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Demographics, Labor Mobility, and Productivity

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Abstract

This paper considers two major issues that need to be treated as matters of urgency. First, internal (within country) migrations in the Asian (ACI) region are mostly undocumented and large. It is shown there are significant differences in wages and human development measures to which migrants will respond. Our first (of two) recommendation(s) is the need to collect better information on migration and for wage premiums and discounts to be estimated across sectors and countries. The second major issue is the emerging demographic imbalances in the form of aging, which will give dependency ratios that have never been experienced in all of recorded human existence. This needs urgent attention and the development of appropriate migration policies. Whilst it is possible to share the burdens of ageing and dependency through migration, this will not happen under present arrangements.

Migration cannot continue to be treated differently to trade and finance. A framework needs to be developed to provide a coherent set of policies relating to migration and social welfare, within and across countries in the Asian region. Our second recommendation is for the East Asia Summit (ASEAN+10) to set up a high level working group to consider possible future harmonized migration based policies, bringing together relevant economic, political, social and legal issues. This should encompass the recent ASEAN leadership on the rights of migrant workers and labor work programs. It complements the Summit's focus on education and human resource development and heeds the World Economic Forum's call for Asian leadership in enhancing regional connectivity (expanded to include human resources).

As we have argued many times in this paper, increasing the mobility of humans is the best way to not only promote economic efficiency, but to provide freedom and significant improvements in their wellbeing and quality of life.

JEL Classification: F22, J31, J61, O15

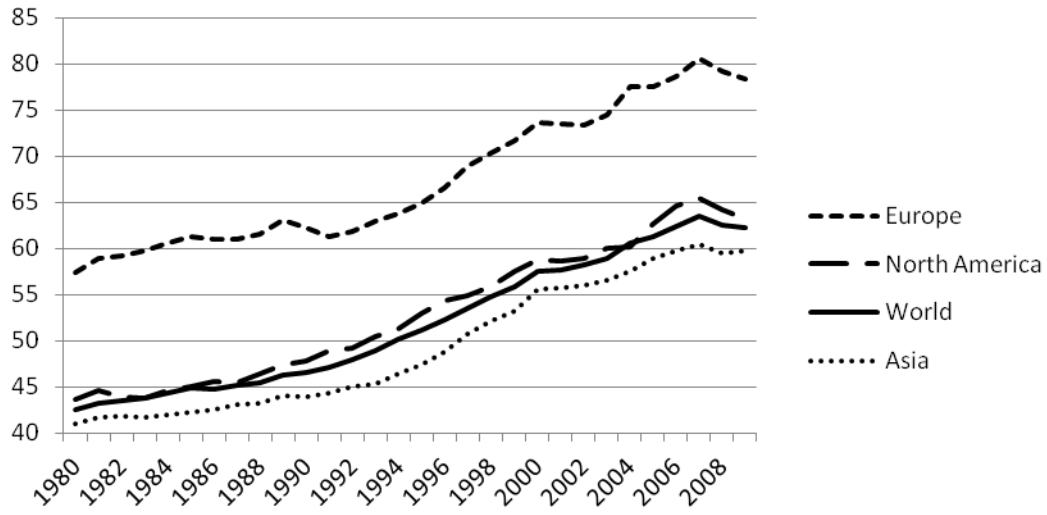
Contents

1. INTRODUCTION: MIGRATION CHARACTERISTICS

The period since the 1980s has witnessed increasing international trade in goods and services and increasing international capital movements. This has been the result of nations willingly reducing barriers to trade and liberalizing international capital markets. The KOF Swiss Economic Institute's (2012) index of economic globalization is positively affected by weighted measures of international flows (trade, foreign direct investment [FDI], portfolio investment, and income payments to foreign nationals) and negatively by trade restrictions (import barriers, tariff rates, international trade taxes, and capital account restrictions).[1]

Figure 1 shows the economic index for the world increasing from less than 45 in the early 1980s, accelerating in the 1990s and slowing a little since 2000. The business cycle is evident around these trends, particularly for Europe, which is more economically globalized than the other regions. North America varies around the world average whilst Asia has been consistently less open to international flows in goods and capital.

Figure 1: Economic Globalization Index



Source: KOF Swiss Economic Institute (2012)

Freeman (2006) estimates that the ratio of world exports to world turnover/production is around 15 to 25% in the mid 2000s. World FDI has increased from around 3% in the 1980s to a highly variable 10–20% of gross world global capital formation. Similarly the share of foreign equities in equity portfolios increased from less than 5% in the 1980s to around 15% in the 2000s.

This benchmark of 15+% compares with international migration only comprising around 3% of the world's population. Table 1 shows that this proportion has stayed mostly constant since the early 1990s, with international migration only increasing in line with population. Interestingly, Asia's static proportion of 1.5% is half the world average of 3%. This compares

[1] There are four indices—economic, social, political, and an aggregate index of these three measures. The indices were developed by Dreher (2006) and Dreher, Gaston and Martens (2008) and are reported by KOF Swiss Economic Institute (2012).

with North America and Europe being well above the world average and increasing in the 1990s and 2000s.

Figure 1 and Table 1 show an emerging disparity between the global allocation of factors of production and output of goods and services. Economic theory predicts that the limits to international migration will misallocate the global distribution of labor as a factor of production with consequent efficiency losses.

Table 1: Migrants as a Proportion of Population
%

	1990	1995	2000	2005	2010
North America	9.8	11.2	12.7	13.6	14.2
Europe	6.9	7.5	7.9	8.8	9.5
Asia	1.6	1.4	1.4	1.4	1.5
World	2.9	2.9	2.9	3.0	3.1

Source: UN DESA (2011) *World Population Prospects*: *The 2010 Revision*.

Some statistics on migration are included in Tables 2a and 2b and we echo the warnings of the agencies collecting the data that care and judgement needs to be exercised when interpreting the data, particularly when making comparisons. We will therefore continue to only draw general inferences. If we look at Table 2a we see that 3% of the world's population numbers around 200 million international migrants worldwide (214 million in 2010).[2] The developed countries included in Table 2a were selected according to their importance as migrant destinations in terms of absolute numbers and proportions of populations.[3]

The lower immigration and emigration figures for Asia are detailed in Table 2b for selected economies. With the exception of Singapore; Hong Kong, China; and Malaysia there are relatively small movements in regional international migration (both actual numbers and proportions of population). So the migration proportions for Europe and North America, which are close to the 10 to 15% range, compare with the proportionate rules of thumb measures for international capital and goods trade of around 15%.[4] The highly populated Asian economies are seriously below this benchmark, with only 1 to 3% of their populations migrating internationally. There is also a surprising low level of emigration from these Asian countries.

In terms of cross border regional migration, the World Migration Report (2010) estimates that only 10 to 15% of international migration is irregular, with most entering the host country legally but overstaying their authorized time.[5] However Hugo (2010) argues there may be 17 million undocumented migrations from Bangladesh into India, which is around three times the Indian immigration figure reported in Table 2b. There are other migration corridors funneling undocumented migrants, including Southern Philippines to East Malaysia,

2 Whilst immigrant numbers are available for 2011 we report the 2005 figures in Tables 2a and 2b to better align with the other available data reported in the table (which as argued, has shown little change over the five year period). The countries in Table 2a and 2b are ordered from highest to lowest Human Development Index.

3 The inclusion of the Russian Federation is due to the break-up of the Soviet Union in 1991 causing previously internal migration to mother Russia being reclassified as international migration. For someone who moved prior to 1991, they would now be considered as 'foreign born'.

4 It is important to note we are comparing flows with stocks. However the stock of immigrants relates to people who have at some stage in the past taken on citizenship or residency. This stock is therefore accumulated flows, so if the flows have been fairly consistent over time, their stock (measured as proportions) will be similar.

5 International Organization for Migration (IOM), *World Migration Report 2010*, p.29.

Indonesia to East Malaysia, and Myanmar to Thailand. We need to add refugees as well because there were 2.9 million refugees in the Asian region in 2005, increasing to 3.9 million in 2010.[6] The important issue of illegal and refugee migration will be considered later in this paper.

Table 2a: Non-Asian Migration

	Immigration[a]		Emigration	Internal Migration[b]	
	Stock (000s)	Proportion of Population (%)	Rate[c] (%)	Lifetime Stock (000s)	Proportion of Population (%)
Australia	4336	21.3	2.2	-	-
Canada	6304	19.5	4.0	-	-
France	6479	10.6	2.9	-	-
USA	39,267	13.0	0.8	44,400	17.8
UK	5838	9.7	6.6	-	-
Germany	10,598	12.9	4.7	-	-
Russian Fed.	12,080	8.4	7.7	-	-
Europe	64,330	8.8	7.3	-	-
Asia	55,129	1.4	1.7	-	-
North America	45,597	13.6	1.1	-	-
World	195,245	3.0	3.0	-	-

USA = United States of America; UK = United Kingdom; Europe = 49 European countries and areas defined in the UNDP *Human Development Report 2009*, pp. 214-215.

Notes: [a] 2005 [b] 1990-2005 [c] 2000-02; emigrants as a proportion of remaining population plus emigrants

Source: UNDP *Human Development Report 2009*, *Overcoming Barriers*: *Human Mobility and Development*.

However Table 2b also interestingly shows estimates of internal migration (where data is available). The figures are indicative only, yet they are striking with 10 to 20% of populations for the smaller Asian economies migrating internally. When we add these values to the international migration proportions then these labor supply shares reflect the benchmark 15% shares for international movements in capital and output. However for the large population countries, India, the People's Republic of China (PRC), and Indonesia, the internal migrant shares average only 5%. When added to the international migration they are less than half of the 15% benchmark. And internal migration appears to have been increasing only moderately for countries where comparable data is available. For example, India's internal migration proportion increased from 3 to 4% in the decade to the early 2000s. Malaysian internal migration as a proportion of population increased from around 15% in the early 1980s to around 20% in the early 2000s.[7] Data for other countries show static or only modest increases.

This is surprising given the well documented rural to urban migration phenomenon experienced by Asian and other developing economies. For example, it is believed that

[6] International Organization for Migration (IOM), *World Migration Report 2010*, p.168.

[7] Bell and Muhidin (2009).

around 150 million people moved from rural to urban regions in the PRC since the start of the 1990s.[8] This is double the official figure included in Table 2b for the PRC. Similarly, Deshingkar and Akter (2009) claim there are up to 100 million circular migrants in India (which is two and one half times the figure reported in Table 2b). The UNDP estimates that one third of all migration for developing countries is irregular.[9]

Table 2b: Asian Migration

	Immigration[a]		Emigration	Internal Migration[b]	
	Stock (000s)	Proportion of Population (%)	Rate[c] (%)	Lifetime Stock (000s)	Proportion of Population (%)
Japan	1,999	1.6	0.7	-	-
Singapore	1,494	35.0	6.3	-	-
Hong Kong, China	2,721	39.5	9.5	-	-
DPR Korea	551	1.2	3.1	-	-
Malaysia	2,029	7.9	3.1	4,200	20.7
Thailand	982	1.5	1.3	-	-
PRC	590	0.0	0.5	73,100	6.2
Philippines	375	0.4	4.0	6,900	11.7
Indonesia	136	0.1	0.9	8,100	4.1
Viet Nam	55	0.1	2.4	12,700	21.9
India	5,887	0.5	0.8	42,300	4.1
Cambodia	304	2.2	2.3	1,300	11.7

DPR Korea= Democratic People's Republic of Korea.

Notes: [a] 2005 [b] 1990-2005 [c] 2000-02; emigrants as a proportion of remaining population plus emigrants

Source: UNDP *Human Development Report 2009*, *Overcoming Barriers*: *Human Mobility and Development*.

So even if the international migration figures in Table 2b are only somewhat understated, it is very possible that internal migration numbers and proportions could be double those reported in Table 2b. Given the nature of these irregular movements of people it is entirely feasible that official statistics based on censuses will not properly record them. Migrants may unintentionally miss the census count due to their temporary movements and seasonal work, or they may purposely stay clear of the authorities. These effects imply that the large population countries of the PRC, India, and Indonesia could have total migrations around 10+% of their populations. Migration in the smaller population Asian economies appear to be in the 10 to 20% range.

The official international migration statistics of around 3% of populations seriously underestimate the actual migrations for the selected ACI countries. When all other unrecorded external migration and recorded and unrecorded internal migrations are included, the figure approximates the 15% benchmark globalization measure for capital and

8 Freeman (2006).

9 UNDP *Human Development Report 2009*, *Overcoming Barriers*: *Human Mobility and Development*, Box 2.1, p.23.

output movements. However, it needs to be noted that much of this migration is internal to countries and unofficial, which constrains the efficient allocation of labor to its best use. Importantly, since the poor typically do not emigrate they are forced to internally migrate and these moves can be as costly and as risky as international movements. It also constrains their choices and attempts to improve their wellbeing. These adverse consequences for the more broadly defined development measures need to be added to the losses in allocative efficiency. Finally, the constrained internal migrations in the highly populated countries tend to be below the international average. We will further consider the important issue of internal migration.

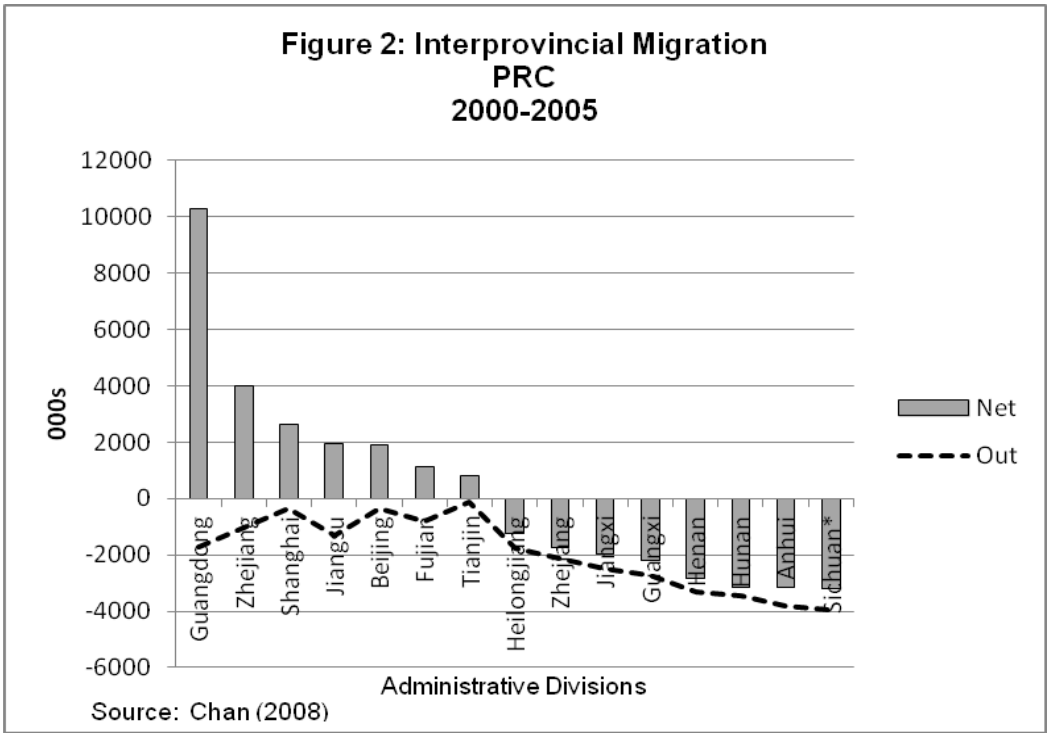
2. INTERNAL MIGRATION

This section reviews the patterns of internal migration for the most populous ACI countries—the PRC, India, and Indonesia. Internal imbalances will eventually result in internal migration, commonly identified as inter-provincial, rural to urban and sectoral migration.

Internal migration can be defined as the movement across administrative boundaries (councils, divisions, states, and provinces) within a country. In general, movement across internal administrative boundaries are flexible and do not require any immigration administrative process. However, the PRC is an exception with a traditionally practiced household registration (Hukou) system within administrative boundaries, which was designed to control labor mobility. India and other countries migrants are not required to register either at the place of origin or at the place of destination. Census or national surveys are therefore the sources of data for most countries and there are different definitions of migrants across countries. A census can identify the place of birth and place of last residence and if they are different, the individual is classed as a migrant. National surveys can address the problem by phrasing the questions accordingly (for example a citizen whose present residence at the time of the survey is different from their place of residence five years ago). Migrants can also be intra-provincial, inter-provincial, urban to rural, and rural to urban. Given those complications, we consider inter-provincial and rural-urban migration data from both censuses and surveys.

The inter-provincial migrations are summarized in Figure 2 for 2000–05. The top five receiving divisions are the coastal provinces Guangdong[10], Zhejiang, Shanghai, Jiangsu, and Beijing. They record around 55% of the total internal migration in the PRC and are net importers of people. Guangdong is considered the “world’s factory” which has attracted around 30% of the inter-provincial migrants in last two decades and over 10 million people in 2000–05. Zhejiang and Jiangsu are recently emerging provinces attracting more migrants in the recent past with 4 and 2 million in-migrants each in 2000–05. The main exporters of people are the inland provinces of Sichuan, Anhui, Hunan, Henan, Guangxi, Jiangxi, and Hubei, which record around 43% of total migration and have 2 to 3 million out-migrants each. The data shows close correlations between the intensification of industrial restructuring and pattern of inter-provincial migration whereby inland provinces have lost proportionately more manufacturing jobs to the coastal provinces.

[10] Includes Chongqing.



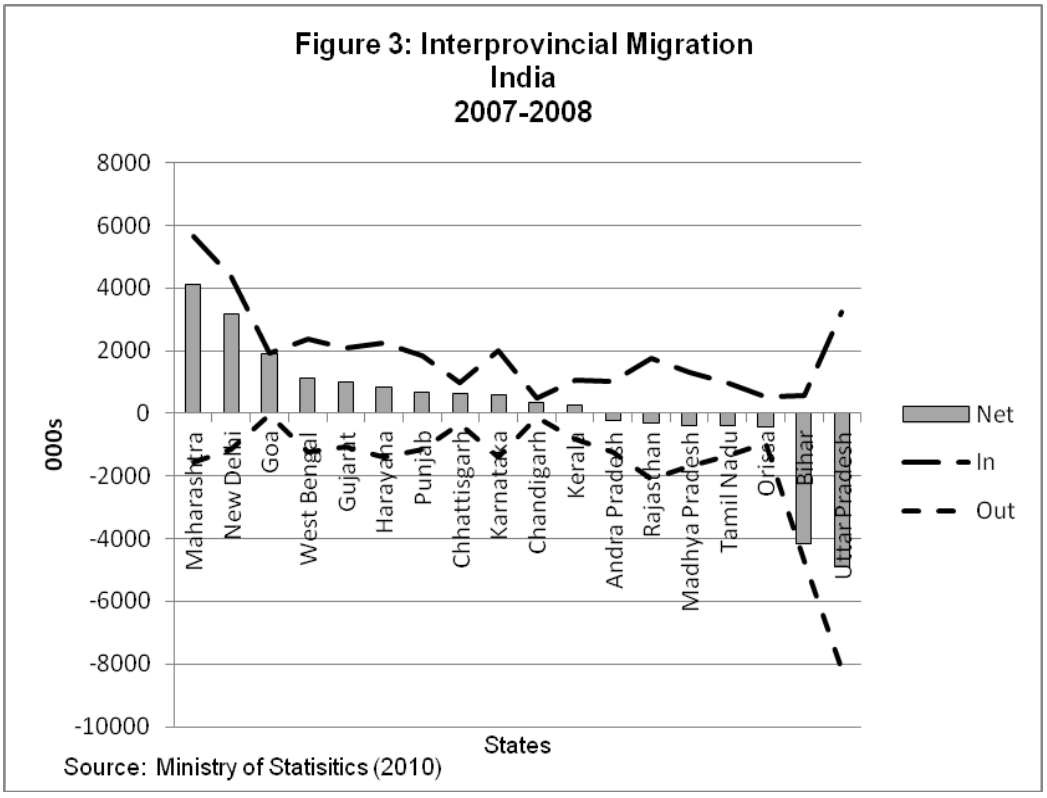
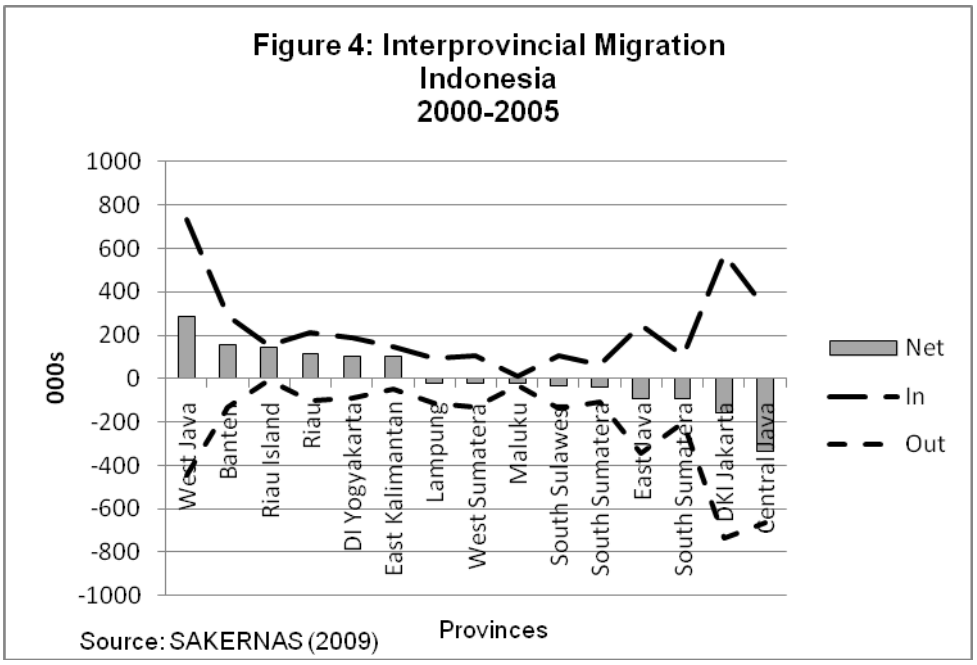


Figure 3 show the internal (and overseas) migration for states in India as at the time of the survey, 2007–08. The receiving states have modern growing cities like Mumbai in Maharashtra, the capital New Delhi, and the coastal city of Goa. Maharashtra received nearly 6 million people whilst nearly 2 million left, causing a net in-migration of 4 million people in 2007–08. The very poor states of Uttar Pradesh and Bihar have large out-migrations. Whilst a little over 8 million people left Uttar Pradesh, there were a little over 3

million who moved into the state, giving a net out-migration of 5 million. The state of Bihar, however, was clearly not favored with mostly all out-migration of around 4.5 million. In comparison, there are more mixed in and out-migrations than for the reported PRC internal migrations.[11] These are all internal migrations and the other out-migrations to overseas featured Kerala with 1.6 million people and Andra Pradesh and Tamil Nadu with nearly a half million each.

The inter-provincial migration in Indonesia is shown in Figure 4. The top six net receiving provinces are West Java, Banten, Riau and Riau Island, Di Yogyakarta, and East Kalimantan. They record around 50% of the total internal migration and continuously remain as importing provinces of people since 1990. Job opportunities are high in West Java and potential work in the natural resources sector are the reason for migration to East Kalimantan. The five provinces with the most net out-migration are Central Java, DKI Jakarta, South Sumatra, and East Java. They have recorded around 30 to 35% of the total internal migration over the period 1990 to 2005. DKI Jakarta is the largest net exporter over this period with around 15% of the nation's total net inter-provincial migration. The net out-migrations can be attributed to many factors including the migration habits of these communities, and their security and the geographical locations throughout the archipelago. People from South Sumatra and Lampung find it easier to migrate to Java, which is considered the centre of development. Migrations from Maluku, Aceh, Central Kalimantan, and Timor Leste appear to be predominantly for security reasons.



The variations between in and out-migration for the Indonesian provinces are larger than for India. The internal migration patterns vary significantly from mostly mono-directional in the PRC, to some multidirectional in India, to large multi-directional movements in Indonesia. Further explorations need to be made as to whether these are statistical differences or reflect the differing policies and circumstances of the major population centers. This is an important question made even more critical because of the large numbers of people involved. Many of these provinces are large, for example Uttar Pradesh has more people than the Philippines and Thailand combined, and Maharashtra has a larger population than Viet Nam.

[11] This may be due to PRCPRC policies and/or differences in data collection methods and definitions.

Given these international and internal migration characteristics, we now wish to consider their determinants. This will be done in the next section.

3. MODELING INTERNAL AND INTERNATIONAL MIGRATION

The Heckscher-Ohlin framework on the link between international trade and the labor market predicts that marginal increases in international trade between developed and developing countries will result in increasing wage inequality between unskilled and skilled workers in developed countries (due to displacement of unskilled workers), but decreasing wage inequality between unskilled and skilled workers in developing countries. Based on the prediction, international trade will reduce wage inequality in developing countries. However, empirical studies have mixed results. Some find that trade reforms increase wage inequality (Esquivel and Rodriguez-Lopez 2003) while others show reducing inequality (Kumar and Mishra 2008).

As a general observation, the sizes of relative wage, prices and living standard spreads is another measure of global integration. Lower spreads indicate the *law of one* (*vector of*) *price* (Marashdeh and Wilson 2007) consistent with more integrated goods, capital and labor markets. Freeman (2006) quotes estimates of globalization via variations in measures of world prices and capital costs. The ratio of the world's top 20% for goods prices and costs of capital (in purchasing power parity terms) to the bottom 20%, are around 1.5 to 1.[12] This compares to the calculated ratio of the top 20% to the bottom 20% of world's wages of around 4.5 to 1 which is three times higher. Another estimate of differences in the income and living standards of migrants from medium human development index (HDI) countries working in OECD countries, is around four times that for comparable workers in the origin country.[13] These differences can be larger for highly skilled workers.

3.1 Harris-Todaro Model

The Lewis model of dual economy and more explicitly the Harris-Todaro model of migration show that inequality is closely and reciprocally intertwined and inequality between source and destination areas drive economic migration (Lewis 1954; Harris and Todaro 1970; Todaro and Smith 2011). The well-known Harris-Todaro model explains this well. Consider in Figure 5 an institutionally determined (urban manufacturing) wage $\bar{W}_M$ and employment of $O_M L_M$ according to the marginal product curve MM'.[14] For full employment, the marginal product curve AA' would give for $O_A L_M$ employment a (rural agricultural) wage of W_A^{**}. Given the wage differential, $\bar{W}_M - W_A^{**}$ there would be workers willing to risk migrating in the chance of getting the higher paid job.

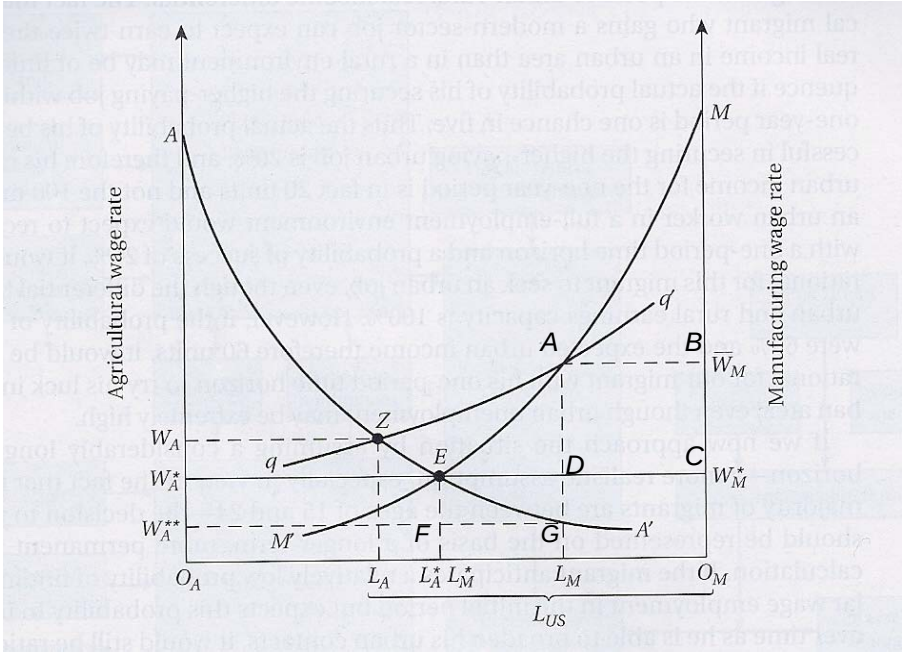
For a downwardly flexible wage, W_M the neoclassical equilibrium would have $W_A^* = W_M^*$ with employments $O_A L_A^*$ and $O_M L_M^*$. The transfers between the sectors can be shown by the standard rectangle analysis. The workers in manufacturing would lose *ABCD* due to the substitution of labor effect. However the labor complementary effect would give a net benefit to the sector of *ADE*. The migrants gaining work would gain *DEFG* and this would be the base for remittances back to the rural agricultural sector (considered earlier).

12 Freeman (2006), pp.150–151.

13 UNDP *Human Development Report 2009*, *Overcoming Barriers*: *Human Mobility and Development*, Box 3.1, p. 50.

14 We use the Todaro and Smith (2011) notation.

Figure 5: Harris-Todaro Migration Model



Source: Reproduced from Todaro and Smith (2011), Figure 7.12, p. 340.

If the probability of getting a job is L_M / L_{US} where L_{US} is the urban labor force, then: $W_A = L_M \overline{W}_M / L_{US}$ will be the equilibriating condition where the expected wages are the same. The locus $_{qq'}$ will be rectangular hyperbola to maintain the constant wage share $L_M W_M$. This process can summarized as $p(wd|e)\,p(e)$ where $p(wd|e)$ represents the probability (expectation) of the earnings differential for a migrant worker between the destination and the originating location, conditional on successfully finding employment, and $p(e)$ is the probability of obtaining employment in the destination location.

This unitary elasticity assumption can be relaxed to include risk aversion, moral hazard, adverse selection and asymmetric information issues. The returns in the vertical axes can also be expanded to include social returns and benefits. Before we do this we will consider in detail the possible economic consequences of migration.

3.2 Migration and Productivity

It is difficult to determine the effects of migration on productivity in the destination and source countries because of the many interdependencies involved. The effects can be analyzed in terms of the supply and demand for labor. The main determinants on the supply side are the age structure of migrants, their gender, household relationships, work experience, education and skill levels. On the demand side it is the effects of migrant workers on production, which involves the complementarity of migrant labor with capital (domestic capital formation and FDI) and efficiency effects in terms of changes to total factor productivity (TFP). Tying supply and demand together are relative wages for domestic and migrant workers (who can be grouped into skilled and unskilled workers) which determines their employment. Production is affected by the demand for output by domestic and overseas households and businesses,

which reflect private and public, domestic and overseas savings and consumption decisions. Relative prices of tradeables and non-tradeables link these product and consumption decisions.

Despite these theoretical interdependencies, the empirical evidence is piecemeal and a lot of it is anecdotal to individual regions and countries, and specific time periods. With the exception of two global simulations, the econometric analyses are based on differently specified partial equilibrium models, which are estimated with mostly microeconomic data.

Before we attempt this, we start with the two encompassing general equilibrium simulation studies by Levine et al. (2010) and Borgy et al. (2009). The first study uses a two-block endogenous growth model for a generic migrant sending (East) country having lower TFP and less skilled labor endowment than the generic migrant receiving (West) country. The simulations identify two effects of migration on productivity. The first is the efficiency effect whereby migrants increase output by more in the higher TFP receiving country than the fall in output in the lower TFP sending country. The second effect is the reallocation of sectoral employment and production in both countries. Migration with no-skill bias from the sending country (with fewer skilled workers) causes changes in relative wages. The skilled-unskilled relative wage increases in both countries, such that skilled workers are better off and unskilled workers are worse off. The net effects are that households' incomes increase in the receiving country and decrease in the sending country. The world, and especially migrants are better off and the authors argue that remittances can be an important redistributive mechanism. For migration with a bias of skilled workers, the benefits to the receiving country, whilst still positive are lower due to the relative fall in skilled wages for its native workers. The benefit of higher skilled wages in the sending country is outweighed by the loss of skilled workers, to the extent the sending country's skilled sector is eliminated, with compounding adverse terms of trade effects associated with specialization in low skilled production. The world is better off overall, but by less than for the no-skill bias case. Finally, migration with an unskilled bias makes both countries worse off because the adverse sectoral allocation effects outweigh the very modest efficiency gains.

The second study by Borgy et al. (2009) uses the global overlapping generations general equilibrium INGENUE 2 model comprising multi-sectors for ten regions. It does not distinguish skilled and unskilled workers but focuses on demographic factors which endogenize migration flows. The simulations appear to place less emphasis on the Levine et al. (2010) TFP gains from migration. The migrations of workers from relatively low to high TFP countries reduce the wages in the receiving countries, reflecting their relatively lower labor productivity due to the differing labor supply shocks for these countries. Per worker gross domestic product (GDP) and consumption will fall and the effect is symmetrically opposite for the sending countries. However, the extra migrant workers, by their age structure and life cycle stage will move over time to saving more in the receiving countries, increasing capital formation. In addition, these workers in the receiving countries reduce the capital intensity, increasing the marginal productivity of capital and the interest rate. The higher world interest rate encourages saving in the receiving countries and to an extent the sending countries. Unlike Levine et al. (2010) the model and simulations imply convergence of the sending and receiving countries.

With only these two known global simulations, we are forced to consider the various links that have been estimated in the heterogeneous empirical literature. The analysis is mostly for high and middle income countries, in particular Western and Eastern Europe and the United States (US). We will accordingly attempt to consider the main influences that migration has on productivity. However, there is very little evidence on the overall effects of migration on productivity and we are forced to consider links between the different components outlined above, and then to make inferences about how these separate links may connect. The effects considered have been grouped into education, gender and rural-urban migration, working age populations, wages and employment, wage premiums and productivity, remittances, and TFP.

3.2.1 Education

The data listed in Table 3a shows the number of migrants from the listed sending Asian countries residing in Organisation for Economic Co-operation and Development (OECD) countries. All source countries (with the exception of Indonesia and Cambodia) have higher than Asian and world average proportions of highly educated emigrants to the OECD. This is especially true for India (51%), Malaysia (48%) and the Philippines (46%).

Table 3a:
Education and Employment of International Migrants in OECD Countries[a]

Source	Migrant Numbers (000s)	Education Level[b] Low	Medium	High	Unemployment Rate by Educational Level[b] Low	Medium	High
		(% of all migrants)			(% of labor force)		
Japan	565.4	10.4	38.9	49.0	8.5	5.3	3.2
Singapore	106.6	19.7	32.2	43.5	7.0	7.4	4.4
DPR Korea	975.3	16.4	39.3	43.6	8.8	6.1	4.3
Malaysia	214.3	18.4	28.8	47.6	8.3	9.0	4.3
Thailand	269.7	34.8	31.9	27.6	13.5	8.5	5.3
PRC	2068.2	31.0	25.1	39.4	7.8	6.9	4.9
Philippines	1930.3	17.4	35.1	45.9	8.9	5.6	3.5
Indonesia	275.6	57.2	32.2	10.6	12.0	8.5	5.5
Viet Nam	1518.1	40.7	34.8	22.9	10.5	7.2	4.7
India	1952.0	25.5	19.5	51.2	9.8	7.0	4.3
Cambodia	239.1	52.4	30.8	15.2	14.6	9.5	6.4
Asia	17522.0	33.0	29.8	34.3	14.6	8.6	5.0
World	75715.9	41.0	32.7	23.5	13.6	9.0	5.5

DPR Korea = Democratic People's Republic of Korea.

Notes: [a] Aged 15 years and above. [b] "Low" is defined as less than secondary education; "medium" as upper and post secondary/non-tertiary; "high" as tertiary education.

Source: UNDP *Human Development Report 2009*, *Overcoming Barriers*: *Human Mobility and Development*.

Indeed, the educational status proportions for these OECD immigrants compare very differently to the educational proportions in the migrants home countries. International data is available for only Malaysia and the Philippines and are shown in Table 3b. The proportions of tertiary educated are 8.0% and 8.4% of the populations for Malaysia and the Philippines, yet they represent 47.6% and 45.9% of their respective emigrants to the OECD countries. The differences for the lowly educated are as striking with 61.3% and 62.6% of the population with less than secondary education only comprising 18.4% and 17.4% of emigrants to the OECD. These are clearly examples of 'brain drain'.

The exceptions to this are Indonesia, Cambodia, and Viet Nam, which have larger than average proportions of lowly educated emigrants. This indicates selective migration to OECD countries by the poor and less educated, in addition to the "brain drain" of the tertiary educated. The unemployment rates for the higher educated are typically lower then for the less educated, to the extent they are less than the world average for Singapore, Malaysia, Philippines, and India.

Table 3b: Education of International Migrants[a]

	In OECD Countries[b]			In Source Country[c]		
	Low	Medium	High	Low	Medium	High
	(% of all migrants)			(% of the population)		
Malaysia	18.4	28.8	47.6	61.3	27.1	8.0
Philippines	17.4	35.1	45.9	62.6	26.4	8.4

Notes: [a] "Low" is defined as less than secondary education; "medium" as upper and post secondary/non-tertiary; "high" as tertiary education.

[b] Aged 15 years and above. [c] Aged 25 years and above.

Source: UNDP *Human Development Report 2009*, *Overcoming Barriers*: *Human Mobility and Development*.

India and the Philippines are the largest exporters of the tertiary educated migrants with nearly 1 million each (Table 3a). The Indian 64th National Sample Survey (NSS) [15] indicates that a higher proportion (95%) of out-migrants residing abroad were working (engaged in economic activities) compared to those out-migrants residing in India (80%). The employment rates were about half of these for female internal and external out-migrants. Both male and female out-migrants from urban areas were more likely to be employed than those from the rural sector.

The education levels of internal migrants are shown in Table 3c for countries we have data for. There is more variation across these three countries, although the education levels tend to fall between those for the international migrants and the non migrants.

Table 3c: Education of Internal Migrants[a]

	Low	Medium	High
	(% of all migrants)		
Thailand	22	67	11
India	17	26	41
PRC	29	43	29

Notes: a "Low" is defined as less than secondary education; "Medium" as upper and post secondary/non-tertiary; "High" as tertiary education.

Source: Collected by authors from sources including national surveys.

The implication is that the migration of educated and skilled workers will lead to productivity shifts from the sending to the receiving countries and regions.

3.2.2 Gender and rural-urban migration

The rapidly growing urban economies in the ACI economies substantially increased demand for workers causing structural shortages of urban workers. Rural out-migrants have tended to fill this gap. Our projections show that the current urban share of the population in the PRC will increase from around 44% to 63% by 2030. The urban share for Indonesia is higher and will increase from 53% to 73%. The Indian urban share is lower at around 30% and is

[15] The information on India migration is primarily obtained from the Ministry of Statistics NSS Report No. 533, *Migration in India 2007–08*, National Sample Survey Office and Programme Implementation, Government of India, 2010.

expected to only increase to around 35% in 2030. Net rural to urban migration for Indonesia, the PRC, and India were 2.8%, 2.4% and 2.0% of total populations, respectively. The average growth rates of the urban populations were increasing significantly due mainly to migration rather than to natural birth rates of the total populations. The natural birth rates dropped from 0.8% to 0.5% in the PRC, from 1.7% to 1.3% in India and from 1.4% to 1.1% in Indonesia. As a result, migration tends to influence the demographic change in relation to age, gender, education level, occupation, and the dependency ratio of the urban and rural populations.

The NSS survey for India provides details of the demographic changes and migration in India. Males out-migrated from both rural and urban areas for employment related reasons (75%) and for education (11%) whilst females mostly migrated for marriage (84%) with the majority (85%) staying within the same state. In Thailand, internal migrants moved back to their hometown (34%), followed their partner or family (24%), moved for employment reasons (19%), and for education (4%).

The productivity shifts outlined in the previous section appear to be also important for males internally migrating from rural to urban migration areas. The migration of females is more relevant for labor supply effects on productivity.

3.2.3 Working age populations

Evidence for our countries of interest shows that migrant workers tend to be younger (in addition to having an average education that is higher) than those who do not migrate. Internal migration in Thailand is mostly the younger age groups with 46% less than 24 years old, 31% between 25–34 years old and 21% in the range of 35–59 years.[16] For the PRC, the mean age of migrants is higher, at 44.

Empirical studies indicate that the working-age population is important in promoting growth in productivity and employment. Economic growth is positively and significantly linked to output per worker growth (Bloom and Williamson 1998; Bloom et al*.,* 2000; Cai and Wang 2006; Minh 2009; Bloom and Canning 2008; Bloom and Finlay 2009; Lewis 2010). Whilst some of these studies indicate that total population growth has a strong negative impact on GDP per capita growth rates (Bloom and Williamson 1998) it is important to distinguish changes in population from changes in working age. Bloom et al. (2000) show that a decline in working age share has a negative effect on economic growth for the 1965–1990 period and this remains robust to the expansion of the sample period to 2005. Robertson (2002) found that unanticipated increases in unskilled workers (possibly due to increases in immigrants) results in transitional growth.

Morley's (2006) study finds evidence of long run causality coming from per capita economic growth to immigration for Australia, Canada, and the US. Islam (2007) also concludes that in the short run, more immigration is possibly associated with attractive Canadian immigration policies. However, as the labor market adjusts, Canadian born workers are likely to benefit from increased migration in the long run.

3.2.4 Wages and employment

As a general observation, the sizes of relative wage, prices, and living standard spreads is another measure of global integration. Lower spreads indicate the *law of one* (*vector of*) *price* (Marashdeh and Wilson 2007) consistent with more integrated goods, capital, and labor markets. Freeman (2006) quotes estimates of globalization via variations in measures of world prices and capital costs. The ratio of the world's top 20% for goods prices and costs of capital (in purchasing power parity terms) to the bottom 20%, are around 1.5 to 1.[17] This compares to the calculated ratio of the top 20% to the bottom 20% of world's wages of

[16] National Statistical Office, *Labor Force Survey 4 Quarters*, Thailand, 2009.

[17] Freeman (2006), pp.150–151.

around 4.5 to 1, which is three times higher. Another estimate of differences in the income and living standards of migrants from medium human development index (HDI) countries working in OECD countries, is around four times that for comparable workers in the origin country.[18] These differences can be larger for highly skilled workers.

The Heckscher-Ohlin model predicts that marginal increases in international trade between developed and developing countries will result in increasing wage inequality between unskilled and skilled workers in developed countries (due to displacement of unskilled workers) but decreasing wage inequality between unskilled and skilled workers in developing countries. Based on these predictions, international trade will reduce wage inequality in developing countries. However empirical studies have mixed results. Some find that trade reforms increase wage inequality (Esquivel and Rodriguez-Lopez 2003) while others show reducing inequality (Kumar and Mishra 2008).

The early studies of Chiswick (1978) and Carliner (1980) found that US immigrants earned less than natives when entering the country. However they converged to the native level in 15 years. 30 years later, immigrants were found to earn more than natives of similar age and education. Ottaviano and Peri (2006) also find that, in the long run, cultural diversity has a net positive effect on the wages of workers in the US. This in line with the research by Econtech (2006) in Australia which shows that an increase in the influx of high-skilled immigrants has led to negative transition effects in the short run, but to positive labor market effects in the long run; labor force participation, employment and skill level appear to have increased. For New Zealand, Strutt et al. (2008) find that immigrants have caused wages and employment to decrease for some native born workers and earlier migrant cohorts for whom new migrants are close substitutes in the labor market. The literature survey by Kerr and Kerr (2011) concluded the "surveyed evidence finds that recent migration cohorts to Northern Europe are likely to enter with reduced employment and earnings; over their durations of stay they will only achieve partial convergence to native levels".

Aydemir and Borjas (1997) find that in Canada, Mexico, and US, a 10% change in labor supply due to migration is associated with 4% to 6% change in wages. Many other studies find little or no impact of immigration on regional wages; Pischke and Velling (1997) for Germany; Addison and Worswick (2002) for Australia; Zorlu and Hartog (2005) for the Netherlands and Norway; Dustmann et al. (2005) for the United Kingdom (UK); and Carrasco et al. (2008) for Spain.

Further to this, Borjas (2005), CCSCE (2005), and Orrenius and Nicholson (2009) find that, on average in the long run, the impact of immigrants on the receiving region's employment and wage rates is positive, and only very small substitution effects between native workers and immigrants are observed. The largest negative effect of immigrants is on the wages of earlier immigrant cohorts.

Meta-analysis studies by Longhi et al. (2005a, 2005b, 2008a, 2008b, 2010) conclude that the effects of immigration on local or national labor markets (i.e., wages, employment, unemployment, and labor force participation) are either insignificant or very small. Longhi et al. (2005a) find a one percentage point increase in the share of immigrants in the population would lower wages of the native-born population by about 0.1%. This is consistent with the IPPR (2009) study that shows the effect of migration on employment in the UK is insignificant. A one percentage point increase in the share of immigrants in the UK working age population reduces wages by around 0.3%.

Overall, a majority of studies indicate that migrant heterogeneity plays a crucial role with respect to age, skills, gender, education, cultural background, welfare position, and motivation. There is need for research to focus on what it is about diversity in the labor

[18] UNDP *Human Development Report 2009*, *Overcoming Barriers*: *Human Mobility and Development*, Box 3.1, p. 50.

market and immigrants that increases productivity. This broader view will now be considered.

3.2.5 Wage premiums and productivity

Diversity can be incorporated in terms of sectoral analysis. Only around 5% of PRC migrants work in manufacturing with the great majority, around 77%, working in the services such as construction, wholesale and retail, hotel, real estate, leasing, education, health, social security, computer, and finance sectors.[19] The comparable figures for Thailand and Indonesia are 50% and 64%, respectively, working in services. It is expected the service sectors are likely to attract migrants in the majority of countries studied and will tend to have higher wages relative to the agricultural and manufacturing sector employment. For Thailand, the education, utilities, and finance sectors appear to be the more attractive sectors to migrate.

In a free trade situation, Solow's model argues that per capita income is a function of the capital labor ratio which approaches its steady state value in the long run. This indicates that economies are converging to their own steady states conditional on differences in steady states. The wage inequality literature tends to focus on the wage differentials between unskilled and skilled workers. Velde and Morrissey (2004) examine the relationship between FDI and wage inequality in five East Asian countries (Korea; Singapore Hong Kong, China; Philippines; and Thailand) and the results show that FDI reduces wage inequality (except for Thailand where FDI has raised wage inequality). Ahmad and Daud (2008) study Malaysia from 1970 to 2004 using co-integration techniques and conclude that trade openness is associated with an increase in economic growth and improvements in income inequality.

Trade openness can produce two effects, an increase in the relative price of less skilled labor intensive products (a fall in the wage premium) and a wider skill discrepancy due to knowledge spillovers (a rise in the wage premium gap).

Other factors can influence wage premiums, including gender, labor union density, skilled and unskilled workers, relative price of labor intensive products, increased proportion of labor with tertiary education, R&D expenditures, influence of immigration, deregulation, technological change, educational heterogeneity, unemployment rate, de-industrialization, declining government transfer payments, economic decentralization, and domestic trade.

Research by Ha et al. (2009) analyze the impact of rural to urban migration on income inequality and gender wage gap in rural regions using a panel dataset of around 100 rural villages over ten-year period from 1997 to 2006 in the PRC. They conclude that emigration tends to increase the gender wage gap initially, and then tends to decrease it in the rural villages.

However, what would happen in the wake of increasing integration of developing countries, such as the ACI countries, to wage inequality? This is a very important empirical question yet to be addressed. This section estimates the sectoral wage premiums for the PRC, Thailand, and Indonesia where we have microeconomic survey data. We then compare the differences across sectors and selected countries in order to examine the extent of comparative advantages across sectors and countries.

We use a modified version of Mincer's (1958) model in order to estimate wage premiums. Wage premiums can be defined as the portion of wages that cannot be explained through worker or firm characteristics, but can be explained through worker industry affiliations. As such they reflect sectoral characteristics which determine productivity.

The pooled restricted least squares earning equations are estimated for Thailand and Indonesia from their respective labor surveys of 2009 and for the PRC from the Urban

[19] National Bureau of Statistics, *China Urban Household Survey 2006*, PRC.

Household Survey (UHS) by using cross-sectional and longitudinal data.[20] The regressions include workers' characteristics like education, gender, age, location, and industry they are working in. When compared to industry wages it is possible to identify where workers with similar characteristics are receiving wage premiums or discounts across industries and countries. These exploratory econometric estimations with standard errors will form the basis of the (expected) earnings differentials of workers, $p(wd|e)$ which can be a base for our future predictions on the patterns of migration.

The proportional difference in wages for a worker in a given sector relative to the average worker in all sectors with the same observable characteristics can be often referred as normalized wage premium and used to indicate the relative strength of the sectors in attracting workers. Thus the positive industry specific skill premium suggests that the industry has a high industry-specific premium relative to the average for the economy. Those industries are identified as highly productive and therefore likely to attract migrants.

Table 4 summarizes the estimated industry wage premiums (and discounts) for the PRC for 2006. The results show that a worker switching from an agriculture sector to the transportation and communication sector would experience on average a 19.39 (19.39 = 0.0961 – (– 0.0978))% increase in monthly wage. These differences reflect the level of attraction of the particular industries. Note that industry wage discounts are persistent in the industries such as agriculture, commerce, geology and real estate.

Lee (2010) shows the emerging sectors such as education, health, scientific research and transportation and communications show movements from wage discounts to wage premiums over time, increasing wage demands and productivity by workers. One would expect that the shortages of workers in those industries are likely to be filled by internal or external migration.

The estimated industry wage premiums for Indonesia are shown in Table 5 for 2009. The results show that a worker with similar characteristics moving from the agricultural sector, with wage discount –0.3558 to the transportation sector with a wage premium of 0.0961 would experience on average a 45.19 (0.0961– (–0.3558))% increase in the monthly wage. We can also note that industry wage premiums are quite low and negative in the industries such as agriculture, manufacturing, and commerce. Industry wage premiums tend to be highest in service industries such as utilities, finance, and services. These premiums would induce internal and external migration of workers to these industries.

[20] The survey years for the PRC are 1993, 1995, 1996, 1997 and 2006.

Table 4: Estimated Normalized Sectoral Wage Premiums—PRC

Sectors	2006	Sectors	2006
Agriculture	-0.0978	Health	0.0819
	(0.0247)***		(0.0135)***
Commerce	-0.0805	Manufacturing (1996)	-0.0279
	(0.0152)***		(0.0088)***
Construction	-0.0411	Real Estate	-0.0074
	(0.0196)**		(0.0261)
Education	0.0101	Scientific Research	0.1012
	(0.0103)		(0.0177)***
Geology (1996)	-0.1650	Transportation and	0.0961
	(0.0574)***	Communications	(0.0113)***

Note: ***, **, and * denote significance at 1, 5, and 10%, respectively. Individual wage is measured on a monthly basis and constant wage data is calculated using the 1990 wage index available from the NBS. The sample sizes are very close with about 9,119 observations in 1993 to 11,541 observation in 2006. Out of 11,541 observations 1166 persons are internal migrants.

Source: Lee (2010).

Table 5: Estimated Normalized Sectoral Wage Premiums—Indonesia 2009

Industry Sector	Weight	B^*	Std. Err.	*t*	*P* > *t*	[95% CI]	
Agriculture	0.2148	-0.3558	0.0029	-123.03	0.00	-0.3615	-0.3501
Mining	0.0154	0.3413	0.0105	32.53	0.00	0.3207	0.3619
Manufacture	0.1487	-0.1580	0.0045	-35.14	0.00	-0.1668	-0.1492
Utilities	0.0037	0.7472	0.0261	28.66	0.00	0.6961	0.7983
Construction	0.0822	0.1119	0.0057	19.79	0.00	0.1008	0.1230
Commerce	0.2053	-0.0132	0.0034	-3.89	0.00	-0.0198	-0.0065
Transport	0.0886	0.0961	0.0054	17.88	0.00	0.0856	0.1067
Finance	0.0229	0.5879	0.0121	48.56	0.00	0.5641	0.6116
Services	0.2183	0.2905	0.0030	95.83	0.00	0.2846	0.2965
Constant	.	13.5123	0.0017	8122.98	0.00	13.5090	13.5155

F-Statistic 3262.2 Prob > F 0.000

Source: Computed from SAKERNAS (2009).

Table 6 shows the estimated industry wage premiums for Thailand for 2009. A worker moving from the agricultural sector, with wage discount –0.8004 to the transportation sector with wage premium 0.2440, would experience on average a 104.44 (0.2440 – (–0.8004))% increase in monthly wage. We can also note that industry wage premiums are quite low and negative (discounts) in the industries such as agriculture, fishing, mining, manufacturing, construction, wholesale and retail, hotels and restaurants, community and social work, and private households with employed persons. Again the industry wage premiums tend to be highest in service industries such as utilities, finance, and education. The emerging sectors, such as transport and communication, real estate, public administration and defence, health and extra territorial organisations, will demand more workers. We would expect that the shortages of workers in those industries will be filled by internal or external migration.

Table 6: Estimated Normalized Sectoral Wage Premiums Thailand—2009

Industry Sector	Weight	b^*	Std. Err.	t	$P > t$	[95% CI]	
Agriculture	0.1016	-0.8004	0.0040	-200.46	0.00	-0.8083	-0.7926
Fishing	0.0085	-0.3930	0.0148	-26.61	0.00	-0.4220	-0.3641
Mining	0.0028	-0.0234	0.0266	-0.88	0.37	-0.0756	0.0288
Manufacturing	0.2161	-0.1788	0.0026	-67.53	0.00	-0.1840	-0.1736
Utilities	0.0092	0.7592	0.0151	50.13	0.00	0.7295	0.7889
Construction	0.0936	-0.3303	0.0043	-77.08	0.00	-0.3387	-0.3219
Wholesale and retail trade	0.1182	-0.1785	0.0038	-47.08	0.00	-0.1859	-0.1711
Hotels and restaurants	0.0466	-0.3272	0.0062	-52.62	0.00	-0.3394	-0.3150
Transport and communication	0.0326	0.2440	0.0077	31.57	0.00	0.2288	0.2591
Finance	0.0256	0.7987	0.0090	88.68	0.00	0.7811	0.8164
Real estate	0.0280	0.1523	0.0083	18.30	0.00	0.1360	0.1686
Public administration and defense	0.1150	0.4796	0.0040	120.65	0.00	0.4718	0.4873
Education	0.1055	0.8582	0.0042	201.94	0.00	0.8498	0.8665
Health	0.0537	0.4403	0.0060	73.22	0.00	0.4285	0.4521
Community social work	0.0279	-0.3295	0.0081	-40.60	0.00	-0.3454	-0.3136
Private households with employed persons	0.0150	-0.6118	0.0110	-55.78	0.00	-0.6333	-0.5903
Extra-territorial organizations	0.0001	0.4755	0.1388	3.43	0.00	0.2034	0.7475
Constant		8.8546	0.0014	6322.92	0.00	8.8519	8.8574

F-Statistic 7532.16 Prob > F 0.00 No. of observations 216,798

Source: Computed from National Statistical Office (2009).

Hasan and Jandoc (2010) estimate wage premiums in the Philippines using 2000 data. A worker with the similar characteristics switching from farming of animals, with wage discount of –0.097 to the manufacture of motor vehicles, trailers and semi-trailers with wage premium 0.369 would experience on average a 46.6 (0.369 – (–0.097))% increase in monthly wage.

These results also allow industry comparisons across countries (allowing for differences in sectoral definitions and measurement issues). A worker who moves from employment in the primitive agriculture sector to employment in the modern transportation sector, would on average experience a wage increase around 27% in the PRC, 45% in Indonesia, 100% in Thailand, and 47% in the Philippines.

These wage premiums/discounts reflect the relative productivity of sectors within and across countries. They are therefore important factors in internal and external sectoral migration.[21]

3.2.6 Remittances

The sharing of the benefits of employment and increased productivity by migrants with their families is important. Remittances have grown dramatically with a total of US$162.5 billion remitted to Asia in 2009, which was nearly 40% of global remittances. Of this, US$47 billion

[21] Our future focus is to analyze wage premiums and discounts for 4-digit industries, over time, for more countries, with skilled-unskilled characteristics and causes, including productivity.

went to the PRC and US$47 billion went to India (the largest recipients in the world) and US$19 billion was remitted to the Philippines.[22]

Empirical research by Attane and Barbieri (2009), Bruni (2009), and Levine et al. (2010) demonstrate the benefits of migration to the receiving and sending countries in terms of increased income and consumption. Martin (2008) quotes the 2005 World Bank Global Economic Prospects Report which argued for increasing migration from developing countries to developed countries to alleviate poverty. The World Bank estimates that an increase in this migration from 30 to 45 million would increase world income by over US$350 billion. The possible adverse effects of reduced skilled workers in the sending countries has led to projects to facilitate remittances from expatriates, issuing "diaspora bonds" and reducing remittance costs via international banks (Zlotnick 2010). The United Nations (2010a) acknowledges the World Health Organisation (WHO) new code of practise, introduced in May 2010, to reduce the adverse effects of the loss of scarce professional health workers from developing countries. Skilled migrants are also encouraged to organize special projects in their originating country and even spend time, for example as a visiting doctor or nurse. Tullao, and Rivera (2008) argue that there is also a clear improvement in total real household income from the increased productivity brought back to India by returning workers.

Amer and Walmsle (2009) show that the welfare of Indian workers remaining behind in India improves as a result of temporary skilled labor migration. The welfare loss arising from out migration is outweighed by the substantial increase in remittances back to India. The Indian NSS migration report (Ministry of Statistics 2010) shows that remittances vary across households. 75% of out migrants to overseas remit home compared to 50% for out migrants remaining in India. Urban households in India receive twice the amount of remittances that rural households receive and higher income households receive more remittances than poorer households.

Households receiving remittances from overseas have higher levels of education expenditures compared with households without external remittance income. The higher the income of families with remittances income, the higher is their expenditures on normal and superior goods and services, including education (Tullao and Rivera 2008). The NSS migration reports that over 90% of urban households receiving remittances used them to buy consumer goods. Of the urban households, 71% spent remittances on food items, 36% on health care, 34% on education and 13% on saving and investment. The proportions are similar for rural households receiving remittances, although 10% use remittances to repay debt.

Given the magnitudes and importance of remittances it is important to consider movements are cyclical and there is debate about the identification problem. If remittances are altruistically motivated then we would expect them to be counter-cyclical with the migrants' origin (sending) country's business cycle, whereas if the motive is for investment then we would expect them to pro-cyclical (see Giuliano and Ruiz-Arranz 2009). They may also be pro-cyclical with the migrant receiving county's business cycle reflecting the capacity of the migrant to remit. Note, however, that there is recent evidence that remittances reduce output and consumption volatility in the migrant sending country, whereas for the reverse causation, there is evidence of pro and counter-cyclical effects of output on remittances.

We conclude that remittances are very effective means to share the benefits of increased productivity associated with migration of workers. We will now consider the contribution of migration to total factor productivity (TFP).

[22] International Organization for Migration (IOM) *World Migration Report 2010*, p. 168.

3.2.7 TFP

Felipe (1999) surveys the empirical literature on TFP growth in Asian countries such as Indonesia; Malaysia; Philippines; Singapore; Thailand; the Republic of Korea; Hong Kong, China; and Japan and concludes that the empirical TFP growth estimates vary significantly, even for the same country over the same time period. Ahmed (2010) studies ASEAN-5 plus 3 economies for the period of 1965–2004 and concludes that Japanese growth is TFP driven whilst all the other countries growth are input driven.

Ortega and Peri (2009) study the effects of immigration flows on total employment, total hours worked, physical capital accumulation and TFP in selected OECD countries, between 1980 and 2007. The authors find that migration increases employment and capital stocks, but doesn't have a significant effect on TFP. They argue since immigration shocks lead to an increase in total employment and a proportional response of the production, output per capita is not affected by the immigration inflows. However, the study does not take into account the human capital of migrants and the estimations are based on gross migration flows, which do control for return migration.

D'Amuri and Peri (2011) estimate that immigration in Western Europe took low skilled jobs from native workers in the receiving countries, which forced them into higher skilled jobs. This beneficial improvement in productivity was greater for less educated native workers, and in countries with more flexible labor laws. Further positive econometric evidence is provided by Ottaviano et al. (2010) who find that immigration increases productivity and employment. It does not reduce the employment of native workers in the US and may actually increase their employment. Peri (2009) finds robust econometric evidence that immigration from Mexico increases TFP for the states of the US and moves production towards less skills biased technology. He estimates that a 1% increase in migrant employment in a US state will increase income per worker of 0.5% in the state.

3.2.8 Lessons

In summary, the body of recent empirical research finds positive effects of migration on productivity. This was demonstrated at the start of this summary with the review of the Levine et al. (2010) simulations. They estimate that immigration (with no skill bias) that gives a 10% increase in population of the relatively high TFP receiving country will increase world economic growth by 0.25% and provide a permanent increase in consumption of 9%. This is primarily due to the increased TFP efficiency effect of moving workers from a relatively low to higher TFP country. The skilled-unskilled relative wage increases in both countries (which provide winners and losers) are of second order to the TFP benefit. The immigrants receive the greatest improvement and benefit, followed by the receiving country skilled workers and then the remaining skilled workers of the sending country. The unskilled workers in the receiving country are still better off (to a lesser extent), but the unskilled workers in the sending country are made worse off. The authors estimate the representative household in the receiving country will be better off overall by 0.85% whilst the representative household in the sending country will be worse off by 1.2%. The authors argue that remittances can redistribute the productivity benefits to losers in the sending country, which we have discussed previously.

It remains to highlight another potential productivity benefit from migration, namely the effects on the demand for education in the sending country. Whilst the increase in the human capital value of professionals from training and education expenditures may push many of them to work overseas which may lead to the problem of "brain drain" there is the prospect that this may in fact foster human capital formation and growth in skilled labor sending countries (Vidal 1998; Beine et al. 2001; Docquier and Rapoport 2004). If the private returns to education is higher overseas than at home, the possibility of migration increases the expected return to human capital, thereby enhancing domestic enrolment in education. More people, therefore, invest in human capital as a result of increased migration

opportunities. This acquisition can contribute dynamism in the educational sector leading to growth and economic performance. This in line with Mayr and Peri (2008) who conclude that the brain drain might not actually be that negative for the sending country as investments in education and training provide positive social benefits. They point out that migrating to an overseas country, leads to higher investments in education in the sending country that could generate positive spillovers to the sending country's labor market. Also, as previously mentioned, return migration of high skilled labor and contacts of high skilled workers with the home country might increase human capital levels in the sending country. A brain drain might in fact cause a dynamic brain gain for the sending countries.

3.3 Differentials in Living Standards

Any decisions to migrate will include expected general economic benefits (in addition to wages) and expected costs. These costs can include those for transport, fees and intermediaries charges, which can be about six months of the expected wage for regional movements between Indonesia and Malaysia/Singapore, and between Thailand and Cambodia.[23] The costs are much higher for movement out of the Asian region and particularly to more developed countries. The social benefits include better working conditions and possible access to education and health care. To consider this important dimension of migration, we can modify the Harris-Todaro model in Figure 5 by replacing wage rates on the vertical axes with broader measures of human development. The demands curves MM' and AA' then can be interpreted as marginal social benefits curves for the sectors. The Human Development Index (HDI) includes one-third weightings each for measures of income, education and health and is therefore an appropriate indicator of social benefits. The extended wage differential Harris-Todaro model presented earlier includes the expectation (or probability) of obtaining employment. This can also be expanded to include the probability of migrants getting non-guaranteed access to services, including education and health.

As expected, there are differences between origin and host countries HDIs. Of the emigrants from Asian countries, 25% went to Europe, 16% went to North America, and 2% moved to Oceania. The remaining 55% emigrated within the Asian region. The proportions for the individual countries are given in Table 7 and the HDI's in Table 8.[24]

[23] UNDP *Human Development Report 2009*, *Overcoming Barriers*: *Human Mobility and Development*, pp.54–55.

[24] The year 2005 is purposely selected for the HDI's in order to make relevant comparisons with the emigration data, which is only available for 2000-02.

Table 7: Asian Emigrants Residence by Continent

		Host Continent			
	Emigration rate[a] (%)	Asia[b] (%)	Europe[b] (%)	North America[b] (%)	Oceania[b] (%)
Japan	0.7	12.9	13.4	59.5	4.3
Singapore	6.3	51.2	21.9	12.3	13.5
Hong Kong, China	9.5	3.9	20.5	63.2	11.0
DPR Korea	3.1	35.7	7.4	50.3	4.2
Malaysia	3.1	66.8	10.7	9.4	11.6
Thailand	1.3	60.1	13.0	22.3	3.4
PRC	0.5	64.0	7.2	23.3	3.5
Philippines	4.0	35.4	6.7	49.9	4.9
Indonesia	0.9	77.5	13.7	4.8	2.9
Viet Nam	2.4	15.1	18.3	57.4	8.0
India	0.8	72.0	9.7	15.0	1.3
Cambodia	2.3	13.1	26.3	50.5	8.9
Asia	1.7	54.7	24.5	16.4	2.2

Notes: [a] Emigrants as a proportion of remaining population plus emigrants for the country (2000-02).

[b] Emigrants as a proportion of total emigrants for the country (2000-02). Europe = 49 European countries and areas defined in the UNDP *Human Development Report 2009*, pp. 214-215.

Source: UNDP *Human Development Report 2009*, *Overcoming Barriers*: *Human Mobility and Development*.

The economies with the major proportions of emigrants who stayed within the Asian region are Singapore, Malaysia, Thailand, the PRC, Indonesia, and India. North America is the major destination for emigrants from Japan; Hong Kong, China; Republic of Korea; Philippines; Viet Nam; and Cambodia. Europe was the second preference for emigrants from Japan; Singapore; Hong Kong, China; Indonesia; Viet Nam; and Cambodia.

There are also potential gains from internal migration. The HDI was calculated to increase by around 10% for those who moved from rural to urban areas in Indonesia and Viet Nam, in the period 1995–2005.[25]

[25] Harttgen and Klasen (2009).

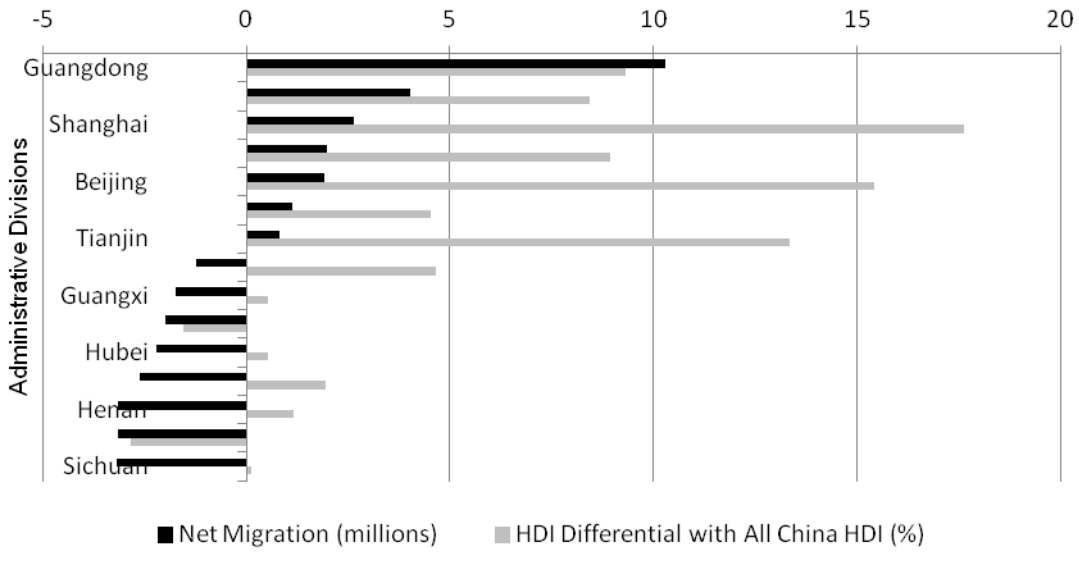
Table 8: Human Development Index (HDI) 2005

Japan	0.886	Australia	0.918
Singapore	0.835	Canada	0.892
Hong Kong, China	0.850	France	0.869
DPR Korea	0.866	US	0.902
Malaysia	0.738	UK	0.855
Thailand	0.656	Germany	0.895
PRC	0.633	Russian Fed.	0.725
Philippines	0.622		
Indonesia	0.572		
Viet Nam	0.561		
India	0.504		
Cambodia	0.491		

Source: UNDP *Human Development Report 2011*, *Sustainability and Equity*: *A Better Future for All*.

The data for PRC administrative divisions is graphed in Figure 6 and shows a strong relationship between the HDI "pull" and net in-migration (noting differences in units of measurement).[26] Whilst the "push" factor is less obvious for the lower HDI divisions it is still present for those with the lowest relative HDI measures, namely the Sichuan and Anhui divisions.

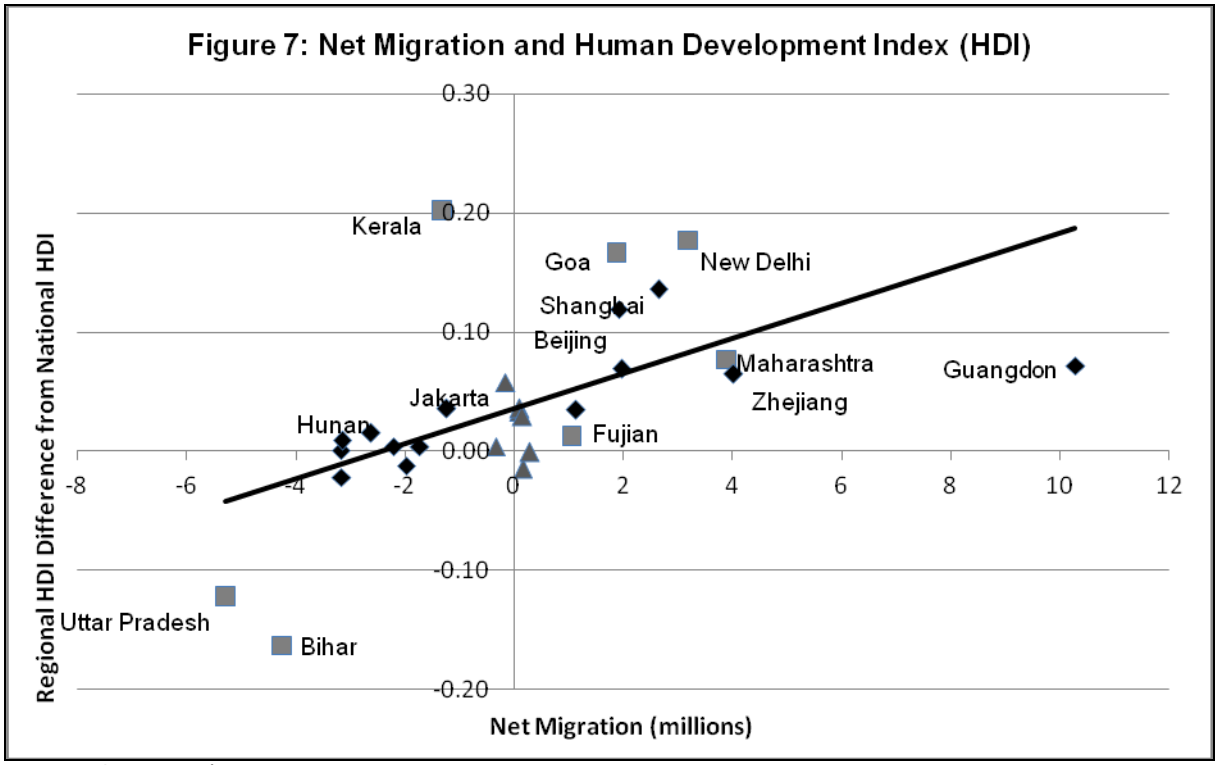
Figure 6: Net Migration and Human Development Index (HDI) PRC



Source: Authors.

[26] The migration data comes from Chan (2008) and the HDI data from UNDP and Renmin University of China (2010).

The analysis summarized earlier in Figures 3 and 4, show less clear patterns of net migration for India and Indonesia and the relationship with HDI is also less precise. Having said this, Figure 7 plots the net migration and HDI measures for the PRC divisions (diamonds), Indian states (squares), and Indonesian provinces (triangles) in the sample.[27] The line of best fit shows a significant positive relationship. (The question of two-way causation is important here in that we would expect HDI differences to induce migration of labor and the reallocation of labor would improve human development.)



Source: Authors

4. DEMOGRAPHIC TRENDS

Rapid aging due to low fertility rates and increasing life expectancies need to be addressed as this has the potential to create other economic problems such as diminishing consumption, declining tax income and lower savings and investment. On the other hand, population growth rates are modest around 1% annually in India and Indonesia. The expectation is that labor importation from high population growth countries will resolve the shortages if more free movements of labor are allowed. If this were to happen, then the relatively large divergences between wages and human development measures as explained earlier, will be important determinants of migration between sending and receiving countries. However, labor migration is highly dependent on demand (pull) and supply (push) conditions which are predominantly influenced by government migration policies of the receiving country (demand side). Tougher immigration policies are in place for poor unskilled workers and more generous policies are starting to emerge for recruiting skilled workers. We will consider the projected demographic trends to 2030.

[27] Only Indonesian provinces with net migration above 100,000 were included. The HDI sources for Indonesia provinces and Indian states are Statistics Indonesia (2012) and Government of Meghalaya (2008), respectively.

4.1 Population Growth

The United Nations (UN) midpoint population projections are shown in Figure 8 for regions of the world.[28] South Asia and Africa are the only regions expected to experience continuing strong population growth to 2030. South East Asia population growth will diminish and stocks will equal that for Europe and stabilize from 2030. East Asia is projected to decline at the end of the forecast period.

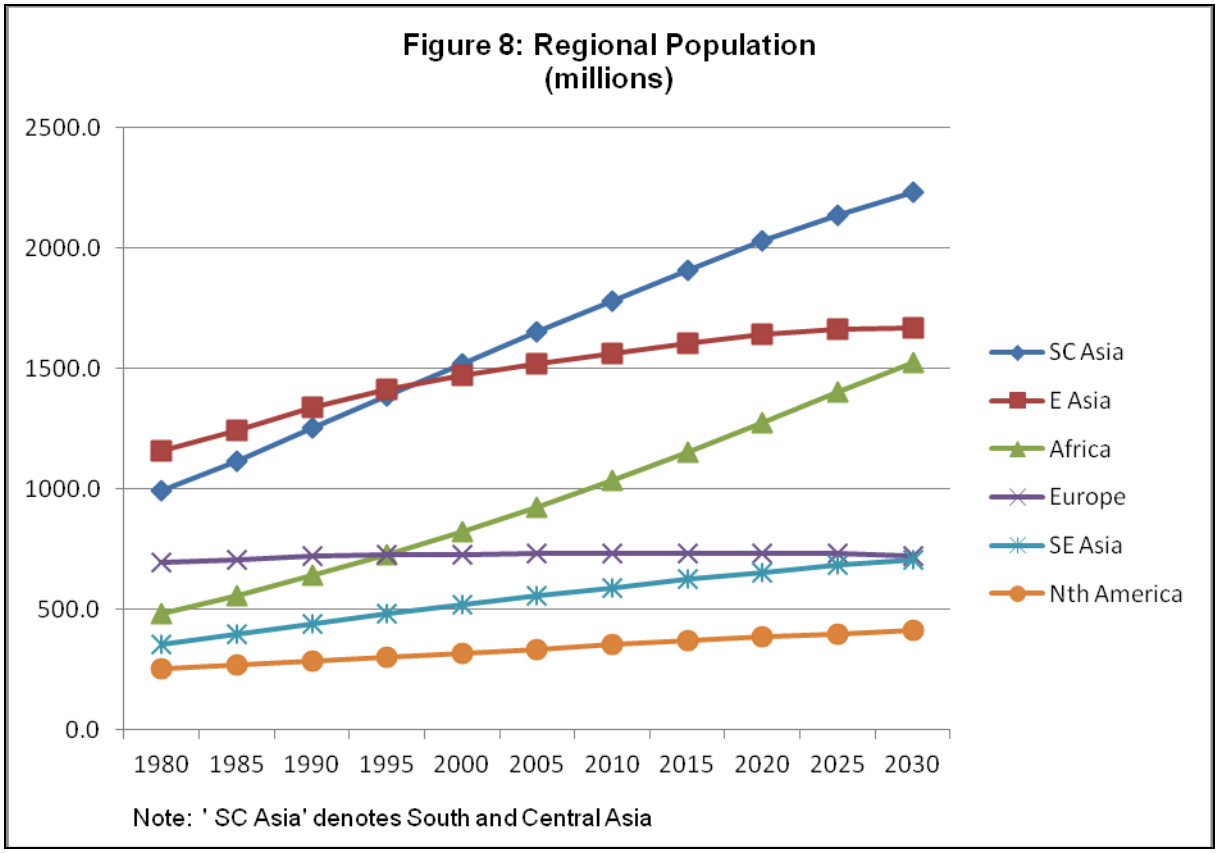
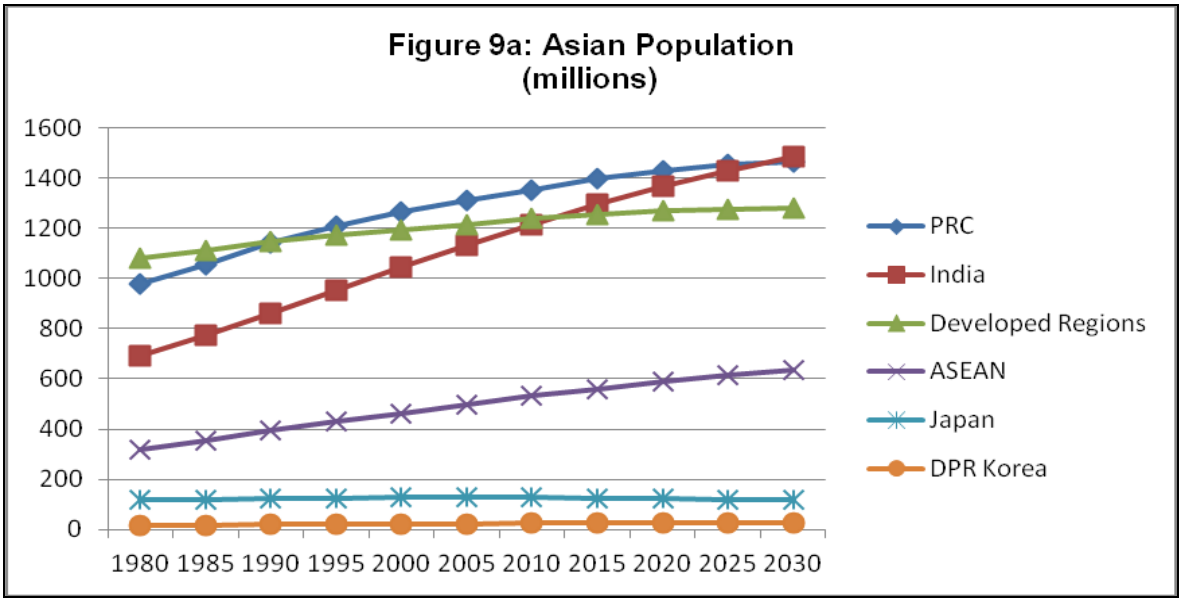
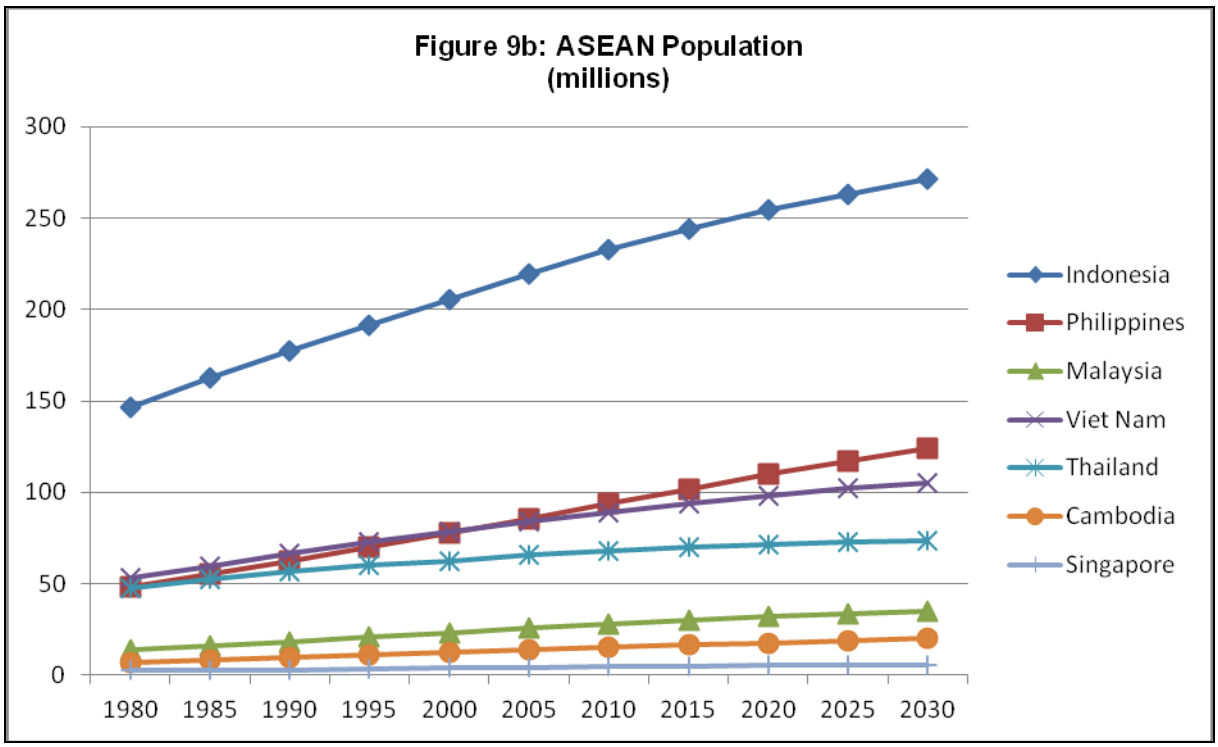


Figure 9a shows that the PRC's population growth will slow and the PRC's population will be surpassed by India's after 2025. ASEAN's population will level off towards the end of the projection period whilst the Republic of Korea will change relatively little and Japan's population will decline.

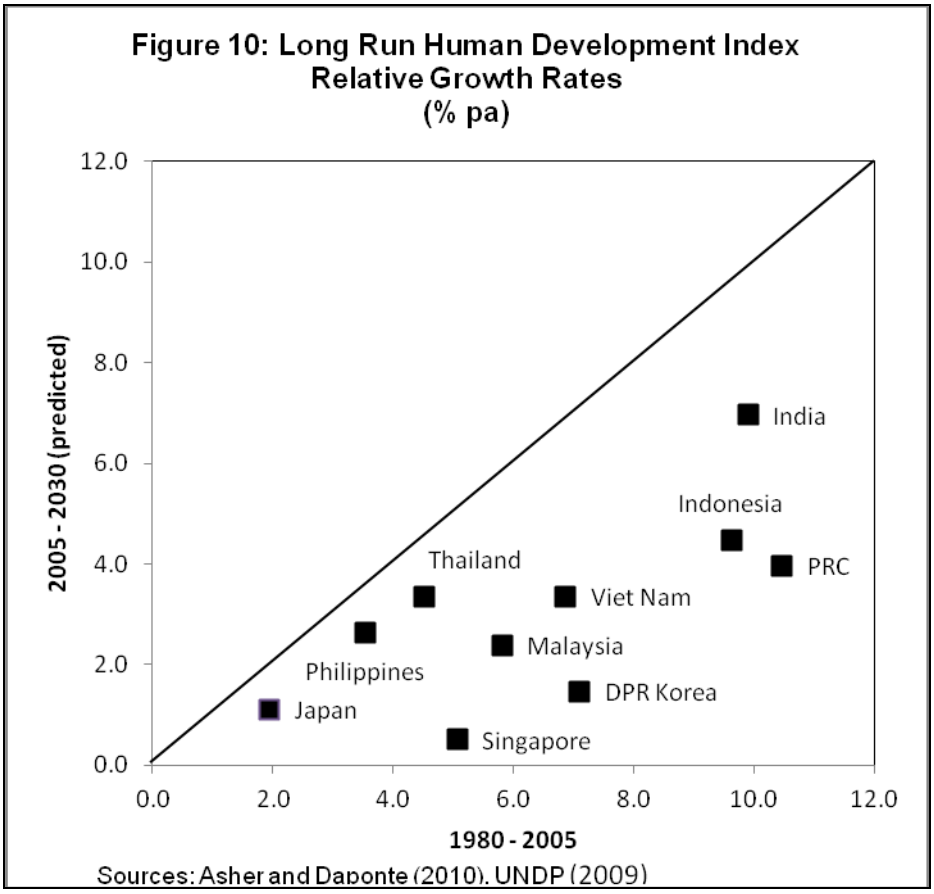
The ASEAN countries in Figure 9b are also showing variations in predicted populations. All will continue to grow, although Thailand will noticeably slow. Indonesia's population will continue to be sizeable and the Philippines will show the strongest growth.

[28] UN DESA (2011), World Population Prospects: The 2010 Revision.





Overall, these measures show reducing divergences in populations over the next twenty years. The projected HDIs by Asher and Daponte (2010) for the period 2005–2030, are compared in Figure 10 with the period 1980–2005 HDIs for the selected countries. Whilst these HDI projections need to be heavily qualified they indicate some convergence over the projected period to 2030. At first sight it could be concluded that converging populations and measures of development mean that there is less need for migration to occur in order to better facilitate the efficient allocation of labor and to promote the human development process. This would be a serious mistake and we will now show why.



4.2 Increasing Dependencies

The UN population predictions indicate significant ageing of populations. Whilst we have had Al Gore and eminent scientists warning of global warming, we need another high profile envoy to highlight the equally important event of population aging. This is a major development which will have significant economic, social, and political consequences. Not enough people realize the effects of increasing dependency by the aged.

We calculate the dependency ratio as the number of people aged sixty and over as a proportion of the number of working aged population (15 to 59 years of age) and report these ratios in Figure 11.[29] Importantly, the aging and increasing dependency ratios vary enormously across countries and regions and are projected to further diverge. Figure 11a shows that by 2030, for every 100 working age people there will be nearly 75 people aged sixty and over in Germany. Indeed all of the traditional labor importing countries will experience significant increases in dependency ratios.

[29] These calculations are based on the UN DESA (2011), *World Population Prospects*: *The 2010 Revision*.

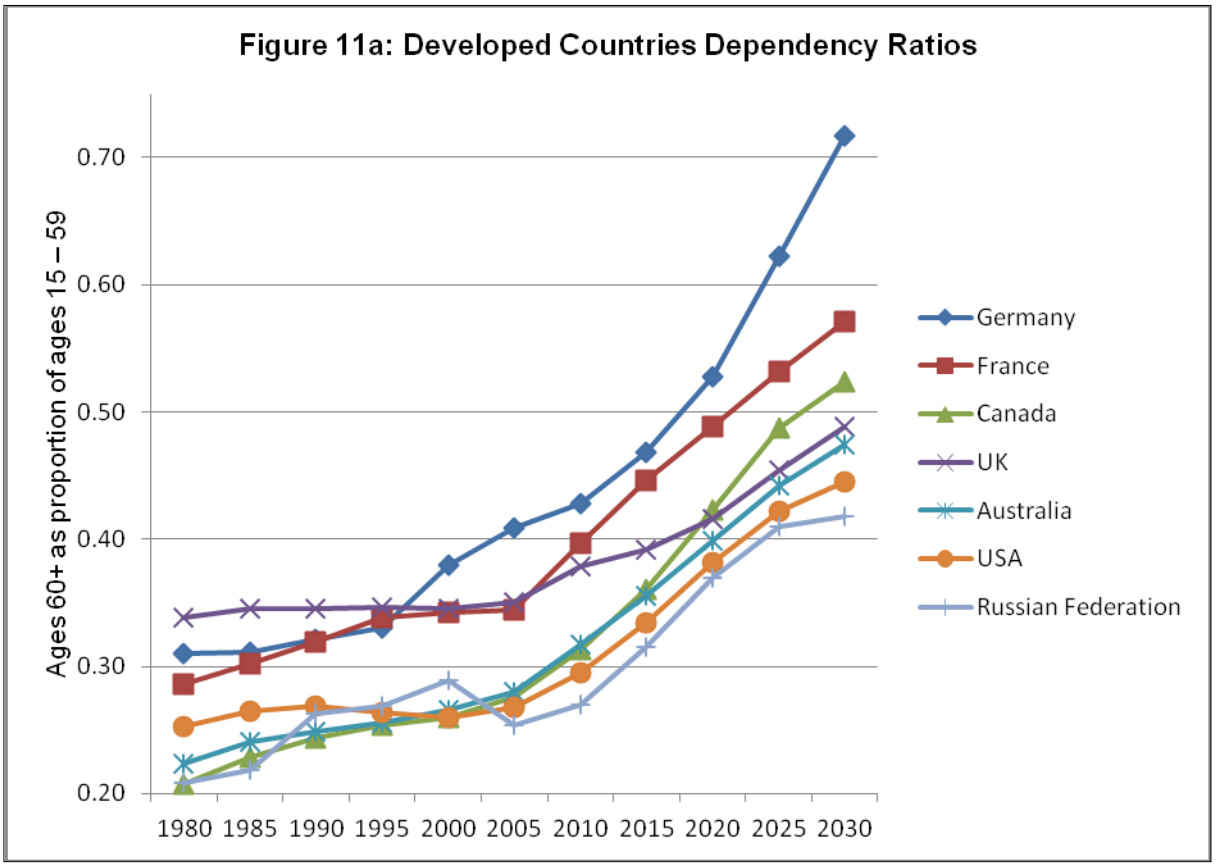


Figure 11a: Developed Countries Dependency Ratios
Ages 60+ as proportion of ages 15 – 59
0.70
0.60
0.50
0.40
0.30
0.20
1980 1985 1990 1995 2000 2005 2010 2015 2020 2025 2030
Germany
France
Canada
UK
Australia
USA
Russian Federation

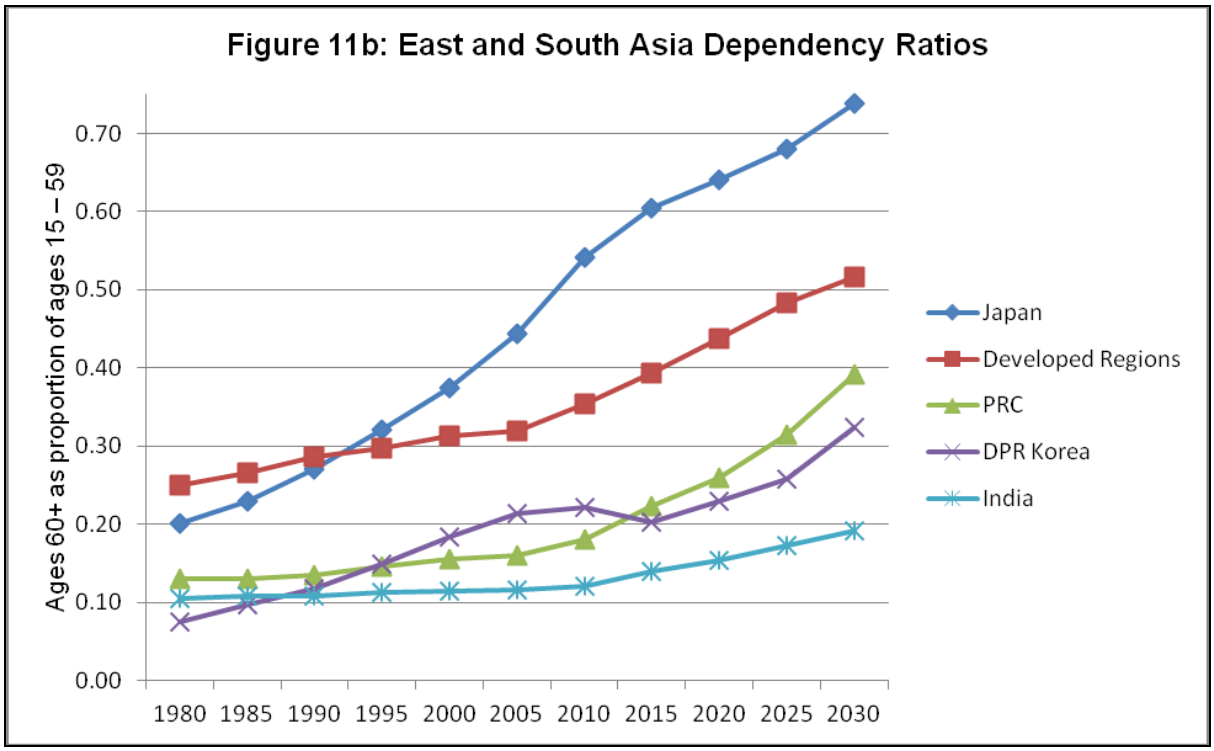
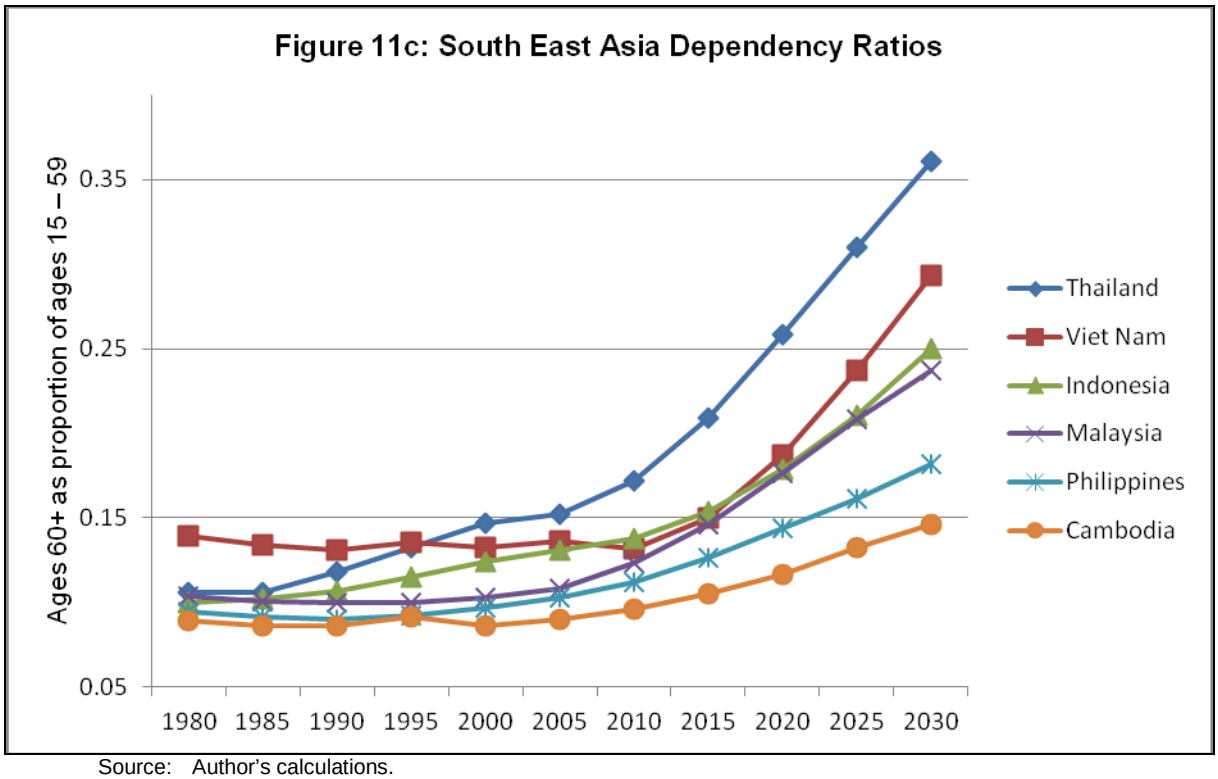


Figure 11b: East and South Asia Dependency Ratios
Ages 60+ as proportion of ages 15 – 59
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
1980 1985 1990 1995 2000 2005 2010 2015 2020 2025 2030
Japan
Developed Regions
PRC
DPR Korea
India

This also applies to Japan and the Republic of Korea. Figure 11b shows that by 2030, for every 100 working age people there will be nearly 75 people aged sixty and over for Japan. The PRC's ratio is forecast to double from the current rate of around 20 old people for every 100 workers to around 40 in 2030. Even India, whilst having relative less aging, will almost double its dependency ratio from just over 10% to nearly 20%. The ASEAN countries, Thailand, Viet Nam, Indonesia, and Malaysia, will also experience aging populations and increasing dependency ratios, as indicated in Figure 11c.



Source: Author's calculations.

These demographic changes are extraordinary and, as mentioned earlier, will importantly affect income and consumption, savings and investment, as well as government's abilities to support future economic growth. The social and political consequences are equally important, for example, grandparents with fewer children to support them will have much fewer grandchildren (0–14 year olds) to help them contribute to the family wellbeing. There are arguments the aged will need to work to older ages, women will increasingly enter and remain in the workforce and productivity improvements will be essential to mitigate these effects. However, they would only partially offset these predictions.

Clearly, international migration will be needed to re-distribute the costs of aging processes for different countries around the globe. By way of example, consider our estimates of the intra-Asia regional migration required so that the selected Asian countries age at the same rate. This sharing of the future burden of dependencies, shown in Table 9, will double for these countries, from around 15% to around 30% in 2030. Consider the requirements for 2010. Japan would have needed net immigration of over 150 million working-age people, the PRC nearly 100 million workers and India would need emigration of nearly 200 million working age labor. Indonesia would also need emigration of 25 million and the Philippines and Viet Nam would need to contribute another 30 million emigrants. With a few exceptions, these requirements will increase to 2030.

These calculations assume no emigration to outside the Asian region and the "pull" factor from more developed countries will reduce the ability of the region to balance growth to

2030. Whilst it appears impossible to achieve balanced growth, consider the internal migration figures in Table 2b and the accompanying discussion. It was estimated that the PRC's internal migration was possibly of the order of 150 million, India around 100+ million, with the Philippines and Viet Nam having around 20 million internal migrants. If these migrants were allowed to move within Asia they would theoretically go a long way to reducing, even possibly eliminating, the aging imbalances in the 2000s. Having claimed this, it needs to be acknowledged that these orders of regional and cross-national border migration magnitudes are unlikely to occur under present arrangements. We will now consider the barriers to migration for selected countries.

Table 9:
Extra Working Age Persons Required to Maintain the Average Asian Dependency Ratio
(millions)

	2000	2010	2020	2030
Japan	122.8	163.1	130.2	91.7
PRC	50.0	90.6	179.7	295.2
Thailand	0.2	1.8	8.7	10.2
DPR Korea	3.7	5.3	1.0	1.7
Viet Nam	-4.4	-12.0	-8.9	0.1
Indonesia	-19.4	-24.6	-29.0	-25.2
Malaysia	-4.2	-4.4	-3.8	-4.3
India	-131.1	-197.7	-250.0	-333.6
Philippines	-14.9	-18.1	-22.7	-29.4
Cambodia	-2.8	-3.9	-5.2	-6.4
Dependency Ratio	0.1465	0.1651	0.2167	0.2929

Source: Author's calculations.

5. BARRIERS TO MIGRATION

5.1 Immigration and Emigration Policies

There is a noticeable lack of information and, importantly, consistent mechanisms to collect information on immigration data and policies. To this end we provide a summary of the key policy points for selected countries in Table 10. The immigration and emigration information for the Asian countries are included in Table 10a whilst Table 10b summarizes relevant information for representative developed migrant receiving countries in Asia, North America, and Europe.

Common to all countries policies is the total restriction or prohibition of unskilled immigrants. Malaysia is the only exception accepting limited unskilled/semi-skilled workers from approved Asian countries in a few selected industries. There are very high degrees of variation in visas (tourist, business, student, transit), work permits, temporary and permanent residency requirements, refugees, and family reunification conditions. Australia and Canada use a points system for residency. All skilled and professional immigrants must be able to fill identified skill shortages or are of sufficiently high merit to improve the human capital in the accepting country. These requirements appear to be stronger for the more developed

countries. Business immigrants are required to demonstrate financial viability, ability to make direct investments and create identified economic benefits.

All countries are toughening border controls for undocumented immigrants with preventative measures and amnesty programs. The PRC is regulating emigration of labor for specific State approved overseas projects.

The details, processes, and requirements of these heterogeneous policies vary enormously across countries in Asia and elsewhere. Indeed, there are complexities within countries with fragmented and piecemeal immigration and emigration policies. There is a lack of coherence across many government departments and private agents, which typically manage on case-by-case bases. There is a real need for internal reviews by countries in Asia, particularly the large populated India and Indonesia. The PRC has been seriously reviewing migration policies since acceptance into the World Trade Organization (WTO) in 2001.

Then there is also the need to coordinate migration policies across countries as well, within and outside the Asian region. Some Asian countries have been negotiating bilateral labor service agreements to regulate migration. These include Malaysia and Thailand. Malaysia has signed bilateral agreements with Indonesia, the Philippines, Thailand, Bangladesh, Viet Nam, and Sri Lanka to provide foreign workers.

5.2 Social Welfare Support

This is made even more complex in terms of the provision of social welfare support within countries. Tables 11a and 11b provide summaries of social security, minimum wages, and pensions systems for the selected developing and developed countries. Again there is large variation in schemes in terms of structure, extent, coverage, and access. From Table 11a, Thailand, Philippines, and Indonesia have a national minimum wage, whilst Malaysia does not and the PRC has local government determined minimum wages. Japan, Canada, and the US have state, province, or prefecture determined minimum wages, Germany has non-statutory minimum wages for 16 industrial sectors, whereas Australia has a national statutory minimum wage. It is also unknown what access and support immigrants have from these schemes.

Given the multifaceted and complex issues of migration and social welfare, the question needs to be asked—do governments have the will to undertake major reforms? This will be considered in the next section.

5.3 Social and Political Acceptance of Immigrants

There has been political resistance to committing to international conventions which relate directly to migrant workers. Compare in Table 12 the signings and ratification of the *International Convention on the Rights of All Migrant Workers and Members of their Families*, *1990* (second column) which has only been signed by the Philippines and Indonesia, with the similarly dated *Convention on the Rights of the Child*, *1989* (last column of Table 12) signed by all the countries within 6 years. The older *Convention relating to the Status of Refugees* has more signings and the more recent 2000 *Protocol to Prevent, Suppress and Punish Trafficking in Persons* have had more acceptance, due to its focus on fighting organized transnational crime. The more recent toughening of border patrols and the tightening of immigration requirements by governments mentioned earlier reflect these priorities.

Table 10a:
Survey of Immigration and Emigration Policies for Selected Asian Countries 2000–10

Country	Immigration Policies	Emigration Policies
Malaysia	Foreign nationals who wish to visit Malaysia have to obtain a pass: Social/Tourist Visit Pass—does not permit work Business Visit Pass –allows visitors to enter for business negotiations or inspections, but not for employment Work Permit—employee and families are allowed to enter 1. Unskilled/semi-skilled migrants can be employed in only a few sectors and are limited to nationals of a few countries in South and South-East Asia; recent policy to minimize the economy's dependence on unskilled/semi-skilled migrants 2. Undocumented migrants: measures to toughen border controls with preventive measures and amnesty programmes	1. No labor export policy 2. Negotiate a bilateral labor service agreement with receiving countries
Thailand	1. Unskilled migrant workers are prohibited from entry and employment 1. Alien employment Act 2008 • Allows foreigners from neighbouring countries who enter by "Border Pass" to seek temporary employment in all sectors except for 39 jobs prohibited by law • Provides for work permits of 2 years which are extendable for a further 2 years • More flexible in terms of management such as changing employer, location and duration and type of work • Fund for repatriation by withholding past of wages 2. Recent policy to toughen border controls with preventive measures for undocumented migrants; non-universal amnesty programme (undocumented migrants from Cambodia, Lao PDR, Myanmar, and Viet Nam are allowed to work in certain jobs and areas after registration)	1. Recent more active policy to promote trained migrant workers with more active role of the state in terms labor training and marketing 2. A bilateral labor service agreement with receiving countries serves an extra measure
PRC	Officials have been introducing standardized immigration laws since joining the WTO in 2001 1. All foreign nationals are required to have a visa to enter Tourists visa; Transit visa; Student visa (six months or more)—a letter of acceptance must be provided from a PRC educational institution. Work visa—invitation letter from the host company or government is required; spouse and dependent are also provided for the family of candidates relocating to the PRC. Visiting Journalist visa—a certificate issued by the PRC authorities is required 2. Permanent resident visa; high-level foreign personnel who hold posts in business which promote the PRC's economic, scientific and technological development or social progress, foreign citizens who make relatively large direct investment in the PRC, persons who have made outstanding contributions or are of special importance to the PRC, and people who come to the PRC to be with family (husband, wife, minor dependent on their parents, senior citizens dependent on their relatives)	No single, encompassing emigration policy 1. Since 1990s more policies support study overseas 2. Government export of workers for developing countries infrastructure; state-owned companies send workers for overseas clients (eg. construction, cooking, medical services and mechanics)

Philippines	1. Unskilled labor is prohibited 2. Foreign workers can only be employed if firms cannot find suitably qualified local workers 3. Urging transfer of technology to local workforce 4. Undocumented migrants: toughening border controls with preventive measures and amnesty programmes	
India	Foreign nationals are required to hold a valid visa to enter 1. Short-term immigration • Tourist visa (6 months, documents required supporting financial standing) • Business visa (one or five years, letter from the sponsoring Indian organisation, and an introductory letter from the employer are required)—issued to the person temporarily immigrating to India for a short period for business related activity • Student visa (for the duration of study or five years, proof of admission by the admitting institution) • Transit visa • Conference visa (for the duration of the conference or seminar, invitation letter from the organiser) 2. Long-term immigration • Working permit—issued to skilled professionals and people immigrating to India to fill a special position for a named company; immediate family members (spouse and dependents) are permitted to join the main applicant (an offer of a position is required) • Permanent residency—a person who has at any time held an Indian passport, was born in India or is the grandchild or great grandchild of someone born in India and living there as a permanent resident; a person of Indian Origin living overseas with a grant of citizenship in their country of residence	1. No policy to encourage labor emigration but to regulate emigration and to protect migrant workers 2. Recently began minimizing certain restrictions so as not to lose out in the international market

Sources: Constructed using Wongboonsin and other web sites.

Japan—Immigration Bureau of Japan, http://www.immi-moj.go.jp/english/hourei/index.html

PRC—The Central People's Government of the People's Republic of China, http://english.gov.cn/service/immigrating.htm

India—Bureau of Immigration, India, http://www.immigrationindia.nic.in/

Table 10b
Survey of Immigration and Emigration Policies for Selected Developed Countries 2000–10

Country	Immigration Policies	Emigration Policies
Japan	1. No unskilled workers accepted 2. Foreign nationals who wish to come to Japan to work legally should have a "status of residence" listed in the Immigration Control Law, such as journalism, arts, research, education, engineering, entertainment, business management, international services. A university degree or considerable professional experience in the applicable field is required to qualify for a working visa; a prospective employer sponsor is required. Residence permission is granted in periods of one or three years and is extendable 3. Foreign residents who have shown good conduct and have sufficient assets or ability to make an independent living, can be granted permanent residence if they reside in Japan for typically ten or more consecutive years 4. Spouses of Japanese nationals or permanent residents can obtain a spouse visa (one or three years and extendable), which allows them work in Japan	None known
Australia	1. Temporary entrants are allowed to come (working holidays, students, and business entrants) 2. Independent skilled workers, business migrants, employer nominated migrants are allowed to apply for permanent resident visa, based on the points test system. Recent migration program strongly favored younger migrants, English language proficiency, post-secondary educational qualifications, particular occupations or skills in high demand, and work experience 3. Family members (partner, parent, child) of Australian permanent resident or citizen and eligible New Zealand citizens are allowed to apply for permanent visa (tougher bone-fides tests for spouse and fiancé applications; with all offshore spouse and fiancé visas being initially issued on a two year temporary basis pending confirmation that the marriage was genuine and continuing; tougher serial sponsorship rules; de facto spouse applications being required to prove a pre-existing relationship of at least one year; incorporation of a test for English language competence)	None
Canada	1. Primary Applicants and accompanying spouse and dependants of skilled workers, business migrants, and provincial/territorial nominees are allowed to apply for a permanent resident visa, based on a system that assigns points for age, education, work experience, intended occupation, knowledge of Canadian languages, and adaptability (Economic class) 2. Investors, entrepreneurs, and the self-employed are selected on the basis of the economic contribution they will make to Canada, and Primary Applicants are assessed for relevant experience as a business owner or manager (Business class) 3. The close relatives (grandparents, parents, spouse, or dependent children) sponsored by a permanent resident or citizen are allowed to apply for a permanent visa (Family class)	None

USA	Two basic types of legal aliens Non-immigrants: tourists, foreign students, diplomats, temporary agricultural workers, exchange visitors, or intra-company business personnel Immigrants: 1. Employment-based immigrants—professionals (persons of extraordinary ability in the arts, science, education, business, or athletics; outstanding professors and researchers; certain multi-national executives and managers; members of the professions holding advanced degrees or persons of exceptional ability in the science, art, or business); skilled workers (skilled shortage workers with at least 2 years training or experience, professionals with baccalaureate degrees); unskilled shortage workers; special immigrants (ministers of religion, religious workers other than ministers); employment creation investors who invest at least $1 million which will create at least 10 new jobs 2. Family-sponsored immigrants—immediate relatives of US citizens	None
Germany	1. Citizens of EU member states are entitled to freedom of movement and do not come under the Residence Act 2. Immigration Act –non EU member states • Foreign students may remain in Germany for one year following graduation to find a job which is relevant with their academic degree • Highly skilled workers are eligible for a permanent settlement permit upon entering Germany • Self-employment persons are eligible for a residence permit if exceptional economic interest or special regional needs exist, if the planned business would have a positive economic effect, and if it has secure financing • In the case of persons immigrating to join family members who are German citizens, the residence permit entitles the holder to pursue paid employment	None

Sources: Australia—Australian Government Department of Immigration and Citizenship, <http://www.immi.gov.au/migrants/>.

Canada—*Citizenship and Immigration Canada*, <http://www.cic.gc.ca/english/immigrate/index.asp>.

US—*Immigration Policy in the United States*, <http://www.cbo.gov/ftpdocs/70xx/doc7051/02-28-Immigration.pdf>.

Germany—*Immigration Law and Policy*

<http://www.bmi.bund.de/SharedDocs/Downloads/EN/Broschueren/Zuwanderungspolitik_und_Zuwanderungsrecht_en.pdf?__blob=publicationFile>.

Table 11a:
Survey of Social Welfare Support—Selected Developing Countries 2010

Country	Social Security	Minimum Wage	Pension
Malaysia	Medical care, old age benefits, invalidity benefits, survivors benefits, employment injury benefits	No national minimum wage policy. But plantation workers receive minimum wage of 350 Ringgit per month, which is raised to 700 Ringgit by productivity incentives and bonuses	Employees Provident Fund (EPE), 49% of the workforce contributes 23% of their salary. Government Pension Fund
Thailand	Medical care, benefits for old age, invalidity, survivor, sickness, maternity, employment injury, family, and unemployment	The minimum wage ranged from 151 baht to 206 baht per day ($4.72 to $6.44), depending on the cost of living in various provinces. The minimum wage was not adequate to provide a decent standard of living for a worker and nuclear family On 14 December 2010 the cabinet approved an increase in the minimum wage. Beginning on January 1, 2011, the minimum wage was set to range from 159 baht to 221 baht ($4.97 to $6.91) per day	Government Pension Fund (GPF), 3.5% of workforce contributes 6% of their salary
PRC	Pension, medical insurance, unemployment insurance, maternity insurance, occupational injury insurance, housing found	No national minimum wage, but local governments set their own minimum wage according to standards promulgated by the Ministry of Human Resources and Social Security	The portion (8% of wage) contributed by the employee goes into a personal fund (the contribution directly accrues to the individual) and after retirement the individual can draw on the funds in this pool directly. In contrast, the contributions (20% of their total wage bill) made by the employer go into a social pool Funds in this pool are distributed to all citizens that have made contributions into the system during their working life. In this way even citizens that have used up the personal portion of their pension will have some income on which to support themselves (although it is likely to be only several hundred RMB per month) In terms of the amount of contributions that need to be made each month by both employee and

			employer, pension is generally the largest component of social insurance
Philippines	Medical care, old age benefits, invalidity benefits, survivors benefits, sickness benefits, maternity benefits, employment injury benefits	The minimum wage ranges from P190 ($4.21) a day for agricultural workers in Southern Tagalog Region and P404 ($9) a day for non-agricultural workers in the National Capital Region. The minimum wage is set by tripartite regional wage boards	Social Security System (SSS), 25% of the workforce contributes 9.4% of their salary Government Service Insurance System (GSIS), 4.5% of the workforce contributes 21% of their salary
India	National social assistance for old age and maternity Social assistance in some states for widows and disabled. Health insurance. Government and public sector insurance	The federal government increased its floor minimum wages from 80 rupees ($1.80) to 100 rupees ($2.20), suggesting it would pay a minimum of 100 rupees for any employment. Minimum wages varied according to the state and to the sector of industry, but generally did not provide a decent standard of living for a worker and family However, most workers subject to the Factories Act received more than the minimum wage, including mandated bonuses and other benefits State governments set a separate minimum wage for agricultural workers but did not effectively enforce it	The Scheme is financed by transferring 8.33% of the Provident Fund contribution from employers' share and by contribution 1.16% of basic wages by the Central Government All accumulations in the ceased Family Pension Fund have been incorporated in the Pension Fund

Source: OECD (2011).

Table 11b:
Survey of Social Welfare Support—Selected Developed Countries 2010

Country	Social Security	Minimum Wage	Pension
Japan	Public health (medical) insurance, labor insurance (workers' accident compensation insurance and employment insurance), social insurance (health insurance and nursing care insurance), employees' pension insurance (old-age benefits, disability benefits and survivors benefits), child benefits	The minimum wage ranges from 643 yen ($7.81) to 821 yen ($9.98) per hour, depending on prefecture. The revised law also increased to 500,000 yen ($6,080) the fine for employers that fail to pay the minimum wage The minimum daily wage provided a decent standard of living for a worker and family	The public pension system has two tiers: a basic (The full basic pension for 2008 was JPY 792 100 per year, corresponding to 15.8% of average earnings), flat-rate scheme and an earnings related plan (employees' pension scheme--The accrual rate was 0.5481% of earnings including bonuses since 2003) There is social assistance as other income security system. Older people are covered by the general social assistance scheme The social assistance for single household aged 60-69 in Tokyo in 2008 is JPY 969 810 (ie. 19% of average earnings) per year excluding housing benefit and other relevant benefit
Australia	*Income support*: Age pension, Newstart Allowance, Youth Allowance, Austudy Payment, ABSTUDY, Disability Support Pension, Sickness Allowance, Carer Payment, Parenting Payment *Additional and Supplementary Payments*: Rent Assistance, Pharmaceutical Allowance, Telephone Allowance, Pensioner Education Supplement *Family Assistance*: Family Tax benefits, Maternity Immunisation Allowance, Child Care benefits *Concession cards*: health care card, commonwealth seniors health card, pensioner concession card Prisons and psychiatric hospitals	Since 2010, the federal minimum award wage is A$569.96 per week	A means tested Age Pension funded through general taxation revenue Superannuation guarantee: employers are required by law to pay 9% of an employee's salaries and wages into a complying superannuation fund

Canada	Healthcare benefits, Child benefits, Disability benefits, Employment benefits, Old age security pension	Each province and territory sets minimum wage rates, which ranged from Cdn$8.00 to Cdn$10.25 (approximately $7.84 to $10.04) per hour	In 2011, the prescribed contribution rate is 4.95% of a salaried worker's gross employment income between $3,500 and $48,300, up to a maximum contribution of $2,217.60 The employer matches the employee contribution, effectively doubling the contributions of the employee. If a worker is self-employed, he/she must pay both halves of the contribution. The rate of 4.95% has been in effect since 2003
USA	Federal old-age, survivors, and disability insurance; unemployment benefits; temporary assistance for needy families; health insurance for aged and disabled (Medicare); grants to States for Medical Assistance (Medicaid); state children's health income; supplemental security income; patient protection and affordable care Act	Since 2009, federal minimum wage rate is $7.25 per hour. Some states pay a higher or lower minimum wage than the federal minimum	The publicly provided pension benefit (social security) has a progressive benefit formula A means-tested top-up payment for low-income pensioners
Germany	Unemployment insurance, health insurance, pension, sickness insurance, care insurance, maternity benefits, child allowances	No statutory minimum wage but binding minimum wages in 16 sectors of the economy, including construction, electrical trades, painting, postal service, waste management, large-scale laundries, and special mining services New national minimum wages for some 800,000 nursing care workers came into force The regulation applies to all employees regardless of the country of origin of their employers The minimum wages in various sectors generally provided an adequate livelihood for a worker and his family; the legal minimum wage rates set by collective bargaining cover 60% of wage earners Individual-level contracts cover the remaining 40% of the workforce	The statutory public pension system has a single tier and is an earnings-related PAYG system. Calculation of pensions is based on pension points (A year's contribution at the average earnings of contributors earns one pension point The relevant average earning is approximately identical to the National Accounts average earnings Contributions based on lower or higher income earn proportionately less or more pension points. Contributions are levied on annual earnings up to €63,600 in 2008 The ceiling is equivalent to 208% of the relevant average earnings. The relevant earnings were €30,625 in 2008.) There is a social assistance safety net for low-income pensioners

Source: OECD (2011)

Table12:
Selected Conventions Related to Human Rights and Migration

Country	International Convention on the Rights of All Migrant Workers and Members of their Families	Protocol to Prevent, Suppress and Punish Trafficking in Persons[a] …	Convention relating to the Status of Refugees	International Convention on the Elimination of All Forms of Racial Discrimin-ation	International Convention on Civil and Political Rights	International convention on Economic, Social and Cultural Rights	Convention on the Elimination of All Forms of Discrimin-ation against Women	Convention against Torture and other Cruel, Inhuman or Degrading Treatment or Punishment	Convention on the Rights of the Child
	1990	2000	1951	1966	1966	1966	1979	1984	1989
Japan	--	2002	1981	1995	1979	1979	1985	1999	1994
Singapore	--	--	--	--	--	--	1995	--	1995
Rep. of Korea	--	2000	1992	1978	1990	1990	1984	1995	1991
Malaysia	--	2009	--	--	--	--	1995	--	1995
Thailand	--	2001	--	2003	1996	1999	1985	2007	1992
PRC	--	--	1982	1981	1998	2001	1980	1988	1992
Philippines	1995	2002	1981	1967	1986	1974	1981	1986	1990
Indonesia	2004	2000	--	1999	2006	2006	1984	1998	1990
India	--	2002		1968	1979	1979	1993	1997	1992
Australia	--	2005	1954	1975	1980	1975	1983	1989	1990
Canada	--	2002	1969	1970	1976	1976	1981	1987	1991
US	--	2005		1994	1992	1977	1980	1994	1995
Germany	--	2006	1953	1969	1973	1973	1985	1990	1992

Note: [a] Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, supplementing the UN Convention against Transnational Organized Crime.

Source: UNDP *Human Development Report 2009*, *Overcoming Barriers*: *Human Mobility and Development*.

These public sector responses are consistent with private sector attitudes towards immigrants. Kleemans and Klugman (2009) analyze data from the World Values Survey (WVS) which includes responses from 52 countries, covering developing and developed countries across the major continents. The questions are shown below and the responses reported in Kleemans and Klugman (2009) are detailed in Figures 12a and 12b.[30]

Category	(Paraphrased) Question	Possible Responses
Migrant Free Entry	Which should the government do?	1. Prohibit immigrants 2. Strictly limit immigrants 3. Allow immigration if jobs available 4. Allow all immigrants
Migration Employment	If jobs are scarce natives should get priority over immigrants	1. Agree 2. Neither 3. Disagree
Migrant Neighbor	Would you mind having an immigrant as your neighbor?	0. Yes 1. No

The responses have been converted to percentages and +100 (−100)% represents a fully positive (negative) response to each of the three questions. The bars to the right (left) in Figures 12a and 12b can therefore be interpreted as showing positive (negative) attitudes to immigration. Whilst the developed migrant destination countries shown in Figure 12a do not have strong views about migrant free entry, they have mildly negative views on potential migrant substitution for local employment and positive views for having immigrants as neighbors. Importantly, the responses for the Asian economies in Figure 12b are much more negative across the board for migrant employment competition. Given there is no question on access to welfare, we expect this response would carry over to locals wanting priority over immigrants in terms of access to social security. The Asian economies have mixed views about free entry and mostly positive views about migrants as neighbours.

The negative attitudes in all the Asian countries to potential job losses are a real barrier to immigration in the Asian region. Given that we are predicting the need for increasing Asian intra-regional migration to balance the varying negative effects of aging to 2030 there is much work to be done. This is compounded by the expected shortage of workers, especially skilled workers, and the increasing pressure on social welfare provision of aging populations. It is important that ASEAN leaders signed in 2007 the ASEAN Declaration on the Protection and Promotion of the Rights of Migrant Workers, aimed at ensuring fair wages and decent working and living conditions for migrant workers.

[30] The survey conducted in 2005–06 did not include Canada, Singapore, and Philippines so we have used the 2000–01 responses for these countries. France, UK, Japan and the Russian Federation are missing a response for one question (although we are able to use the 1995–96 response for the Russian Federation).

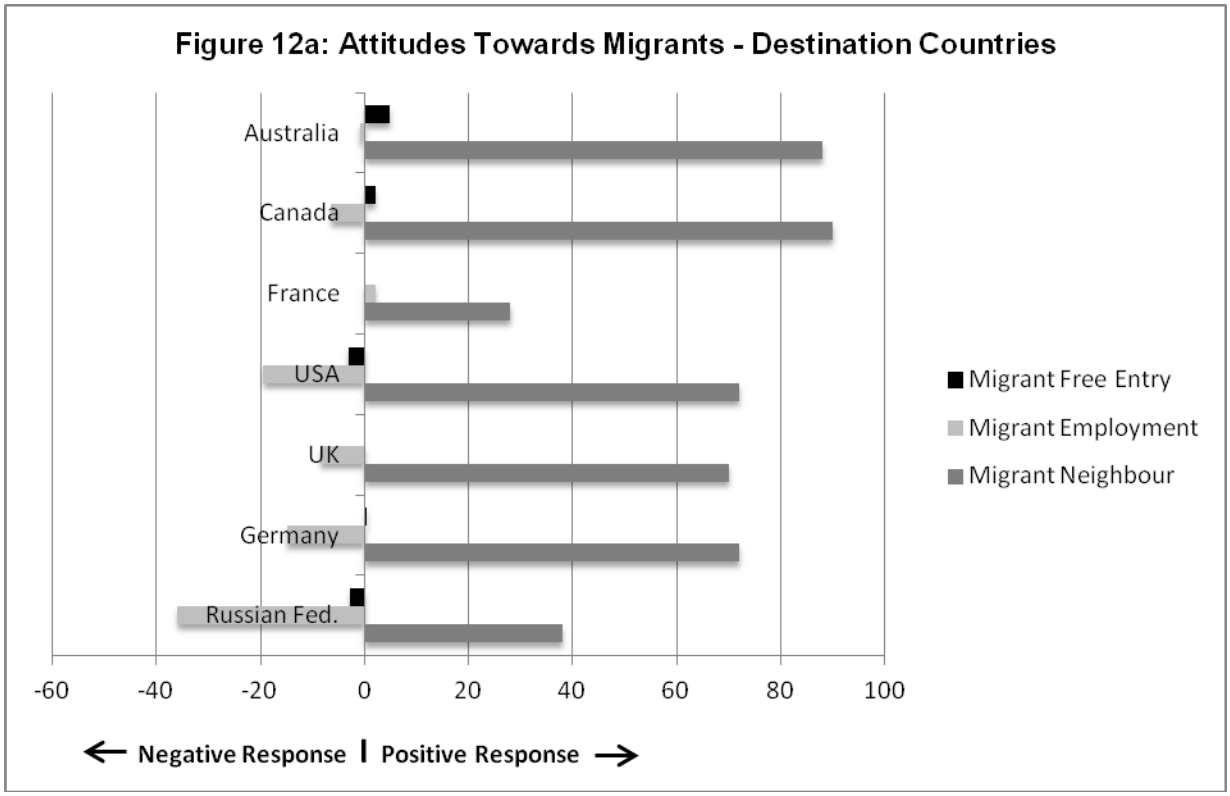
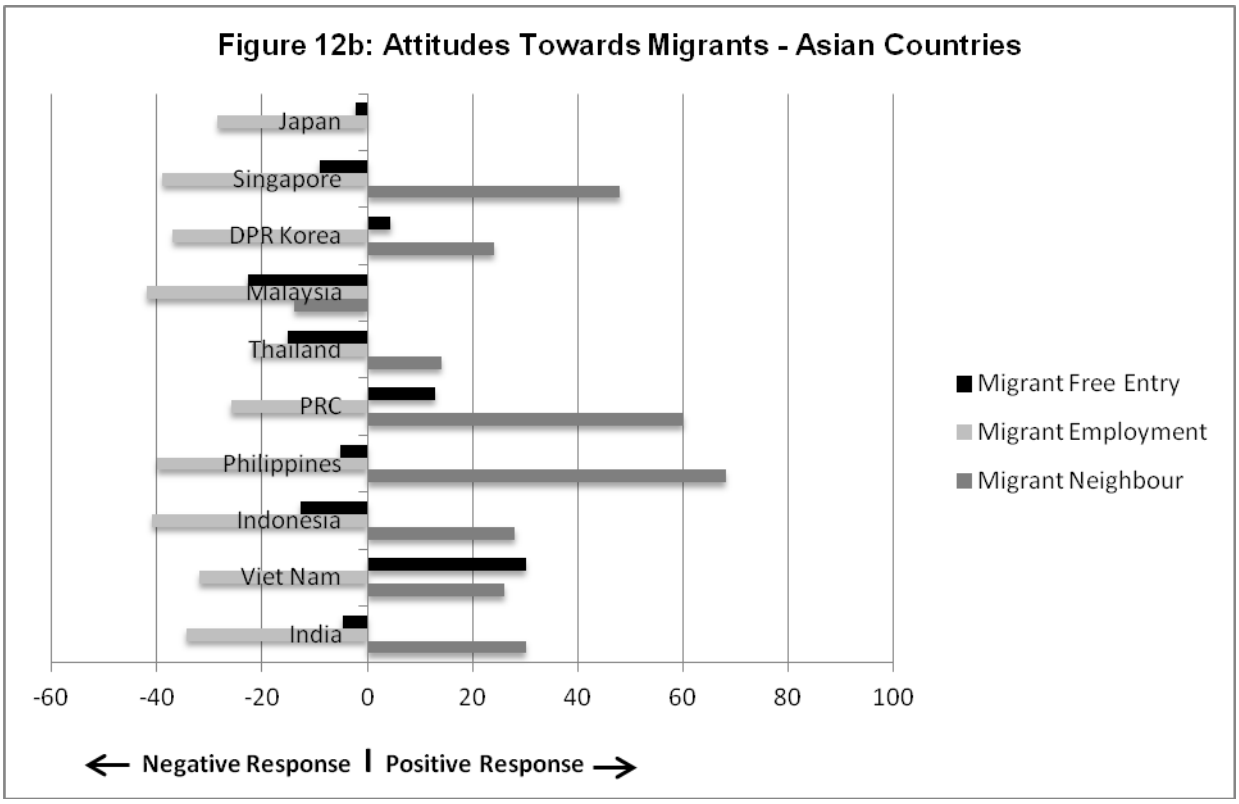


Figure 12a: Attitudes Towards Migrants - Destination Countries
Australia
Canada
France
USA
UK
Germany
Russian Fed.
-60
-40
-20
0
20
40
60
80
100
Migrant Free Entry
Migrant Employment
Migrant Neighbour
Negative Response
Positive Response

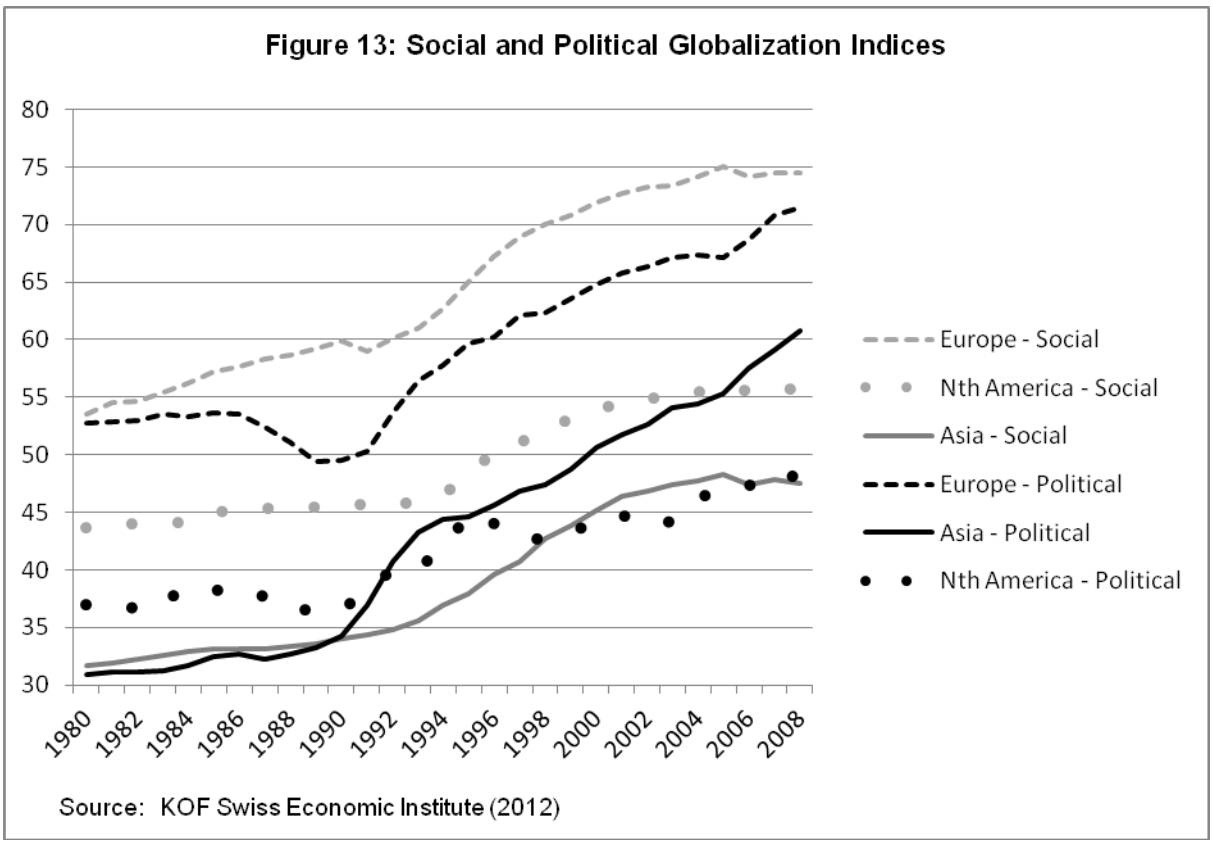


Source: Authors.

6. POLICIES TO INCREASE MIGRATION

6.1 Political Openness

Despite negative attitudes to immigration and government policies to limit migration inflows, countries are generally becoming more politically open. The KOF Swiss Economic Institute (2012) political index includes measures of political globalization in terms of the number of embassies in a country plus the country's membership in international organizations and participation in UN Security Council missions and international treaties. The European and Asian indices in Figure 13 increased significantly since the early 1990s. They contrast with the North American index which has only marginally increased since 1995.

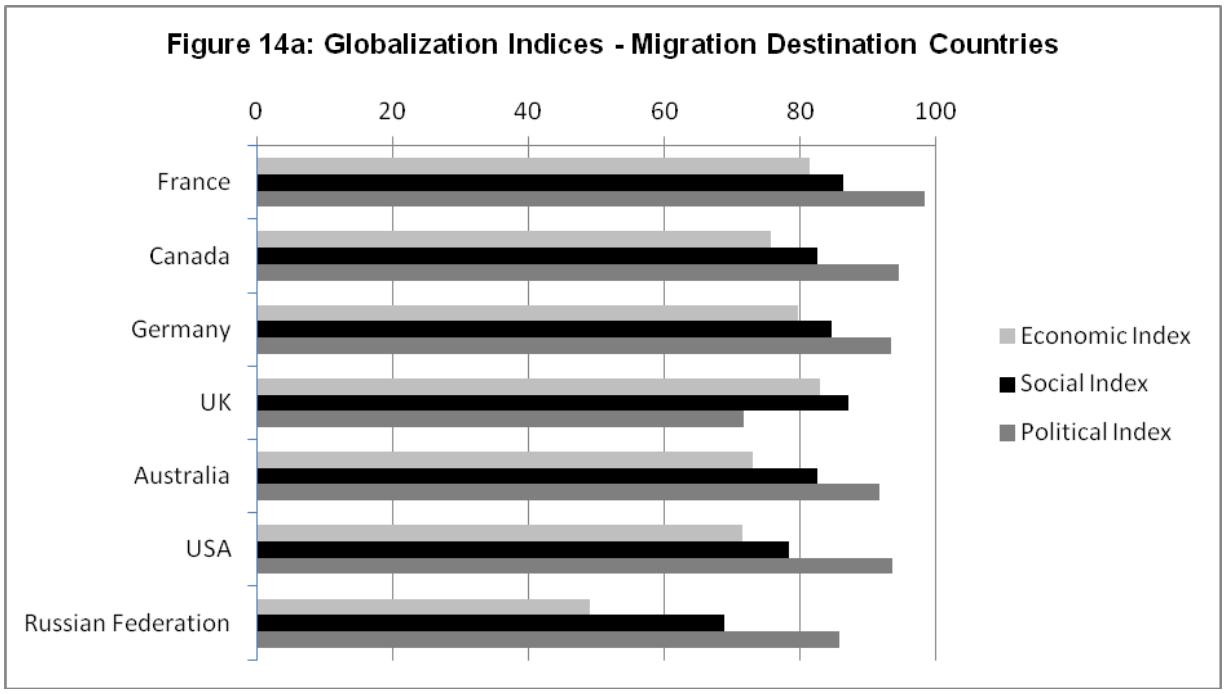


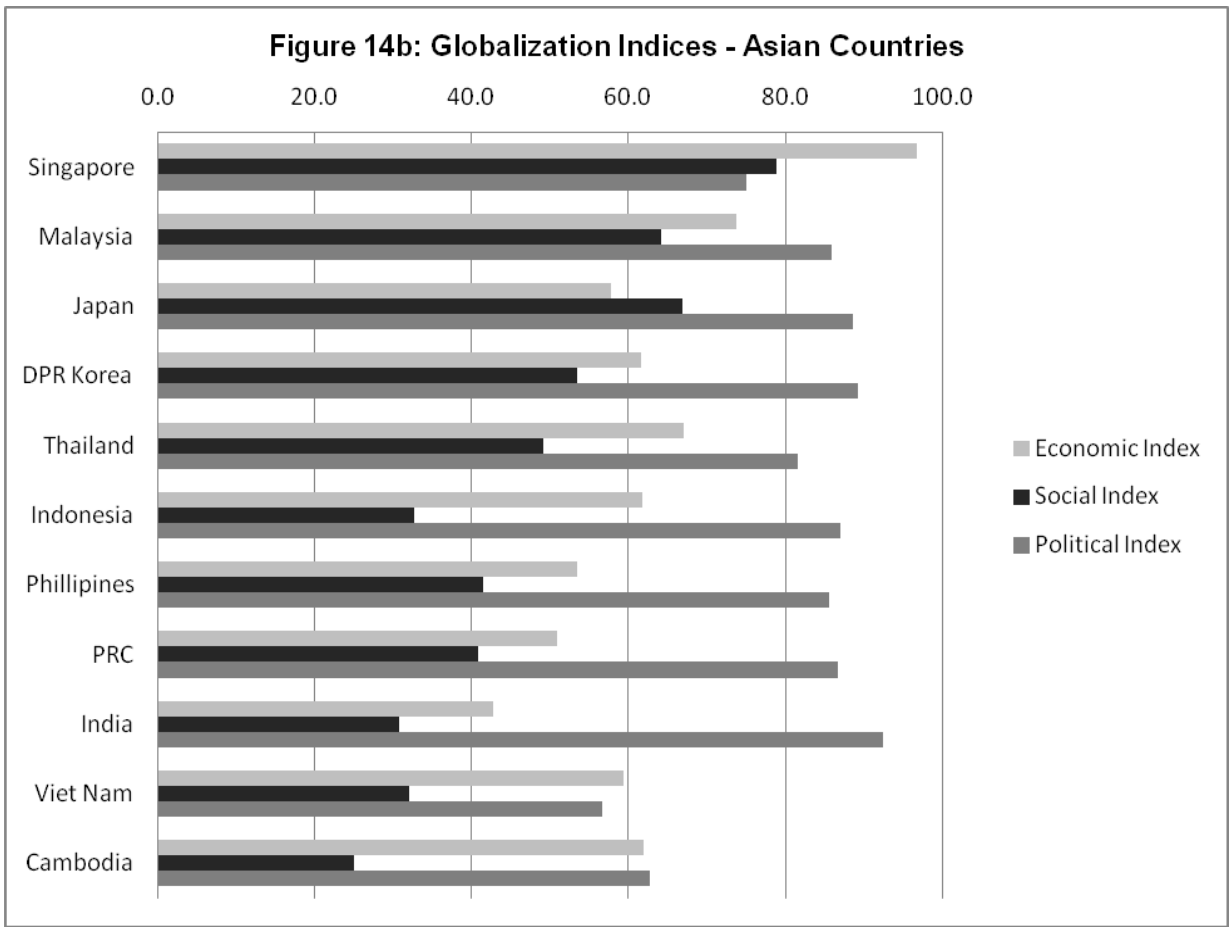
As mentioned previously there are important social factors involved in migration. The KOF (2012) social globalization index includes measures of personal contact (international telephone and letters use plus transfers, tourism, and foreign origins of population), information flows (internet usage, numbers of televisions and newspapers) and cultural proximity (number of McDonald's and Ikea stores and books). The index is higher than the political index for Europe and North America. Note that the social index for Asia is well below those for Europe and North America. All three indices have flattened since 2005 and there is evidence that they started to decline during the early stage of the global financial crisis. The relatively lower measure of social globalization for the Asian region lags the other regions and has recently stagnated, consistent with the survey reported earlier.

Note that Europe dominates in both measures and the social indices are above the political indices for Europe and North America. Interestingly, it is reversed for Asia. However there is improvement of Asia and Europe political indices relative to the North American political measure. The Asian political index has increased strongly in the 1990s and 2000s reflecting the increasing governance, leadership and responsibility of the Asian countries.

The KOF (2012) indices for the selected countries are shown in Figures 14a and 14b. They are high for the developed migrant destination countries (again except the Russian Federation). Figure 14b shows the lower social values for the poorer Asian countries. This aligns with the

earlier discussion on the relative human development index measure and attitudes to immigration.





However, the political globalization measures are very high for the majority of Asian countries. This argues well for the future leadership in the Asian region. We also note the high measures of political and social measures for Europe and it is useful to consider the European Union (EU) governance experience in relation to migration.

6.2 European Experience

Table 13 details the EU attempts to harmonize migration policies. Following the Schengen Agreement, the Maastricht Treaty, and the Amsterdam Treaty, which created the EU based in law, the 1999 Tampere Summit provided the first guidelines for common EU immigration and asylum policies. The 2001 Charter of Fundamental rights and the 2003 Directive on Family Reunification of Third-Country Nationals provided protection to all nationalities. The Nice Treaty also adopted common standards for the treatment of refugees and asylum seekers in 2003 and the first EU legislation on immigration was the Directive on Family Reunification of Third-Country Nationals.

Table 13: European Union Migration Policies

Year	Policy	Details
1985	Schengen Agreement	Created a borderless area currently encompassing 25 member states.
1993	Maastricht Treaty	Laid the groundwork for community law.
1997	Amsterdam Treaty	Incorporated the 1985 Schengen Agreement into the EU law, and included anti-discrimination provisions and their application to questions of employment, social security, healthcare, and education.
1999	Tampere Summit	Designed guidelines for a common immigration and asylum policy, partnership with countries of origin, fair treatment of third-country nationals, and management of migration flows. This policy was to be implemented in two steps: in a first step, minimum standards, i.e., harmonization of the basic principles of national legislation, were to be created within five years; the next step to drive harmonization forward.
2000	Lisbon Strategy	Attempted to make the EU the most competitive and dynamic economy in the world while providing better jobs and greater social cohesion.
2001	Charter of Fundamental Rights	The adoption was a milestone in terms of enacting provisions that are applicable to all persons irrespective of their nationality.
2003	Nice Treaty	Amended the decision-making procedures for asylum seekers and refugees. The council adopted the common rules and principles and included them in the Directive on Minimum Standards in Asylum Procedures, effective in 2006.
2003	Directive on Family Reunification of Third-Country Nationals	The first piece of immigration related legislation adopted by the EU in September 2003.
2003	Directive on the Status of Long-term Residents	Adopted in November 2003.
2004	Hague Programme	Aimed at improving the EU's common capacity to ensure fundamental rights, minimum standards for procedural guarantees, and access to justice with regard to the protection of vulnerable persons pursuant to the Geneva Refugee Convention and other international treaties; to manage migration; to protect the EU's external borders; completing the second phase of harmonization by 2010 and creating a European asylum agency.
2007	Treaty of Lisbon	Called for a common immigration policy to allow for an efficient management of migration flows, fair treatment of third-country nationals, and better measures to combat illegal immigration.
2008	European Pact on Immigration and Asylum	The Pact was approved with the aim at standardising asylum procedures within the entire EU in a few years.
2009	Stockholm Programme	Adopted by the European Council which endorsed and attempted to further the European Pact in terms of returns policies ("Return Directive") for illegally residing non-EU nationals.

6.3 Lessons

The objectives that guide immigration for more developed countries may be summarized as reuniting families (family-class migrants), fulfilling the country's international obligations (economic-class migrants), continuing humanitarian traditions (humanitarian or refugee-class migrants) and fostering a strong viable economy. Observing the more developed countries' immigration policies provides the opportunity to learn from their experiences, particularly for Europe, which after removing internal borders, is now attempting to better manage immigration in a more coordinated manner. The review will focus on economic-class migrants in this section.

Asia can learn the from the experiences of Europe, US, and Australia with regard to aging and human development, given that selected Asian countries are growing faster than the world average. Countries like India, Malaysia, and the Philippines are the largest exporters of tertiary educated emigrants to OECD countries. The major importers are Europe, US, and Oceania. Asian countries can reduce this "brain drain" by providing incentives to work in the home country along the lines provided by OECD countries. This will partially resolve the emerging problem of aging and high dependency ratios in some Asian countries.

6.3.1 Skilled Migrants

The aging and the dependency ratios vary enormously across countries and regions and, as argued in this paper, they are projected to diverge further. Migration policies of some developed countries are starting to try to provide safety nets in the form of allowing skilled migrants to offset population aging and increasing dependency ratios. For example, highly skilled workers are eligible for a permanent settlement permit upon entering in the US, Germany, UK, and Australia. Australia and Canada strongly favor young migrants with skills in recommending points-based immigration. All skilled and professional immigrants must be able to fill identified skill shortages or are of sufficiently high merit to improve the human capital in the accepting country. These requirements appear to be stronger for the more developed countries. Business immigrants are required to demonstrate financial viability, ability to make direct investments and create identified economic benefits. Similar policies are vital for Asia to overcome these problems.

In the US, skill workers are permitted to enter on two grounds—employment-based permanent immigrants and temporary workers with specialty occupations. The 1990 immigration Act increased the number of permanent immigrant visas (for employment purpose) from 54,000 to 140,000 and imposed a cap of 65,000 H-1B professional non-immigrants visas (for employment purpose) per year (Lucas 2001). These numbers have expanded rapidly in the last two decades. The important requirement to get such a visa is to obtain an offer of permanent full-time employment from a US employer. In Australia, the points-based immigration system enforces assessment of age, English language skills, specific work skills,

and spouse skills. Canada uses a points-based system assessing age, education, experience, and occupational criteria. Given the difficulties of obtaining permanent resident status in Japan, illegal entry has accelerated and up to 40% of all foreign workers have overstayed their visas. Singapore encourages highly skilled foreign workers by offering a tax break to employers on the recruitment and relocation costs and discourage less skilled workers by imposing a levy on employers.

In Australia, a review of the migration program took place in 2008 as a result of the global financial crisis and the subsequent economic downturn. The review saw Australia's skilled migration program reduced for the first time in ten years, with the "stated objective of protecting local jobs". The government announced a movement to a "demand driven" model for permanent skilled migration, with a focus on delivering the skills most needed in Australian industry, rather than domestically increasing supply. A new Critical Skills List (CSL) was introduced with a revised order of preference for the processing of skilled visa applications, with priority given to employer sponsored visas. The CSL was limited to professional fields[31] while trade occupations were abandoned.[32]

6.3.2 Students

There are over half a million East Asian college students studying in fifty countries. The US tends to host more than half of these, with the UK a distant second. The comparative advantage of universities in the US, UK, and Oceania continues to attract students from East Asia. The overseas students were seen not only to inject expenditure into the domestic economy but also having the potential to yield returns by helping to meet ongoing labor needs. The US, UK, Germany, and Australia allow foreign students to remain and find jobs in professions which are relevant to their education. Interestingly, more East Asian students are studying within East Asia, for example Japanese students in the PRC and Asian students studying in Singapore. These emerging educational markets in both supply and demand have real potential to continue growing.

The Australian government has been committed since the 1990s to retaining successful overseas students with skills which were in demand. The government encouraged individuals to make the transition from temporary to permanent settlement through the skilled migration program. This resulted in large numbers coming to Australia on temporary work or study visas and then applying for permanent residence whilst onshore. Former students comprise almost half of those granted independent skilled migration visas. This policy was central to the Government's response to the skills shortage and an ageing population in the Australian economy.

[31] Health, IT, engineering and accountancy.

[32] Due to the growth of the vocational education sector.

Currently in Australia, overseas students are required to find suitable jobs based on their education at the end of their tertiary studies, in order to obtain permanent residency. The nexus between the skilled migration program and the overseas student program lead to three main issues: (i) a concentration of overseas students in the vocational education sector (in the pursuit of permanent residency); (ii) the failure of some former overseas students to achieve employment outcomes that were commensurate with their qualifications; and (iii) failure to obtain skill levels that would meet Australia's skill needs.

6.3.3 Social security

Social security, minimum wages, and pensions systems are essential parts of social welfare support for immigrants into Australia, Canada, UK, Germany, Holland, and France. However, there is large variation in schemes in terms of structure, extent, coverage, and access. To work in the US, Europe, and Oceania, an employee needs a Social Security card and number from their respective countries. Immigrants are entitled to obtain social welfare and pensions with the social security number. However, skilled migrants in Australia are aware that they are not able to access social security payments until two years after arrival. In Canada, the provinces taking the largest proportion of migrants impose a three month waiting period.

The nexus of immigration and welfare has been under scrutiny in many countries. It appears that more younger, skilled immigrants reduce dependency ratios, which will allow lower consumption taxes and increases in welfare. Second, increases in overall life expectancy will result in higher returns from immigration. Third, keeping the total migration inflow constant whilst balancing the required skills composition will also increase welfare. Akin (2008) concludes the experiences of Germany as (a) a prohibition on immigration reduces welfare for the natives and (b) a rise in the rental rate of capital and the ratio of workers per retiree offset the wage reductions and allow higher pension benefits and a lower consumption tax rate.

The wage inequality literature tends to focus on the wage differentials between unskilled and skilled workers. Trade openness can produce two effects—an increase in the relative price of less-skilled labor-intensive products (that is, a fall in the wage premium) and a wider skill discrepancy due to knowledge spillovers (a rise in the wage premium gap). Since immigration shocks lead to an increase in total employment and a proportional response of the production, output per capita may not be affected by the immigration inflows.

Athukorala (2006) shows some methods of accommodating migrants using developed Asian countries' experience. First, countries employ migrant workers with work contracts in order to avoid giving permanent residency. Second, they adopt a needs-based assessment of applications by employers with a higher rate of payroll levy for those employing foreign workers. The levy can be used to partly pay for immigrants' health costs domestically and to partly fund social security in immigrant sending countries. Third, countries introduce a system under which a portion of a worker's earnings is held by the employer until the worker goes back to their home country. Fourth, impose a visa fee (set a little lower than the cost of illegal

entry) or a bond (set slightly above the people smugglers' going rate) to enter the country might serve the purpose. Finally, ASEAN countries are introducing a system whereby professional workers can transfer superannuation, insurance, and other benefits across member countries. These sorts of regional coordination need to be further developed.

7. CONCLUSIONS AND RECOMMENDATIONS

This paper highlights two major issues that need to be treated as matters of urgency. First, internal (within country) and informal migrations (within the ACI region) are mostly undocumented and large. It is shown that wage premiums and discounts are significantly different across selected ACI sectors and countries. Migrants will respond to differences in wage, income, and human development measures. The re-allocation of labor has been officially constrained which will adversely affect efforts to improve labor productivity, allocative efficiency, and human wellbeing. It is a priority that better information on migration be collected. Our first recommendation (of two) is to collect consistently defined data on ACI regional migration and to calculate wage premiums and discounts for selected ACI countries, using 4-digit industry data.

The second matter of urgency is the differences in the speed of ageing and increasing dependency ratios for individual countries. It is not the process of aging, but the differentials in demographic changes, which will have significant economic, social, and political consequences. They will increasingly become a real challenge for the ACI region in promoting balanced growth to 2030. Urgent attention is needed to develop appropriate migration policies to address these emerging imbalances.

Progress is being made towards Asian regional integration with the ASEAN target for 2015, the Chiang Mai initiatives, and human resource and other cooperative arrangements. There have also been considerable discussions about coordinating trade in goods and services and liberalizing capital and financial markets to facilitate regional integration. However, the allocation and coordination of labor as a factor of production and a means to improve human development has not received similar attention.

Central to the plans for promoting integration in Asia is the setting of policies and institutions which will allow consistency for monetary policy (including Taylor rules). This has centred on appropriate exchange rate systems, but it also needs to consider the important roles of the flexible prices and wages. The flexibility of wages which we have shown to vary enormously across the region and sectors is not only important for the efficient allocation of labor. It is a precondition for monetary and fiscal policy coordination. Flexible wages and prices allow business cycles to synchronize across countries in the Asian region. This is happening for regional capital movements but not for labor. The migration of labor within and across ACI countries is necessary (but not sufficient) to achieve this precondition.

The aging and dependency burdens will require countries to re-examine migration policies, particularly relating to the shortage of skilled and semi-skilled workers. There are obviously concerns about foreign labor and associated social and political issues. However, it was only recently that nations vigorously attempted to protect domestic production and employment with trade restrictions. Capital inflows were discouraged because they were "buying the farm" and there were suspicions about motives and control from overseas. This thinking has given way to policies that encourage trade and better manage capital flows.

Will migration continue to be treated differently? Given the magnitudes of the imbalances in dependencies, shortages of skilled workers, and inducements to migrate, governments of the ACI region will not have any real choice. Some ACI countries are looking at migration polices for skilled workers. However, as we argue in this paper, the aging population and increasing migration will place further pressure on the provision of social welfare and access to it. There is need for coordination within countries of the many different government departments and private agents to provide policies, which are consistent with economic and social development strategies.

There is further need for coordination across countries. We must emphasize that it is imperative that there are high-level dialogues between governments in the ACI region and with developed countries that receive Asian immigrants. A framework with appropriate timeline needs to be developed to provide a coherent set of policies relating to migration and social welfare as a matter of priority. The ASEAN Declaration on the Protection and Promotion of the Rights of Migrant Workers in 2007 is a good start, with follow up annual meetings by the committee to implement this declaration. The experience of the EU in attempting to harmonize migration based policies across countries in order to make them more consistent and effective are relevant in bringing together relevant economic, political, social and legal issues.

Asian leadership in future migration coordination will promote internationalization of the Asian region and ACI countries. Our second recommendation is that the East Asia Summit set up a working group to consider possible future coordination of migration and social security policies in the ACI region. (This could include an evaluation of the lessons learnt from the EU experience with migration, where there is strong public support for harmonized policies.) There is much work to be done with complexities within countries relating to fragmented and piecemeal immigration and emigration policies, lack of coherence across a wide range of participants and visas, work permits, temporary and permanent residency requirements, refugees and family reunification requirements. ACI member countries could start by reviewing their existing migration and social security policies (similar to the PRC's reviews since joining the WTO in 2001). These reviews will provide information that will facilitate the development of balanced and sustainable migration and social security polices across ACI member countries (and major migrant receiving countries outside the region).

The ASEAN+10 group of countries is an ideal coordinating forum for four reasons. First, it is a high level summit that is appropriate to consider general future directions of regional and

global leadership. It encompasses the ASEAN lead on the declaration of the rights of migrant workers and ASEAN Labor Ministers Work Programme. Second, the Summit includes the non-European countries that are mostly affected by migration (and have been included in the analysis of this paper). Third, it complements the Summit's focus on education and human resource development. Fourth, it heeds the World Economic Forum on East Asia (2010) call for Asian leadership in enhancing financial and trade regional connectivity (which we importantly extend to include human resources). As we have argued many times in this paper, increasing the mobility of humans and their rights are the best way to not only promote productivity and economic efficiency, but to provide freedom and improved quality of life.

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