

Emigration Data: We Need a Change of Focus¹

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Abstract

The emigration data project can be boosted by adopting a development focus in issues of emigration, the concern with the bilateral issues between origin and host countries notwithstanding. Increased demand for information on links between emigration and local development will increase allocation for information; and new queries will generate databases that we do not collect now, facilitating new research and understanding. The paper surveys our present databases and future requirements from this point of view. It first surveys our current knowledge of the links between emigration and development. It then identifies the areas where we cannot produce precise answers or quantify them because of inadequate data, rather than inadequate knowledge. This produces a preliminary wish list for data. Then the paper asks what further linkages we should strive to understand next. It argues that to analyse the links better, we should develop the capability for forecast and simulation of income effect, price effect and terms of trade effects of emigration. Many policy questions hinge on general equilibrium issues that can be adequately answered using these effects in a partial equilibrium framework. By using illustrative models for the effects, the paper tries to identify databases required for this sort of project. This provides a second round of wishes. Finally, data requirements identified throughout the paper are summarised, and strategies for collecting them discussed. Depending on the information, important recommendations are: (i) disaggregation of some categories in published tables; (ii) change of accounting format in some cases; (iii) periodic survey of emigrants in destination countries, and Indian districts of large emigration; (iv) database on internal migration and index of wages at major labour markets; (v) index of wages for highly emigrant skills; (vi) sociological study of returnees with structured interviews; (vii) procuring micro databases developed by private researchers.

Keywords: International migration, Database, Development, Migrants, Remittances.

I. Introduction

Generation and collection of data presupposes an amount of conceptualisation. They require certain preliminary hypotheses about the phenomenal structure of the query. These hypotheses enable us to identify data series we should look for and lead us to the nodes where to look for them. If our databases on migration and its effects are inadequate, it is partly because the conceptualisation about how emigration affects society is also inadequate. Official vision makes it out as if migration is merely a bilateral concern between countries, demanding reciprocal attention to labour market and residency issues. But migration has become a major developmental variable, much as it had become at the confluence of the nineteenth and the twentieth centuries. It stands out as one of the more important conduits of global economic

¹ This paper is based on the presentation at an International Conference on "India-EU Partnerships in Mobility: Data, Agreements, and Policy in International Migration" held in New Delhi, India, February 21-23, 2009.

influence. Arguably, trade and foreign investment have grown to a point from where marginal benefit of cross-country labour flows may exceed that of trade and investment liberalisation. Any significant migration produces significant social effects and cultural change on both sides. On the economic side, it alters GDP, GNP, nominal and real wage rates, unemployment rate, import and export baskets, prices, terms of trade, technology, and investment, to list the more important ones.

Led by these observations, we argue that questions about economic and social development should be used to design and collect migration data. As we understand the effects on values, culture, income, investment, factor prices, terms of trade, technology and overall development more, we will be led to ask more pertinent questions and gather the right kind of information.

There is of course an inherent circularity in all data generation projects and it is no different in the present case. Our theoretical knowledge of the effects of migration is inadequate because we do not have enough empirical information whereas not having an adequate theory about the points of contact between emigration and society, we do not know the nodes where useful information can be found, or what questions should be asked in survey questionnaires. To break this circularity, we should self-consciously add a development focus to all things related to migration- administration, policy, data collection and theory. In particular, policy towards emigrants, while continuing to look after their interest in destination countries, should try to maximise the economic impact of it back home. This change of focus can lead our administration to look for the links connecting emigration and development more keenly. As we foster these links, we would face new questions and ask for new information as much as new policies. In the process we can revise our preliminary conceptualisation, and get to a better position to identify data requirement and sources, and so on in an ascending cycle.

This paper has broadly two parts. The first outlines what we already know, based on our present conceptualisation. This part extends from section II through VI. In these sections we point out the obvious gaps in database and knowledge, as much as we understand them now. The latter part of the paper, sections VII and VIII, proposes what we should strive to further explore at this stage. Section VII argues that we should develop the capability of certain types of prediction and simulation in order to help policy and sharpen our understanding of emigration effects. These suggestions are used to sketch rudimentary outline of modelling strategies to explore the requirement of information. Section VIII takes this discussion further to suggest concrete database requirements and ways to procure them. The paper ends with a brief conclusion in section IX.

II. How did Emigration become a Development Variable?

To start off the discussion of what we know, it is best to ask why emigration has surged in recent decades, and identify the important global and local factors. This paper focuses on Indian emigration, and we will discuss most issues from that perspective. In India emigration has become an important phenomenon over the last few decades- both because of the rapid growth in numbers and the growing impact on the economy. Though significant for a long time, the numbers have been increasing much faster more recently. Curiously, we do not have reasonably accurate data from any single source that can authentically support this introductory statement. When we suggest that the numbers have increased recently, we rely

on a number of fragmented information sources. This highlights one of the concerns of our paper and the conference organised by JNU and Ministry of Overseas Indian Affairs (MOIA) in February 2009 at New Delhi.

Though there is no comprehensive single source, the increase in emigration in recent years is reflected in all Indian sources of emigration information, like the Protector General of Emigrants (Ministry of Labour), Ministry of External Affairs, National Sample Survey Organisation, Office of the Registrar General of India and Census Commissioner. It also agrees squarely with related information and research from international organisations like the ILO, United Nations, OECD and the World Bank. The present surge is the result of a number of international demographic and labour market developments coming together. There are some important domestic factors as well. Most international influences work as attraction or pulls, certain domestic influences work as push factors, and a third set of influences can be seen as facilitating factors. The following are the major international factors:

- (1) Emergence of significant difference between India's demographic structure and that of a number of rich countries is an important driver. There are two significant patterns here: (a) Relatively older population in rich countries have resulted in general shortage of labour, which is particularly acute in blue collar and low-skill jobs and (b) Middle eastern oil producing countries have a small workforce compared with that required for oil production and their plan of rapid urbanisation. Relatively younger Indian population and abundant supply of low-skilled workers complement the requirement of the rich countries in both cases.
- (2) In the developed world a large number of non-tradable, low-skilled and semi-skilled services have come to stay as a structural feature. These services are in town-keeping; cleaning; garbage, sewerage and recycling services; check-out, restaurant, and hospitality services; nursing of the aged; security; general house-keeping and so on. Some of these services like town-keeping, garbage, sewerage and recycling services, old-age care, baby sitting etc are publicly provided for- either produced by public agencies themselves or contracted out. Other services are to be privately financed, but they are relatively price inelastic. The demand for all these services is increasing with urbanisation, rise in average age of the population and increase of work force participation ratio. This development has produced a pull for immigration given the shortage of low-skill and low-wage labour in these countries.
- (3) India's proximity to the rapidly growing oil economies of the Middle East facilitates short-term migration to these parts. As a result, India-UAE and India-Saudi Arabia have become two of the biggest migration corridors, only behind the Mexico-US, and at par with the India- Bangladesh corridor². Initially, short-term migration to Middle East mostly involved unskilled and semi-skilled workers. More recently, the demand for white-collar professionals has increased in those countries with urbanisation and settlement of large overseas population. A sizeable amount of white-collar emigration now takes place to the Middle East.
- (4) Despite relatively faster growth of income in India, average wages have increased at around 1.5% annually in the last ten years (ILO, 2009). Further the increase has taken place more on the high end of the market. Hence, the real wage gap between India and the rich countries for unskilled workers has actually increased³.

² Migration and Remittances Factbook, 2008, The World Bank.

³ For the latest comparison of real wage and consumption, see UBS, Prices and Earnings study, 2009.

We do not have complete information on qualified workers' emigration. Varying types of visa and residency status accorded to them in different countries is a major difficulty in classifying and compiling. But even the partial data illustrates the huge tendency of the skills, for which there is excess demand in the developed world, to emigrate. Where we get reasonably complete information, the magnitudes are striking. For example, 38 percent of all physicians who completed their degree in 2000 emigrated from India⁴. These very large propensities to emigrate, it seems, are helped by a few domestic push factors as well. They are:

- (1) For technically skilled workforce, the low pace of career advancement and relatively lower potential life-time earnings contribute to the tendency to emigrate. This is also reflected in the rapid increase of the number of student visas granted to Indian students globally. We should note that most Indian students go overseas to acquire a finishing qualification that can be instrumental to emigration.
- (2) The domestic push may have been strengthened in some Indian states by the spread of primary and secondary education together with general economic stagnation. A study of emigration from Kerala suggests an interesting confluence of factors: expansion of education together with stagnating agriculture and industry turns the attention to emigration as a serious alternative for a particular income and social class (Zachariah *et al*, 2001).
- (3) Fall in the average age of the Indian workforce is and going to be an important factor, given that younger people are more prone to take the risk involved in migration.

Finally, there are a few facilitating factors. Emigration of semi-skilled manpower has been facilitated by the increased flow of information about overseas labour markets. Further, internal migration of semi-skilled workers to Indian urban centres has increased over the last three or four decades⁵. Migrants to urban and metropolitan centres get more information on overseas labour market, come in contact with aspiring emigrants, returning emigrants and labour contractors. These motivate and facilitate emigration of semi-skilled workers from India.

We have tried to present here the major factors that have accelerated the pace of emigration. Interestingly though, we should report that we cannot produce reasonably good in-sample prediction of emigration for important destination markets using the factors discussed above. Preliminary exercises show that two other factors are very important. First, the existing stock of Indian emigrants in a destination has a large effect. Presumably, the stock works as a source of information and sponsorship, and reduces the subjective risk of the emigrant. Secondly, a dummy variable for visa regimes has significant explanatory power. Emigration is not a market clearing flow in large markets, but emigrants are rationed in the labour market. Hence, visa regime and quotas will always remain important for large markets.

III. Direct Economic Returns

We will try to collate what we know about the channels of direct effects. Overall, it appears that we understand the channels and the processes well enough, but do not have adequate

⁴ Migration and Remittances Factbook, 2008, The World Bank

⁵ I am assuming that the trends reflected in the Census 2001 and the earlier ones is continuing.

information to quantify them with reasonable accuracy. We will discuss the gaps in the data as we proceed.

We can identify two separate routes to direct economic effects. The first consists of the more visible returns- visible as rupee flows or investments. The second consists of the effects on the labour market. We will discuss the visible economic returns in this section and labour market effects in the next.

Direct economic returns comprise (i) remittances; (ii) investment by emigrants in the country of origin; (iii) import of best practice in production and management by returning emigrants or NRI persons/firms; and (iv) positive externality to the Indian economy from Indians' international presence.

Remittances

Remittances to India are indeed very large. They had increased to \$35.2 billion by 2007⁶ representing more than 3 percent of India's GDP in that year. A very recent release by Reserve Bank of India (RBI) suggests \$46.4 billion in remittance (4 percent of GDP) during 2008-09, while unreleased World Bank data quoted at a recent World Bank conference places it even higher, at \$52 billion (almost 5 percent of GDP)⁷. For the Indian states that source large number of emigrants, the contribution of remittances to state GDP is significantly higher than these figures. Zachariah *et al.* (2001) estimated that an average emigrant to the gulf from Kerala had sent Rs. 25,000 home in 1998, and total remittances came to 9 percent of the state domestic product. The importance of remittances purely as financial flow can be appreciated by noting that it consistently exceeds the sum of FII and FDI into India.

Unlike other capital flows, remittance is not very volatile. It is a stable function of the stock of emigrants and does not respond significantly to the business cycles of the destination country. In general, variance of remittances is smaller than that of private capital inflows and official inflows (IMF, 2005). For example, official aid flows to Sub-Saharan Africa have fluctuated considerably from year to year, but remittances have remained steady and less volatile than both FDI and official aid (Gupta, Patillo and Wagh, 2007). In Latin America, steadiness of remittances has been found to work as a stabilising influence in an environment of sharply fluctuating foreign financing and commodity prices (Loser *et al.*, 2006). Particularly for poorer countries, remittances have a tendency to increase when the country's economy passes through hard times. Emigrants tend to remit more money home to smooth out the recipients' consumption (Ratha, 2007 and World Bank, 2005)⁸. This has been borne out for India too (Sayan, 2006).

Remittances have another useful feature. They are perfectly targeted. Analysis of household survey data for a number of low-income countries show that remittances have reduced poverty and led to better development outcomes. According to some estimates, proportion of poor people in the population may have been reduced through remittances by 11 percentage points in Uganda, 6 percentage points in Bangladesh, and 5 percentage points in Ghana. Studies in El Salvador and Sri Lanka find that the children of remittance receiving households have a lower school drop-out rate. In Mexico, Nicaragua, Guatemala and Sri Lanka children from remittance receiving households show higher weights at birth and better

⁶ Source: World Bank, Provisional estimate for 2008 which was initially \$45 billion was later set at \$ 43.5 billion (3.7 percent of GDP).

⁷ See Ratha, Mohapatra and Silwal (2009), presented at the International Conference on Diaspora and Development, July 13-14, 2009.

⁸ For an interesting study of remittance to Philippines in this connection, see Yang (2006).

health indicators than other households (Ratha and Mohapatra, 2007). Cross-country studies corroborate these time series studies⁹. In case of India the expected effect on poverty is one of the more important reasons to think of institutions for facilitating remittance inflow.

Other Inflows

There are two other inflows of interest: overseas savings brought back by returnees, and investment in India by Non Resident Indians (NRIs). For balance of payments accounting, these two variables are small parts of more important larger flows. As a result returnees' saving cannot be properly identified or inferred from published balance of payment data. NRI investment too, cannot be identified from balance of payment or the national accounts. However, we can get aggregate NRI investment data from the publications of the Ministry of Commerce and Industry. The position of these two variables is described below:

- Savings brought back to the country by returnees is of little national accounting interest. Emigrants' earnings during overseas service is part of India's national income, earned by Indian factors of production overseas. In balance of payments account, the earnings are accounted as an invisible item. This item, termed as 'compensation of employees' in the IMF Balance of Payments manual, is not separately reported by RBI. It is added with investment income to form a 'net income' category and reported in the balance of payments table. But returnees' overseas saving is an important quantity, not only for the returnee and immediate family but also for the community.
- Remittance of returnees and the saving they bring in at the end of overseas stay have different significance. Remittance sent to relatives at home is mostly to support their consumption. But overseas saving is mostly intended to fund investment in land, housing and small business assets. Hence, it is important to have a good idea of returnees' savings as separate from remittances. This issue will be taken up again in section VII.
- Ministry of Commerce and Industry publishes figures for NRI investment. This figure represents project investment by NRIs and is useful. The Ministry separately provides data on NRI investment through RBI's NRI schemes. These schemes involve acquisition of existing stock by NRIs through transfer from residents. Though it technically represents FDI in the national accounts, it is of no interest to us since it does not represent new capital formation. We will plead for the break down of NRI project investment into states and industries. The reasons for this are explained in section VIII.

What we know about these two flows is mostly based on incomplete information and are inferences. We state them summarily:

- Remittances exceed investment by returnee emigrants and NRI's with a large margin¹⁰. This can be inferred from national account and balance of payments data, even though accurate calculations cannot be done without the required disaggregate entries.

⁹ See for example Adams and Page (2006), Fajnzylber and Lopez (2006) and Gupta, Pattillo and Wagh (2007).

¹⁰ As opposed to China, where investment in mainland China by overseas Chinese population exceeds remittances by far.

- We have complete information on net flow and total outstanding amount in all NRI deposits, published by RBI. The data shows very large variance of net inflows into all NRI deposit accounts.
- Even in years when net inflow is large, it remains small compared with remittance.
- NRI purchase of shares of Indian companies, and direct investment in projects has an increasing trend.
- State governments spend significant amount to draw NRI investment and often claim success in attracting them. But they do not publish any authentic account of projects that have started, are functioning and those that are at various stages of negotiation. A compendium of this information for all states should be published annually by a central agency.
- Returning emigrants bring new technology and advanced practices, and employ them in investment projects. In some state districts, the effect has been reported to be very significant, and have influenced local business practices.

Externality

The last and certainly not the least is the externality benefit that Indian business and the government get from the international presence of emigrant Indians. Emigrant Indians have been instrumental in fostering a favourable opinion of their country and its communities in the countries of their residence. We can identify at least two major beneficiaries: Indian business and the Indian government.

(i) Business

- In many overseas markets, demand for traditional Indian merchandise export initially arose from the demand of Indian emigrants and the diaspora. For some of the products, the demand subsequently got dispersed through the rest of the market. This applies to Indian food products and restaurants, beer, films and entertainment products, tourism, garments, style products and a few others.
- In overseas countries of residence, Indians have been generally able to create an impression as a hard working and talented lot. Arguably, this helps in the acceptance of Indian products and services as well. Launch of Indian business products in overseas markets typically begins in countries with large Indian settlements, but does not entirely aim at Indian emigrants and the diaspora. It seems that a tacit expectation of quality works in these markets, which probably stems from the general acceptance of Indians and Indian things. Products where this has been observed are two-wheelers, three wheelers, cars and light commercial vehicles (England, Africa and Middle East); entertainment and cultural products (England, Asia, Middle East, North and East Africa), education (UAE), drugs and pharmaceuticals, engineering products and services, tractors and agricultural machinery, software, BPO services, and so on. This is an interesting phenomenon, and is of sociological and business interest.

(ii) Government

- Indian diplomacy has got significant leverage from the political linkage created by NRI's and the Indian diaspora. A very recent example is the role of the NRIs and

persons of Indian origin during the protracted negotiation of the nuclear deal with the US during Bush administration.

- Indian public sector firms have bagged large contracts for goods and consultancy from overseas governments in countries with significant Indian presence. Arguably, the externality effect has worked in this area too.

Estimation of externality benefit is an uncharted empirical territory- particularly this variety of externality. However, estimation and quantification are not terribly important in this case. What is important is to understand how they work. Interaction between emigrants and the host society is very little understood, though this is one of the most important processes in cross-country sociology. History has spectacular examples of the results of such interaction- some disastrous and some indeed very fruitful. We need to understand the processes and the links for the benefit of domestic policy making, diplomacy, international trade, and investment.

IV. Quality of Data

Remittances

(i) Data Format

Migrant remittances have three components, each with a story to tell: workers' remittances, compensation of employees, and migrants' transfers. As defined in the IMF Balance of Payments manual¹¹, workers' remittances are current private transfer from those migrants who are considered residents of the host country, to persons in their country of origin. For this purpose, a migrant is considered resident if he/she lived in the host country for a year or longer, regardless of legal immigration status in the host country. On the other hand the entire income of a migrant is classified as compensation of employees if the migrant has lived in the host country for less than a year. The third component, migrants' transfers are the net worth of what migrants transfer from one country to another at the time of migration. Migrant's transfers when returning to India is what we have called returnees' saving in the last section.

To get a proper picture of the money flows attending emigration, think of policies and construct causal hypotheses, all the three components should be considered as source of useful information. They should be studied comparatively for emigration to a given host country. Their relative importance differs as the proportion of short-term and long-term migrants change. Unfortunately most countries do not use the IMF guidelines correctly and tend to club all receipts together or separate them arbitrarily¹². Reported compensation of employees in the Indian data looks improbably small in view of the large number of temporary IT workers in the United States and European countries.

Further, the current format of official statistics on remittances tends to underestimate the size of remittance flows. A working group set up jointly by The World Bank, IMF and the UN has recommended that three new items be added to the Balance of Payments Manual¹³.

¹¹ See IMF Balance of Payments Statistics Yearbook, 2007.

¹² See data notes in Migration and Remittances Factbook, 2008, Development Prospects Group, World Bank, and Ratha and Shaw (2007).

¹³ See data notes in Migration and Remittances Factbook, 2008, Development Prospects Group, World Bank.

They are personal remittances, total remittances, and total remittances and transfers to non-profit institutions serving households. The break up can throw some light on the disposal of remittances and the path it takes in mingling into the economy.

(ii) Informal Flows

Remittance data is based on total private transfer receipts of domestic entities from overseas through the banking system. We expect this to be significantly less than the true value because of informal transfers. Although the drive against money laundering and terrorist finances after 9/11 has brought more transfers into the organised sector, we still expect a significant percentage of unrecorded remittance. Informal systems such as *hawala* continue to work and elude data collection.

- A challenging aspect of improving remittance data is to estimate the informal flows. This exercise is necessary because we expect informal flow to be large, based on the estimates for other countries. A study at the Department of Economic and Social Affairs of the UN estimated that informal remittance from the US to Mexico could be between 28 to 46 percent of the total (Buencamino and Gorbunov, 2002). Assuming that the informal channel is used more by service workers - mostly emigrants to the Middle East- Indian high commissions in middle-eastern destinations could set up a regular schedule of randomized survey of emigrants. Part of the questionnaires should be directed to remittances. This data should be complemented by data from the survey of households in the major emigrating districts in India.
- Results of these two surveys should be used with RBI data on formal inflows to generate an overall estimate of total remittance. The survey information will be also useful for thinking strategies about *hawala* and other informal channels. Some studies have observed that remittance through informal channels mostly tends to be consumed and remittance through formal channels are highly used for investment (Miller, 2005). Given this, we should develop institutions to encourage flow through formal channels. The information will be useful in designing institutions to promote formal remittances. The question of remittance data will be taken up again in section VIII.

V. Who are the Emigrants?

As mentioned in section II, we do not have complete data on emigration, country-wise or overall. So we already have something on our wish list- a reasonably reliable data on emigration by country and skill. Together with that data on numbers, we will now ask for a database on emigrants' characteristics. We know from a few scholarly studies, media reports and official statements that the effect of emigration is quite different depending on emigrant characteristics. Hence, a data base on migrants' attributes is important.

Classifying emigrants as knowledge and service workers¹⁴, we should like to know the socio-economic and demographic characteristics of the two groups. More important questions are:

¹⁴ P. Drucker (1993) elaborates on this classification.

- What is the state-wise distribution?
- Within the states, are they well dispersed as in Kerala or come mostly from a few areas as in Punjab¹⁵?
- What is the distribution by gender and age?
- How is emigration dispersed over urban centres, semi-urban and rural areas?
- What is the distribution over household income and education level?
- For those from rural areas, what is the distribution of land holding?

Media reports and statements from the Ministry of Labour indicate that potential emigrants sometimes pay to agents and labour contractors to arrange the process of emigration. It is necessary to have information about the processes, deals and agencies involved, and the quantitative aspects of the issue. The following is a list of questions:

- What proportion of emigrants arrange emigration by paying agents?
- How much does it cost on average- adding together the payment to recruitment agencies and local agents?
- How do the emigrants raise this money?
- Is there a specialised loan market for emigration funds?

In short, if emigration service has become 'commodified', then we must understand all aspects of this commodity and the market.

Purchase of emigration related services also takes place in the market for knowledge workers. We have come across two types of services for that market. (i) In a number of destinations, potential knowledge worker emigrants arriving with student visa can upgrade to work visa and residence visa in due course of time for a price. These destinations are countries that allow conditional conversion of a student visa to work visa. (ii) In countries where residents or passport holders can sponsor potential emigrants, sponsorship is available at a price. In both cases we should have better idea of the *modus operandi*, prices, and the percentage of emigrants who buy these services.

How do we collect information about emigrant characteristics? We suggest three routes:

- (1) Some information about socioeconomic and demographic background can be collected through existing governance channels through which emigrants pass, by introducing additional sections in various forms and improving data collection method in general. Additionally, we need to devise a number of accounting and cross-checking practices to utilise the fragmented data from these sources to construct more complete information. The ministry of overseas Indian affairs can act as the facilitator and repository.
- (2) It is plain that ordinary channel of governance can procure only part of the information we discussed above. For others, we have to rely on stratified random surveys of the districts with relatively higher incidence of emigration. The surveys

¹⁵ The National Family Health Survey (NFHS) of 1992-93 found that emigration from Punjab was mostly from Jalandhar (52 percent) and Hoshiarpur (16 percent), while in case of Kerala emigrating families were well dispersed through the state. See Nangia and Saha.

should be of regular periodicity, and their format should evolve in response to feed back from data users. Regarding the design and organisation of the surveys, a number of possibilities exist:

- (i) The National Sample Survey Organisation: NSSO specializes in sample designing and has an all-India infrastructure for surveys. However the Ministry of Statistics and Program Implementation has indicated in the recent past that NSSO should not be burdened with additional responsibilities¹⁶. Given this, we may turn to other possibilities.
 - (ii) The Office of the Registrar General of India and Census Commissioner: The Sample Registration System (SRS) of the Census Commissioner now has an infrastructure covering 1.4 million households and 7.01 million population¹⁷. Since SRS continuously collects demographic data, the effort can be extended to emigration information with relatively small marginal cost.
 - (iii) 'Surveycap' data base of the Ministry of Statistics and Program Implementation can be used to identify appropriate agencies.
- (3) Information on fixing the emigration of service workers has to be handled by separate studies, conducted in selected districts. They should be designed to generate estimates of quantitative parameters. We should conduct a second set of studies using structured and unstructured interviews to understand the *modus operandi* of the market and identify the supply chain.

We should approach the Indian high commissions for information on emigration fixing in destination countries. High commissions in relevant countries are aware of the markets and the processes. The government should find an operational way of: (i) collecting the available information; and (ii) get the high commissions acquire more quantitative information.

VI. Labour Market Effects

A number of important emigration effects works through the domestic labour market. They are less apparent than monetary flows, some difficult to quantify and others not quantifiable even in principle. They arise partly from the act of emigration itself, described below as the 'departure effect', and partly from the return of emigrants after their overseas service, described below as 'homecoming effect'. What we now know is summarised below.

- Unlike emigrating professionals who look for permanent residence in the host country, service workers look at their overseas assignment as temporary. Therefore, for most of them the pursuit while abroad is to maximise saving subject to constraints arising from a family staying back in India¹⁸. They try to use the saving judiciously to ensure a better life after return. The return and subsequent activities of the returnees, we will call it 'homecoming', has a very important effect on the sociology of the local service market. Some returnees use the overseas saving to set up establishments in

¹⁶ See the preface to Ministry of Statistics and Program Implementation, 2007.

¹⁷ SRS is currently organised by 7,597 sample units (4,433 rural and 3,164 urban) spread across all states and union territories. They maintain continuous on-site investigation and data recording by resident part time enumerators, generally Anganwadi workers and school teachers. An independent survey is then conducted every six months by SRS supervisors.

¹⁸ Nair (1986)'s study of Asian emigration to middle-eastern oil producing countries estimated that migrants saved 45-46 percent of their income.

their trade - electrical works, carpentry, masonry, plumbing and so on. They employ relatively more advanced technology, equipment or practices acquired overseas. These establishments are reported to have progressive impact on local trade practice and tend to serve as benchmarks. Eventually they raise the bar of technology and management practices in the neighbourhood.

- Secondly, relative affluence and success of the returnees serve as inspiration for would be emigrants. Returnees become role models, source of information and mentoring. Because it is the returnees who serve as role models, potential emigrants think of success as being able to return home with good saving and set oneself up. On return they serve as mentors for the next generation of would be emigrants and so on. A cycle of emigration, homecoming and domestic investment is generated by this process and this process has been working in a number of Indian states.
- Homecoming is not always a celebration. There are tensions of readjustment into the community, socially and economically (Sekher, 1999). What effects do these tensions have on future emigration?
- Returning knowledge workers too bring back ideas and values. They join business, industry, profession, public service and NGOs. Their ideas and values are carried forward into these endeavours (see section VIII). It is necessary to study the sociological impact of the returnees' values, ideas, work ethics and zeal.
- Like homecoming, departure too has sociological and economic effect on the local labour market. A service worker who is going to emigrate shortly is held in esteem in the neighbourhood and the occasion of send off is important for the family, friends and the community. As much as a homecoming event, these occasions inspire younger members of the community - potential emigrants of future years. Where overall opportunities for success are limited, these occasions present a feasible alternative to younger people.
- We have very little information about labour market effects and social effects. Because the information is not quantitative, research strategy has to be based on interviews and results should be analysed qualitatively.

VII. Prediction Capability

The broad-brush survey of sections II to VI was meant to describe the state of knowledge, including hunches and even hearsays, and available databases. We tried to identify information gaps based on what we know about the probable effects of emigration. But eliminating these gaps is not sufficient to enable us to answer policy questions and address welfare issues. For that, we need to build some capability for predicting the major effects of emigration. We will sketch the outline of these effects and initiate a rudimentary discussion of the strategy for prediction and simulation. Please note that the purpose is not to develop or suggest theories about emigration effects. The purpose is to draw attention to databases that we would need to develop so that we may be able to build and test useful theoretical hypotheses in the future.

Broadly speaking, we expect three types of effects when a factor movement is large enough. I will describe them as income effect, factor price effect and a good's price or terms of trade effect.

Each effect brings out a different dimension of the overall impact. We require all of them together to build a model of an economy with emigration. Their interaction produces the observed effects on income, price, wages, employment, and so on. Here are some issues of general equilibrium effects that have been often raised:

- While emigration tends to generate domestic income through various inflows discussed above, at the same time it might increase the domestic wage rate, and hence price of domestic products. That may erode the real GDP. To evaluate the net gain for the economy- positive or negative- we need to evaluate the two contradictory effects.
- There are distributional effects to reckon with, eg. some social groups may gain and others lose in the eventual equilibrium. It is possible that in spite of large remittance inflows, the loss of the losing groups is bigger than the gain of the emigrants and their families. To cite an example, simple welfare calculations for the Caribbean countries, a region that is the world's largest recipient of remittances as percent of GDP¹⁹, suggests that the losses due to high-skill migration outweigh the official remittances to the region (Mishra, 2007).
- Wage increase may also affect the unit price of exports. India exports skills like IT professionals', in which it is not relatively abundant (in Heckscher-Ohlin sense) and at the same time it exports goods and services that use these skills intensively. The emigration of IT professionals may increase the wage and hence price of Indian IT service exports. Emigration of doctors may increase the cost of surgical operations in Indian clinics that cater to medical tourism. These developments may reduce our export of IT and surgical services.

Many similar issues result from interaction and feedback. Policy on labour market, investment, human capital, and emigration itself requires that we have answers to these questions. It is therefore necessary that we develop some capability to evaluate the three elementary effects, and study their interaction.

(i) Income Effect

We may define income effect from emigration in a given year as the net change of domestic income resulting from it. For this purpose 'emigration' should include those who continue to stay overseas beyond the year as also those who are back within the year. Further, it should depend on the frame of reference of a given exercise whether we count only Indian passport holders or include persons of Indian origin as well. If our data bases are relatively complete, we may like to develop two separate series corresponding to the two frames of reference. Income effect results from- but need not be the same as- the inflow of remittance (R), saving brought home by returnees (S), various types of investment from it (S_i), and NRI investment (N).

We have a choice between two alternative measures of income effect:

- The first is to take the quantity of inflows itself as defining the effect. In that case the measure is simply the sum of all financial inflows during a year:

¹⁹ Remittances constituted about 13 percent of the region's GDP in 2002.

$$Y_1 = R + S + N \quad (1)$$

On the right hand side R and S are spent on both consumption and investment, while N is a demand for investment alone. All of them however constitute domestic demand and identically domestic income.

- The second measure recognises that families of remittance recipients and returnees will invest parts of R and S . That investment, plus NRI investment (N), would produce income in the future as well. So we may add the present value of future incomes from all those investments to the current inflow Y_1 . This is obviously not consistent with national accounting practices and use of this measure in a macro model will create serious inconsistency. But it gives a better idea of the impact of emigration, which may be the objective in some cases.

Expected present values of different types of NRI investments are different. So are the present value of flows from different components of S , and R , like housing, human capital, farm investment, setting up business or self-employment, and industrial investment. As long as we do not have reasonable estimates for separate parameters, a practical method is to use an average. For this measure of income effect we may write:

$$Y_2 = Y_1 - a(R + S_i) + \pi[a(R + S_i) + N] \quad (2)$$

where π is the average present value operator and a is the average share of remittance and returnees' saving that are invested.

Y_1 is useful for application in macro-economic reasoning and macro-econometric models. On the other hand, Y_2 is a handy measure when we want to quantify the gains for cost-benefit analysis or similar arguments particularly in small areas.

Eventually we expect to replace the average operator by disaggregated operators. Also, as we acquire more information from survey of returnees and remittance receiving households, we should be able to estimate the propensity to invest on different assets out of remittance and returnees' savings.

We should note that income effect defined here is the immediate or first round effect on income. Full general equilibrium impact can be evaluated only after considering the factor price effect and goods price effects.

(ii) Factor Price Effects

We expect any significant emigration of a skill to affect its domestic price. This wage effect has been verified in a large number of studies for different countries. A study for the period 1970 to 2000 finds a strong positive effect of Mexican emigration to US on her domestic wage rate (Mishra 2004). At the present stage of international migration, emigration from developing countries (e.g. like India) to rich countries does not establish market clearing equilibrium. If at all a dynamics operates towards factor price equalisation,²⁰ the annual speed of adjustment is too small to be noticeable²¹. This is borne out by many recent studies. For example, Vujicic *et al*, 2004 reports that even after controlling for other factors, estimated

²⁰ We mean in the sense of Samuelson, 1949.

²¹ This is not to be dismissive about factor price equalisation theory itself. It is a theory of the long run. Predictions of the theory are borne out admirably well by data on long run convergence of unskilled real wage rates across US, Sweden, Britain, Germany, Ireland and Australia. See for example O'Rourke and Williamson, 1999.

correlation of emigration and wage differential between source and destination countries is statistically insignificant for emigration of health professionals from African countries²². An implication of these observations is that there is no tendency for factor price equalisation to choke off or slow down emigration, and the upward pressure on domestic wage rate of professionals continues. There were media reports and articles in India during the boom years of 2006-07 attributing the salary boom of IT professionals and doctors to emigration. The effect need not be confined to skilled labour only. Large scale emigration of semi-skilled and unskilled workers to the Middle East is expected to create positive price effect in local labour markets.

In the short run we expect the wage rate of a skill that emigrates in large quantity to increase by laws of supply and demand. In the long run however, emigration itself incentivises the supply of the skill. The long run supply would be definitely more elastic and wages can move either way in real terms. For example, recent emigration of IT professionals and doctors has led to hugely increased enrolment in IT and medical education. There is also increased investment in new teaching institutions in the related discipline areas. In the long run the supply of these skills will rise above the erstwhile trend rate. The effect on wages will depend on the continuing rate of emigration of these professionals as well as the growth rate of domestic demand. We will discuss certain rudimentary ideas here to explore data base required for estimating price effects.

Skilled Labour

If we have a readily available data base, we can study short run wage effects with simple *ad hoc* models. For example, consider the *ad hoc* hypothesis for domestic real wage of IT professionals:

$$\frac{\dot{w}}{w} = a + b_1 \frac{\dot{D}}{D} - b_2 \frac{\dot{S}}{S} + b_3 \frac{\dot{E}}{E} + \varepsilon, \quad a, b_1, b_2, b_3 > 0 \quad (3)$$

where w is an index of real wage, D the number of domestic jobs filled and advertised including bench strength, S is the number of seats in domestic IT teaching institutions, E the number of emigrants and ε is a random influence. The hypothesis suggests that when demand and supply are growing in tandem and there is no emigration, wage rate increases at some trend rate, a . The model can estimate this long run trend and decompose the wage growth above the trend into parts contributed by domestic demand-supply gap and emigration. For many types of professional skills e.g. IT, doctors of particular specialisation etc, variables S and D are relatively easy to conceptualise, account for and collect. Not only can we develop data base for these variables, but we can also fine tune according to the type of job, specialisation, training etc. within the generic profession. For example Kaushik *et al*, 2008 has collected and used data on emigrating doctors by the ranking of medical colleges and universities where they were trained.

Unskilled and Semi-skilled Labour

Conceptualising the wage effect for the unskilled labour market so as to develop a data collection strategy is more challenging. We do not expect a wage effect on the countrywide

²² A study of the Swedish labour market reports that immigration had no effect on domestic wage inequality over the period 1993-2003, Korpi, M.(2004).

market for semi-skilled and unskilled labour for a large market like India's. But we do expect an effect in the fragmented markets from where unskilled and semi-skilled emigration mostly occurs. To study the effect of emigration on the generic market, we need to identify the major sub-markets or the fragmented markets. However, though the national market is fragmented, internal migration is an important factor nevertheless. Large urban labour markets are affected by both emigration and internal migration. We need to model wage movement in these centres as related to all the flows. I will try to outline the kind of data base we require for this purpose.

Suppose there are n number of major markets connected through internal migration, while some of them also source emigration out of India. We use the notations:

L_j = number of workers at the j th market in the beginning of a period,

L_{ij} = number leaving the i th market for the j th during the period, $i \neq j$.

L_{ii} = autonomous growth of the number of workers in the i th market during the period.

E_j = emigration from j out of the country. If ΔL_j denotes the change in the supply of workers at j during the period, then we have the accounting identity

$$\Delta L_j = \sum_i L_{ij} - \sum_{i,i \neq j} L_{ji} - E_j \quad (4)$$

$\sum_i L_{ij} - \sum_{i,i \neq j} L_{ji}$ is the net increase of workforce through internal migration and demography. Denoting this as N_j we can rewrite (4) as

$$\Delta L_j = N_j - E_j \quad (5)$$

Using lower cases for percent of L_j as in $l_j = \frac{\Delta L_j}{L_j}$, $n_j = \frac{N_j}{L_j}$ and $e_j = \frac{E_j}{L_j}$, we have

$$l_j = n_j - e_j. \quad (6)$$

A possible hypothesis suggested by standard labour market theories is the following. If w_j is the growth rate of wage in market j , then $w_j = f[l_j]$, $f' < 0$. If we use a simple additively separable form of the function $f(\cdot)$, we can write this as

$$w_j = f_1(n_j) + f_2(e_j), f'_1 < 0, f'_2 > 0.$$

A linear version for econometric estimation is

$$w_j = a_j + b_j n_j + c_j e_j + \varepsilon_j. \quad (7)$$

Equation (7), or possible variants, provide a way of estimating the wage effect of unskilled and semi-skilled labour from urban and metropolitan centres. We may assume that the effects b_j and c_j may not be too different across markets. In that case a few years' data for all the markets can be used as a panel, thus reducing the severity of data requirement. Alternatively time series data for the markets will be required to estimate j equations.

We expect net internal migration rate n_j to depress the wage rate at j in (7). However n_j could be probably the effect of an existing wage differential between j and other locations, e.g.

if j has a higher wage rate it would attract larger internal migration. Thus theoretically we expect a two way relation between w_j and n_j . We can explore this and similar other possibilities using a number of alternative model specifications.

To proceed with any variant of these exercises, we need a data base for the matrix $[l_{ij}]$ and the vector (e) . Some elements of the matrices and the vector are expected to be zero. We will discuss the issues of data collection in section VIII.

Hypotheses like the ones presented above provide only a starting point. It is necessary to augment them with local variables specific to the labour markets- quantitative and qualitative. We should also experiment with other plausible hypotheses. For this endeavour, with migration and wage data, we should also collect data on relevant time-specific and location specific variables. The idea is to develop a data bank for $[l_{ij}]$ together with qualitative and anecdotal information on the n markets in the years of the database. For example, the database should alert a researcher of one-off events like drought or political agitations etc that contribute to extraordinary internal migration. Preliminary analysis and data mining would help us to spin out our own hypotheses.

It is not possible to anticipate the range hypotheses that could emerge from a suitable data base. But I want to plead for a comprehensive database like this- involving internal migration and emigration- for unskilled and semi-skilled labour markets.

The Long run

Capability for projecting alternative long run scenarios is important for planning and policy making. These scenarios facilitate thinking about institutions for labour market, market for services, human capital, and exports. The web of interactions in the long run can be visualised as a dynamic general equilibrium model and we should try to develop these models. We need them to address qualitative questions like the direction of change, emergence of bottlenecks, relative changes of important ratios and so on. They are also useful for comparative analysis of alternative scenarios. To get precise quantitative answers to specific questions we should develop customised models for those issues nested inside a long run scenario.

(iii) Terms of Trade Effect

Terms of trade effect is the price change of import-competing and export items. Following are a few typical concerns about terms of trade effect. What is the effect on domestic price of goods intensive in labour that are emigrating heavily? Does that affect domestic welfare and export earnings? As example, what is the effect of emigration of IT professionals on the price and quantity of India's software exports? Or how much does healthcare cost increase because of doctors' emigration? And, what is the impact on the export of healthcare and surgery? What is the downstream effect on earnings from incipient medical tourism? If we lose export revenue in result how does that compare with remittances of IT emigrants or doctors?

These trade-offs have been being pointed out for a long time. The concern about brain drain belongs to this genre of issues. There is hardly any disagreement about the existence of the alleged trade-offs. But because we cannot estimate the opportunity costs, questions remain unresolved. Is it at all possible to quantify the trade-off between the income effect from the emigration of a particular skill (or, say, all white collar workers), and the loss of

consumer surplus from increased domestic price and loss of revenue from exports? Theoretically speaking, these questions are about the effect of emigration on the general equilibrium. We can adopt two possible strategies for addressing these issues:

- The first is to set up a computable general equilibrium models at the level of disaggregation necessary for questions at hand. Calibrating such models would require data at the corresponding level of disaggregation too. However, it may be costly to develop the appropriate databases at the required level of disaggregation.
- A less costly strategy is to set up the questions as partial equilibrium issues, i.e. assume that things that are not immediate cause or effect, remain unchanged. This avoids the cost of data for anything but the most proximate variables. We will require disaggregated data for variables only directly related, like migration, remittance, wages, prices etc. We can set up all terms of trade related questions as partial equilibrium questions.

VIII. Data Requirement

We now want to identify the database that we must develop to understand and estimate the effects outlined above. We will also suggest possible source and methods. We divide this discussion into parts corresponding to the three effects we discussed above. Table 1 summarises the wish list.

Income Effect: We need reliable series on remittances, returnee saving, NRI investment, and disaggregated variables for the allocation of saving.

- The Reserve Bank is the principal source for data on remittances. We may request the Reserve Bank to provide a breakdown of workers' remittances, compensation of employees, and migrants' transfers, strictly using the official IMF definitions. If that is not feasible for lack of information, the Bank could provide sufficient indications about its method of breaking up the total to let data users make appropriate constructions.
- We further request the classification: total remittances, personal remittances, and total remittances and transfers to non-profit institutions serving households.
- An estimate of informal inflow should accompany RBI data on remittances. RBI is in the best position to estimate informal inflow, using its monetary and financial database, monetary intelligence and vast expertise.
- We also suggest a second estimate using a different methodology. This estimate can be based on stratified random survey of recipient households. This can be handled by the Sample Registration System (SRS) of the Census Commissioner or by organisations in the 'Surveycap' data base. The estimate should be an annual publication.
- *Prima facie* it appears that remittance from emigrant service workers and knowledge workers operate differently on the domestic economy; they pass through different channels, and recipients belong to different social and economic classes. Hence they should be studied as separate flows. Given this, we need remittance data by type of emigrants. However, as of now we have only aggregate data. We suggest that the survey of recipients mentioned previously should be utilised to estimate a breakdown of remittance by the source of remittance.

- Economic impact of an amount of remittance varies depending on how it is absorbed, e.g. whether spent on consumption, physical capital purchase, land acquisition or financial saving. To model and predict the effect of remittances, we require information about the allocation of remittances over these alternatives. Ideally, we should estimate behavioural parameters like the marginal propensity to consume, save, or buy productive capital or gold out of the average rupee of service workers' and knowledge workers' remittance. Data needed for these estimates cannot be generated except by surveys of recipient households. These surveys should be organised at regular intervals. Questionnaires should draw out senders' occupation, the country of current residence and a breakdown of the use of the remittance for consumption, housing, education, health, land purchase, farm investment, business, and the purchase of other income generating assets.
- Ministry of Commerce and Industry publishes data on the amount of NRI investment along with FDI data. We will also like to plead for disaggregate information: state-wise and industry-wise break down of NRI investment, in the same format as we have for FDI.
- State governments spend significant amounts to attract NRI investment. What are the benefits and costs, compared with spending to attract FDI from other countries? On the benefit side, we have to know how, if at all, the effect of NRI investment differs from an equal amount of FDI from other sources. Difference may be expected in average size, favourite sectors, rate of return, technology, management, social distribution of dividends and also in other social effects. We plead that state governments publish an annual report on NRI projects that finally come to the working stage, with as much information as possible.

Table 1: Data Wish List

Variable	Suggested Features	Probable Source
Remittances	1. Disaggregation by source and by use 2. Disaggregation as per IMF manual.	1. RBI tables with added features. 2. RBI accounting estimate of informal inflow. 3. Surveycap: Survey of recipients. 3. Surveycap: Survey of informal inflow. 4. Indian high commissions: Survey of senders.
Returnee saving	Disaggregation by source and by use	1. RBI tables with additional features. 2. Surveycap: survey of districts with large emigration.
NRI investment	1. Disaggregation by state and by industry. 2. Information of ongoing projects.	1. Ministry of Commerce and Industry, with additional features. 2. Collected from state governments, to be compiled by a central ministry.
Wage effect	1. Index of earnings of specific skills. 2. Estimates of emigration of specific skills. 3. Database on seats and pass rates in certifying institutions. 4. Internal migration matrix, and locational and time-specific variables. 5. Index of unskilled/semi-skilled wage in emigrating centres.	1. Surveycap: Survey of specific skill markets. 2. Ministry of human resource development, and organisations like the medical council. 3. Indian high commissions. 4. SRS of the Census Commissioner or Surveycap. 5. Uploading privately collected data to the public website.
Market for emigration services	1. Per cent of emigrants buying the services and their income/land holding/ social/education background. 2. Price paid; how funded. 3. Student visa- to- work visa markets data.	1. Surveycap for major source markets for emigration. 2. Indian high commissions.
Social effect of returnees	Effect on culture, values and work ethics.	1. Structured interviews by private researchers. 2. MOIA may consider scholarships for Ph.D/post doc research in sociology departments.

Note: 'Surveycap' is used as a short hand expression for any competent organisation like those in the Surveycap database.

- On the cost side, is it any cheaper to attract NRI investment than FDI from other countries? In this connection, we need to learn about the factors that motivate NRI investment to come to India rather than elsewhere. Hence the need for information to answer the following type of questions: (i) Do NRI's tend to invest more in India other things being equal? This could be statistically verified quite easily if we could get information on the global investments of NRI's. This being not possible, we have to use indirect ways for answering this and similar questions. (ii) Is the state-wise distribution of NRI investment significantly different from the state-wise distribution of emigrants? If so, how much of the difference is explained by the difference of per capita GDP or growth rate of states and how much by the spending and incentives of state governments? Answers are obviously necessary for deciding about optimal spending of states on NRI investment.

Factor Price Effect

- We call for a data bank on the emigration of major types of skills that emigrate from India, like doctors and IT professionals. The ministry of overseas Indian affairs may call upon Indian professionals overseas to register themselves on a ministry website. Information asked for at registration should be kept to a minimum. The call can be orchestrated through NRI and diaspora websites and the Indian high commissions.
- Index of annual earnings for these professions in India should be calculated and maintained in a database.
- Private researchers who collect this type of information should be called upon to donate their databases after they have published their work.
- Major urban and metropolitan centres from where emigration of unskilled and semi-skilled labour takes place should be identified. Labour supply, internal migration to and from, and emigration should be monitored. An index of unskilled wage rate should be developed for each centre and a time series maintained. This requires continuous monitoring like the Sample Registration System (SRS) of the Census Commissioner. The monitoring system should also acquire information on a number of qualitative attributes of the markets, as we discussed in section VII.

Terms of Trade Effect: The database suggested above and the currently published statistics of different ministries would be adequate for terms of trade modelling. So we do not wish to add anything here.

Sociology: We have discussed the effect of returnees purely in economic terms. If we have ignored the social effects, it is not because they are unimportant but because we know very little about them. Returnees' influence goes far beyond the economic. The number of returning emigrants is large. They comprise not only service workers after the end of overseas contract, but also knowledge workers who decide to return and live in India. Most of these returnees return with a definite plan, accompanied with knowledge, ideas and practices. Emigrant returnees have invested in an amazingly wide variety of projects: education, health, surgery, low cost housing, sewerage services, rubbish disposal, recycling, social forestry, primary education, computer literacy, farming, horticulture, viticulture, pisciculture, alternative energy and so on. In most cases the projects are imaginative and involve significant innovation. These innovations are emulated by others. Some returnees have set up not-for-

profit organisations. Some have joined the government, the academia or research institutions. The social effect of this wide range of activities and participation is expected to be significant. The returnees' imagination gets emulated, their zeal breeds contagion and work ethics inspires others.

Returnees' activities raise important sociological questions. Are their initiatives changing our culture-for good or for worse? Are they weakening the general inertia and cynicism of our society or just introducing another layer of officially favoured players into our burdened system of official patronage? Sociological analysis of these questions is extremely important.

Information about the returnees' activities and their social effects escapes the channels through which we have proposed other types of data collection. This information can be collected by interviews, e.g. in Khadria (1996). Structured interviews are widely used by sociologists and the information is subjected to qualitative analysis. We need this variety of research on emigrant returnees. The ministry of overseas Indian affairs may consider awarding a few scholarships for doctoral and post-doctoral research at sociology departments for research on emigrant returnees.

IX. Conclusion

In this paper, we have pleaded for a development focus for issues related to emigration. We mean that official policy, while vigilant about emigrants' well-being overseas, should focus on developmental effects of emigration back at home. This, we believe, will facilitate the development of databases, not just for understanding emigration, but also for getting the most from it. We expect the suggested focus to boost the data project by increasing official demand for information on local and grass root links between emigration and economic development. This will lead to more resource for data collection and information. Secondly, the new queries arising from the focus on development, will call for some information that we do not collect now. Since the objective of the focus is to maximise the country's gains from emigration, the data improvement can be counted as a nearly free bi-product!

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