have similar ethnicity, which suggests some important network effects. Moreover, Ahmad finds that residents moving within Karachi remain in ethnically similar neighborhoods, which suggests that whatever network effects are at work do not dissipate completely after initially settling in. A further inducement to live in ethnically homogeneous sectors in Karachi is, however, the ethnic conflict which this city has suffered. Ahmad reports that newly arrived migrant households tend to settle on the outskirts of Karachi (a common though not uniform pattern elsewhere) and finds no correlation between neighborhood of initial settlement and fraction of total city employment concentrated in that neighborhood. However Ahmad does note that subsequent moves within Karachi are towards neighborhoods of greater employment concentration and deduces from this that proximity to the workplace is preferred, but not a key factor in choosing initial residence. To test this last idea more closely, it would be preferable to examine micro data on individual workers and their commuting patterns, for concentration of employment in general may not be associated with location of migrants' employment.

These results are interesting but we need much more work to understand the many factors which may underlie network effects. As noted in introducing this section, one of these effects may be the information which networks provide about jobs, housing and other conditions. Stark (1995) builds on some of his earlier work in addressing another aspect of information and migration, namely the fact that employers lack complete information about migrants' abilities. Stark develops a framework in which these true abilities are revealed only on-the-job. Initially, low skill and high skill workers are

pooled because employers are unable to distinguish between them. However, as true abilities are revealed low skill workers return home and earnings of the remainder rise. At least two connections are interesting here. First, Yang's study of bias in migrant attrition in Bangkok was mentioned in an earlier section. Yang concluded that any bias from analyzing remaining migrants alone is likely to be small since those who intend to return differ little from those who do not. However, Stark's approach emphasizes that return may not reflect intent of migrants but rather revelation of true skills. Empirical work attempting to disentangle this does not seem to exist. A second connection to made with Stark's work is the integration of this notion with the work on social networks. If employers pool together ethnic groups of migrants, assuming all to be similar in terms of unobserved traits, this leaves the more highly skilled members in a dilemma — whether to aid employers in distinguishing the less able, or to hide the low skills of kin out of altruistic concerns. One might suspect that the latter effect becomes stronger the closer are kinship ties within the wider ethnic group, but this remains untested. Such an effect would, for instance, help to explain some of the tensions which can exist between previous and new waves of migrants.

A somewhat related theme is taken up by Tcha (1996) though in this case the focus is inter-generational altruism within the family. Essentially the idea (suggested in prior work on the US by Borjas³¹) is that parents may be motivated to move in part because of the advantage this may bestow on their children and future generations.³² Tcha examines this possibility using simulated annual data on internal migration out of the farm sector in Korea and in the US.³³ In particular, Tcha assumes that parents and children will earn blue collar and white collar urban incomes in different proportions and permits the data to assign a weight to these in the migration decision, rather than imposing a prior weight dictated (for example) by current migrants' employment. Tcha finds that migration regressions including his derived weighted average income measure have higher explanatory power than regressions with fixed weights and suggests that this lends support to the inter-generational altruism

31. See the reference to Borjas work in Tcha (1996).

32. For an application of these ideas to migration of Soviet jews to Israel see Berman and Rzakhanov (1998).

33. See the discussion of Larson and Mundlak (1997), in section 1 for some reservations about this approach to measuring migration.

story, though it seems the underlying altruism parameters cannot be identified. Presumably an alternative explanation for Tcha's findings would be an error in measuring the fixed weights initially and that his iterative simulation improves on this. Nonetheless the issue of the role of inter-generational altruism in motivating migration is an interesting one, permitting the possibility that migrant parents may knowingly become impoverished themselves as a result of the move, yet consider migration worthwhile in the interests of their off-spring. Panel data may be necessary to pursue this much further, for there is a distinct danger in attributing to inter-generational altruism all decisions to move when parents themselves are made worse off— this may simply reflect bad luck.

4. Distance

Distance is a more conventional measure, found in many studies to be negatively correlated with migration -- an association sometimes called a gravity effect. At least three causal factors may underlie the gravity effect: travel and moving costs, psychic costs of separation and of living in an alien setting, and the likelihood that distance acts as an effective barrier to (positive) information transmission. No study seems to have successfully disentangled the contribution to migration of these three potential correlates of distance.

Molho (1993) combines the tradition of gravity models with an effect he calls (p.123) "cumulative inertia... whereby individuals form attachments to area, friends job, etc., which grows over time". In other words, cumulative inertia implies that the psychic costs of moving rise with length of residence. The result is that "Fewer out-migration opportunities in remote areas generate longer residence durations which become self-perpetuating". (Molho, 1993, p.123). Molho demonstrates, from 1981 UK Census data, that unemployment rates are higher in more remote areas which is consistent with his model. Presumably the model could be extended to address pockets of poverty in remote areas more generally, which seems a reasonable depiction of many developing countries.

5. Amenities and Fiscal Factors

One of the difficult questions which faces urban planners is whether improvements to urban facilities will attract so many more migrants as to leave the initial residents with even less access to these

amenities. It does seem well established that improved infrastructure attracts industry and hence creates jobs. We know less about the role of amenities in affecting migration decisions directly. How important is the availability of good schools, health centers, clean water, or electricity in influencing individuals' decisions whether to relocate or to stay? I know of no systematic evidence on this for the developing countries. Some studies have tackled related questions in the US, though even in that context there remain many difficulties with the data and conflicting results. For instance, Greenwood and Hunt (1989) conclude that local amenities are relatively unimportant determinants of US migration, given expected employment growth. On the other hand, Clark and Cosgrove (1991) report that both amenities and employment opportunities are important determinants of migration between US metropolitan areas.³⁴

Clark and Hunter (1992) regress net county migration of US white males, by age group, from 1970 to 1980 on three sets of measures — economic opportunity, amenities and fiscal factors. The economic opportunity measures include employment growth, unemployment rate and median family income. Amenity measures include crime statistics, poverty indicators, climate statistics, availability of outdoor recreational and cultural facilities and degree of urbanization. The fiscal variables encompass both tax measures (such as local property tax rates, marginal state income tax rates and estate taxes) and expenditure measures (including welfare, health, education and unemployment benefits). The impacts are age sensitive: economic opportunities are found to be most influential among working age males while amenable locations prove more important among older males; high income taxes discourage working age males and high estate taxes discourage older males. This makes sense and suggests that the importance of amenities in the migration decision may be quite different depending upon the population group considered. However, it seems that we do not yet possess adequate data to tackle this issue for the developing countries. Ideally one wants some measure of services provided by facilities, and it is interesting to note that even within the wealth of data assembled by Clark and Hunter stock measures of schools and health facilities are not included, only

34. For a survey see Charney (1993).

the flow of expenditures on these services are included.³⁵

A few countries have sought to promote regional growth poles through establishment of universities and colleges. However, Beeson and Montgomery (1993) note that there is little evidence on the relationship between the existence of universities and performance of local economies. From an analysis of US census data on 218 SMSA Beeson and Montgomery conclude that area employment growth and the fraction of the work force employed as scientists and engineers are positively related to measures of university quality. However they detect no significant effect of university quality on area income, the employment rate or net migration. Once again comparable studies for the developing countries do not appear to exist, though there are certainly examples of new colleges which have failed to become focal points for local employment generation and hence in-migration.

6. Intent to Return or Move On

The terms repeat, step or stage migration are all used to describe movements from one place to another then onward to a new place. Return migration refers to movement back to the place (or region) of origin. There is ample evidence that step migration is common, especially from village to small town to city. Evidence on return migration is much more sparse. A number of case studies suggest that return migration is common at least in Sub-Saharan Africa and perhaps South Asia. However we lack statistical evidence to corroborate this since, in the typical survey or census which asks place of birth and place of current residence, the return migrant appears not to have migrated at all.

Tunali (1996) provides a careful and detailed examination of internal migration, repeat migration and return migration among male household heads in Turkey from 1963-1973 using survey data on lifetime migration and employment histories.³⁶ Tunali models individuals making a four-fold

35. In a related US study by Treyz, Rickman, Hunt and Greenwood (1993), no data on amenities are available and the authors must represent these as fixed local effects.

36. Smith and Thomas (1997) show that remembrance of major migration moves remained encouragingly stable over the twelve years between the panel rounds of the Malaysia Family Life Survey.

distinction in their initial migration decision: to remain at home, to migrate, to migrate with the intent of moving on, or to migrate with the intent of returning home where intent is inferred from observed outcomes over the life history of migration. Using a (non-nested) multinomial logit estimation approach, Tunali finds that the factors causing repeat and return migration are quite different and the differences are strongly statistically significant. “Better-educated individuals, especially those with specialization... are more likely to engage in repeat moves in search of higher returns. As individuals age, they shy away from engaging in new adventures; the return option becomes more attractive relative to the repeat option. Employment conditions in the origin locality play a very significant role: while unemployed individuals prefer to move on, employed individuals without job security tend to return. The likelihood of a return despite lack of job security is largest in the case of village-level moves, which are the cheapest moves to finance. There is evidence that the presence of location-specific capital favors return moves.” Tunali argues that step migration is generally riskier than returning to a home area where conditions are better known (and perhaps where network support exists). Individuals with more education are supposed to be better able to bare risks, and Tunali suggests that this offers a potential explanation for his finding with respect to education and repeat rather than return migration. Other interpretations are presumably possible however. For instance the returns to education may be highest in large urban areas but educated rural migrants may move first to a small town to acquire savings to finance the more costly move into the large city or simply to acquire more information about opportunities in the city. (Pessino, 1991).

Tuanli's results are particularly interesting given the scarcity of information on repeat and return migration. On the other hand, his sample suggests that return migration is not very common in this context. Of 2465 male household heads 72 percent had not moved place of residence in the previous ten years, 19.8 percent had moved once, 4.8 and 3.4 percent were repeat and return migrants respectively. To some extent this may be a reflection of excluding international migrants, for return migration of guest workers is supposed to be common.

7. Violence and Civil Liberties.

Despite the apparently large numbers of internally displaced people, violence and the lack of civil

liberties remain neglected in economic studies of the causes of internal migration. To this there are at least two recent exceptions, both of which find these factors to be important causes of migration in the contexts examined. (See also Schultz, 1971).

Morrison (1993a) introduces measures of local violence into his study of interdepartmental migration in Guatemala from 1976 to 1980. In particular, Morrison considers two indices of violence, both measured per capita: the number of 'politically motivated killings' in each department from 1966-1976, and the number of corpses found of 'individuals who had been killed after being kidnaped for some political end'. In his regression analysis, Morrison also includes proxies for local earnings and measures of literacy, distance and unemployment. Out migration is found to be higher from the relatively violent departments, *ceteris paribus*, and the results suggest that exceptionally high values of the violence indicators assume an added importance (though statistical confidence in this finding is less strong). However, Morrison finds no indication of an interaction of these violence effects with his economic measures included in the regressions, though he does suggest further work on this might be warranted.

Barkley and McMillan (1994) take up the interaction question directly in their analysis of 'migration' from farm to non-farm activities in Africa from 1972 to 1987. Annual data on 'political rights' and on 'civil liberties' for 32 African countries are obtained from indices compiled by Freedom House. These indices are then interacted with a measure of relative returns to labor in the two sectors (proxied by the difference in average product of labor). Pooling the cross-country, annual time series data, Barkley and McMillan then regress the transfer of labor off-farm on this interaction, GDP per capita and fraction of population in the agricultural sector. The interaction between labor returns and civil liberties indicates that migration responses to labor returns diminish significantly as civil liberties deteriorate. In separate regressions, a similar effect is found as political rights are restricted, though the pattern with respect to political rights is not monotonic. Barkley and McMillan suggest that any contrast between their results on political rights and civil liberties may reflect a feeling that political rights are merely a means to an end whereas people care directly about civil liberties. If so, this may be a reason why migration decisions might be more responsive to civil liberties than to political rights.

but it is less clear why this should show up in the form of different interactions with labor returns. A distinction needs to be made between political constraints on ability to respond to differences in labor returns versus desire to escape political constraints. The specification adopted seems to emphasize the former but some of the interpretation refers to the latter. It would also have been interesting to learn from Barkley and McMillan's data how much of the observed difference in the effects of civil liberties reflects variations across countries rather than variations within countries over time. The latter effect is presumably far more interesting.

8. Summing Up: What Do We Know About the Causes of Migration?

The cumulative literature on the reasons why some people migrate while others do not has identified an extensive list of potential contributing factors. Some of the key components are:³⁷

- Personal attributes (age, gender, etc.) reflecting different attitudes toward moving.
- Earning opportunities and job prospects at home and in alternative locations.
- Prior movement of family members and migration for family reunification.
- Relocation upon marrying.
- Access to information and relocation networks.
- Distance and cost of relocating.
- Ability to finance costly moves.
- Possession of assets which prove difficult to transfer.
- Family strategies to contain economic risks.
- Income distribution and relative standing in the community.
- Availability and quality of facilities at home and in alternative locations.
- Incidence of violence, disease or disasters.
- Migration controls and incentives

No existing study has been able to incorporate all of these factors into an empirical analysis of the causes of migration, but what are the salient results emerging from the partial analysis of these causes?

Earnings and employment opportunities

- It is well established that the greater the gap in earnings between origin and destination the more likely are working age adults to move.

³⁷. See Lucas (1998) for a more detailed discussion.

- It is far less clear how the significant gap in earnings is maintained between rural and urban, formal employment for observationally equivalent workers. There is some recent evidence consistent with efficiency wage explanations of high urban wages and, in some contexts, urban collective bargaining seems to play a significant role. High urban public sector pay has also been a factor in attracting urban migrants, though in some regions this premium has diminished.
- Many migrants to urban areas initially enter the “informal” sector. For some (though by no means all) this is a transitory phase prior to finding more formal employment. However, statistical studies of these patterns are plagued by the lack of precision in defining the informal sector and the evidence is (consequently) mixed as to whether the formal or informal urban sector offers higher pay to observationally equivalent workers.
- Migrants to town initially earn less than observationally equivalent natives, but the evidence indicates that this gap disappears within a few years and may even reverse.
- Findings on whether differences in unemployment rates between locations promote migration are mixed. Limited evidence suggests that migrants often identify their urban job before migrating, but other migrants do appear to search for work after moving, either while in temporary employment or while openly unemployed. However, at least one study maintains that off-farm migration in developing countries will cease only when the earnings gap is entirely closed and hence that uncertainty about employment is irrelevant. It has also been argued (with some supporting evidence) that unemployed workers may have at least as high a chance of re-employment in their home setting where information and contacts are more readily available.
- The location of newly created employment opportunities depends in part upon the development strategy adopted. The hypothesis that import substitution leads to employment concentration in large cities lacks systematic testing, though a case study of India suggests that liberalization has been a factor in promoting the emergence of new towns. However, many other factors also affect the spatial distribution of industrial employment, including the land intensity of production, availability of appropriate infrastructure, agglomeration externalities, tax incentives tied to location, as well as the local cost of labor.
- It has been hypothesized that large towns offer a greater diversity of employment and hence a better chance of re-employment in the event of a lay-off. This might render large towns more attractive to migrating workers. At least one study shows that unemployment rates are lower in larger urban areas, though more systematic evidence on this issue does not seem to exist for the developing economies.
- A case study of Korea suggests an interesting shift in the internal location of industry as development proceeds. As city center land prices rise, land-intensive, low skill manufacturing shifts out of the cities. Simultaneously, at least three factors may contribute to the further

concentration of skilled and professional employment in the metropolitan areas: a preference for city living among wealthier, professional classes; externalities to agglomeration of corporate headquarters; and externalities generated by the presence of other skilled and professional employees.

Family and networks

- Possessing a network of family and friends in town may encourage migration into town. Conversely, a well-developed network at home may discourage departure. However, empirical examination of these propositions is hampered by difficulties in eliminating spurious effects, in discerning what advantages the network offers and in defining the scope of a network.
- Migration at the time of marriage, to join or accompany a spouse, does seem common (though not well documented). A few studies also suggest that parents may have the welfare of their off-spring in mind when making their own migration decision.
- Urban migrants often initially settle in ethnically similar neighborhoods, which suggests that networks lower the effective cost of moving in some manner (though this may include provision of security from ethnic conflict). Evidence from some cities even shows that subsequent moves within the city are to new neighborhoods with the same ethnic composition. Moreover, a case study of Cairo is consistent with kinship, regional and common occupational networks affecting labor market outcomes.

Distance

- Migration over short distances is much more common than migration to remote locations. Whether this reflects the greater cost of moving further, lack of information about more remote alternatives or less alienation in a nearby setting remains undetermined.
- However, fewer out-migration opportunities in remote areas tend to generate longer residence which in turn raises the sense of alienation in contemplating moves. The result is pockets of poverty in remote places.

Wealth and capital markets

- Incomplete or imperfect local capital markets may encourage out-migration either directly through restrictions on the ability of families to borrow, or indirectly through effects on employment creation. However the solitary test of this potentially interesting proposition proves inconclusive.
- The opportunity cost of financing costly migrations is probably lower for wealthier families. This has two important implications. First, other things equal, migration may be more common from richer families and this in turn may exacerbate the inequality in incomes. Second, as a region becomes wealthier out-migration may actually increase (up to a point) as the financial constraint is reduced.

- Empirical evidence on these two implications is mixed and controversial. Only a few cross-family studies examine the wealth effect and the results are too mixed to reach any conclusion. Some historical studies do show rising emigration as GDP increases but this is probably largely a reflection of the demographic transition and altered patterns of employment rather than an alleviation of a financing constraint.

Family strategies to contain risks

- One way that families may insure themselves is by having members migrate to locations where times of economic adversity do not normally coincide with those at home. Remittances between the home base and migrant then enable consumption smoothing.
- There is some evidence consistent with the remittance portion of this scenario, to be discussed in Section III. However no direct test of whether migration is greater from communities with higher economic risk seems to exist.

Relative economic standing in the community.

- Migrants may not only care about any absolute gain in earnings through migration but also about their relative economic standing in the communities of origin and destination. One study of migration from rural Mexico found that emigration to the US (but not internal migration) was more likely among individuals with low incomes relative to others in their village. (Stark and Taylor, 1991). However it would clearly be premature to generalize from this evidence.

Availability and quality of amenities.

- Improved amenities in a location may attract industry or permit agricultural expansion. To the extent that this results in employment expansion or higher wages, out-migration may be discouraged and in-migration encouraged.
- Improved local amenities may also have a direct effect upon migrants' decisions, simply by making life in this setting more attractive.
- On the other hand, some forms of improved local amenities could exacerbate net out-migration. It is feasible that improved rural transport could act in this fashion, by affecting local production patterns and hence perhaps reducing the local demand for labor, and perhaps by making departure and return visits easier (though commuting also becomes an easier alternative to migration).
- Unfortunately no evidence appears to exist on the effects of amenities on migration outcomes in the developing countries. This is a major lacuna in our information. The limited US evidence suggests that amenities indeed affect migration decisions, but the relevant form of amenity differs by population group.

Incidence of violence, disease or disasters.

- It is obvious that episodes of violence and natural disasters result in mass migrations either of internally displaced persons or of international refugees. What is far less well documented is the extent to which on-going violence, political repression and recurrent risk from disasters swell the stream of migrants.
- Studies in a couple of South America countries have shown that higher local assassination rates result in significantly greater out-migration, apparently in addition to any effects that violence has on regional wage differentials. Indeed the study in Guatemala finds no evidence that the incidence of violence alters migrants' responses to given earnings differentials. However, a cross-country analysis of sub-Saharan Africa does find that restrictions on civil liberties reduce migrants' responsiveness to economic incentives to migrate.

Migration controls and incentives

- A few countries have attempted to restrict (or even to force) internal migrations. Unless the state is prepared to take Draconian measures such controls are usually ineffective. In a number of contexts it has been found that expelled migrants soon return. In some of the socialist states, access to jobs, housing, food rations and other state benefits have been tied to a specific location, effectively preventing migration by removing the incentive to move. However, at least in China, the emergence of a more market oriented system has eliminated the efficacy of these controls and migration has duly expanded.

II. On the Economic Consequences of Internal Migration

Hardly any aspect of economic performance remains untouched by the existence or lack of migration. However, some portions of the literature treat these links fairly explicitly and these are the contributions on which this section focuses, grouping the contributions of the last six years under four headings:

- Effects of migration on production and unemployment
- Effects of migration on non-movers
- Social mobility and urban settlement patterns among migrants
- Migrants' savings and accumulation

The section closes again by offering a brief summing up of some of the important elements emerging from this discussion as well as from prior contributions.

I. Effects of Migration on Production and Unemployment: Extensions to Harris-Todaro

The Harris-Todaro model assumes a rigid, institutionally determined urban wage which is greater than the rural wage. The rural sector is risk free and wages clear the rural labor market in perfectly

competitive fashion. Anyone not employed in the urban formal sector is openly unemployed, though all urban jobs are randomly assigned among the urban labor force and risk neutral migrants therefore choose to move to town if the urban wage, weighted by the chances of finding a job, exceeds the rural wage. Extensions to this framework continue to appear, adding to the many prior contributions. (See Lucas, 1997).

Optimal Policy Interventions

One line of enquiry examines the theory of optimal policy interventions within a Harris-Todaro type model. Gupta (1993) looks at optimal production subsidies for a closed Harris-Todaro economy with capital mobility between sectors and an urban sector which supports a rigid wage formal sector, flexible wage informal sector and open unemployment. Chen and Choi (1994) look at optimal trade policy (with and without production subsidies) for an open Harris-Todaro economy with mobile capital but no informal sector. In this genre of literature, derivation of optimal policies seems very sensitive to the precise assumptions and perceived set of policy options. Moreover, applying the optimal level of any policy instrument can require a great deal of information. (See also Khan, 1980).

Urban Job Search

Other contributions seek to extend the Harris-Todaro framework in various ways. Stark, Gupta and Levhari (1991) note that a more realistic depiction of urban job allocations changes the perceived role of migration in sustaining urban unemployment in an important way. Specifically, it is assumed that new urban jobs are initially offered to urban residents who may or may not qualify for the posts. Jobs not assigned to prior residents are then open to all comers on a random basis, as in Harris-Todaro. The result is that urban unemployment (of initial residents) can persist despite equalization of rural and urban wages through migration. In other words, the modified assumption about job allocations means that migration is no longer the cause of persistent urban unemployment.

In this vein, it is interesting to note some of the results cited in the survey of US evidence by Bartik (1993, p.303): "In the short-run between 30% and 50% of the new jobs from employment growth go to in-migrants. The rest of the new jobs go to increasing the local participation and employment

rates... Migration absorbs more new jobs in the long-run than in the short-run. But migration does not absorb all the new jobs: migrants' long-run share of the new jobs is 60% to 90%. Most of the remaining jobs are reflected in changes in participation rates." With respect to the long run, there is some disagreement in the US: Blanchard and Katz (1992), for instance, conclude that within about five to seven years all new jobs are taken by in-migrants. If this were correct for the developing economies also then the Stark, Gupta and Levhari modification of the Harris-Todaro result would not be relevant in the long run. However, evidence on what fraction of new urban jobs go to (new) migrants does not seem to exist for the developing economies and the result that all such jobs go to migrants in the US in the long run is controversial

The Informal Sector

Several authors have considered incorporating an urban informal sector into the Harris-Todaro model. Some of these contributions represent the informal sector as producing a commodity or service used as an intermediate input by the formal sector.³⁸ Fiszbein (1993) emphasizes an important implication of this: an expansion of the urban formal sector then induces employment in the urban informal sector, through backward demand linkages. In other words, this provides a mechanism through which creating a formal sector job may induce more than one migrant to move yet leave no additional unemployment and may even reduce unemployment.

Rural Labor Markets

The simplifying assumptions about rural labor markets are particularly strong in the Harris-Todaro model. There is, of course, a long history of exploring the implications for migration of alternative assumptions about the rural sector.³⁹ This tradition has continued in recent work. For instance, Beladi and Ingene (1994) trace the effects of exogenous shifts in the terms of trade for a Harris-Todaro type economy but with uncertainty in the agricultural sector also. Bose (1996) shows some interesting implications of a nutrition type wage in the rural sector within a Harris-Todaro framework. Bose's

38. See, for instance, Gupta (1993).

39. See Lucas (1976, 1997) for summaries.

idea is that farmers pay high current wages to achieve greater worker efficiency over the long run. When urban wages rise, the threat of more rural-urban migration discourages farmers from thus investing in their workers and the rural wage may actually fall (contrary to standard results). This is an interesting idea, though doubts about the empirical validity of nutrition wages present serious problems to this argument. (Shankar and Deaton, 1996).

Wage Curves

Perhaps the most important issue raised with respect to a Harris-Todaro type framework is the validity of assuming urban formal sector wages to be invariant to the rate of unemployment. Riveros (1990) finds inconclusive results on any association between unemployment and wages in time series data for Latin America. From time series data on South Africa during the 1980s, Fallon and Lucas (1998) find a significant downward adjustment in real consumption wages of African workers but not of white workers as their respective unemployment rates rose. On the other hand, such time series analyses fail to take into account changes in composition of employment and the labor force over time (See Levy and Newman, 1989). In particular, if low wage workers are laid off first during a downturn, then any downward adjustment of individuals' wages will be underestimated by average wages.

To address this difficulty, Hoddinott (1996) turns to micro data on urban employees in Cote d'Ivoire using the LSMS data for 1985-87. Regional demand shocks shift labor demand in each town. Local wages and unemployment both adjust to these shocks, which means that the structural wage equations (representing the trade-off between wages and unemployment) contain two endogenous variables and Hoddinott therefore uses aid shocks as an instrumental variable for unemployment. Hoddinott also recognizes the role of migration in response to urban differences in wages and unemployment. The separate effects are identified by allowing the wage equation to shift with alternative sources of income, labor demand to shift with the demand shocks and migration to shift with the level of urban amenities. The result is a clear trade off between wages and unemployment: "a doubling of unemployment in urban Cote d'Ivoire causes wages to fall by about 12%" (Hoddinott 1996, p. 1624).

More evidence on the adjustment of wages to unemployment would seem highly desirable (especially as panel data become more readily available). If wages adjust to unemployment, but only to a very small extent and with a considerable lag, then the original Harris-Todaro framework is not a bad approximation. If, however, wage adjust is substantial and swift then it seems that wages rather than unemployment are likely to be the main equilibrating force in migration.

Overall production effects of migration

Morrison (1993b) introduces a technique for examining the overall effect of internal migration on total production. In essence this amounts to estimating production functions for each sector according to region. From these estimates, the marginal revenue product of labor is then derived, for each sector and region. By examining the sectoral and regional patterns of migration, Morrison is then able to estimate the contribution of internal migration to total production. Morrison applies this technique to interdepartmental migration in Peru during 1976-1981. Measuring outputs at world prices and using a standard conversion factor for non-traded goods, Morrison estimates that internal migration contributed about 1% to 1.5% of GDP in Peru in 1979.

This effect may seem small. However, some limitations of this type of approach must be remembered. In particular, the technique is short run, allowing only a reallocation of labor without induced shifts in investment patterns. In simulations of trade liberalization with computable general equilibrium models, the production consequences of labor reallocation are comparably small unless capital can also be shifted. (Lucas, 1989). Moreover, Morrison's technique permits no linkages either between sectors or from endogenous final demand.

2. Effects of Migration on Non-Movers

If one imagines a world in which labor is homogeneous, capital is immobile and the rural and urban sector each produce one good under constant returns to scale, then transferring labor into town raises labor productivity and wages at origin and lowers wages in town if these are flexible. In this scenario migration generates a convergence of wages. Reality is considerably more complex. Recent contributions have pushed toward greater reality in two directions -- tackling specific aspects

theoretically, and attempting empirical investigations.

Theoretical contributions

Faini (1996) considers a model with increasing returns to scale but with diminishing returns to the reproducible factor (capital). The combined effect of these two forces it to allow either wage convergence or divergence depending upon the specific parameters of the model.

Mountford (1997) asks whether a brain drain can be good for growth in the source economy. There are many routes through which this might be feasible, such as the remittance patterns of emigrants. However, Mountford focuses specifically upon the role of migration in changing the returns to human capital at origin (and hence induced accumulation of human capital by those left behind). In particular, Mountford models the case in which individuals differ in their latent abilities and there are positive production externalities from the presence of other skilled workers. Some of the sociological literature has emphasized other aspects of emigrant impact on education at origin, such as the trade off between relaxed constraints on financing education when emigrants remit, versus the negative effects on children of having absent family members (especially parents). This is an area which begs for careful empirical work.

Empirical evidence.

The main focus of empirical work has fallen upon the effects of in-migration on wages of natives at destination, with a particular emphasis on immigration into the US.⁴⁰ Some of these studies use time-series data to examine the evolution of mean wages as migration varies over time. However, such time-series analyses can suffer from the fact that the observed mean wages include the earnings of migrants (after arrival in the place of destination or before departure from the place of origin), which means that the effect of migration on natives' earnings cannot be discerned. (Lucas 1987, Faini and de Melo 1994). Cross-sectional studies of this issue have examined the wages of natives and related them to intercity variations in the number of in-migrants. However, in this case, a biased picture can

40. For a review, see Friedberg and Hunt (1995).

arise simply because migrants presumably prefer to locate in high-wage cities. A very few studies have attempted to adjust for this “reverse causality” by relating in-migration at the present time to flows of in-migration in the past, yet such corrections are not entirely satisfactory for even past migration may have occurred to cities which today offer exceptionally high wages.⁴¹ Other approaches include examining the earnings of natives according to whether their occupation employs a large number of in-migrants, yet such studies may be very sensitive to the degree of heterogeneity in these occupations. (Friedberg, 1997). The fact that most cross-sectional studies have failed to detect much influence at all of US immigration on wages of natives may be a reflection of these difficulties. In contrast, most time series analyses tend to detect a significant negative wage impact but it is difficult to discern how much of this reflects the inclusion of the immigrants in the post migration averages.

3. Social Mobility and Urban Settlement Patterns Among Migrants

As noted in section 1.3 Ahmad (1992) finds that recent migrants tend to settle in ethnically homogeneous sectors on the periphery of Karachi. Migrants are then more likely to move to a new neighborhood of Karachi than are prior residents, and such inter-neighborhood moves are generally associated with upward mobility at least in housing, though ethnic homogeneity remains important in the choice of neighborhood in this city torn by ethnic strife.

The stereo-type of urban settlement in Latin America differs from this picture of settlement in Karachi. In the seminal work of Turner (1968), urban settlement of migrants in Latin America is depicted in three concentric bands. ‘Bridge head’, single migrants are depicted as initially settling in rented accommodation in the city center where access to work is easier. As the migrant accumulates more wealth and marries, he or she moves to self-help housing on the periphery of the city. Further accumulation permits upgrading this accommodation and the city limits ultimately engulf the intermediate settlement site and the migrant is left in low-income housing between zones of rental housing and shanty towns. However, departures from this stereotype are common even within Latin

41. Altonji and Card (1991), LaLonde and Topel (1991), and Pischke and Velling (1994).

America. From a survey of 1000 households in Quito in 1989, Klak and Holzclaw (1993, p.270) find “a quite uniform distribution of migrants across the city” which the authors attribute in part to “policies against illegal self-help housing...[and] .. to rent control” the latter apparently lengthening duration of residence in rental accommodation. Nonetheless, even in Quito “Over time, migrants generally occupy better housing - first rented rooms, then shanties and houses” (*ibid* p.270), suggesting a clear pattern of upward social mobility among migrants.

On the other hand, Shrestha, Velu and Conway are much more skeptical about the extent of upward mobility among migrants from the hill areas to the Tarai of Nepal under a government supported scheme. “Informal discussions .. revealed a few rags-to-riches .. stories .. but they hardly reflect the common experience” (*ibid* p.804). From a sample of 407 households, which had moved from the hill areas to the Tarai, “more than 85 percent stated that they had benefitted from frontier migration” (*ibid* p.809). However the survey data suggest that the extent of gain in terms of land access was not always large. In particular those households which moved first received the largest holdings in the Tarai, but also possessed larger land holdings in the hill areas before moving (and sometimes retained these holdings). Perceptions of upward mobility among migrants after arrival, based on the positive correlation between duration of settlement and size of land holdings, would thus be biased; the association in this case to some extent reflects vintage effect, not upward mobility.

4. Migrants' Savings and Accumulation.

In the last decade theorists have considered explanations for a stylized fact that “In contrast to permanent migrants, temporary migrants either invest a large proportion of their earnings into savings in the host country, or they transfer it to their home country, where it is then saved or used to support family members” (Dustmann, 1997, pp.295-6). Djajic and Milbourne (1988) attribute higher savings of temporary migrants to the lower marginal utility of consuming while away, as opposed to consuming at home. Galor and Stark (1990) argue instead that temporary migrants save more than natives because of the prospect of lower future wages on returning home. Dustmann (1997) adds the possibility that greater uncertainty of income at home induces risk averse, temporary migrants to accumulate more while in the less uncertain environment abroad. As Dustmann (1997, p. 297) notes,

at least the Galor-Stark and Djajic and Milbourne hypotheses “characterize not only international migration, but also many internal migrations — for instance, rural-urban migration in many developing countries. The results of the analysis apply therefore if the two regions are not separate countries”

As Dustmann notes, international remittances can play an important role in affecting the balance of payments for both emigration and immigration countries. Moreover, to the extent that migration raises the propensity to save it may have important implications for growth. However, a couple of caveats should be remembered in this context. For the most part, temporary migration is only likely to raise the propensity to save temporarily. In addition, our evidence on savings and investments from remittances is suspect at best. First, if part of the cash transferred was spent on some item of investment, this does not imply a net increase in investments, which might have been paid for out of alternative sources of cash anyway. Second, even if the migrant does not send any actual transfers, the family may be prompted to invest or to adopt riskier productive activities in the knowledge that the migrant provides them with a financial safeguard. Third, even if the family invests its transfer income (for example, by buying land), this does not imply that investment has risen in the whole economy, which is determined by how the seller of the land spends the money he makes from selling it

5. Summing Up: What Do We Know About the Economic Consequences of Migration?

- A mobile labor force can be an important ingredient in enabling more efficient production in an economy. Where high wages signal high productivity, migration for wage gains generally enhances the efficiency of production. (Borjas, 1998).
- Migration may, however, prove either excessive or insufficient to achieve maximum efficiency when market prices fail to convey appropriate signals. These failures include various possibilities for inappropriate wage setting either as a result of market failures or as a result of policies which affect labor costs. Incomplete and imperfect capital markets can also result in misleading wage signals, as can trade or other policies which distort commodity prices. In addition, socially sub-optimal rates of migration prevail when the costs of migration are not entirely born by the person or family making the migration decision., which is particularly true with respect to overcrowding costs.

- A substantial literature exists on optimal policy packages to deal with specific combinations of distortions. However, implementation of most of these recommendations requires considerable information to achieve an optimal result and, in some cases, even to determine whether a tax or subsidy is required.
- There are too few studies of the total contribution of internal migration to productive efficiency to generalize. A few CGE models permit such analysis but usually omit many of the market imperfections which render the question interesting. A recent evaluation suggests that internal migration contributed about 1% to 1.5% of GDP in Peru in 1979, but this relatively low estimate omits both general equilibrium effects (such as linkages) and dynamic effects (such as accumulation) resulting from the migration.
- In the face of urban un(der)employment it is tempting to recommend a policy of urban job creation. The well-known Harris-Todaro model points out that such a strategy may induce so much additional rural-urban migration as to leave more people unemployed and to diminish total production. These effects may be mitigated, to some extent, when local linkages result in expansion of the urban informal sector induced by an expansion in the formal sector, and by any tendency for new jobs to be taken by initial urban residents on a preferential basis. However, little evidence exists on either feature for the developing countries.
- Much of the early analysis of rural-urban migration in the developing countries assumed urban formal sector wages to be rigidly set by institutional forces. In contrast, there is a growing body of evidence that wages do respond to downward pressures in the presence of unemployment. For example, one study concludes that a doubling of unemployment in urban Cote d'Ivoire caused wages to fall by about 12%. Time series evidence for other countries support the notion of a wage-curve, in which earnings respond to unemployment albeit with a lag. This raises serious doubts about policy recommendations emerging from the literature on rigid wages in which unemployment equilibrates migration flows. Nonetheless some (temporary) corrective action may be warranted, to improve efficiency, where speed of wage adjustment is excessively slow.
- Migration may also impact the rate of savings and accumulation in an economy and hence, perhaps, growth. In particular, it is commonly held that temporary migrants save a larger fraction of their earnings because risk averse migrants save for their return to a lower and less certain income, because the marginal utility derived from consumption while away from the family is low. However, supporting evidence in the context of temporary internal migrants is lacking. Moreover, temporary migration may only raise the propensity to save temporarily.
- Migration may not only change the efficiency of production but profoundly alter the distribution of income through a number of channels.
- Migrants presumably gain from migration unless they make errors in judgement, or a gamble with respect to migration fails to pay off, or migration is not of the migrant's own free will.

- Nonetheless the extent of social mobility associated with migration may vary. The stereo-type of rural-urban migration in Latin America depicts three concentric bands of urban settlement. Bridge head, single migrants initially settle in rented accommodation in the city center where access to work is easier. As the migrant accumulates more wealth and marries, he or she moves to self-help housing on the periphery of the city. Further accumulation permits upgrading this accommodation. The city limits ultimately engulf the intermediate settlement site and the migrant is left in low-income housing between zones of rental housing and shanty towns. However, a study of Quito finds a quite uniform distribution of migrants across the city, which is attributed to policy restrictions on self-help housing and to rent control. Evidence from India suggests that a tiny group of urban migrant households fare extremely poorly, but the average migrant household enjoys a higher living standard than non-migrants, particularly after some time in town. A recent case study of frontier migration in the Tarai of Nepal also reports upward social mobility among migrants but, in this context, the extent of upward mobility is reported to be tiny.
- Migration also affects the incomes of people, both at origin and destination, who do not move. One way that this happens is by altering the pattern of earnings among non-migrants as the supply of migrant labor shifts. Whether wages at origin rise and those at destination decline is, however, not obvious. The skill mix of the migrants in relation to the non-migrants, the nature of substitution between skill categories of labor in production, induced shifts in the pattern of production, and the influence of scale economies each play a role in this outcome. As a result, the evidence on whether migration results in wage convergence is very mixed.
- In the longer run, the departure of skilled migrants can raise the returns to education and training of those left behind, resulting in greater investments in human capital and higher income. Countering this are at least two forces. First, there is some evidence of agglomeration economies driven by a pool of well educated workers. This can imply that departure of skilled personnel actually lowers the returns to education. Second, the education of children left behind by migrating parents faces two opposing forces: migration may provide the resources to finance more and better education; but lack of parental presence may lower commitment to schooling.
- The other major route through which migration may impact incomes of non-migrants is through remittances. The extent to which poor and rich rural families benefit from this is a matter of some dispute. Early village studies in India suggest that rural-urban migration is rare among the very poorest of rural households, more common among agricultural laboring families, declines again among somewhat better-off village households, but that the educated children of the rural elite commonly move to town. Combined with village study observations that net remittances from town to village are small and that the children of the wealthy are more likely to retain their rural ties and to remit, this implies that remittances may largely benefit relatively affluent rural families. (Lipton, 1980). However evidence from a household survey in Mexico presents a different picture in which the dominant form of migration from

a village (either internal migration or departure to the US) results in remittances which reduce village income inequality. (Stark, Taylor and Yitzhaki, 1986).

III. Family Strategies, Economic Risk and Rural-Urban Links

Family strategies to mitigate the effects of exogenous economic risks have been the subject of considerable attention in the recent development literature. Deaton (1992) and Townsend (1994), for example, find evidence of partial consumption smoothing through risk sharing within villages of Cote d'Ivoire and South India respectively. Normally, villagers would not be able to attain full consumption smoothing by sharing current income with other members of their own village alone. *Inter alia*, this is because some risks (such as a monsoon failure) are common to the entire village.

The role of migration as an insurance device has also received some attention. For instance, rural households may place family members in town where times of exceptional poverty do not generally coincide with such events in the village. Remittances from the migrant member then permit the village family to smooth consumption. (Lucas and Stark, 1985). Alternatively, migration upon marrying may offer support for mutual insurance between the bride's and groom's families. (Rosenzweig and Stark, 1989). These are both devices for extending consumption smoothing arrangements beyond the village boundary and hence offering insurance against shocks common to the village members.

These two strands in the literature — consumption smoothing within the village and remittances as insurance -- remain to be properly integrated though a few recent contributions offer useful insights in this direction. Hoddinott (1994) notes that prior studies examine remittance behavior given migration, whereas the migration decision ought to be treated as endogenous. From a sample of 215 adult males in Western Kenya, Hoddinott estimates the reduced form of a structural model in which migration and remitting are both endogenous. The probability of migrating from the household is shown to depend upon age and education of the male in the usual fashion (rising with education, first rising then declining with age). However, the probability of migrating is also negatively associated with land already received from parents and positively associated with land remaining to be inherited. These latter observations are consistent with the idea that parents continue to hold sway over their migrant sons through a threat to disinherit. As a result, families are more likely to have migrant members in the presence of this insurance contract enforcing mechanism. The estimated remittance function offers support to the idea that transfers are larger given a credible threat to reduce future

bequests. On the other hand, evidence on the role of altruism in affecting remittances is mixed: the number of remaining dependents at home has little to do with the amount remitted, but elderly widows are found to receive more from their migrant sons.

Grimard (1997) tests an idea, prevalent in the anthropological observations on Cote d'Ivoire, that income sharing is common not only within the village (as Deaton showed) but among wider ethnic communities. Alternative estimates of household consumption equations are estimated and it is found that (change in) consumption is not only related to (change in) household income but is also significantly related to the ethnic group to which the household belongs. As Grimard (1997, p.417) notes such a "fixed effect test ... cannot conclusively distinguish between risk-sharing and households hit by the common shocks". Nonetheless some potential common shock measures (rain and commodity prices) are shown to have been quite stable during this period. This, combined with the anthropological evidence, leads Grimard to suggest that the results are consistent with (partial) risk sharing within the wider ethnic group.

Hoddinott's paper is an interesting and useful extension to the migration-remittance literature and Grimard's paper adds a wider perspective to the consumption smoothing literature but the two sets of literature remain to be integrated. Kochar (1995) takes a step in this direction, using the ICRISAT data from South India to explore household responses to household specific crop shocks and to illness of adult members in the slack and peak seasons. Kochar (1995, p. 161) concludes that "informal borrowing and remittances appear to play an insignificant role in reducing income variability". Negative shocks to crop income are significantly offset by increased wage income. However, illness may preclude additional wage work and illness of males in the peak season is offset instead by increased informal borrowing. More work in this direction would be helpful. For instance, it would seem that if household specific negative crop shocks are correlated within an area (a monsoon failure) then wage work may be difficult to obtain locally. Does the observation that wage income substitutes for crop income then reflect commuting or non-synchronized shocks? If shocks are synchronized locally and commuting is costly, then do remittances play a more important role? It seems that we do not yet have answers to these questions.

Summing Up: Family Risk Strategies

- Individual migrants may remain in more or less active contact with other family members who stay at home, through visits, sending remittances and perhaps ultimately returning home. To the extent that migrants essentially remain active members of the home group, a geographically extended family exists, perhaps straddling separate settlements within the rural sector, straddling the rural-urban divide, or even international boundaries.
- A possible advantage of this strategy is that a family may be able to self-insure, to some extent, by placing members in alternative settings where times of economic crisis do not normally coincide.
- If many families actively straddle the rural-urban divide then perceiving the urban sector and its development as separate from that of the rural sector can be quite misleading.
- There is evidence consistent with consumption smoothing through income sharing within villages and even within wider ethnic communities but direct tests on families' abilities to smooth consumption through migration have not been conducted.
- However studies in Botswana, India and Kenya have each found remittance patterns consistent with family arrangements to offer mutual insurance through migration. In contrast, one study in semi-arid India found that temporary local wage employment was a more common vehicle for insurance in that context. Where commuting for temporary wage employment during a bad state of the local economy is cost-effective, migration and remittance for insurance may be less necessary, but this remains untested.

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