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≡ The Oxford Handbook of  
**AFRICA AND  
ECONOMICS**  
VOLUME II: POLICIES AND PRACTICES

THE OXFORD HANDBOOK OF

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**AFRICA AND  
ECONOMICS**

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VOLUME 2

**POLICIES AND PRACTICES**

*Edited by*

CÉLESTIN MONGA

*and*

JUSTIN YIFU LIN

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# **Mobility, Human Capital, Remittances, and Economic Transformation**

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## **Mobility, Human Capital, Remittances, and Economic Transformation**

Yaw Nyarko

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### **Abstract and Keywords**

Migration and its related remittances is now an important feature of many economies, both the source countries and many destination countries. The flows are big in numbers and in economic significance. This paper is a distillation of research that has been and continues to be conducted in and around the question of migration, the brain drain, skills accumulation, remittances, and economic transformation. The chapter shows that the combination of incentives to skills accumulation, remittances, and the return of better-skilled workers home result in many benefits and the potential for economic transformation in the source countries. This chapter will focus on Africa, although examples will also be drawn from the Arab Gulf states and Asia.

Keywords: migration, remittances, brain drain, economic transformation, Africa, Arab Gulf

### **26.1 Introduction**

From the beginning of time, humans have moved from one place to another to better themselves. Today the movement of people from one country to another is very large in terms of both the total number of people moving and the flows of remittances from the destination back to the source countries. The mother of all migrations is probably that which is thought to have resulted in the movement of people from the birthplace in Africa, through the great East African Rift Valley, and the initial population of the world outside of Africa by people several hundred thousand years ago.

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There are two broad sides of the debates and academic analyses of migration: the viewpoints and issues in the destination countries and those in the source countries. In the destination countries the debate is often the tradeoff between the need to allow immigration to boost the local economy against concerns about jobs, cultural change, etc., among those who are “incumbents” in the economy. On the source country there is debate about the tradeoffs between losing the talented and entrepreneurial skills of those leaving on the one hand, versus the return of remittances and the acquisition of the skills of those who leave.

For many destination countries, migrant labor is one of the key policy instruments for economic transformation. The Arab Gulf Countries—UAE, Qatar, Saudi Arabia, etc.—today have large numbers of their populations coming from foreign, and primarily Asian, nations. The migrant labor population in the UAE is around two or three times the size of the local population. European nations are increasingly discussing immigration of particularly skilled workers as their own populations face decreasing fertility rates and aging demographics. At the same time, there is concern that the new migrants are changing the culture (p. 481) or taking jobs away from the locals. Particularly following the Arab Spring, but even before, this has been a concern and there has been legislation in the Arab Gulf nations restricting the inflow of foreigners into the country to preserve jobs for the locals. The UAE has adopted various “Emiratization” laws, and Saudi Arabia has a number of new labor codes, most recently the Nitaqat laws. Europe has had extreme right political parties complaining about immigrants in their countries for some years now.

In the source countries, although the emigrants leaving their countries are often relatively small fractions of their population, they often represent large percentages of their skilled and educated workforce. There is often passionate debate about what is termed the “brain drain,” with sensational language which, for example, accuses the West of stealing doctors and nurses from African nations. On the other hand, there is now the realization that remittances are an important source of revenue for home countries.

What is often not understood or appreciated is the enormous potential for migration to increase the skill levels of those who leave, and that since many of those who leave return after a few years, this is an important channel for skills improvement for the country. Indeed, via an initially counterintuitive process, the possibility of skilled migration increases the total number of skilled people remaining in the home country due to the larger numbers who are given the incentive to acquire the human capital needed to leave the country but may not have been able to leave because of, for example, too few opportunities available.

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This chapter will argue that there are many benefits of mobility, particularly, as already mentioned, in the area of skills acquisition and remittances. These debates and issues will probably get stronger over time because of two reinforcing demographic trends. On the one hand, Africa is rapidly increasing its population, and that population is relatively young and therefore in need of jobs. It is unlikely that the growth in employment in Africa will be able to adequately absorb all the new young people looking for employment. On the other hand, Europe's population is declining and getting old. The European countries will therefore see the need to get more foreign workers for their domestic economies to make up for the smaller numbers of workers locally. Africa's supply of workers and Europe's need mean that these debates on migration will go on for quite a while.

The ideas on migration, remittances, and human capital acquisition have a number of very important policy implications. As will be discussed in this chapter, these results imply that for human capital development within a nation, one should actively look at the migration process and use the "brain circulation" to aid the development of training programs and institutions which enable source country workers to emigrate, but also enable a lot of locals to get the training that they need.

The other policy implication discussed is the tradeoff between direct spending on cash transfers to the poor relative to spending on education, which increases long-term wages and, through remittances, have secondary effects on the poor.

Finally, the question of skills acquisition among migrants is important in the design of migrant contracts. It will be argued that this is an important consideration in the current debates in the Arab Gulf nations on immigration policy.

The chapter is organized as follows. After this introduction, we first talk about what should be obvious but is often left unstated—which is that there are direct benefits to the migrant that leaves and these should be recorded in the equation on the pluses and minuses of migration.

(p. 482) Following that, we dive immediately into the questions of the brain drain, particularly in Africa. We first present the case for why there is discussion of the problem, and then we point out prior research explaining that when remittances are taken into account, on a purely economic internal rate of return argument, the pluses dominate the minuses in the brain circulation equations. We then very quickly touch on the rates-of-return to education literature and note that the paradox of low returns to education can be resolved if we take into account emigration out of the country.

Finally we point out the possibly counterintuitive result that the incentives to acquire human capital for possible emigration often leads to there being more human capital in the source nation. The section after that will discuss remittances and social security.

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Some remarks will then be made about unskilled migration in general and unskilled labor in particular, and this will be related to recent work in the Arab Gulf nations. Just before concluding we have a section on the policy implications of the research findings presented in this chapter.

## **26.2 Some Immediate Benefits of The Brain Drain: Wages and Remittances**

As mentioned in the introduction, it is the basic instinct of human beings to better themselves. Migration is a major tool by which we improve our lot. By migrating we can benefit from higher salaries, or learning and training opportunities abroad. We can gain a higher wage to help family back home. We can also escape oppressive governments and harsh economic circumstances at home.

We witness sub-Saharan Africans traversing the Sahara desert to look for better outcomes abroad. We witness families being torn apart so one member—a mother with children at home say—can go abroad for months or years at a time to get money to send those at home to school or to provide them a basic income.

Despite this incredible display of the human spirit, in a lot of the literature on economic development and migration, the migrant, who should be at the center of the story, is often missing. Too often the focus is on those who are left behind and the implications on their welfare. So, we begin our discussion by pointing out the gains to the individual and their families.

First on own wages. Al Awad (2010) and Tong (2010) put the annual average wage of workers in the UAE from India, Pakistan, Bangladesh, and the Philippines, in a sample of 10 954 people, at 25 200 AED (around US\$7000 at today's exchange rate). World Bank GDP per capita measures of annual income of those countries at US\$3650, US\$2745, US\$1777, and US\$4119 for India, Pakistan, Bangladesh, and the Philippines respectively (see Nyarko 2013). Presumably the mainly construction workers coming from these Asian countries into the UAE are on the very bottom of the wage income distribution, and are possibly unemployed, so we would expect from this data that at the minimum wages are doubled when workers leave their home countries to go to the UAE. In particular, we have an economic development instrument involving several million workers doubling their wages. It is hard to think of other development strategies which can so quickly and immediately boost salaries. (p. 483) For Ghana, Nyarko (2011) looked at those at the higher end of the source country income distribution—the tertiary educated. The data there

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showed conservatively an increase in wages upon migration of 20 times. In particular, there is a very large and immediate benefit to the migrant from migration.

Immediately after the discussion of the benefits to the individual, one needs to discuss the benefits to the family. This usually is in the form of remittances by the migrant from the destination country back home to the source country. These remittances are large, and a big portion of these are sent to the family. From the UAE alone, the remittance firm UAEx alone handles remittances in excess of US\$ 17bn per year from the primarily Indian migrants in the country. This data is from current research of the author, which suggests that the remittances going out from the UAE is around US\$40bn and, around US\$ 410bn is the value of remittances worldwide (as reported by various Worldbank sources, and in particular its KNOMAD group, at [www.knomad.org/](http://www.knomad.org/)).

So we have a benefit to both migrant and to the family of the migrant through remittances. The flows of remittances are also large, as just argued. They form a large percentage of the GDP of many nations. In Nyarko (2013) tables were presented showing remittances of the order of 10% of GDP for countries like Nigeria, Sierra Leone and Senegal. Although a smaller part of the GDP of Nigeria, it is a large part of the GDP of some individual states in India like Kerala.

## **26.3 The African Brain Drain**

As is well known, education levels in sub-Saharan Africa are low, as measured by the average level of schooling of each relevant age cohort in the population. This is particularly so at the tertiary level—there have been low levels of tertiary educated people, and this has been the situation since the times of independence. Indeed, African independence leaders stressed education in their development plans. Kwame Nkrumah of Ghana was emphatic in the need for education in the development plans of Ghana. Teachers were a constraint in the education process, and Kwame Nkrumah was very interested in the Peace Corps program for this reason—Ghana was the first country to receive Peace Corps volunteers.

In the 70s and 80s, under attack from both structural adjustment programs and also the “rates-of-return” literature, many countries backed away from rapid expansions in the tertiary education system. In the rates-of-return literature, it was argued through statistical computations that the return to primary education was much higher than that going to tertiary education so investments in the latter should be scaled down in favor of the former. Although the literature itself was much more nuanced than that description,

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policymakers took this as a signal that they should not invest too much in tertiary education.

This was an initial blow to human capital formation, particularly at the tertiary education level, in African nations. A second has been the recent concern about the “brain drain” in Africa.

More recently concerns about the “brain drain” have slowed down the desire for flows of Africans to the West for further education, and often also the construction of educational (p. 484) institutions in African nations. As will be indicated in this chapter, this is probably not justified by the economics.

This chapter will pay a lot of attention to the skills acquisition benefits of the migration, as well as the remittances, both of which benefit the source countries.

Over the past decade, the other issue that has been getting attention and has the potential for holding back the growth of the tertiary educated, is the fear of the brain drain. Many argue that it is wrong to spend on tertiary education when so many of the tertiary educated in turn leave the country.

On the face of it, there is a case for the brain drain pessimists. Figures presented in Nyarko (2011) indicate that there are very high rates of emigration of skilled personnel. Around the year 2000 the data showed that about half of all Ghanaians with tertiary education were outside the country. Similarly, high figures were obtained for Cape Verde, Sierra Leone, Gambia, while the figure drops to a lower but still apparently shocking figure of 38% and 36% for Kenya and Uganda respectively.

One immediate point stressed in the earlier papers mentioned is that these figures do not tell the full picture. First, the aggregate numbers of the education is very small. My home university, New York University has about 50 000 students. The data suggest that in 2000 Ghana had resident in the country and outside the country around three or four times that number of tertiary educated people, in total. So although the percentages are large, the totals are really small.

There is currently a 2010 Ghana census and the author is updating the figures in new research. In the next section, we summarize existing research, and primarily that of Nyarko (2011), which indicates another reason why the concern about the brain drain as defined above is possibly misplaced.

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## **26.4 The Simple Cost-Benefit Analysis And Positive Internal Rate of Return to The Brain Drain**

Nyarko (2011) presented an explicit model of brain circulation. In that paper, an economy was presented where individuals decide how much schooling to attain. The emphasis there was on the decision to acquire tertiary schooling. In that paper there is a probability that after getting schooling one obtains the opportunity to emigrate and receive a much higher wage abroad.

There are a number of benefits to the acquisition of tertiary education: (i) the increased wages over and above the secondary level; (ii) the increased salary that one obtains if one emigrates out of the country. On the cost side to the central planner (or society) and individual is the cost of the education and the loss in output while the individual is acquiring the education.

The model allows for migration of the individual. Again there are costs and benefits. The costs are primarily the foregone earnings. The benefits include remittances back home and the higher income that the individual enjoys. There is also the possibility that the individual returns home with the higher skill level.

(p. 485) Costs of education can be obtained from standard measures from UN organizations like UNDP. Various World Bank researchers have computed the brain drain probabilities (see Docquier and Marfouk 2005). Survey data show the rate of return of migrants back to home countries. Early estimates are that 50% of Africa PhDs in the sciences return after five years (see Pires et al. 1999). Various household surveys provide information on the wage level of representative individuals of different education levels. Finally, remittance data is obtained from a variety of sources: IMF data, source country central banks, and various surveys of migrants. Bollard et al. (2010) and Chami et al. (2008) also have data remittances, and provide insights into the patterns of remittances, as do Irving et al. (2010), Kapur, (2004), Ratha et al. (2010).

In the Nyarko (2011) paper all the different pluses and minuses of migration were empirically estimated and put in a model where the internal rates of return could be computed. These rates of return are of course the standard methods used in the economics of education to determine the long-term value of increasing education levels, and it is has a long history in labor economics.

Loosely speaking, the internal rates of return (IRRs) are a measure of how much return on an investment one would get if the money were put in the project in question. (Of

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course formally the IRRs are a bit more complicated than that, measuring the interest rate at which the net present value is equal to zero. However in many cases it does provide a proxy measure for the importance of different projects.) An alternate measure is the Net Present Value (NPV) of investments in different types of education assuming a fixed (usually 5%) payment to the capital used in the investment.

The chapter first looked at the central planner problem. In particular suppose that a government is spending money on providing tertiary education to one representative person. The government cares about the cost of education, employment of this person only when in the country, and the remittances the individual brings back into the economy, and of course employment within the economy if the person comes back home (usually with higher skills). One can then compute the IRR and NPV, as described earlier, and use this as a measure of how valuable the tertiary investment is. Again, it should be recalled that the computation considers as a cost the lost employment of the individual in the home or source country when that person migrates. The Nyarko (2011) showed that for the Central Planner problem the internal rates of return could be as high as 29%. The net present value of tertiary education assuming a 5% cost of capital is conservatively US \$ 24K. Those computations show that there is an extremely high return to tertiary education by the central planner who only cares about employment in the home country and remittances into the country.

One could look at the individual as opposed to the central planner problem. In the individual problem the worker considers his own wages while abroad as a plus, unlike the central planner. The individual is concerned about income he or she makes wherever he or she happens to be (home or abroad) unlike the central planner who only cares about income while at home or which is being sent home.

For the individual problem, Nyarko (2011) showed that for the central planner problem the internal rates of return could be as high as 49%. The net present value of tertiary education assuming a 5% cost of capital is conservatively US\$ 126K. These figures are actually the conservative values making a number of assumptions on data.

In particular, when one takes into account the full costs and benefits of skilled migration, one obtains a net benefit to the economy when measured in terms of wages and incomes, (p. 486) as is standard in the labor economics literature. (Similar high rates have been obtained by Gibson and McKenzie 2010).

For clarity, we briefly describe the Nyarko (2011) model here. Suppose that there is a discount factor of  $\delta = 1/(1+r)$  in  $(0,1)$  with which future incomes are discounted. Let  $C$  be the sum of discounted costs of tertiary education. Let  $W^{(i)}$  denote the total discounted flow for wages when at education level  $i$ , with  $i=1,2,3$  representing primary, secondary

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and tertiary education. Let  $R$  denote the sum of discounted remittances. The model thinks of there being a probability  $d$  of being part of the brain drain. Conditional on leaving the country, there is a probability  $\chi$  of return. Hence one can think of there being three states of the world—stay in the home country; drain and never return; drain and eventually return. These occur with probabilities  $(1 - d)$ ,  $d(1 - \chi)$  and  $d\chi$ . In these three states, there are different streams of wages and different streams of remittances. The expected return to higher education (secondary over tertiary) is therefore the expected benefit less the cost of education (which equals  $C$ ):

$$(1 - d)Z_1 + d(1 - \chi)Z_2 \text{ and } d\chi Z_3 - C$$

where

$$Z_1 = W^{(3)} - W^{(2)}$$

is the sum of discounted incremental wages from acquiring tertiary education for those who stay in the country;  $Z_2$  is the sum of discounted remittances (for the central planner problem) or overseas wages (for the individual problem) less secondary education wages for those who leave the country; and  $Z_3$  is the sum of discounted remittances followed by returnee wages for those who leave the country for a while and then eventually return.

## **26.5 A Quick Review of the Rates-of-Return Literature**

At this stage it may be useful to provide a quick review of the much older rates of return to education literature. The basic model looked at wages  $w$  as a function of education levels  $e$  as measured by years of schooling,  $S$ , and the number of years on a job (measuring experience levels),  $X$ . This is put in the standard Mincer regression equation

$$\text{Log wage} = \text{constant} + a_0 S + b_0 X + b_1 X^2 + \epsilon$$

The parameter  $a_0$  is the return to one additional year of schooling. A lot of the early literature found relatively low rates of return to higher education while primary education seemed to have higher returns. Many have argued that this literature resulted in a full-scale onslaught on tertiary education institutions resulting in decline which is only now being slowly addressed.

This has led to what I have called the rate of return paradox: even though rates of return to tertiary education have been shown to be low in Africa, a lot of people are clamoring for that education. Families are saving the meager incomes to enable their children to ultimately make it to the university.

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(p. 487) The results of the earlier section resolve this seeming paradox. The principal difference between the computation in the earlier section and that in this section on the rates of return is the inclusion in the former of one thing: migration.

The older rates of return to education literature concerned itself only with the incremental salary within the home country obtained from additional years of schooling. That literature did not account for the possibility that workers would migrate out of the local economy, go abroad and earn a high income. Given the relatively large migration of the educated out of countries like Ghana mentioned above, it is reasonable to think that the possibility of leaving loomed large in the minds of those deciding on whether to embark upon tertiary education.

When the possibility of migration is included in the rates of return analyses, as we did in the earlier section, we see that the low rates of return in the older literature now become very large rates of return for the individual when migration possibilities are allowed. This is a resolution of an old paradox as to why the rates of return to higher education were found in the early literature to be so low, yet almost all in Africa were clamoring for more tertiary education. The missing link is migration and the higher salary it brings to those lucky enough to have left.

Even apart from the problem mentioned above, and its resolution through the brain drain, there is another problem that older rates of return to education literature faces. It is important to remark that those papers did not, and could not, talk about the externalities caused by having large highly educated people—something economists understand much better now. The benefit of having an educated person is not only the private return to that individual (the higher salaries they will earn). There are externalities caused by the ideas and opportunities made possible to others by the educated person's presence—which causes benefits to others not captured in the first person's salary. The general pessimist mood for Africa in those years, the 70s and 80s, meant that nobody was studying these externalities and how important a trained and skilled class is to economic development.

Stated alternatively, the Mincer regressions are wage equations in a fairly static environment. To make the regressions work you need to keep fixed the coefficients. But these cannot remain fixed in the situation of a developing nation where education levels are changing so rapidly and the structure of the economy is undergoing profound changes. The parameters may be endogenously determined by the quantity of skilled in the nation. In other words, the Mincer regressions were taken from the environment of the mature nations to that of developing nations without checking whether the underlying premises of that model hold.

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## **26.6 Education, Remittances, and Social Security**

There is an almost immediate corollary to the results above, which provide another very important boost to the importance of migration. The argument involves two steps. First, a lot of countries particularly in sub-Saharan Africa either have or are considering social safety net policies which amount to provision of income to individuals who fall below a given poverty line.

(p. 488) We have argued above that remittances are large. An inspection of many household surveys indicates that many of the poor receive important support from remittances of relatives. Further, the higher is the education level the higher is the wage rate. Also, the more highly educated you are, the easier it is to emigrate. This then brings up a tantalizing question. Suppose one compared direct cash grants to the poor with a policy of first educating the poor so they receive higher incomes, with the possibility of remitting money to poorer relatives, whether or not they emigrate. Is the second policy superior to the first?

All this will depend upon the discount factors used. If all that is important is the cash transfer for today with the future completely unimportant then of course the immediate cash transfer to alleviate poverty today will trump anything else. However, where there are more realistic discount factors, the comparison becomes much more interesting.

This question was taken up by Gyimah and Nyarko (2011a,b). There it is shown indeed that education (secondary in the case) and remittances nexus may dominate cash transfers when the discount factors are at the standard levels used in a lot of development economics.

The Nyarko (2011) paper mentioned the role of return migration but it was constrained by the lack of data ongoing into fuller detail on this. As more data are obtained a better picture will emerge of the importance of the returned migrants who return with new ideas and better skills. Indeed, it is the conjecture of this author that those flows may be eventually of similar orders of magnitude in value as the remittance flows. This research will however have to await much better datasets.

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## **26.7 The Brain Drain the Incentive to Acquire Human Capital**

The basic message of this section is that since the brain drain gives an incentive to people to acquire human capital (as it aids migration) and since only a fraction of those who acquire this human capital actually leave (there is a visa or simply that not all are chosen or able to get a foreign job), it is possible that the brain drain causes more higher skilled people to remain in the country after the brain drain than if there was no brain drain.

How does this work? Well, the explanation is somewhat simple. The possibility of migration, if correlated with education, means that a lot of people will acquire that education. From research on Ghanaian emigration, it seems likely that many believe it is university education, which enables one to emigrate the easiest. This will result in many putting in the investment to get that education. The political economy in the country will move in the direction of provision of tertiary education for a large number of people.

On the other hand, because of visa restrictions and the general difficulty in going abroad, although a lot of people have invested in education so as to be able to migrate abroad, only a small fraction of these people will actually make it abroad. A large number of them will fail to make it. It is in their interest to try the migration lottery by acquiring the education because of the high wages obtained if successful. Since a lot of people fail in going abroad the number of people who are skilled and are in the home country then could be a large number—larger than if the incentive to migrate were absent.

**(p. 489)** This basic intuition has been studied in many papers. In the theoretical literature there are papers by Stark et al. (1998), Stark and Zakharenko (2011), Chand and Clemens (2008), and empirically in Easterly and Nyarko (2009).

It is instructive to note the similarities with soccer in Sub-Saharan Africa, and countries like Ghana in particular. There are now a significant and highly visible number of soccer players of West African origin playing in elite European teams. There is, in effect, a “foot drain” of players leaving their homes in Africa to destinations in the premier leagues in Europe. African soccer players in the home countries spend a lot of resources investing in their skills (time taken to practice, entry into training academies, etc.), so that they could take part in the lottery where they may be called to a European team and hit the jackpot with salaries in the millions.

A lot of Africans train hard and dream of being called to the European leagues. Only a small number of them make it. The total number of trained soccer players in a country like Ghana is probably higher because of the migration of a few to Europe. The “foot drain” has paradoxically resulted in many more skilled feet in Ghana than would have

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been the case if there was not a drain. The Ghanaian soccer leagues are probably much better than they would have been if some of the players did not emigrate.

The same is true for tertiary education as a whole. The data suggest that the possibility of the brain drain actually results, via the incentive effect, in more brains (skilled people) in the home country than would have been if there was no drain and so no incentive effect.

## **26.8 Migration to the Arab Gulf and Within Africa**

One area, which is very interesting in current economic research, is the migration into the Arab Gulf countries. Countries like the UAE and Qatar have enabled the migration of millions of workers, a number, which exceeds their own by a factor of 2, 3, or 4. Saudi Arabia brings in workers, which although a smaller fraction of its population, is still a large number in aggregate.

Just as in the earlier analyses, migration is of enormous benefit to the workers who arrive in these countries. The remittances are extremely large. There are a number of trends in the migration policies of these countries, which are only now being studied. On the one hand, as in the UAE, restrictive practices on workers have been relaxed. In January 2011 the Kafala system was ended—this system bonded a worker to one firm and required that firm to issue a No Objection card before a worker could leave for another job within the UAE. This has led to increased wages and within country mobility for migrant workers (see Naidu, Nyarko and Wang 2014).

In both Saudi Arabia and the UAE, on the other hand, there are attempts to use local native populations to replace the migrant workers. The Nitaquat system in Saudi Arabia is an interesting system of incentives to firms to replace migrant workers with foreign workers. The Emiratization system in the UAE is designed to replace foreign workers with the native Emirati people. The effects of these moves are yet to be studied. The work of this chapter (p. 490) suggests that such schemes should be approached with care as they will have impacts on the migrant workers.

A lot of the research in this chapter has used as examples migration from one continent to another. Within continent movements are important—and in particular there are significant movements of people across nations in Africa. Most of the analyses of this chapter apply in equal force to within Africa migrations. There has been skilled migration from Ghana and Nigeria into East and Southern African legal and civil service sectors. There are large movements of people among nations in West Africa, particularly from the

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Northern parts of West Africa to the coastal and southern parts. Adepoju (2002, 2006) and many others have done great work on documenting and analyzing these flows.

## **26.9 Policy Implications**

Migration, mobility, and questions of the brain drain will become even more important over time. Africa's population is rising and it is youthful. Europe and many other parts of the world's population is stagnating and/or becoming older. The pressures for migration from Africa to the rest of the world, and Europe in particular, will become greater.

There are a number of policy implications from this work, many of them going counter to many of the proclamations in the media and in policy circles. First, of course, the brain drain should be thought of as something which can help and not always hurt local source economies.

Countries need to think of the brain drain as a source of getting people who will invest in the education. Many will acquire the education and not leave, becoming of benefit locally. Those who leave will enjoy better lives, and this should be thought of as a good thing. Others will leave and then return to the home countries with higher skills and greater motivation.

In particular, this calls for investment in training schools, which has at its core the possibility of people leaving the country. The strategy for getting more doctors and nurses in Africa would be to first build more of such schools with the goal of having some of them leave. The financing of such programs could be from either up front fees or else from the future payments of those who leave the country. The primary purpose of nursing schools in The Philippines is to train nurses to staff hospitals outside the country. The state of Kerala in India has training programs for elevator instructors, firefighters, and air conditioning unit technicians. More of these should be contemplated. In particular, these are institutions which aim at helping prepare those who are planning to leave.

Too often the economic and policy debates stop at the statement that migrants are hurting their home countries by leaving their home countries with their skills. As has been argued above, these arguments are not necessarily valid. The choice between having a doctor in the home country versus that doctor being outside the country is a false choice for many reasons. That doctor may not be there but for the incentive to invest in the medical training spurred by the possibility of migration. There could be other doctors in the pool in the economy because of that possibility. Further, the doctor

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who leaves may be the one who returns to open a new hospital or cardiac wing of an existing government hospital.

(p. 491) In particular, the policy recommendation is to find a way to creatively construct more institutions which train people in the skills which may be of benefit abroad. The medical profession, doctors and nurses in particular, are obvious candidates. As was mentioned earlier, the change in population numbers between Europe and Africa provide for opportunities for skills development in Africa, as explained by the earlier parts of this chapter. The numbers for the internal rates of return quantify the magnitude of the gain from these investments. In particular, at a policy level, higher education and skills development should be perceived as an industry which has a net positive benefit to the local source economy. Nyarko (2010a,b) go into further details on these policy recommendations.

## **26.10 Conclusion**

Migration is an important facet of human economic development. It is one of the oldest methods by which humans have tried to better their economic lot. People go through great lengths and make huge sacrifices in order to migrate and get the opportunity to improve their living conditions. In some ways, migration is the very epitome of the human drive for economic development. In this chapter we have reviewed a bit of the literature on migration, especially as it relates to skills development. In the examples chosen, the emphasis has been on Africa and the Arab Gulf nations.

Education is important for economic development, and indeed can be transformative for economies. The migration of people, the brain drain and the remittances and skills accumulation it results in can be a big, important and positive part of the economic development equation. In particular, we indicate that the “brain drain” (the migration of skilled people), rather than being a problem may also be a source of economic development, helping create higher levels of education in the source countries themselves—it should be “brain circulation.” as many of those skilled do return eventually to their home countries, particularly in Africa. We argue that economic policy should be directed at increasing skilled education possibilities even in the face of the brain drain, indeed also precisely because of the incentive effects inherent in the brain drain. Further, we believe that the principal conclusions of this chapter apply more extensively to many countries of the world, developing and developed. Migration could be used as an important driver for the transformation of nations.

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We have also argued that remittances are very important. They help sustain family members in home countries. They provide resources for schooling of children and housing of families. In many countries they are the source of a lot of vibrancy in the economies, with new remittance income fueling housing booms in capitals of nations with large migrant populations.

Although hard to measure, the returned migrants with increased skills and drive exert a big influence on their home countries. New activities like laundromats, private universities, Internet cafes, private schools are often brought in by returned migrants.

Because of all the potential benefits to migrants, many who come from very poor nations, destination nations should be congratulated any time they make the lives of these migrants a bit more comfortable. Clearly defined skill requirements in the destination country, with higher salaries obtainable by those able to get the higher skills will encourage skill (p. 492) formation in the home nations. International organizations like the United Nations and the International Organization for Migration (IOM) have been working hard on this and should be encouraged to do more. The European Union and the United States have increasingly been working on new visas (the EU green or blue card) and other special visas for skilled nationals of other nations.

Finally though, we should remember the individual migrant at the heart of our research. The individual migrant to better his or her lot. For the vast majority of those who migrate, the migration results in better standards of living for themselves. This in itself is a huge plus. This chapter has studied this and also, as a bonus to the individual's migration, benefits to the home or source country.

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