

**Forecasting Migration Flows: The Relationships among
Economic Development, Demographic Change and Migration
in the Greater Mekong Subregion**

DRAFT

FINAL REPORT

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**Prepared by an IOM Team comprising
Daniel Ray Lewis, Nuarpear Lekfuangfu, Irena Vojackova-Sollorano,
Federico Soda and Claudia Natali**

Contents

Executive Summary	3
1. Introduction	5
2. Theoretical Framework: Linking demography, economic growth and migration	6
2.1 Migration and Development.....	6
2.2 Demographics and Economic Growth.....	7
2.3 Migration and Economic Growth.....	9
2.4 Migration and Demography.....	10
3. Methodology	13
3.1 Limited Migration Data.....	13
3.2 Economic and Deductive Reasoning:.....	15
3.3 Consensus Forecasts:.....	15
3.4 Gravity Modeling Analysis:.....	16
4. Findings of the Study	17
4.1 Demographic push factors.....	17
4.2 Labour Migration in the Greater Mekong Subregion over the Next 5-10 Years.....	18
4.3 Estimates of Labour Absorption in the Greater Mekong Subregion.....	20
5. Gravity Model Scenario Analysis	23
5.1 Case I: GMS-Thailand Gravity Model 2007-2011.....	23
5.2 Case II: GMS-Thailand Gravity Model 2012-2016.....	25
5.3 Case III: GMS-Thailand Gravity Model with Viet Nam MOU 2012-2016.....	26
6. Other Issues Related to Labour Migration in the Greater Mekong Subregion	28
6.1 Long-term and Permanent Migration.....	28
6.2 Live at Home, Work Abroad.....	28
6.3 Migration Patterns in the Greater Mekong Subregion over the Next 10-15 Years.....	31
6.4 Viet Nam Provides the Strongest Demographic Push towards Migration.....	31
7. Recommendations	32
7.1 Improve agreements and coordination among Greater Mekong Subregion economies.....	32
7.2 Register and legalize migrants.....	32
7.3 Build institutions that will accept a certain level of immigration.....	32
7.4 Provide workers in less developed countries with better opportunities.....	33
7.5 Foster economic integration to encourage growth and competitiveness in the Greater Mekong Subregion.....	33
Acknowledgements	33
Bibliography	34
APPENDIX 1: Migration Consensus Survey Sample - Thailand Inbound Migration	36
APPENDIX 2: Additional Data in Support of Gravity Model	38
APPENDIX 3 Effects of Recession on GMS Migration Trends	39
APPENDIX 4 Using Economic Reasoning and a Production Function Methodology to Estimate Levels and Flows of Illegal Migration, Including at a Sectoral Level	41

Executive Summary

The economies that comprise the Greater Mekong Subregion (GMS, or Cambodia, the Lao People's Democratic Republic, Myanmar, Thailand, Viet Nam, Yunnan Province and Guangxi Zhuang Autonomous Region of the People's Republic of China) have a combined population close in size to that of the United States of America and have experienced high levels of inter-migration..

The GMS is exceptionally dynamic, having recorded economic growth rates of at least 5 per cent annually over much of the past decade, however great disparities exist between the individual GMS members and these disparities have triggered a dramatic increase in international migration, much of it irregular, among these economies.

Those disparities arise as is a consequence of the uneven demographic growth patterns in GMS countries and as an effect of the unbalanced economic opportunities. Thailand serves as the Subregion's economic engine, creating more jobs than it can fill with its own labour force. Other areas of the GMS produce more young people than those economies can productively employ.

Consequently, economic growth and demographic pressures are the two main drivers to migration in the Subregion. Migration flows in the Subregion are large because of the strong economic growth and opportunities they present in terms of new jobs. Were economic growth to falter and job creation to slow, migration flows could falter or even reverse. Likewise demographics determine the demand and supply of migrants. There is net out-migration from countries with large young populations and net in-migration to countries with maturing or older populations. As the demographic profile of developing countries changes, the pattern of migration will also change.

Demographics and GDP growth are strongly related, with higher GDP leading to slower population growth, but changes occur slowly, over generations. Typically, less developed countries have surplus young people, i.e. more young people than new jobs. Countries higher on the development scale have more new jobs available than young people to fill them. In the absence of migration, labour supply and demand is brought into balance by adjusting the wages upwards for unskilled workers. Thus competitiveness is strongly tied to an adequate workforce. By linking these two crucial factors – economic growth and demographics, this study provides an analysis of migration and a 10 year migration forecast in the GMS.

Much of the migration in the GMS is irregular, which makes it intrinsically difficult to measure. Data on migration are scarce and often unreliable. In order to deal with these challenges, the study proposes several methods of forecasting and analyzing migration flows. The methods used are Economic and Deductive Reasoning; Consensus Forecasts, a pioneering effort borrowed from macroeconomics; and Gravity Modeling Analysis. The first method uses existing secondary data to extrapolate conclusions about migration and jobs, the second is used to approximate the existing migration situation in the GMS, and the third method makes use of pull and push factors related to unemployment and demographics in the sending economies, and labour absorption and demographics in the receiving economy to forecast the future migration situation. In addition, a production function technique is used to estimate migration growth and labour growth from sectoral and aggregate GDP.

Between 2002 and 2006, Thailand created 3.6 million jobs, 0.6 million of which were filled by migrants. The findings of this study show that from 2007 to 2011, only 2.3 million jobs will be created, representing a drop in job creation as a result of the current economic recession. Also, the domestic Thai labour force is forecast to grow by 2.3 million workers over the same period, leaving a net zero need for new migrants. Oversupply of migrants may therefore become an issue in the near future.

Between 2012 and 2016, it is estimated that at current wage rates another 3.6 million jobs will be created, but the Thai labour force will grow by only 0.9 million. This will result in a very large demand for migrant labour in Thailand, and will also likely result in increasing wage levels for unskilled workers. A similar excess demand trend is expected in the years following the period of the study.

Most economies in the GMS are now experiencing slowing rates of population growth. In Cambodia and the Lao PDR, fertility rates are declining; in Viet Nam fertility rates have fallen significantly. These trends are similar to those experienced by Thailand and the two areas of the PRC that are part of the GMS in prior decades. Eventually, the labour supply in these economies will be affected. However, there is still a large overhang in their demographic profiles, with the labour supply continuing to increase faster than job creation in the next 10 years, starting to fall off only 15 years from now.

Because of the strong pull demand for migrants in Thailand, and the strong push supply of migrants in the rest of the GMS, it is expected that migration will grow significantly, that is, by about 28 per cent, over the 10-year forecast of the study. Although the current economic crisis will have the strong short-term effect of reducing migrant flows in the GMS, in the long run the stocks and flows of migrants will continue to grow substantially.

Migration flows are already very large in the Subregion, but currently they are barely organized or regulated. The findings of this study show that there is a strong need for better management of migration both to protect the rights of the migrants and to benefit the interests of the sending and receiving economies.

In order to improve benefits of sending and receiving countries and migrants themselves, after considering a number of other issues related to migration in the Subregion, the study concludes with a set of recommendations, the highlights of which are given below:

1. Improve agreements and coordination among the Greater Mekong Subregion economies;
2. Register and legalize migrants;
3. Build institutions that will accept a certain level of immigration;
4. Provide workers in less developed countries with better opportunities;
5. Foster economic integration to encourage growth and competitiveness in the Greater Mekong Subregion.

1. Introduction

1. The Greater Mekong Subregion (GMS) comprises five countries in South-East Asia and two areas in the People's Republic of China (PRC), namely Cambodia, the Lao People's Democratic Republic (Lao PDR), Myanmar, Thailand, Viet Nam and Yunnan Province and Guangxi Zhuang Autonomous Region of the PRC. Together these economies have a population close in size to that of the United States of America (see table 1 for population estimates).

Table 1. Population Estimates for Greater Mekong Subregion Members, 2005 and 2010

Country/area	2005 (thousands)	2010 (thousands)
Cambodia	13,866	15,053
Lao PDR	5,880	6,436
Myanmar	48,345	50,496
Thailand	65,946	68,139
Yunnan Province, PRC*	44,152	N/A
Guangxi Zhuang Autonomous Region, PRC*	48,890	N/A
Viet Nam	84,074	89,029
Total	306,153	-

Source: United Nations, *World Population Prospects: The 2008*, <http://esa.un.org/unpp>.

Note: Data for Yunnan Province and Guangxi Zhuang Autonomous Region of the PRC are for 2004.

2. The Subregion is dynamic; it has experienced an annual economic growth rate of at least 5 per cent over much of the past decade (Asian Development Outlook). Growth forecasts for the near-term future, with the exception of the current global economic recession, are similarly very positive. Trade and investment in the Subregion have grown significantly in recent years, and the planned and existing regional road and transportation networks throughout the GMS are likely to facilitate economic integration and further economic growth in the future. However, the great disparities that exist between the individual members of the GMS have triggered a dramatic increase in international migration, much of it irregular, among these economies over the past few decades.

3. The present paper considers these issues under several sections. After the introduction, the paper provides the theoretical framework for the study: an in-depth overview of the relationships between and among economic growth, demographic changes and labour migration patterns, including a part on the sectoral effects of economic recession on migration. This is followed by a section on the methodology, outlining the approaches used to undertake the current analysis. The findings of the study are contained in a section predicting migration stocks and flows in the GMS over the next 5- and 10-year periods follows. This is followed by a section discussing other issues related to migration. Finally, the paper proffers a set of recommendations that may be useful for potential areas of cooperation among members of the GMS.

2. Theoretical Framework: Linking demography, economic growth and migration

2.1 Migration and Development

4. The World Bank categorizes the path of economic development into four main stages: (a) labour-intensive, (b) skill-intensive, (c) technology-intensive and (d) research and development intensive. Migration can contribute strongly to economic development especially at the first two of these stages.

5. Migration benefits the receiving country when certain sectors and areas experience serious shortages of workers. In the GMS, this is especially true in Thailand, and can also be seen in shortages of skilled labour and engineers in other parts of the GMS. Many areas in the Thai economy benefit from the work done by migrants employed in various low-skilled jobs, which increases the production of local and export goods and services, and frees up the local population for other work. As Thailand moves towards becoming a knowledge-based economy (World Bank, 2008) and as more of its young labour force attains higher levels of education (UNESCO, 2009), and as age cohorts continue to shrink, there will be a growing need for migrants to fill gaps in the supply of unskilled labour.

6. Migration helps the sending countries by reducing underemployment and unemployment which reduces human hardship and social unrest. Migrants also increase the wealth of the sending country by sending remittances to support their families. Migration also helps the sending country by bringing ideas and knowledge back to a less developed economy from a more developed one.

7. Although both sending countries and receiving countries benefit from migration, some groups within the receiving society may be hurt by a downward pressure on wages caused by migration, especially if it is irregular and the migrant workers receive wages below the legal minimum. Also despite the fact that decreased wages may reduce the production cost of goods, resulting in some benefit to the economy, this “benefit” may be offset by other factors, including social challenges such as increased health risks and national security risks.

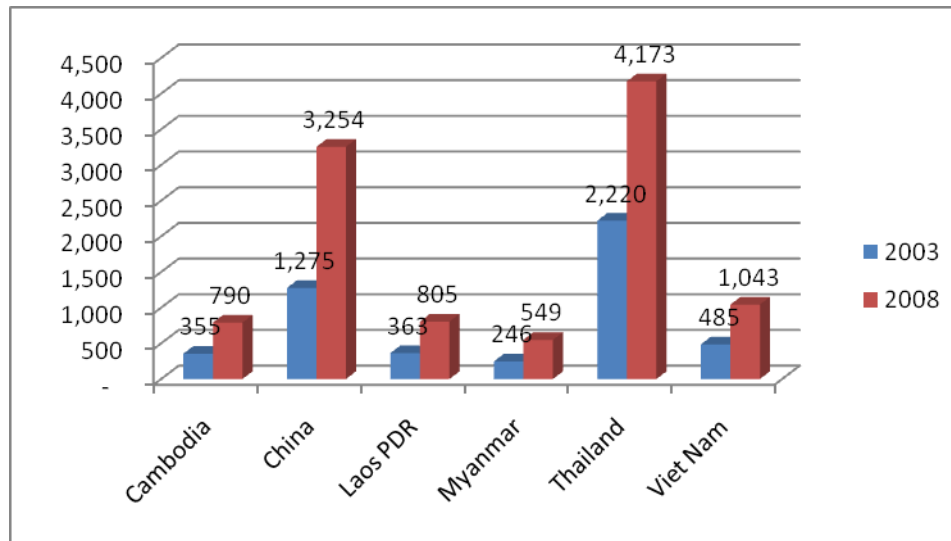
8. Migrants themselves benefit from migration. When viewed from a human rights point of view, the opportunity for a poor, unemployed person who nonetheless possesses initiative and intelligence, to have the opportunity to advance himself, while at the same time benefiting both the receiving and sending country, is one of the largest benefits of migration.. The opportunity to use ones skills and energies in useful and productive ways could be seen as a basic human right.

9. It would be much more productive for individual countries and the Subregion as a whole if there were more legal channels for migrant workers. The current widespread irregular migration within the Subregion allows for potential abuse and exploitation of migrant workers, which is neither sustainable as a policy nor helpful to the competitiveness of the major exporting countries in the GMS.

2.2 Demographics and Economic Growth

10. Except for one middle-income economy, Thailand, the GMS is made up of countries and areas that are at low but growing income levels. These low levels of income have strong demographic implications which will be discussed below.

Figure 1. GDP per Capita in US Dollars at Official Exchange Rates



Source: <http://www.indexmundi.com>; US Bureau of the Census

One driving force for migration is the variation in wage rates between countries. The following table shows the wage rates in GMS countries in 2003 and 2008. Since remittances are a primary motivating force for migration, GDP per capita at official exchange rates is better at explaining migration pressures than the more frequently reported purchasing power parity.

11. In the normal progression of development from least developed to highly developed, from poor to rich, a country typically progresses through a number of stages of development and these have a strong bearing on the demographic profile of that country. Initially, the economy of the typical developing country is based on low-level subsistence agriculture. Health care is rudimentary and the average life span tends to be short. Families are large due to the need for labour in settings characterized by a lack of capital equipment. Many of the children in such families do not survive to adulthood; hence, infant mortality rates are often very high in these countries. This brief profile describes what life was like in all countries and areas of the GMS only a few decades ago.

12. As a country develops further, commercial activity and the construction of roads bring about improved living conditions, and increase the options for employment and improved medical care; it is then that the demographic profile of a country starts to change. Improved health care tends to lower child mortality, an effect which starts to skew the population towards larger young-age cohorts. Such a situation might describe Cambodia, the Lao PDR and Myanmar currently (see figure 2).

13. As rural to urban migration begins to grow, the need for large families is reduced and the cost of rearing children in urban areas starts to slow population growth rates. Although fertility rates decline, the population is still predominantly young. The largest

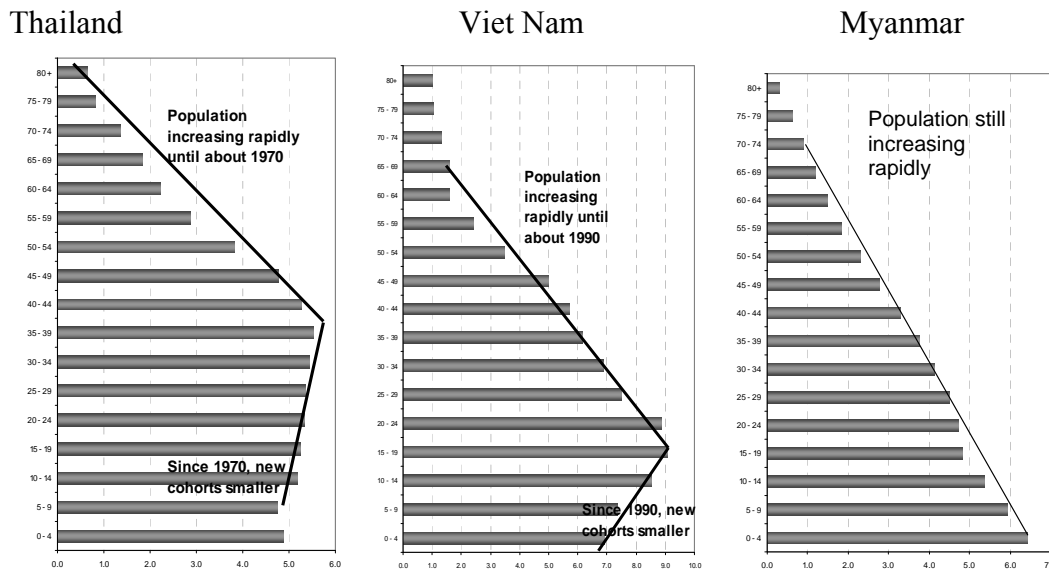
cohorts in the total population are teenagers and young adults. This profile might describe Viet Nam currently (see figure 2).

14. As time passes, continued declines in fertility rates, growing urbanization and the gradual ageing of the population start to bring the society to a point where the average age in the country is middle age, even though the working-age cohorts may all be very large. Higher income levels from the now-maturing population result in greater demands for goods and services. A shortage of young and unskilled workers begins to emerge. Such a sketch might describe Thailand currently (see figure 2).

15. As the population continues to age, eventually large cohorts of the working-age population begin to retire from the workforce, putting increasing pressure on the existing workforce, intensifying the demand for young and unskilled workers, and putting a greater burden on those who are economically active and who support the society's ageing population. This situation might describe Europe currently or Thailand 10 years from now.

16. Without migration, the supply of, and demand for, labour would adjust by means of the wage rate. As a society ages and the number of young people relative to older and retired persons decreases, wages for unskilled jobs increase, the returns to education and capital in the country fall and income distribution becomes more evenly distributed. On the negative side, the society becomes less productive as a greater percentage of its resources go towards paying for services that do not require much skill or education. The economy becomes less productive and dynamic as wage rates for unskilled work increase and as a smaller proportion of the society's inhabitants are engaged in productive activities as they retire.

Figure 2. Five Year Age Cohorts in Selected Greater Mekong Subregion Economies, 2006 (number of persons in millions who were in each age group as of 2006)



Sources: United Nations Statistics Division, <http://data.un.org/Data.aspx?d=POP&f=tableCode%3A22#POP> and United States Census Bureau, <http://www.census.gov/ipc/www/idb/index.html>.

Note: The numbers along the horizontal axes are in millions; those along the vertical axes are five-year age cohorts.

17. Although population growth rates are decreasing throughout the GMS, large variations in the current levels of population growth rates still exist among the individual economies. Myanmar continues to have a high population growth rate of over 2 per cent a year. Although population growth rates in Cambodia and the Lao PDR are relatively high, their trend is downward. By contrast, the population growth rates of Thailand, the PRC and Viet Nam are already low. Such unevenness in the population growth rates of the GMS members means that the Subregion is characterized by localized surpluses and deficits in labour markets, with the biggest deficit being in Thailand.

2.3 Migration and Economic Growth

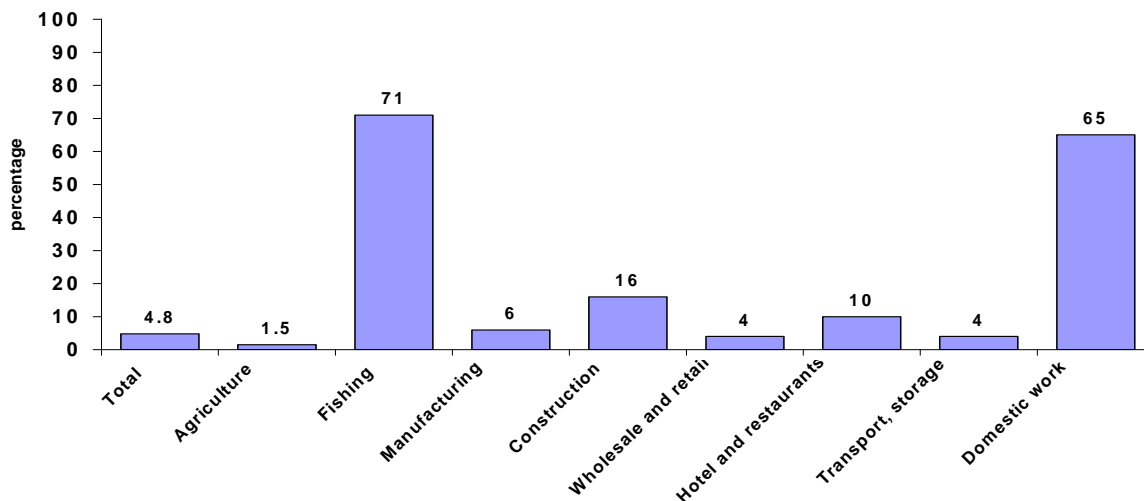
18. Given the divergent level of development among the GMS economies, migration to balance labour supply and demand is a natural outcome. The Subregion has been experiencing a continuous increase in excess labour supply in Myanmar as well as Cambodia and the Lao PDR and an increasing excess demand for labour in middle-income Thailand. Consequently, if demand is to match the supply of workers, labour migration within the Subregion becomes an important option. Shortages of labour tend to occur for two reasons in developed countries: Firstly, the cost of having children is increasing in such societies, so that there are not enough young people to fill the available jobs. Secondly, as a country becomes wealthier, consumption demand increases in line with the rise in the amount of disposable income, leading to a greater demand for goods and services, and thus a need for more labour. Over the time covered by this study

economic growth in the less developed GMS countries, and especially in Myanmar, was not enough to adequately reduce their unemployment and underemployment rates.

19. As the primary destination country for labour in the Subregion, Thailand acts as a magnet, attracting or “pulling” significant numbers of migrants across its borders. Certain jobs in Thailand, especially domestic work and fishing, are almost entirely performed by migrants. Other jobs, such as agriculture and construction, employ very substantial numbers of migrants, although as a percentage they may not appear large. Although migrants compete directly with low-skilled Thai workers in other sectors of the economy, the extremely low unemployment rate in Thailand is strong evidence that they are not taking jobs from Thai persons..

20. Especially workers in the dirty, difficult and dangerous jobs (popularly known as “3D” jobs) in the more developed countries tend to be supplied by migrants who are willing to trade poor working conditions for a higher salary than they could get at home. Besides fishing, domestic workers, construction and agriculture, there are also migrants, in a slew of jobs in smaller categories where working conditions are sufficiently unpleasant that Thais choose not to work in them (see figure 3).

Figure 3. Share of Migrant Workers by Sector, Thailand, 2009



Source: Consensus Forecast Survey, present study, 2009.

2.4 Migration and Demography

21. The major factor affecting out-migration in the GMS is demographic pressure. Because of the large surplus population in economies that have only recently begun moving up the development ladder, those countries and areas have large cohorts of unemployed young people. They include Viet Nam where, even though the population growth rate had fallen some time ago, large numbers of young people are just entering the working-age group, resulting in an unofficial unemployment rate of perhaps 8 per cent nationally. In other countries in the GMS where birth rates have dropped more recently,

large cohorts of young people are likely to be entering the workforce for some time to come.

22. Because the economies in the less developed countries of the GMS are still small, they cannot absorb all of the new workers who are available. This situation creates pressures for migration, as many capable persons find themselves in situations in which they cannot work, or can work only in jobs well below their ability. Generally, most migrants would prefer not to leave their home country if conditions at home are at least adequate (expert interviews). An exception is if wage rates are much higher in a foreign country, they may stimulate a person's decision to migrate to that country. In the GMS however wage rate differentials between the least developed and most developed economies are only a few times higher and the majority of respondents felt the primary reason for labor migration was a lack of work or adequate work (underemployment) in the home country, not only higher wages abroad, although higher wages helped determine the directions of migration flows.

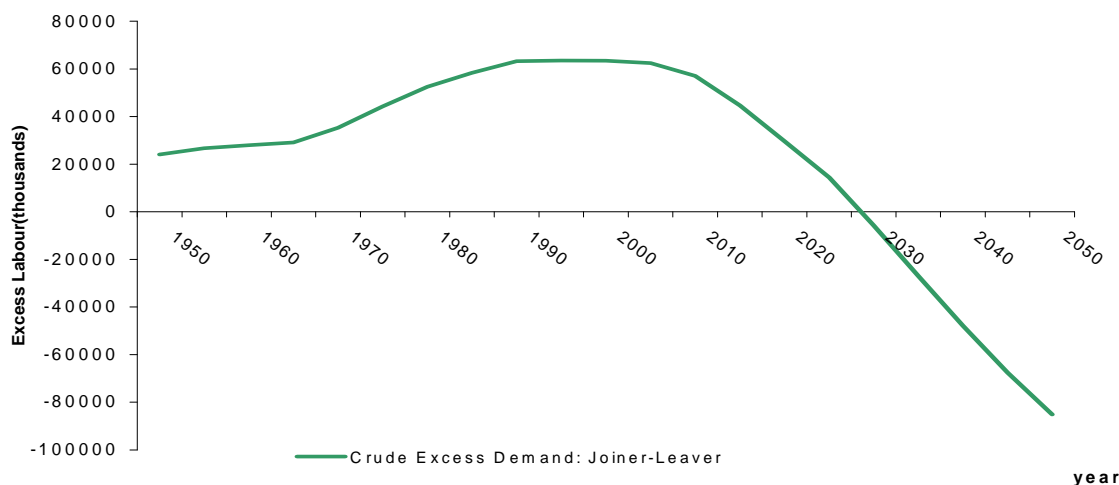
Table 2. Sample Wage Data from Economies in the Greater Mekong Subregion

Country	Occupation	Local Wage	Exchange Rate (per US\$1)	Wage (US\$/Month)
Cambodia	Unskilled - Phnom Penh	20,000 Riels/day	4125 Riel	110
	Construction – Ploy Phet	5-10,000 Riels/day		28-55
	Agriculture - Rural province	4,000-5,000 Riels/day		22-28
Laos PRD	Garment Worker- Vientiane	450,000 kip/month	8550 Kip	52
Myanmar	Teacher	100,000 Kyats/month	1205 Kyat	87
	Unskilled - Thai border	1,205 Kyats/day		30
Thailand	Taxi driver	300 Baht/day	34.6 Baht	220
	Street vendor	250 Baht/day		180
Viet Nam	Unskilled – Hanoi	1,000,000 Dong/month	17100 Dong	60
	Motorcycle driver - Hanoi	2,000,000 Dong/month		120
	Agriculture - Rural province	700,000 Dong/month		40

Source: Present study, as per interviews, 2009.

23. The migration patterns seen in the GMS currently are likely to be driven by demographic pressures for the next 10 years, which is the period covered in the present study. However, as the effects of declining birth rates eventually begin to be felt in the less developed regions, migration rates in the GMS are likely to drop substantially. Figure 4 uses data from various issues of the *United Nations Demographic Yearbook* to show that eventually there will be a net shortage of labour in the GMS, perhaps beginning about 15 years from now.

Figure 4. Crude Excess Labour Supply in South-East Asia: New Entrants (Joiners) and Retirees



Source: United Nations Demographic Yearbook, various issues.

Note: New entrants (joiners) refer to the cohort 15-24 years old; leavers refer to people who are 60 years of age or older.

24. Further evidence of an already existing shortage of labour in Thailand, is found in a survey conducted by the Asian Research Centre for Migration and Ministry of Labour in 2000. When Thai employers were provided with a scenario in which they would be able to hire or replace their workforce with as many migrants as they wanted, without legal restrictions, they demanded an average of seven times more migrant workers than the number of current vacancies, which shows that migrant labour is considered a valuable alternative from the perspective of Thai employers (see table 3).

Table 3: Survey of Employers on Vacancies in 2,912 Companies in 50 Thai Provinces, 2000

Sector	Total Number of Current Vacancies	If Unrestricted, Employers Would Hire the Following Total Number of Migrants
Agriculture	39,590	114,647
Fisheries	27,168	206,189
Livestock	3,133	31,839
Mining	2,396	16,253
Production*	21,272	318,539
Construction	11,384	90,533
Logistics	2,292	10,215
Total	107,235	788,215

Source: Asian Research Centre for Migration and Ministry of Labour, Thailand (2006).

Note: "Production" is divided into "fisheries" and "rice mill" and the total number of current vacancies for the sub-categories are 17,445 and 3,287, respectively. If unrestricted, employers in fisheries would hire 315,115 migrants and those involved in rice mill activities would hire 3,424 migrants.

25. To briefly summarize the above section, in the GMS, there is a confluence of interests between the poorest economies, which are currently characterized by a larger young working-age population than they can currently utilize profitably, and Thailand, which is facing a shortfall in the unskilled workers needed to supply its demand for goods and services. However, this confluence is not a permanent feature of the GMS. Although Thailand is likely to continue to need in-migration for many years to come as its population ages and starts to retire in large numbers, in-migration may diminish over time due to the lower population growth rates and increased economic opportunities in the surrounding GMS economies that are projected 15 years into the future. Birth rates have dropped significantly in Viet Nam fifteen years ago, and recently have dropped in Cambodia and the Lao PDR. Birth rates in Myanmar are still high, but are likely to start dropping soon. However, for the 10-year period of this study, it is expected that both push and pull factors will lead to continued increases in migration.

3. Methodology

26. The current methodology for migration forecasting in the region is very weak due to a severe paucity of data. Since most migration is irregular, it is difficult to know the number of migrants residing in each country, much less to forecast future flows. There are a number of different “rule of thumb” approaches being used that depend primarily on the expertise of the expert in question. Governmental institutions tend to utilize legal registration data and extrapolate from that, assuming some fixed percentage of migrants will register. In Thailand it is often heard that one third of migrants register. Industry experts utilize excess demand for migrant permissions as suggested by a survey of manufactures, and assume that those jobs are currently being filled by illegal migrants for whom they seek legal documentation. Demographers generally use demographic and census data to look at the net change in population between decennial census surveys, after adjusting for births and deaths.. NGOs tend to extrapolate from data they know well on a local level. None of these methods are totally accurate, but all give some vantage of the migration situation, and used in concert they can portray a reasonably accurate estimate of true migration rates. The consensus survey methodology described below integrates estimates from experts in these disparate fields to give an estimate of the current stock of migrants in the GMS.

27. Regression analysis would be a preferred methodology if indeed the appropriate data were available. However, since most migration in the GMS is irregular, there is no dependent variable to use in concert with the independent economic and demographic series. In addition, the time series for economic variables and demographics are likely too short and too unreliable to find any significant results using econometrics.

28. In order to deal with the data scarcity the present study proposes several methods of estimating migration stocks and then flows by using economic growth and demographic indicators to provide fuller comprehension of the issues regarding migration in the GMS and complement the secondary data obtained from the desk review.

3.1 Limited Migration Data

29. Although the most reliable information about intraregional migration to Thailand comes from the registration of migrant labour carried out from time to time by the

Government of Thailand, even these registration exercises fail to capture the majority of labour migrants in the country because: (a) only migrants who had previously registered with the Thai Ministry of Interior (in 1997 or 2004) may apply for work permits — new arrivals may not do so; (b) the registration process is complicated and expensive; and (c) legal measures and penalties against employers who hire irregular migrants generally are not enforced. Consequently, despite the efforts of the Thai Government to increase the regularization of workers already inside the country, the trend in recent years has been that fewer and fewer migrants have been renewing their work permits (Table 4). Update: Due to a renewed effort at registering irregular migrants in 2009, more than one million migrants were registered in Thailand.

Table 4. Number of work permits issued for low-skilled employment in Thailand, 2004-2009

2004	849,552	A total of 1,284,920 irregular migrants completed free registration with the Ministry of Interior as a first step.
2005	705,293	Renewals only.
2006	668,576	Renewals - 460,014; New issuance -208,562.
2007	532,305	Renewals only.
2008		
2009	1,174,716	A total of new and renewed work permit were issued for migrant workers as of 29 August 2009

Sources: Hugué and Punpuing, 2005; Maltoni, 2006; Martin, 2004; Office of Foreign Workers Administration, 2007.; IOM Migration Information Note 3, November 2009

30. The risk of using non-official data and “guesstimates” is that such sources can be wildly exaggerated. Some persons who work in the field of migration could benefit from having the number of migrants estimated at a higher level than it actually is. Donor funding, government support and jobs related to migration, all depend indirectly on the number of migrants that need to be served. Perhaps the worst such abuse in exaggerating the number of high-risk individuals occurs in relation to trafficked sex workers and begging children. Not to diminish the serious circumstances in which these trafficked people find themselves, the number of such persons is relatively small in comparison to the total population of migrants: it simply would not be possible to absorb the number of migrants sometimes ascribed to persons so trafficked.

31. Given the weakness and unavailability of reliable data on migration, the following three alternative approaches have been utilized in order to estimate current migration stocks, forecast migrant flows and understand the roles migration plays in an economy, especially related to sectoral effects, and to elucidate the effects on migrant flows and labour markets of different scenarios such as the ongoing global economic crisis. The three techniques are Economic and Deductive Reasoning, Consensus Forecasts, and Gravity Modeling Analysis.

3.2 Economic and Deductive Reasoning:

32. Evidence about migration can be gleaned by combining existing economic data with economic theory. In particular the Thai Labour Force survey, combined with estimates of migrant shares by sector from the study can help understand the role of migrants at a sector by sector level, and to provide a check for estimates produced through consensus forecasts and rule-of-thumb techniques.

35. Using secondary data and employing a certain amount of economic and deductive reasoning and detective work, the authors hope to elicit more evidence about the sectoral role of migrants, and the sectoral effects of an economic slowdown.

3.3 Consensus Forecasts¹:

33. It is hoped that this study will facilitate the process of establishing a consensus on migration stock and flow data among government officials, academics and practitioners in the field of migration. By asking the opinion of large numbers of well-respected members of the community, it is possible to move towards a consensus view of what is going on in terms of migration in the GMS. Experts were carefully selected to reflect a disparate group of professionals who work in the field of migration, as well as by coming from each of the GMS country/regions.

34. Consensus forecasting is a methodology that has received a fair share of attention over the past few decades, but is new to the field of migration studies. Generally, consensus forecasts are employed because they are more consistently accurate than the forecasts of individual experts. The methodology employed in the consensus forecast section of this study is as follows: collect "best guess" estimates of current, past and future stocks of migrants between GMS country pairs and combine them into a consensus forecast.

35. The idea behind migration consensus forecasting is that experts in migration are exposed to a great variety of information, and they use that information to build a personal forecast of migration levels. Because of long experience in the field, their estimates tend to be measured and reasonable. If then another migration expert will be consulted, another forecast will be obtained, based on a slightly different information set. By asking more than 30 experts, we gradually become exposed to all the information available in the field. The final forecast is based on all the information in the field, which balances out extreme opinions without entirely discounting them, and provides the best estimate available. The estimate may not be correct, but given the information available it could not be better. A list of the interviewed experts can be found in the section entitled "Acknowledgements".

36. This study's interest is directed towards both migration stocks and migration flows. Migration stocks are captured by asking experts to estimate how many migrants are currently in their country, from each other country. Migration flows are captured by

¹ Consensus forecasting is somewhat akin to the first stage of the Delphi Method, whereby a wide range of experts are interviewed. The methodology differs from the Delphi method in that a wider range of information was gathered, the survey required active participation to reason out estimates by the participants to pin down estimates, and the results were not shared and reviewed between the experts. With more time, a full Delphi method approach would be desirable. However the four month length of the study did not allow such an ambitious exercise.

asking about past and future stocks of migrants five years forward and five years back, and using that data to calculate growth rates and net flows of migrants over a five year period.

37. The survey also includes questions about the occupations of migrants, and a section asking about the reasoning involved in making their expert forecasts. The questionnaire is reproduced in the appendix.

3.4. Gravity Modeling Analysis:

38. A gravity model draws two analogies with physics. Physics tells us that bigger objects have more gravity than smaller objects. Gravity is also influenced by distance, and closer objects exert more gravity than distant objects. A simple gravity model would let the size of the object be total population or total GDP, and the distance be distance. Big urban centers would attract many migrants, and villages close to the center would be the main providers.

Simple Gravity Model

39. Two versions of the gravity model have been chosen for this study. The first is simple and relies almost entirely on the results of the consensus forecasting as explained in a later part of this paper. In brief, the following has been done - consensus forecasts of stocks of migrants in each country have been used to calibrate stocks in the model. A consensus estimate is used to estimate how many migrants are currently in Thailand.

40. Estimates of migrant stocks from five years ago are used to estimate growth rates in migration. Rather than ask people how fast migration is growing (or shrinking), interviewers were asked what was the stock of migrants five years ago, as it is easier for them to interpret. Growth rates based on changes in stocks over the five years are then estimated. The number of new migrants from this information can be also estimated. The five year flow of migrants is obtained by subtracting the old stock from the new stock.

41. Estimates of migrant stocks five years forward are used as well as estimates of migrant growth rates in the past to estimate future migrant stocks. Future stocks could be considered a bit more speculative than prior stocks of migrants so they are checked to see if they are somewhat in line with the growth estimates we obtained in the previous part.

42. This is enough to give forecasts for migrant stocks and flows five years forward. Ten year estimates are just simple straight line extrapolations forward in time.

43. Finally questions “what if” can be asked, such as: “what if the economies were in recession for two years, how would that affect migration stocks and flows?” With this simple model we would have to use our own judgment as to what extent that would decrease future migrant flows inwards. More accurate answer would be given as the model become more sophisticated.

Advanced Gravity Model

44. In the advanced gravity model, consensus forecasts is used to calibrate the model, but also several more sophisticated modeling techniques - to include the main variables of our study, namely economic development and demographics.

45. In migration theory there are traditionally push factors and pull factors, both of which tend to increase migration. A push factor is something that drives you away from a given place and a Pull factor is something that draws you toward another place, but both increase migration.

46. There are also frictional forces which act to slow migration. These include factors such as distance, cost, risk, or physical barriers.

47. In the advanced version of the gravity model following factors are included: one push factor - demographic pressures in the sending countries, one pull factor - effect of economic development on labor demand in key migrant sectors, and at least one frictional force - distance (i.e. how many borders to cross). Also included is the relative wage rate which is necessary to determine the directions of migration flows.

48. It is hoped that this study paves the way for future studies and that these will be able to integrate a couple of other frictional forces to increase realism and the ability to answer more complicated questions. In particular, it would be desirable to include a policy variable which could be positive or negative, and a network feedback loop which reduces friction if there are already many persons of a given nationality in the host country.

4. Findings of the Study

4.1 Demographic push factors

49. The stock and flow of migrants in the GMS are likely to increase over the 10-year period of the study. The number of new labour market entrants (joiners) is still increasing in all GMS economies, except for Thailand now and Viet Nam in the near future. One effect of this phenomenon is that unemployment and underemployment in the sending countries is likely to increase. Even if these negative circumstances do not increase and their rates remain constant, the push factor will be enhanced owing to the increase in new entrants to the labour market.

Table 5. Percentage Change in New Entrants or Joiners in Subregional Workforce

Country	2011	2016	2021
Thailand	-1.1	-3.6	-2.4
Viet Nam	4.1	-5.7	-8.7
Lao PDR	20.2	10.5	3.0
Myanmar	6.3	7.9	9.8
Cambodia	33.4	7.1	-1.6
Sum (minus Thailand)	7.7	0.5	-1.3

Source: United Nations, 2008.

50. Table 5 depicts the number of new joiners in each of five countries compared with five years previously, starting in 2011. Most of the new migrants to Thailand come from

Myanmar. If it is assumed that a constant share of new joiners will want to migrate and that underemployment rates will not change quickly, the push factor would increase by 6.3 per cent in the first five years, by 7.9 per cent in the next five years, increasing in the ensuing five-year period by 9.8 per cent. It should be noted however that the situation in other GMS economies is changing rapidly, especially in Viet Nam, where the number of new joiners will start to decrease five years into the future and continue to decrease thereafter.

4.2 Labour Migration in the Greater Mekong Subregion over the Next 5-10 Years

Consensus Forecast Results

51. Based on the consensus forecast results, the total current migrant stock in the GMS is estimated to be approximately 3,918,000 persons. Of these, Thailand has the most migrants, estimated to be 2,553,000 from whom more than 80 per cent are from Myanmar; Cambodia has the second highest number, estimated to be 1,048,000 persons, which includes three distinct groups of migrants: (a) migrants from Kampuchea Krom (the Mekong Delta) who had migrated to Cambodia after that area was incorporated into Viet Nam in 1954; (b) Vietnamese who have been in Cambodia since the Vietnamese occupation at the end of the 1980s; and (c) recent migrations of Vietnamese nationals. The authors estimated that 300,000 to 400,000 Vietnamese have migrated to Cambodia in the past 5-10 years. The Lao PDR has a stock of 118,000 migrants, most of them having come from Yunnan Province of the PRC. Viet Nam has only a few in-migrants, estimated to be 27,000, many of whom are from the PRC. There is also a large group of ethnic Chinese who live in Myanmar, estimated at around 1 million. Most of these were not counted as migrants in this study, as they had been living in Myanmar since or before the 1960s. It is estimated that about 120,000 Chinese have moved to Myanmar in more recent times, and most of these people are associated with Chinese businesses. Migrants in Yunnan Province and Guangxi Zhuang Autonomous Region of the PRC tend to be of Vietnamese or Burmese extraction; they are estimated to number about 35,000 persons, a significant percentage of whom are brides of indigent Chinese men.

52. Over the next five years, the stock of GMS migrants is expected to increase by about 14 per cent to a total of about 4,473,000 persons. It has been estimated that migrants in Thailand will increase to about 2,937,000 persons.

53. In 10 years' time, the migrant stock in the GMS is expected to exceed 5 million persons, which is an increase of 28 per cent over current levels, while the migrant stock in Thailand is predicted to increase by 29 per cent to 3,314,000 persons. Similar increases may be expected in other GMS economies: in Myanmar, by 26 per cent to a total of 157,000 persons, mostly from the PRC; in Cambodia, by 22 per cent to a total of 1,281,000 persons, mostly from Viet Nam; in the Lao PDR, by 36 per cent to a total of 161,000 persons, mostly from PRC; and in the GMS areas of the PRC, by 22 per cent to 57,000 persons, mostly from Myanmar and Viet Nam (see table 6).

6. Consensus Forecast Survey Results

Consensus Forecast Survey Results			Destination				GMS areas of PRC
(In thousands)	Total GMS	Thailand	Myanmar	Cambodia	LaoPDR	Viet Nam	
Migrant Stock 2003	3,115	1,908	104	942	100	19	42
Thailand	39		4	20	10	3	2
Myanmar	1,490	1,480		0	0	0	10
Cambodia	214	204	0		5	5	0
Lao PDR	206	199	0	2		0	5
Vietnam	964	24	0	900	15		25
GMS areas of PRC	201	0	100	20	70	11	
Migrant Stock 2008	3,918	2,553	125	1,048	118	27	47
Thailand	44		5	20	12	4	3
Myanmar	2,083	2,072		0	0	0	11
Cambodia	262	248	0		6	8	0
Lao PDR	217	208	0	3		1	5
Vietnam	1,073	25	0	1,000	20		28
GMS areas of PRC	239	0	120	25	80	14	
Migrant Stock 2013	4,473	2,937	146	1,162	142	34	52
Thailand	49		6	20	15	5	3
Myanmar	2,276	2,264		0	0	0	12
Cambodia	288	266	0		12	10	0
Lao PDR	252	232	0	12		2	6
Vietnam	1,184	28	0	1,100	25		31
GMS areas of PRC	277	0	140	30	90	17	
Migrant Stock 2018	5,026	3,314	167	1,281	166	41	57
Thailand	55		7	20	18	6	4
Myanmar	2,788	2,775		0	0	0	13
Cambodia	346	316	0		18	12	0
Lao PDR	265	240	0	16		3	6
Vietnam	1,314	40	0	1,210	30		34
GMS areas of PRC	315	0	160	35	100	20	

Source: Consensus Forecast Survey, present study, 2009. Note: If you are an expert on a particular region of the GMS you may contact the authors to receive a survey form and supplement the existing consensus forecast. Contact: Daniel.L@chula.ac.th

54. Data from these consensus forecasts can also be used to track migrant flows. The net migrant flows for the five years from 2003 to 2008 were as follows: Thailand, 646,000 persons; Myanmar, 21,000 persons; Cambodia, 106,000 persons; the Lao PDR, 18,000 persons; and the GMS areas of the PRC, 5,000 persons.

55. Thailand is the economic powerhouse in the GMS. It attracts 61 per cent of the entire migrant stock from the GMS; most of the migrants are in the country for economic reasons. Myanmar supplies the vast majority of Thailand's migrants, but Cambodia and the Lao PDR also supply several hundred thousand each.

56. Migrants to the Lao PDR are primarily ethnic Chinese working on projects funded by the PRC. The migrant stock in Cambodia seems to be very large because there are many long-term Vietnamese residents there who are not yet Cambodian citizens. One half to two thirds of the 1 million Vietnamese estimated to be living in Cambodia belong

to this long-term migrant group. Other Vietnamese migrants may have followed their kin into Cambodia where they work in skilled and unskilled jobs.

57. Viet Nam has very few migrants from the GMS. The small numbers of migrants in that country tend to be businessmen from the PRC. Outward migration is to bordering areas of the Lao PDR and Cambodia to supply skilled labour for road and construction projects. Viet Nam is actively promoting outward migration, but primarily to economies outside the Subregion, such as Taiwan Province of China, Malaysia, the Republic of Korea and other countries outside of Asia. Migrants to Myanmar reflect the importance of Chinese business in the Myanmar economy. Many of the Chinese migrants operate or work for Chinese companies in Myanmar.

58. It should be emphasized that all of these estimates of migrants explicitly include dependents who are generally either children or those beyond working age. Dependents are thought to make up approximately a quarter of the migrant stock in Thailand.

4.3 Estimates of Labour Absorption in the Greater Mekong Subregion

59. The term labour absorption refers to the number of new jobs created in an economy, or the persons absorbed into the labour force. The results of the consensus forecast have been used to estimate the number of migrants who had entered a country in the previous five years, altogether estimated to be about 600,000 in the case of Thailand. This number was then combined with the net domestic addition to the labour force of about 3 million Thais as shown in figure 6. About one third of these people were registered migrants and had valid work permits and could therefore be captured by the previously mentioned Labour Force Survey. Therefore, the 400,000 additional irregular migrants who found employment in the five-year period have been added to the labour supply measured by the Labour Force Survey. The unemployment rate decreased from 1.8 to 1.3 per cent over this time period, resulting in the creation of an additional 200,000 jobs. Altogether, the total new labour absorption in the Thai economy was 3.6 million jobs for this five-year period. Were conditions to remain the same, labour absorption in the coming five years would again be 3.6 million, while the domestic addition to the labour force would be only 2.3 million persons, owing primarily to the increase in the number of retirees — but not to fewer young people — leaving a shortfall of 1.3 million jobs at current wage rates. Going forward, the result should be a significant increase in the demand for migrants, which may be expected to increase even more five years beyond that, as large population cohorts in Thailand begin to retire. However, because of the current economic crisis, this demand for migrants is not likely to materialize until the crisis is over.

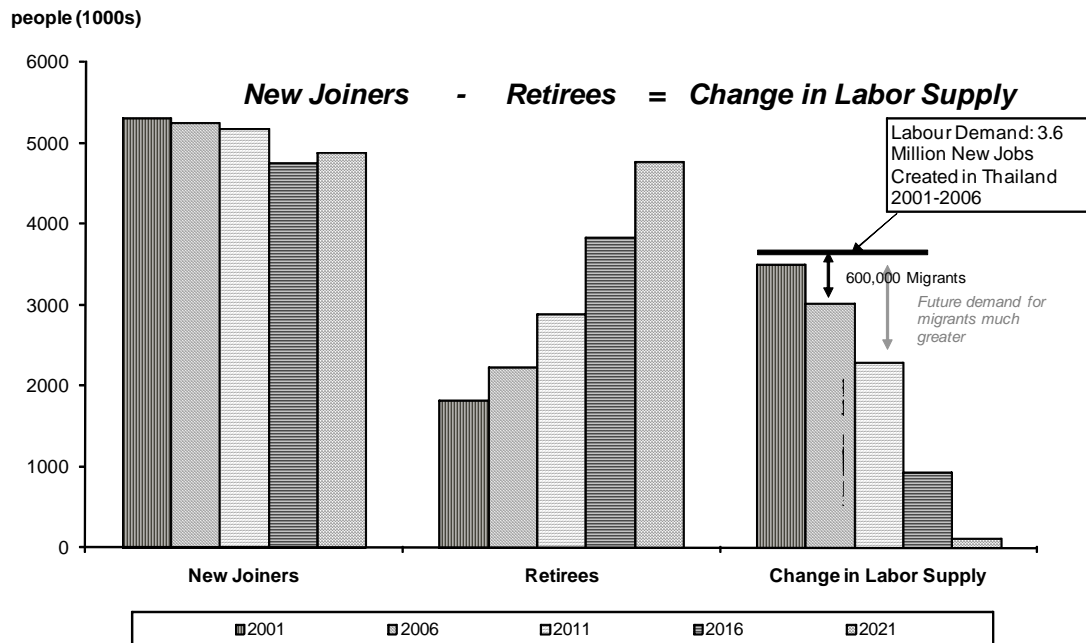
60. The graphs in figure 5 are intended to show future increases in labour supply resulting from demographic changes in various GMS countries, and how eventually these demographic changes will lead to labour shortages. The bar graph shows changes in labour supply by looking at increases (new joiners) less decreases (retirees) to get the net change in labour supply in the last group of columns. The data comes from plotting 5 year age cohorts in existing demographic data. For instance, a person who is currently one year old will enter the labour force 14 years from now on her 15th birthday, and a person who is currently 45 will retire 15 years from now when he turns 60. In Thailand, the number of new joiners will be fairly constant over time, but the number of people

about to retire is increasing rapidly, so the new supply of labour is diminishing in each five year interval.

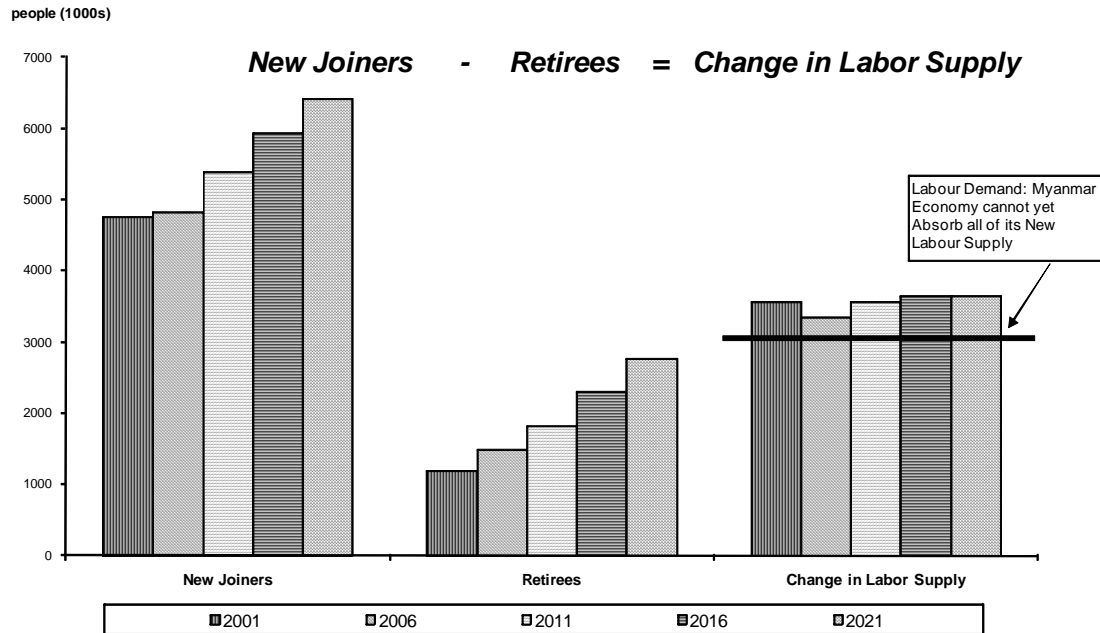
61. Meanwhile, it is assumed that the change in **demand** for labour, job creation, shown roughly by the dark bar in the last group of columns is growing at a near constant rate based on a steady growth in GDP. In Thailand, new labour demand is higher than new labour supply in each five year period, and it is hypothesized that in recent years the difference between labour supply and labour demand is being made up by in-migration.

Figure 5. Increases in Labour Supply in the GMS

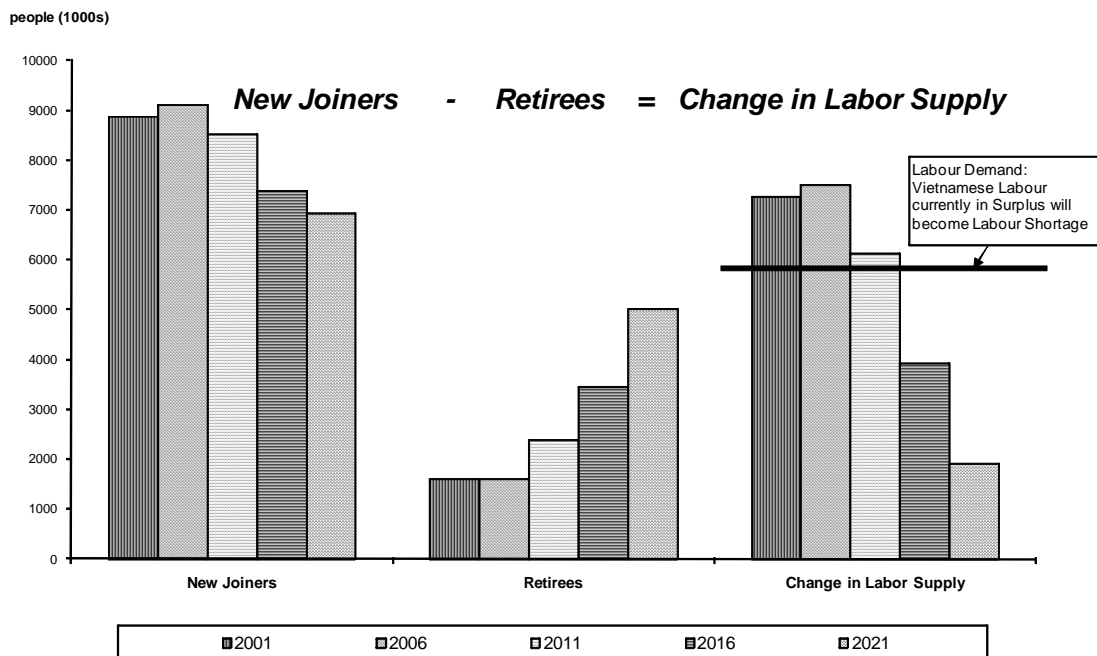
5.1 Thailand



5.2 Myanmar



5.3 Viet Nam



Sources: US Census Bureau, <http://www.census.gov/ipc/www/idb/index.html>, United nations Statistics Division, <http://data.un.org/Data.aspx?d=POP&f=tableCode%3A22#POP>, and authors calculations.

Note: New joiners-retirees= change in labour supply.

5. Gravity Model Scenario Analysis

Scenario Analysis of Future Migration Flows and Stocks in the Greater Mekong Subregion

62. This section of the paper demonstrates the use of a gravity model to forecast migration based on the main variables in the present study. Using a conceptual model enables the investigation of alternative scenarios, such as the economic crisis, the various memorandums of understanding between the GMS economies, and a potential political reconciliation in Myanmar.

63. The following sections contain forecasts for stocks and flows of migrants in the GMS for the period 2007-2011 for the ensuing five-year period 2012-2016, and considering the effect a Thai-Viet Nam Memorandum of Understanding (MOU) would have. Some discussion is included in each case.

64. To summarize, the forces at work in the gravity model:

Push Supply Migration - Previous high birth rates in less-developed countries in the GMS lead to large cohorts entering the labour force. Existing high unemployment rates in these countries are exacerbated by large increases in labour supply. Although most persons would prefer to stay at home, a certain percentage of young, unemployed persons would prefer to migrate.

Pull Demand Migration - Using a simple econometric model it is estimated that each one percent increase in Thai GDP results in an increase in employment of approximately 150,000 persons.

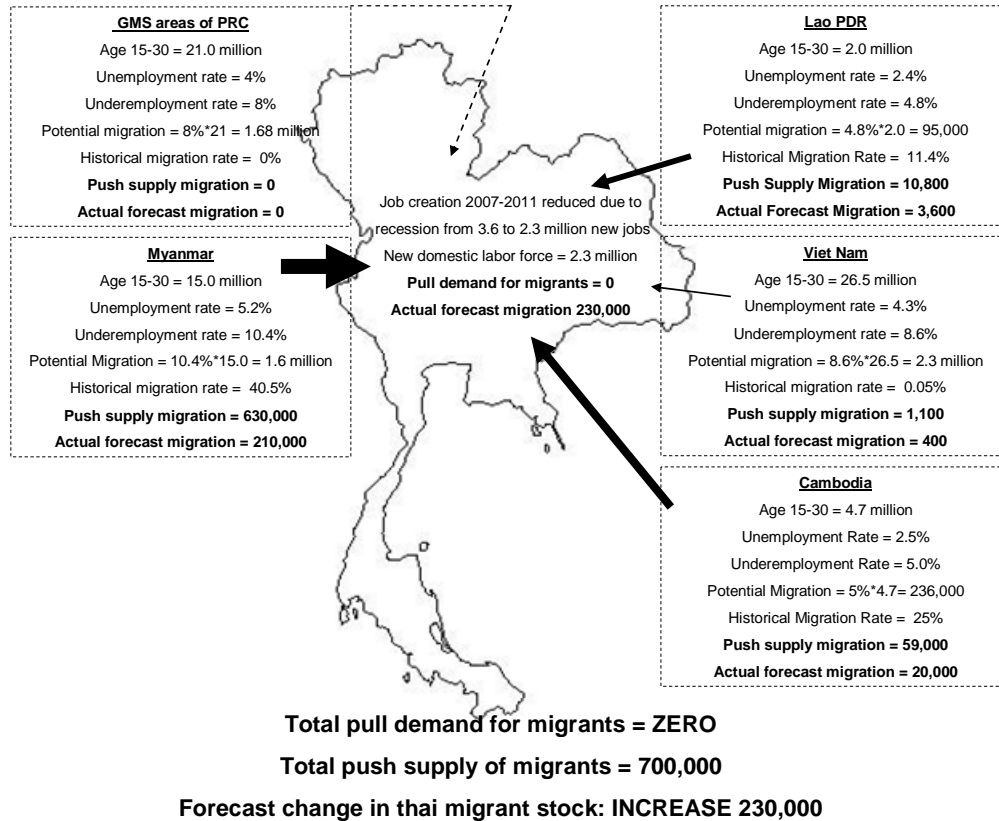
Historical Migration Rate – It is not possible to explicitly include all the variables which determine migration into the model. As with any model, there are many variables which are too small to be of importance individually, or which are difficult to measure. These effects must be included in the model as if they were fixed. The historic migration rate is the sum of all of these effects, which for lack of data are assumed to be fixed over time. This is exactly equivalent to using an intercept term in an equation.

Wages – at present, wage differentials are only included as part of the historic migration rate, or in other words, are assumed to be constant over time. Although this matches fairly well the actual situation in Thailand and the GMS (see Appendix 2), were wages to increase sharply, aggregate labour demand and supply equations could be estimated.

5.1 Case I: GMS-Thailand Gravity Model 2007-2011

65. The 2007-2011 model incorporates the expectation that the global economic slowdown has a strong effect on migration. It is estimated that labour absorption falls to 2.3 million during this five-year period. The Thai labour force will grow by 2.3 million, leaving a zero net demand pull for migrants; labour push migration will be 700,000. Although there will be no additional demand, some of the supply push migrants will still enter Thailand where they will find jobs in low-wage occupations. The model uses an estimate that about one third of the potential supply push migrants predicted by the model will come to Thailand, for a total increase in migrant stocks of 230,000.

Figure 6. GMS-Thailand Gravity Model 2007-2011



Source: present study, 2009.

66. In the period 2007-2011 the supply of potential migrants is predicted to be much larger than the demand. This should slow but not stop the flow of migrants. Many potential migrants will see the success that their forebears experienced, and will try to find the same for themselves. Overall, it is suggested that one third of the historical rate of migrants will enter Thailand.

67. Given the excess labour supply from these migration flows and the greater number of unemployed Thai workers resulting from the slowdown, there may be some sort of backlash against migrants during this period. The migrant population would have risen very rapidly in recent years so it would be likely that Thais would blame the projected increased levels of unemployment on migrants.

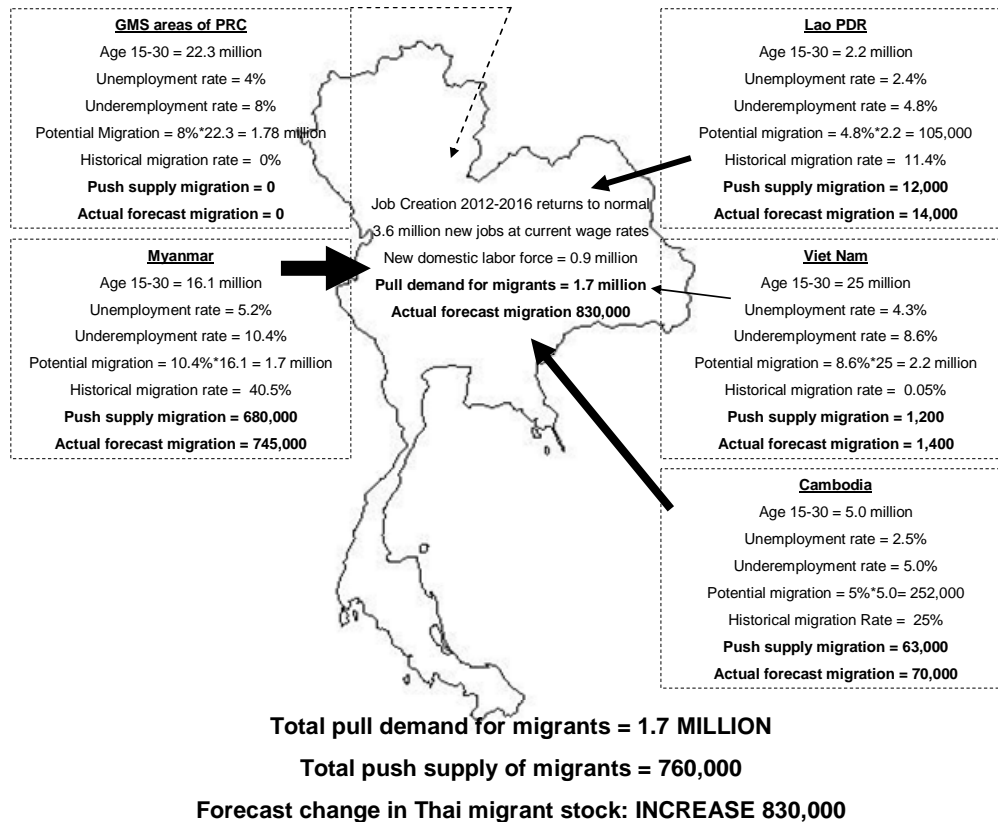
68. This situation would be short-lived, as in the long run Thailand will greatly benefit from increased migration; therefore, it may be hoped that any backlash would not result in strong restrictions on migrants in the future. Note that, if there were no economic crisis in this scenario, the demand for migrants would be greater than the supply, and no backlash would be expected. Note: These high levels of unemployment have not materialized.

5.2 Case II: GMS-Thailand Gravity Model 2012-2016

69. In the period 2012-2016 the situation is reversed. Demand pull for migrants to fill unskilled jobs is projected to be very high and the supply of migrants insufficient to meet demand. Demand pull migration is estimated at 1.7 million persons, while supply push migrants are estimated to number 760,000. Owing to increasing wage rates resulting from the labour shortage, it is forecast that actual migration might be approximately 10 per cent higher than estimated supply push migration, at 830,000, as increased wages should induce more workers to migrate. This is a very large number of migrants and it may be difficult for Thai society to absorb so many non-nationals without friction.

70. Wages for unskilled workers are likely to increase in order to enable supply to meet demand, and it is likely that the shortfall of nearly 1 million workers will trigger efforts to raise the retirement age from 60 to 65 years. Although it is not shown in these tables, this study would predict that the retirement age will be raised to 65 years some time shortly after 2016 due to the large gap between labour supply and labour demand.

Figure 7. GMS- Thailand Gravity Model 2012-2016



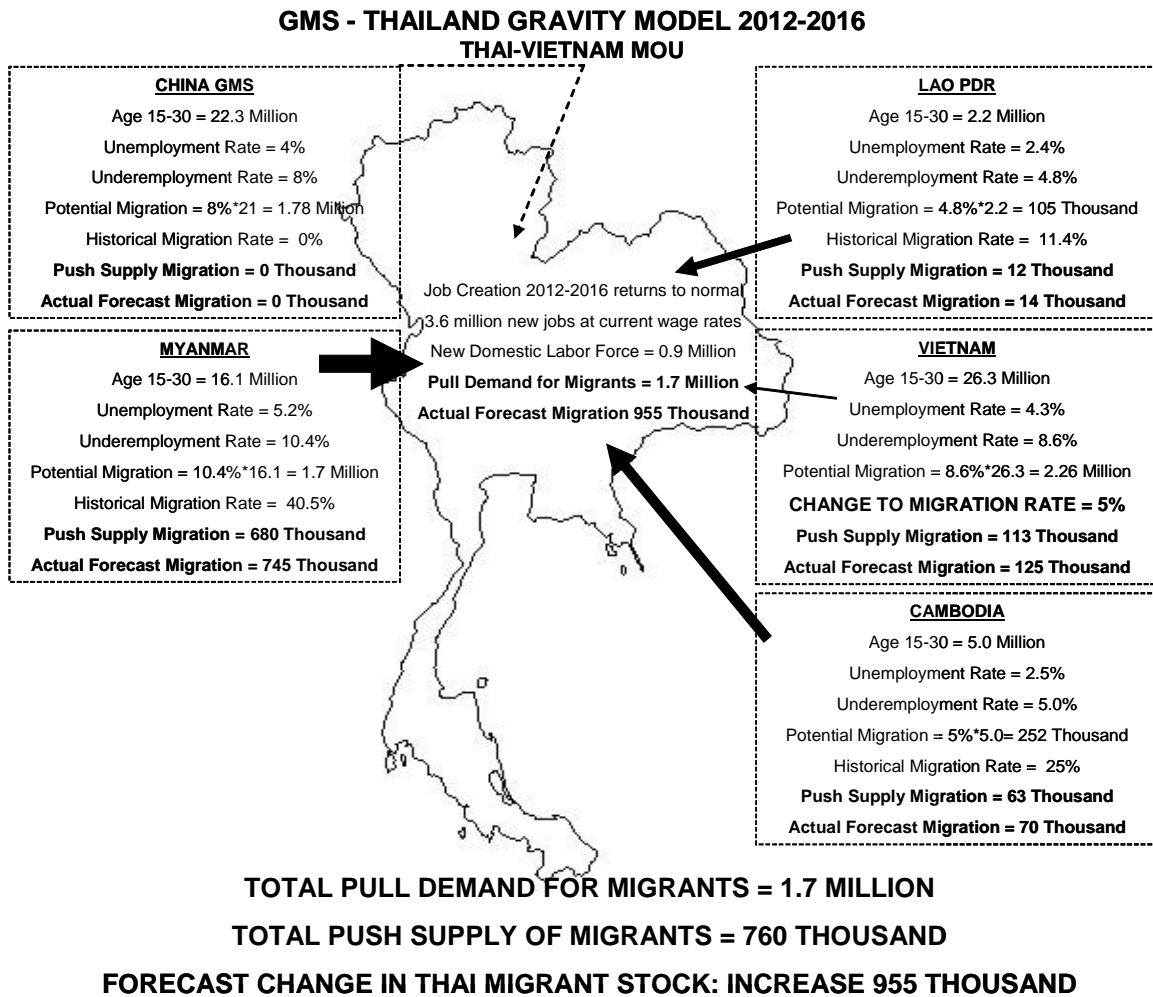
Source: present study, 2009.

5.3 Case III: GMS-Thailand Gravity Model with Viet Nam MOU 2012-2016

71. One observation of the study is that there are currently vast reserves of unemployed or underemployed Vietnamese who are not migrating to Thailand. The Vietnamese government currently has an active pro-migration policy, but it is aimed at sending Vietnamese to more developed countries such as Taiwan, Korea, Malaysia and other developed countries. At the present time, 85,000 Vietnamese are currently working under these exchange agreements.

72. However, the Vietnamese population is growing at a rate of approximately 1 million persons per year, and migrants to these more developed countries is not likely to absorb all of them. When asking about migrants from Viet Nam to Thailand, it was ascertained that the lack of an agreement and or brokers was a primary reason why migration to Thailand was so low. Therefore, this version of the model looks at what could happen if such an agreement were in place. In this model, migration from Viet Nam increases from 1.4 thousand to 125 thousand or 5% of the potential push migration which is small compared to the Vietnamese labour market.

Figure 8. GMS-Thailand Gravity Model 2012-2016 VIET NAM MOU



Source: present study, 2009.

73. Although a Thai-Viet Nam MOU would Vietnamese migration enormously, the total increase in migration into Thailand of 125,000 persons over five years would only mitigate the results found in case II, with a correspondingly lower increase in wages for unskilled labour, and less of a labour shortfall.

6. Other Issues Related to Labour Migration in the Greater Mekong Subregion

74. Several issues are pertinent to the present study of labour migration because they have a significant bearing on the labour supply in each GMS economy. The majority of migrants covered by the study have moved to the host countries on a long-term basis, thereby effectively increasing the labour supply and changing the demographics of the receiving country permanently. Also, some border areas experience daily crossings of migrants in the tens of thousands or even hundreds of thousands. These daily crossings are having a significant effect on the total labour supply in those areas, but are not captured by most migration studies because the migrants are not actually residing in the receiving country.

6.1 Long-term and Permanent Migration

75. Consultations with experts have made it clear that, despite government institutions which treat migration as a short-term stop-gap measure, the vast majority of migrants in the GMS do not return to their home country. Generally, experts on Thailand agreed that 95 per cent of the persons who had ever registered as temporary migrants in Thailand were still in the country, despite no longer being included in official statistics. Registration is a difficult and expensive process for migrants and because it is very inflexible, many migrants continue to work without official status after their initial contracts expire.

76. Migrants in wealthier countries generally become “permanent” residents in the country to which they migrate, even though they have no official status as such and they may be there in an irregular status. Because economic conditions in their new country are better than back home, they gradually adapt to and assimilate into, the new society. The decision of a person to migrate would often have been difficult because of community, language and cultural barriers, but once the person is living and working in the new country such barriers begin to diminish in importance. People who could once have been described as migrants eventually become long-term irregular residents.

77. As already described, if an economic crisis occurs, most experts agree that the migrants in Thailand would still not choose to return home, as the wages are lower and unemployment is higher in their home country. Migrants may move towards the informal sector if they lose employment in the formal sector, assuming that the sectors which employ large numbers of migrant workers still needed such workers.

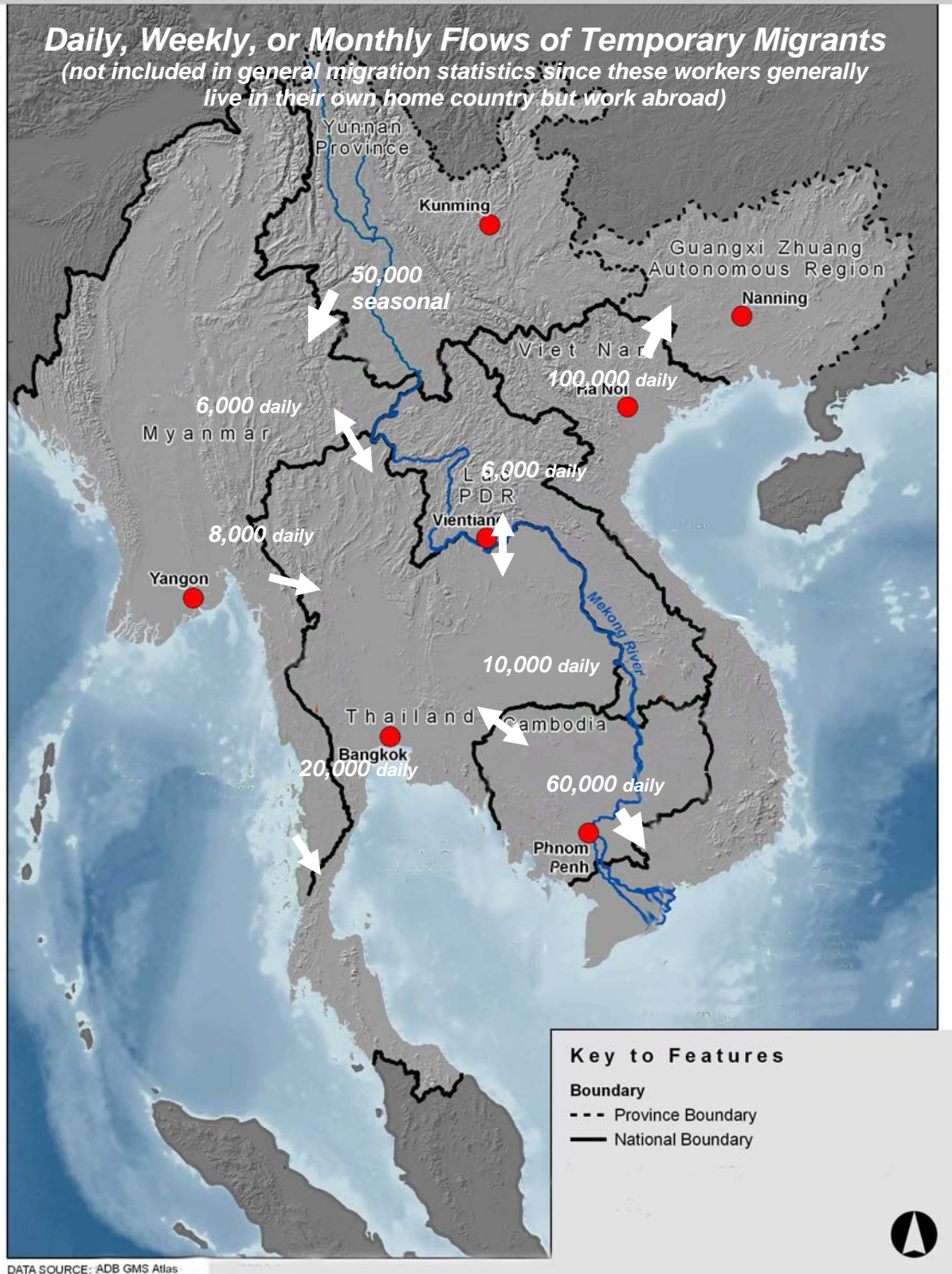
6.2 Live at Home, Work Abroad

78. As mentioned previously, the number of persons crossing borders daily for employment purposes is huge. Such migrants cross borders to work in neighboring agricultural enterprises, in nearby factories and in construction, as well as for trading and sales purposes, and they return to their own country at the end of their work day. Such migrants are not captured in formal migration statistics, which include only migrants residing in a foreign country; however, this daily influx of labour could have a very significant effect on local labour market conditions. There is an opportunity here for the

development of economic zones along the border to take advantage of both cheap labour on one side of the border and the capital and organizational talent on the other side. One obvious location for such economic zones would be along the various new transport linkages, such as economic corridors.

Figure 9 Daily Migration to Thailand

Greater Mekong Subregion



Notes: There are daily migrants involved in trade all along the Thai border. In addition, migrants from Cambodia to Viet Nam are primarily low skilled (agriculture, fisheries and construction) and they are employed mainly in

agriculture in southern Viet Nam. Flows of low-skilled Cambodian migrants also reach Thailand. Migrants from the Lao PDR and Myanmar are low skilled and primarily move to Thailand and Yunnan Province of the PRC. Some business persons from Myanmar are also found in Yunnan Province. Movements from Viet Nam involve primarily low-skilled workers to Guangxi Zhuang Autonomous Region, PRC. Medium, highly skilled and business persons also move to Cambodia and the Lao PDR. Finally, migrants from Yunnan Province move primarily to the Lao PDR, Viet Nam and Myanmar where they are employed in low to high-skilled jobs especially in Chinese-owned natural resource or infrastructure projects.

6.3 Migration Patterns in the Greater Mekong Subregion over the Next 10-15 Years

79. Migration stocks are expected to increase by 28 per cent over the next 10 years. It is estimated that the stocks of migrants will be constant over the next several years because of the current economic recession, and that the flows of migrants will decline significantly during this period as a result of the recession. A rule of thumb suggested in the paper is that each percentage point of GDP in Thailand represents about 150,000 workers; thus, every 1 per cent drop in GDP would result in the absorption of 150,000 fewer workers. The net ability to absorb new migrants is virtually zero for the period 2006-2011, but migrants are predicted to continue to arrive nonetheless. This may create some backlash against migrants in Thailand if they are blamed for the inevitable unemployment associated with the recession.

80. In the ensuing five years beyond that period, migration flows should rebound sharply. It is likely that there will be an insufficient supply of migrants to meet the demand for them, especially in Thailand. On one hand, the Thai economy may be expected to recover and return to creating new jobs — approximately 750,000 a year. On the other, large numbers of Thais will begin retiring from the workforce, leaving a net positive change in the Thai workforce of only about 200,000 a year. The shortfall of 550,000 extra jobs could be met by migrants, or demand could be reduced by increasing the wage rate for unskilled labour. It is likely that both possibilities will occur.

81. Looking farther forward, the demand for migrants in the period 2017-2021 will continue to increase, especially in Thailand, as larger cohorts of Thais retire. The domestic Thai labour force is forecast to expand by only 100,000 for the entire five-year period. It is likely that wages for unskilled workers will rise substantially and that a higher retirement age will be introduced. At the same time, current movements towards slowing fertility rates in the less developed economies will begin to show an effect on the workforce. In the period 2017-2021 the growth in the labour force in the surrounding economies will begin to fall off, unemployment rates are likely to come down somewhat, and the desire to migrate will diminish. Migration rates will still be high, but begin dropping.

82. After 2021, the supply of migrants will be further curtailed and it is expected that migration in the Subregion will shrink substantially. Thailand will benefit from the migrants whom it has permitted to stay in the country — by that time they will have become immigrants. The supply of migrants will be much less than the demand for them. The only exception might be if the birth rate in Myanmar does not decrease from its current level. Currently, Myanmar is the only country in the GMS with an enduring high birth rate.

6.4 Viet Nam Provides the Strongest Demographic Push towards Migration

83. Viet Nam has the largest population in the GMS (see table 1), a high rate of underemployment and a very large young-age labour force. The Government is strongly

supporting the migration of Vietnamese workers to developed countries around the world through formal country-to-country agreements. In spite of this and even though an additional million Vietnamese are born every year, the country's current migration rates to other countries in the GMS, especially to Thailand, are very low. Thus, there may be room for formal labour agreements between Viet Nam and Thailand. In any case, population pressure in Viet Nam is likely to result in changing migration patterns for Vietnamese over the current decade.

7. Recommendations

7.1 Improve agreements and coordination among Greater Mekong Subregion economies

84. Presented forecast showing 28 per cent growth of migration flows in the next 10 years should strengthen the priority of continuing to work towards integration and formal recognition of migration in the Subregion through increased regularization of migrants. Currently, most agreements are bilateral. The region could benefit from a more general agreement or legal instrument for the Subregion to facilitate migrant flows in a manner that protects the rights and safety of the migrants, perhaps coordinated and supported by international organizations. It would also be important to ensure that Members of the GMS have the capacity to fulfill their obligations under the proposed agreement.

7.2 Register and legalize migrants

85. Thailand will continue to be the predominant destination for migrants in the region. The current registration system in Thailand needs to be reviewed as it is commonly criticized on a number of grounds. Regularizing migrant labourers would result in better protection of their rights and put them in a position similar to that of national labourers. This would also benefit national labourers as it would also remove some of the incentives of employers to hire migrant workers. Increasing the number of regular migrant workers would also make it easier for countries to regulate their labour markets, thereby benefiting their own nationals, the economic development of the country and the region as whole.

7.3 Build institutions that will accept a certain level of immigration

86. With or without the support of the receiving country, many short-term migrants become de facto permanent residents as migrants settle into long-term jobs, develop kin and friendship relationships and become reasonably skilled in using the language of the host country. In view of the likelihood that demographic patterns will lead to a shortage of workers in low-skilled jobs in the future, longer term strategies and approaches should be considered. This is especially true for Thailand, which faces an ageing population and a shortage of workers in unskilled jobs. As education levels rise and Thailand progresses towards becoming a knowledge-based economy, it will be very hard to fill unskilled jobs with Thai nationals. Because rising wages in low-skilled occupations would dampen Thailand's competitiveness in global markets, accepting a certain level of naturalization and immigration would likely benefit Thailand in the long run.

7.4 Provide workers in less developed countries with better opportunities

87. In conversations with various experts it became apparent that most migrants did not really want to leave their home country, their family and their cultural surroundings, but did so out of necessity or duty. Generally, it was a lack of employment or opportunity at home, or a sudden need for money, which propelled them to seek work abroad. Whenever possible, it would be best to improve opportunities for workers in the sending countries in order to reduce the need for persons to migrate away from their families. This could be done through the development of better infrastructure to provide access to local products and to improve local efficiency, foster more opportunities for small businesses and establish better institutions to support economic development. In this regard, there is a clear role for international organizations and a mandate for them to facilitate such efforts towards economic development in the less developed members of the GMS.

7.5 Foster economic integration to encourage growth and competitiveness in the Greater Mekong Subregion

88. As a Subregion, the GMS has great potential owing to its ample natural resources, dynamic young population, climate supportive of great productivity and its geographically central location for export to the fastest growing regions of the world. Improved infrastructure and enhanced local market access are needed to stimulate the very dynamic border zones between the GMS members, especially as an answer to the described trend of persons crossing borders daily for employment purposes. Improved trade networks across borders are needed to increase economic efficiency; migrants are well-suited to help create such changes. Actions that will help to integrate the members of the GMS and create opportunities across borders through improved infrastructure, trade agreements and cooperation between and among the countries and areas concerned should be considered.

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APPENDIX 1: Migration Consensus Survey Sample - Thailand Inbound Migration

Migration Consensus Opinion Survey

Date: / /

Name _____

Position _____

Institution _____

Years working in fields related to migration _____

Our definition of migrants includes both regular and irregular migrants (both legal and illegal) and including their dependents who come from other countries and live in Thailand for whatever reason. We do NOT include persons who cross the border each day to work. We do NOT include internal migration, such as rural-urban, or highland people who work in other parts of Thailand.

What is your "Best guess" of the number of migrants in Thailand right now (end 2008)? _____

From Burma _____

From Cambodia _____

From Laos _____

From Viet Nam _____

What is your "Best guess" of the number of migrants in Thailand 5 years ago? _____

From Burma _____

From Cambodia _____

From Laos _____

From Viet Nam _____

What is your "Best guess" of the number of migrants in Thailand 5 years from now? _____

From Burma _____

From Cambodia _____

From Laos _____

From Viet Nam _____

What is your "Best guess" of the number of migrants working in each of the following sectors?

Fishing _____ Percent of total workers ____%. Share from B__% C__% V__% L__%

Cleaning _____ Percent of total workers ____%. Share from B__% C__% V__% L__%

Construction _____ Percent of total workers ____%. Share from B__% C__% V__% L__%

Factories _____ Percent of total workers ____%. Share from B__% C__% V__% L__%

Agriculture _____ Percent of total workers ____%. Share from B__% C__% V__% L__%

Other _____ Percent of total workers ____%. Share from B__% C__% V__% L__%

(B=Burma, C=Cambodia, V = Viet Nam, L=Laos)

When making your best guesses on the previous page

What information sources (formal and informal) did you use in making estimates?

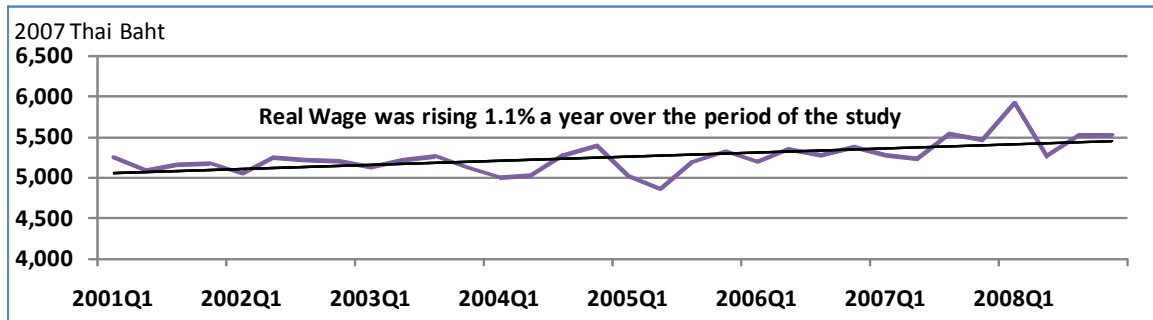
-
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-
-
-

Can you describe your reasoning used to calculate your best guesses based on these sources?

What formal statistics on migration do you trust or mistrust? Please comment on any international or national statistics that you feel are especially reliable or unreliable, and explain why.

APPENDIX 2: Additional Data in Support of Gravity Model

Table A2.1 Real Wage of Thai Unskilled Workers 2001-2008



Source: Thai Labor Force Survey 2001-2008; Thailand Bureau of Trade and Economic Indices – author’s weighted average of wages of household workers, construction workers and agricultural workers.

89. Real wages have changed very little in Thailand over the period 2001-2008. This provides evidence that labour supply and labour demand for unskilled labour are being equilibrated by migration rather than by wage adjustments. Explicitly including wages in the gravity model was deemed unnecessary.

Table A2.2. Official Unemployment Rates in the GMS

Year	Cambodia	China	Laos PDR	Myanmar	Thailand	Viet Nam
2009	3.5%	4.0%	2.4%	9.5%	1.4%	4.7%
2008	2.5%	4.0%	2.4%	5.2%	1.4%	4.3%
2007	2.5%	4.2%	2.4%	10.2%	2.1%	2.0%
2006	2.5%	9.0%	2.4%	5.0%	1.8%	2.4%
2005	2.5%	9.8%	5.7%	5.2%	1.5%	1.9%
2004	2.5%	10.1%	5.7%	4.2%	2.2%	6.1%
2003	2.8%	10.1%	5.7%	5.1%	2.9%	25.0%

Source: <http://www.indexmundi.com>; CIA Factbook, as reported in national statistics. Actual unemployment rates may vary from official rates.

90. There seems to be widespread skepticism about government unemployment figures in some of the countries surveyed. Although the model results in no way depend on it, the authors used an estimate that underemployment was twice as high as unemployment.

91. A simple econometric model of the effect of GDP growth on job creation was used to forecast labour demand in the model. Data are from five years of Thai Labour and GDP statistics. The model was as follows:

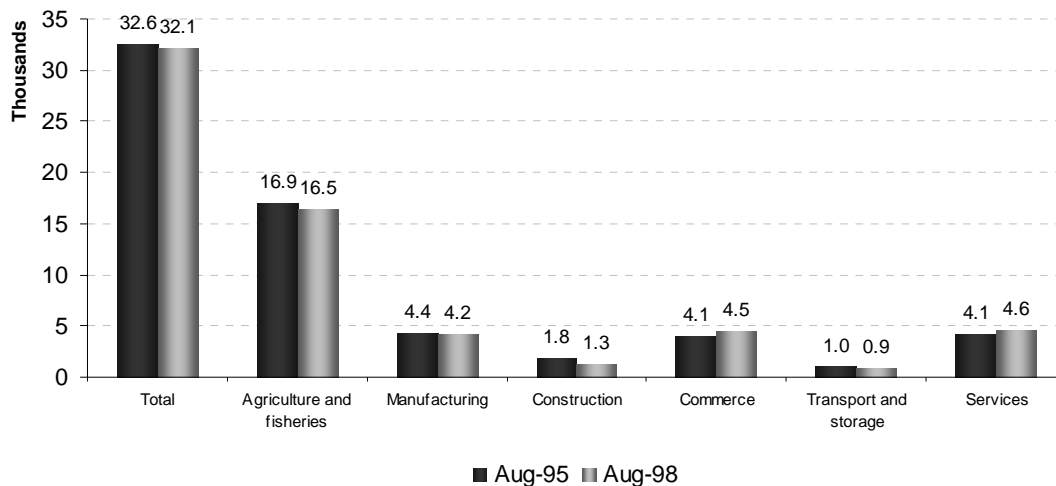
Total Employment In Thailand = $\alpha + \beta \times \text{GDP Quarterly Growth}$. Beta is estimated at around 150,000.

APPENDIX 3 Effects of Recession on GMS Migration Trends

92. The world is currently in the throes of a deep economic recession and this is having an impact on migration. As a result of the recession, unemployment is rising rapidly in Thailand, although it is still relatively low compared with that of some developed countries. Nonetheless, it is likely that conditions will not be as favorable for labour absorption over the next few years as they had been in the past. Because labour absorption is related to GDP, if GDP contracts for a year, labour absorption should contract as well. When the current recession ends, migration trends will likely return to the long-term demographic and economic growth trends discussed elsewhere in this paper. The demand for migrants after the recession is over should be very high. Without additional migrants, wage rates for unskilled jobs in Thailand would have to rise substantially in the period 2011-2021 to make labour supply equal labour demand. As wages for particular jobs rise, more persons would be willing to take such work, thus increasing labour supply, but because of the costs involved, employers would hire fewer workers, thus decreasing the demand for labour, with the result that labour supply would eventually match labour demand.

93. Figure 5 demonstrates the effect of the last serious recession on employment in Thailand, comparing it over a three-year period: before the recession occurred and a little more than a year after its inception.

Figure A3.1 The Effects of Recession and Crisis of 1997 on Various Thai Labour Sectors: Implications for Current Economic Recession



Source: Thai Labour Force Survey, August 1995, and August 1998. http://web.nso.go.th/eng/stat/lfs_e/lfs_e.htm

94. The recession is not affecting all sectors equally. The demand for agricultural workers, fisheries workers and domestic workers is unlikely to show much change as a result of the recession, as these employment sectors provide society with its basic necessities for life, which by definition cannot be affected much by a decrease in GDP. Since fisheries and domestic work are 3D jobs and the workers in these sectors are almost entirely migrants, it is unlikely that many of these migrant workers would be laid off as

they are producers of food, a basic necessity. By contrast, construction is a sector which is likely to be strongly affected by the recession; many migrants in this sector are likely to lose their jobs. Construction is a cyclical business, expanding dramatically when the economy is strong, but shrinking precipitously when the economy is weak.

95. During the 1997-1998 financial crises that started in Thailand and spread throughout Asia, there was no indication of a large exodus of migrant workers from Thailand. It may be anticipated that, if the Thai Government cancels work permits for migrant workers, those foreign workers who are still employed and willing to work for reduced wages will continue to work but in an irregular status, which would make them more attractive to employers who could then pay lower wages and control them more easily. In fact, the Thai Government recently announced that it plans to register an additional 400,000 undocumented workers (Office of Foreign Workers Administration, 2009), suggesting that it is maintaining its policy of trying to increase the number of regular migrants in Thailand and not shifting to policies that would attempt to reduce the number of migrant workers in the country through removal or expulsion.

96. If the current economic crisis worsens, there may be political pressure on the Thai Government to crack down on migrant workers, particularly irregular ones. Such crackdowns however are likely to have only a limited effect because of the challenges associated with migrants returning to neighboring countries. There is no formal return or deportation system in the Subregion. Moreover, informal returns are generally not an effective deterrent to return migration because they do not involve returning the migrants to their place of origin, but rather to the nearest border checkpoint where the migrants are stranded. They eventually re-enter the country.

97. In sectors that employ both Thais and migrants, the migrants would maintain their share of total employment. In the consensus forecast, some experts felt that companies might lay off Thais before they would discharge migrants, since the Thais would be more expensive, whereas other experts believed that migrants would be laid off first as managers of the companies concerned would feel a sense of loyalty to their fellow Thais. It is assumed that the Thai-to-migrant ratio remains constant.

98. The experts also suggested that, even if migrants were laid off, they would not return to their home countries. Faced with similar or worse economic situation at home, many migrants would remain in Thailand where wage rates are higher than at home, and survive the crisis by entering the informal sector. Even though as previously described relatively small wage rate differentials are not a strong pull-factor by itself, they are high enough to make migrants stay. Some migrants who might have incurred costs in order to secure employment in Thailand, i.e. recruitment costs or agent's fees, would also be less likely to return home as they would want to stay and work in some capacity in order to recover their investment. Some experts also felt that irregular migrants would likely be laid off before regular migrants, since a company would already have invested resources in the regular migrants.

APPENDIX 4 Using Economic Reasoning and a Production Function Methodology to Estimate Levels and Flows of Illegal Migration, Including at a Sectoral Level

99. Economic reasoning allows for a different approach to calculating the total number of migrants in Thailand. The Thailand Labour Force Survey provides data on number and wages of workers by employment sector over time. In combination with a simple production function such as $Q=f(K,L)$ or $Q=K^{1/2}L^{1/2}$ and the share of migrants in each sector from this study's expert survey it is possible to estimate the total number of irregular workers, the estimated flow of new irregular workers, and even to say something about workers for whom no formal records exist.

100. To estimate the total number of irregular and regular migrants, it is simply a matter of multiplying each sector's employment by the estimated share of migrants in that sector and adding all together to check if aggregate estimates of migration are reasonable. Since most migrants are employed as unskilled labourers, only low-skill sectors are examined. Estimates obtained in this way support the consensus forecasts for the total migrant stock in Thailand.²

Table A4.1 Estimated Stock of Thai Migrants Based on Sectoral Data 2003-2008

Sectors employing Migrants in Thailand	Employed Q4:2003 (1000s)	Employed Q4:2008 (1000s)	New Work Force	5 year % Growth	Estimated Share Migrants	Migrants 2003 (1000s)	Migrants 2008 (1000s)
Total	34,564.8	37,550.0	2985.2	8.6%	4.8%		-
1. Agriculture, hunting	14,237.2	15,362.4	1125.1	7.9%	1.5%	213.6	230.4
2. Fishing	466.4	443.9	-22.5	-4.8%	71%	331.2	315.2
3. Manufacturing	5,270.9	5,212.6	-58.3	-1.1%	6%	316.3	312.8
4. Construction	1,724.4	1,997.3	272.9	15.8%	16%	275.9	319.6
5. Wholesale and retail	5,221.6	5,765.9	544.3	10.4%	4%	208.9	230.6
6. Hotel and restaurants	2,148.8	2,386.3	237.5	11.1%	10%	214.9	238.6
7. Transport, storage	1,080.8	1,089.4	8.6	0.8%	4%	43.2	43.6
8. Domestic Work	253.9	199.6	-54.4	-21.4%	65%	165.0	129.7
Total Migrants						1768.9	1820.5

Source: Thai Labour Force Survey, 2003-2008, http://web.nso.go.th/eng/stat/lfs_e/lfse.htm. Estimates of the share of migrants in each sector are from this study

² Although estimates in Table A4.1 are lower than estimates in other sections of the paper, these numbers refer only to those who are currently employed and do not include dependants. The consensus forecast survey explicitly includes dependants in the total. Dependants are estimated as being approximately one third the size of the working population, or a ratio of three workers to one dependant. This would bring the estimates in this section very close to the estimates used in the rest of the paper.

101. The next task is to estimate the new flow of migrants into Thailand. Migrants in Thailand work in a variety of low-skilled jobs, including agriculture, factories, fishing, domestic work, construction, retail sales, hotels and restaurants. Of these, fishing, construction and manufacturing are likely to employ the largest number of migrants, with each estimated to be employing more than 300,000.

102. The Thai labour force grew by 8.6 per cent over the five years between 2003 and 2008, with the total increase in labourers being approximately 3 million. If the share of migrants in each sector is held constant, the number of migrants would be growing at about the same pace, or an increase in migrants of about 5% between 2003 and 2008, or about 600,000 persons

103. There are two reasons why this method is likely to produce low estimates of migrant flows. Firstly, it has been assumed that the share of migrants in each sector is fixed over time, which is very unlikely to be true. In fact, the share of migrants in those sectors where they compete directly with Thais is likely to rise steadily as Thailand's education levels climb (World Bank 2008; UNESCO 2009) and Thais move from lower-skilled jobs to higher-skilled jobs, meaning that the flow of migrants into Thailand would probably increase. Secondly, most irregular migrants are not captured at all by the Thai Labour Force Survey. Even regular migrants are thought to be strongly underrepresented in Thai labour force statistics as there is a tendency to count only Thais.

104. The following production function methodology, makes it possible to say something about workers in sectors such as domestic work and fisheries who are often not included in the Labour Force Survey at all. It is possible to uncover some of this hidden employment by looking at changes in sectoral GDP and sectoral wages, to try to estimate how much of sectoral GDP is being generated by irregular or undocumented workers. The methodology relies on the assumption that increases in sectoral GDP must, in part, accrue to workers. If a product is sold, the profit from it after raw materials, is used to pay owners and workers. If total revenue goes up, so should payroll paid to labour. Payroll is wL or wages times labourers. Since wages by sector are included in the labour force survey, it is possible to estimate the change in labourers, even if the labour force survey does not show them. Results are in table A4.2 below, and the production function methodology is in the box further down the page.

Table A4.2 Implied Changes in Employment Based on Sectoral GDP and Wage Rate Changes over the Five Year Period 2003-2008

	I	II	III	V	IV	VI	VII
Sectors Employing Migrants in Thailand	Employed Thai Labour 2008 (1000s)	5-year Growth in Thai Labour (%)	Average Wage 2008 (Baht)	Five Year % Change in Real Sectoral Wage	Five Year % Change in Real Sectoral GDP	Labour's Share in Production Function	Implied Change in Employment (%)
Total	37,550.0	8.6%	8,849	5.5			
1. Agriculture, hunting	15,362.4	7.9	3,877	20.0	5.5	Medium	-14.4
2. Fishing	443.9	-4.8	5,178	-4.6	17.1	Medium	13.8
3. Manufacturing	5,212.6	-1.1	7,622	0.4	33.0	Low	6.2
4. Construction	1,997.3	15.8	5,955	3.4	14.3	Medium	3.6
5. Wholesale and retail	5,765.9	10.4	8,028	-2.7	22.2	Medium	14.2
6. Hotel and restaurants	2,386.3	11.1	6,883	8.9	34.6	Medium	7.7
7. Transport, storage	1,089.4	0.8	13,409	-6.0	26.3	Low	11.9
8. Domestic work	199.6	-21.4	4,813	-2.2	5.9	High	7.1

Source: Thai Labour Force Survey, 2003-2008, http://web.nso.go.th/eng/stat/lfs_e/lfse.htm. Note: column VII has been estimated by the authors using the production function technique described in the present paper.

105. In Table A4.2, column II shows the change in sectoral labour as recorded in the labour force survey, while column VII shows the estimated change in labour based on sectoral GDP and wage data. The difference is likely to be irregular workers.

106. For instance, for fishing, GDP in fishing rose by 17.1 percent, while wages for those in fishing fell by 4.6 percent. Assuming that the share of income going to workers is somewhat constant over time, the implication is a significant increase in those employed in fishing, while the labour force survey shows a sharp decrease. It is likely that employment did increase, but the workers are irregular migrants.

107. One anomaly is the predicted fall in agricultural workers which surely did not occur. This can be explained by the 2008 rice shortage which made returns to capital very high, invalidating the assumption that capital was growing at the same rate as sectoral GDP. Otherwise, the estimates of implied changes in employment look reasonable and are roughly in line with overall GDP growth and labour growth in the

economy, as well as in line with the five-year percentage growth rate contained in the Labour Force Survey itself.

108. In Table A4.2 above, most interesting of all are the estimates for employment in fisheries and domestic work, both of which show substantial increases in employment in line with the overall economy (column VII), while Labour Force Survey data (column II) claim that these sectors were losing large numbers of employees. These data provide clear support that jobs in these sectors are increasingly being filled by migrants.

Using a production function to uncover employment represented by irregular migrants

To try to explore the hidden employment represented by irregular migrants, a production function technique was used. Increases in sectoral GDP were matched with increases in sectoral wage rates. If GDP increases, that increase must represent either an increase in the amount paid to labour, or an increase in the amount paid to capital.

$$\Delta GDP_i = \Delta(w_i L_i) + \Delta(r_i K_i)$$

The amount paid to labour can represent either a change in the wage or a change in the quantity of labour. In other words, we have ΔGDP_i and $\Delta(w_i)$ and we want to find $\Delta(L_i)$. For the purposes of this study, we are not interested in the returns to capital, but we need to make some assumptions about how it behaves. In particular we will assume that returns to capital grow at the same rate as changes to GDP. Finally we need to assume what share capital is in the production function. We used three values, 80%, 50%, and 20% for capital intensive, medium and labour intensive respectively. This gives us a function that looks as follows:

$$\Delta GDP_i - \Delta(r_i K_i) = \Delta(w_i L_i)$$

or for a capital intensive industry:

$$\Delta GDP_i * (1 - 0.8) = \Delta(w_i L_i)$$

Sectoral GDP growth rates were compared with growth in sectoral wage rates to estimate the implied growth in total employment in each sector. Results are revealing, and can be seen in the final column of the table below.