

Online Appendices for *Moving to Opportunity*

Chapter 2

A. Labor mobility costs

	Lao PDR	Indonesia	Vietnam	Philippines
Agriculture, forestry & fishing	0.17	2.23	2.38	2.53
se	0.06	0.13	0.17	0.11
Mining and quarrying	3.08	3.61	2.62	5.71
se	1.16	0.39	0.43	0.68
Manufacturing	0.49	1.51	1.68	3.04
se	0.07	0.07	0.16	0.16
Electricity, gas & water supply	3.86	4.92	22.28	5.76
se	1.30	0.49	0.52	0.62
Construction	1.09	2.66	3.41	2.75
se	0.18	0.22	0.33	0.19
Wholesale & retail trade, restaurants & hotels	0.67	1.41	3.16	2.23
se	0.07	0.10	0.21	0.13
Transportation, storage & communications	0.98	2.9	3.58	3.45
se	0.26	0.33	0.35	0.12
Finance, insurance, real estate & business services	0.97	4.21	2.99	3.54
se	0.35	0.38	0.42	0.34
Social services	0.73	1.59	4.19	2.84
se	0.14	0.12	0.22	0.10
Unemployed/Out of labor force	0.82	0.93	2.4	1.5
se	0.07	0.11	0.20	0.10

Source: Hollweg (2016).

	Lao PDR	Indonesia	Vietnam	Philippines
Primary activities	0.20	2.22	2.34	2.55
se	0.06	0.11	0.14	0.09
Manufacturing	0.46	1.52	2.10	3.03
se	0.08	0.06	0.17	0.15
Finance, insurance, real estate & business services	1.16	4.21	3.05	3.54
se	0.35	0.37	0.44	0.32
Social services	0.76	1.59	3.22	2.84
se	0.13	0.11	0.21	0.09
Other services	0.43	1.12	2.14	1.74
se	0.07	0.06	0.11	0.09
Unemployed/Out of labor force	0.83	0.93	2.39	1.49
se	0.07	0.09	0.18	0.09

Source: Hollweg (2016).

Table 3: International labor mobility costs with standard errors

	1960	1970	1980	1990	2000
Indonesia	10.65	10.81	10.59	10.35	10.33
se	0.81	0.69	0.68	0.76	0.77
Cambodia	6.48	7.06	11.85	10.76	8.77
se	0.83	1.06	1.23	1.43	1.41
Lao PDR	8.96	9.04	9.28	10.33	10.15
se	0.94	1.10	1.32	1.52	1.45
Myanmar	9.85	11.30	10.94	11.90	11.58
se	1.04	0.92	1.04	1.28	1.20
Malaysia	8.28	5.32	4.01	3.04	3.02
se	1.19	0.90	0.46	0.49	0.65
Philippines	11.57	11.27	9.65	11.12	10.44
se	0.91	0.67	0.65	0.76	0.63
Singapore	7.15	4.64	4.87	5.75	5.43
se	1.09	1.00	0.40	0.36	0.47
Thailand	7.52	8.34	10.17	9.77	8.50
se	0.95	0.91	0.82	0.99	1.17
Vietnam	11.68	12.49	13.35	13.58	11.22
se	0.71	0.72	0.88	0.91	0.99

Source: Hollweg (2016).

Chapter 4

A. Appendix A: Data Definitions and Sources

The main inputs for the simulations of the effects of enhanced trade integration are estimates for (i) international labor mobility costs, (ii) within-country labor mobility costs, (iii) relative wages, (iv) employment shares, (v) consumption shares, and (vi) the share of the wage bill in total value added.

Between-country labor mobility costs. To estimate between-country labor mobility costs for all ASEAN member countries (Brunei, Indonesia, Cambodia, Lao PDR, Myanmar, Malaysia, Philippines, Singapore, Thailand and Vietnam). The number of migrants from each ASEAN member country *X* to ASEAN member country *Y* was obtained from the World Bank's Global Migration Database. In this database, data are available as decade averages spanning the 1960, 1970s, 1980s, 1990s and 2000s. The number of non-migrants were assumed to be each economies' population, collected from the World Bank's World Development Indicators and averaged over each decade (1960-2000). Wages were collected from the Conference Board's Total Economy Database at the country level, measured as labor productivity (GDP) per worker in constant 2014 US\$, averaged over each decade. Each country's relative wages were then calculated against the ASEAN average. Wage data was not available for Lao PDR and Brunei, so the relative employment per worker against the ASEAN average for 2013 was instead used for these two countries.

Within-country labor mobility costs. Due to limited data availability, within-country labor mobility costs were estimated for a restricted number of ASEAN member countries, Lao PDR, Indonesia, Vietnam and the Philippines. The estimation required national panel data on workers'

sector of employment, average sectoral wages, and individual worker characteristics over at least two time periods, which was only available for these countries. In addition, within-country labor mobility costs were estimated first for the whole population, and subsequently by skilled versus unskilled workers, and male versus female workers.

Relative wages. First, within-country relative wages were calculated as the average wage for each sector and skill level, divided by the average economy wage. Average sectoral wages for skilled versus unskilled workers were calculated from household survey data for Lao PDR, Indonesia, Vietnam and the Philippines. Average sectoral wages for skilled versus unskilled workers were calculated from official statistics for Malaysia and Singapore. CSES data was used to calculate average sectoral wages in Cambodia and SES data for Thailand. Then, these were multiplied by between-country relative wages, calculated as the country's GDP per capita relative to the average GDP per capita of the 9 ASEAN member countries. Unemployed/out of the work force are assumed to earn zero wage.

Employment shares. The total labor force in each country is from World Bank WDI. The total unemployed is the labor force times the unemployment rate, from World Bank WDI. Employment is the residual. Skilled versus unskilled employment in each sector is total employment times the skilled/unskilled employment share of that sector. Sectoral employment shares are calculated using data from GTAP's input-output tables. GTAP reports the value to skilled versus unskilled workers at the sector-country level.

Consumption shares. The share of the sector in total consumption is from GTAP. It adds together domestically produced and imported goods for consumption. Skilled and unskilled consumption shares are assumed to be equal, since we cannot trace what proportion of consumption is produced by skilled versus unskilled workers. The consumption share for the residual sector is zero, since unemployed or out of the labor force are assumed not to produce anything.

Share of the wage bill in total value added. Sectoral value added is from the World Bank's Trade in Value Added Database. Sectoral value added that is paid to skilled versus unskilled workers is from the World Bank's LACEX Database. Both are constructed using GTAP data.

B. Appendix B: Summary of the main simulation results and their transmission channels

Impact of trade integration

- (i) Enhanced trade integration within ASEAN immediately lowers the prices of goods and services affected by declines in tariff and non-tariff barriers and in other trade costs. For the purpose of the simulations, we focus on five aggregate sectors. The way that enhanced trade integration within ASEAN is modeled implies that it has an impact on all five sectors. The effect of enhanced trade integration on the overall price index is relatively large.
- (ii) The decline in prices resulting from trade integration also affects workers' wages. As is common in the relevant literature, the application of the Trade Shocks and Labor Adjustment Toolkit assumes that wages equal the marginal product of labor and that there are diminishing returns to labor. In other words, workers earn exactly as much as can be gained by their employment and each additional worker employed in the production process is less productive than the previous one. Under this assumption, the decrease in the prices of certain goods and services translate immediately into lower marginal products of labor and nominal wages for those employed in the respective sectors.

(iii) The decline in prices resulting from openness to trade will also lower the cost of consumption goods, thereby, potentially increasing real wages. Workers are also consumers. As such, they benefit from a decline in the prices of goods and services affected from enhanced trade integration, which in turn increases the real value of their wage. Declining prices in turn put significant upward pressure on real wages across ASEAN immediately following the trade-related shock. Thus, to a certain extent, the negative effect of enhanced trade integration on prices counterbalances the nominal wage declines.

(iv) The final impact on real wages at national and sectoral level depends on the consumption basket and on the level of protectionism of a country pre-trade integration. The relative importance of the counterbalancing effect depends on the share of goods and services that are impacted by enhanced trade interaction among total consumption, and the magnitude of the impact given by the initial level of protectionism. The higher the initial level of protectionism, the larger reduction in prices, and the lower are workers' real wages. The higher this consumption share, the larger the reduction in the price index, and the higher are workers' real wages.

Example. Real wages will go up in countries in which workers are mostly employed in sectors already relatively open to trade, but whose consumption basket is largely composed by goods produced in protected sectors. In this situation, trade integration will result in a small decrease in nominal wages and in a large decrease in prices, thereby, increasing the level of real wages.

(v) The changes in real wages, in turn, also have implications for employment levels. Higher real wages will make employment in certain sectors more attractive. As such, a higher number of individuals will be attracted in those sectors either from joblessness or from other sectors. These second-round and higher effects will continue until the economy converges to a new steady state in the absence of future shocks.

Example. Indonesia is a country with relatively large non-tariff barriers in the services sectors. To the extent that trade integration entails a significant reduction of these non-tariff barriers, nominal wages in the service sector are predicted to sensibly go down and so will real wages after trade integration (assuming services are not a huge component of the consumption basket). As a result of this, the service sector would provide less lucrative opportunities and experience an outflow of workers. The simulations, in fact, confirm that in Indonesia the three service sectors would account for a lower share of total employment after trade integration.

(vi) Wage levels are not the only determinant of labor market transitions. Both employed and unemployed individuals face different choices when deciding on their labor market status – and labor mobility costs play a crucial role in determining labor market transitions. In the model, worker can move not just domestically but also abroad. In general, they will choose employment in sectors that pay higher wages, offer a non-pecuniary benefit to the worker, but that are also less costly to enter.

Example. Both for ASEAN as a whole and within most countries, following enhanced trade integration, finance and business services as well as manufacturing are expected to employ a greater share of workers than before. Agriculture and mining, social services and other services employ a smaller share of workers after the trade-related shock. The reasons for this structural transformation include that agriculture and mining pay lower wages relative to other sectors, while finance and business services pay relatively high wages. However, labor mobility costs also affect

how the structure of ASEAN's economy will adjust following enhanced trade integration. For example, average wages in social services and other services tend to be similar or even higher than in manufacturing. Nevertheless, social services and other services still experience net outflows of workers. At least in part this is because it is relatively more costly for workers to enter these sectors.

Impact of changes in labor mobility costs

- (vii) Lower mobility costs mean that workers face lower barriers to leave joblessness. This increases the net expected gains of entering employment and makes workers more willing to take up a job. As a consequence, labor markets are more dynamic and employment rates are higher.

Example. The ASEAN-wide employment rate is 0.7 percent higher when there is a reduction of labor mobility costs for skilled workers and an additional 1.2 percent higher when there is comprehensive reduction in labor mobility costs rather than only for skilled workers in the service sector.

- (viii) Higher employment rates decrease both the marginal returns to labor and nominal wages (under the assumption that there are decreasing marginal returns to labor and wages equal the marginal returns to labor). As a result nominal wages will be lower when a reduction in labor mobility costs increases employment.

Example. The real relative wage level is 1.2 percent lower for the ASEAN region as a whole when there is a reduction of international labor mobility costs for skilled workers in the service sector and another 4.5 percent lower when the reduction in labor mobility costs apply to all workers.

- (ix) The distribution of employment across sectors would also be different under relatively lower labor mobility costs of entering the (skilled) service sector. In particular, workers would find it relatively more accessible to head for services jobs.

Example. Within all ASEAN member countries, the share of employment in the agriculture and mining and in the manufacturing sectors is lower and in overall services higher when enhanced trade integration happens with reductions in labor mobility costs for skilled service workers (under Scenario II as compared to Scenario I).

- (x) Under lower labor mobility costs for all workers, rather than only for skilled workers, gains from trade would be more broad-based. This is because it would not only be relatively less costly for workers exiting joblessness to access the service sector (or other workers that are transitioning across sectors of the economy in response to wage changes), but also to access agriculture, mining and manufacturing sector jobs.

Example. Within ASEAN, agriculture and mining as well as manufacturing would account for most of the additional jobs created after labor market integration. The employment share of manufacturing would be higher for all countries when enhanced trade integration happens with reduction in labor mobility costs for all workers (under Scenario III as compared to Scenario II).

- (xi) The distribution of employment across countries would also differ under relatively lower international labor mobility costs of entering the (skilled) service sector. When there is a reduction of labor mobility costs for skilled services workers, some countries where

enhanced trade integration leads to a net inflow of migrants would receive a larger proportion of net in-migrants. The reason is that lower labor mobility costs lead both to stronger incentives to migrate to attractive migration destinations and lower costs of doing so. For similar reasons, other countries see less out-migration, as more lucrative employment opportunities available at home result in a smaller number of people leaving the country.

Example. Under Scenario II Singapore, Malaysia, Cambodia and the Philippines capture a greater share of overall ASEAN employment. Similarly, Lao PDR and Vietnam would account for even lower shares of total ASEAN employment, reflecting both a smaller number of (skilled) migrants in net terms and lower employment rates.

- (xii) Under lower labor mobility costs for all workers, rather than only for skilled workers, the distribution of employment across countries would also differ. Specifically, countries where manufacturing offers relatively lucrative employment opportunities would experience positive net migration inflows, due to the opportunities emerging from lower labor mobility costs.

Example. Cambodia and Lao PDR have greater shares of overall ASEAN employment in Scenario III as compared to Scenario II, as fewer workers would leave these countries to seek out better employment opportunities abroad.

- (xiii) The simulations summarized in the chapter show that enhanced trade integration is likely to have a more positive effect on welfare if it happens under a scenario that assumes the lowering of mobility costs. In particular, lower labor mobility costs give workers more possibilities of moving to different sectors where they can earn higher wages. In other words, the lowering of labor mobility costs between different countries gives opportunities to workers to seek out employment in exactly those places where they can be most productive. Such opportunities can be particularly potent for workers that live in countries with very high within-country labor mobility costs as high within-country labor mobility costs make it difficult for workers to find a good match inside their home country.

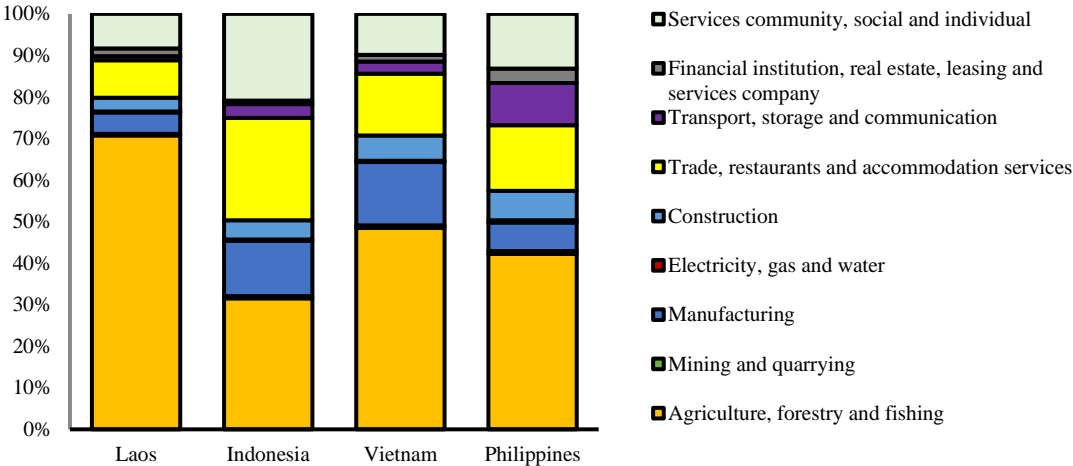
C. Appendix C: Descriptive Statistics

In the process of estimating within-country labor mobility costs across ASEAN detailed statistics on sectoral wages and the distribution and dynamics of employment in ASEAN were compiled that help to interpret the estimates of mobility costs and are also interesting in their own right. This is in particular the case with regard to estimates of sectoral employment shares for Lao PDR, Indonesia, Vietnam and the Philippines and of average sectoral wages and the fluidity of labor markets for the same four countries.

With regard to sectoral employment shares, agriculture absorbs the largest share of workers in Lao PDR, Indonesia, Vietnam and the Philippines, followed by trade and travel services (**Figure 1** and **Table 4**). Using the latest year of data of the study, Lao PDR was the country with the highest proportion of workers employed in agriculture (70 percent in 2012), compared to 69 percent in Vietnam (also in 2012), 42 percent in the Philippines (in 2009) and 32 percent in Indonesia (in 2007). The trade, restaurants and accommodation services sector was the second-most important employer in all four countries, absorbing 25 percent of the workforce in Indonesia, 16 percent in the Philippines, 15 percent in Vietnam and nine percent in Lao PDR.

Manufacturing is a relatively more important employer in Vietnam than in the other three countries. In 2012, 15 percent of Vietnam’s work force was employed in manufacturing activities, compared to 13 percent in Indonesia, seven percent in the Philippines and five percent in Lao PDR. Public services are also important for employment generation in all four countries. This includes community, social and individual services. In contrast, some other sectors are much smaller in terms of their contribution to overall employment. Mining and quarrying absorb less than one percent of the workforce in all countries considered here and “modern services” like financial and business services do not play a great role in any of them either, other than maybe in the Philippines (note that data for the Philippines are for 2009 before the country’s business service industry really took off). Also for the Philippines, the transport, storage and communications sector is somewhat important as it offers work opportunities for ten percent of workers.

Figure 1: Sectoral employment shares



Source: Hollweg 2016 based on data from country-level household surveys

Table 4: Sectoral employment shares

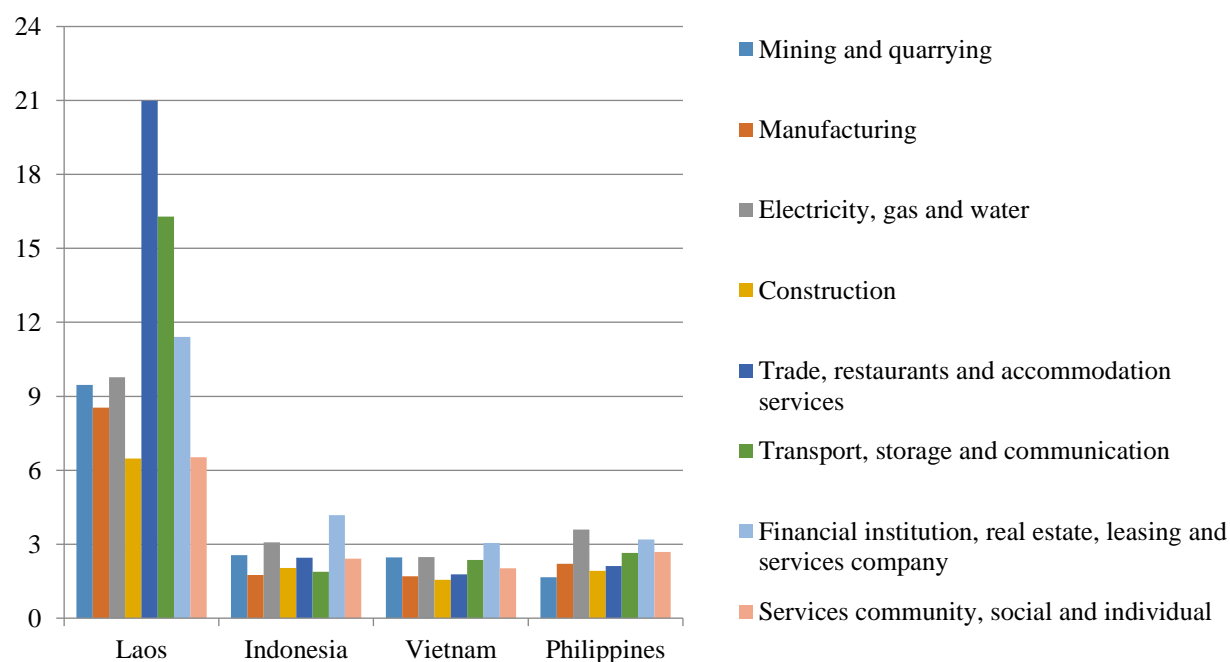
	Thailand	Myanmar	Cambodia	Singapore	Malaysia
Agriculture and Mining	0.12	0.25	0.35	0.01	0.15
Manufacturing	0.26	0.05	0.22	0.20	0.24
Financial and real estate	0.07	0.01	0.03	0.29	0.14
Social Services	0.24	0.04	0.07	0.17	0.01
Other services	0.30	0.23	0.33	0.32	0.46

Source: Data from country-level household surveys

Sectoral wages are depicted in **Figure 2** and also show interesting patterns. In particular, large wage gaps exist between agriculture and non-agricultural activities in all four countries considered here. Across all these countries, agriculture pays the lowest wages. The gap between agricultural and non-agricultural wages is particularly striking in Lao PDR and there is also much larger dispersion between non-agricultural wages in Lao PDR than in other countries. In Lao PDR, all non-farm sectors pay average wages that are at least five times the average agricultural wage. In the trade, restaurants and accommodation services sector (the Lao PDR’s sector with the highest average wages), average wages are over 20 times higher than in agriculture. Transport, storage and communications also very high wages in Lao PDR relative to agriculture. The large dispersion between agricultural and non-agricultural wages in Lao PDR is likely due to the very low productivity of agriculture in the country. The transport, storage and communications sector is the sector with the highest average

wages in Indonesia and Vietnam. In the Philippines, average wages are highest in electricity, gas and water supply.

Figure 2: Average sectoral wages relative to agriculture, forestry and fishing



Source: Hollweg 2016 based on data from country-level household surveys

Substantial differences also exist in the fluidity of labor markets across ASEAN member countries. Each cell in **Table 5** and **Table 6** contains the transition statistic for the average share of workers transitioning from each origin sector (in each row) to all other destination sectors (in each column) between one iteration of the country’s household survey and the next. The cells on the diagonal indicate the shares of workers remaining in their current work/sector status; these “stayers” always represent the largest shares. The transition statistics give a sense of the fluidity of the ASEAN member countries’ labor market, even if during a relatively short timeframe for some.¹ The share of “stayers” in Lao PDR is noticeably smaller than in other countries, suggesting more labor market fluidity. Across all countries, agriculture has the highest incidence of “stayers”, suggesting it is hardest for agriculture workers to find alternative employment in other sectors of the economy.

Only 25 percent of those unemployed at the beginning of the period remained unemployed in Lao PDR, compared to 49 percent in Indonesia, 75 percent in Vietnam and 65 percent in the Philippines. In Lao PDR, the main sector absorbing previously unemployed workers is agriculture (53 percent of those exiting unemployment / out of the labor force flowed into agriculture). Agriculture is also the sector absorbing the highest proportion of previously idle workers in Vietnam and the Philippines, though at a lower incidence (ten percent and 11 percent, respectively). This provides additional evidence to those mentioned in the main text that agriculture often acts as the residual or “last resort” sector, absorbing workers unable to find alternative employment. In Indonesia, trade, restaurants and accommodation services also play this role as they are more likely to absorb previously unemployed workers than even agriculture (16 percent).

¹ There are many caveats to cross-country comparisons here. In particular, there are different time periods and years across surveys.

Public sector service jobs also have a low proportion of exits, suggesting that these jobs are highly desirable, and the lowest proportion of entry from other sectors, suggesting that these jobs are difficult to obtain. We observe the largest number of transitions out of financial services work in Vietnam, the Philippines and Lao. In Indonesia, the highest incidence transitions are out of mining and quarrying, a sector typically characterized by significant demand-driven volatility, and electricity, gas and water supply.

A job in the trade, restaurants and accommodation services sector can be an important stepping stone for surplus agricultural labor. In Lao PDR, Indonesia and the Philippines, workers exiting the agriculture, forestry and fishing sector are relatively more likely to find jobs in trade, restaurants and accommodation services than in other sectors of the economy. In the Philippines, construction is also an important sector for the absorption of agricultural workers. In contrast, former agricultural workers are more likely to find jobs in manufacturing in Vietnam than in any other economic sectors. Also in Vietnam, a relatively large proportion of workers from trade, restaurants and accommodation services tend to transition to community, social and individual services.

If leaving a sector (other than agriculture) in Lao PDR, workers are more likely to enter agriculture than unemployment. This is not the case in any of the other three countries. In Indonesia and the Philippines, for example, workers are relatively more likely to drop to unemployment or out of the labor force after they leave the manufacturing, trade, finance or public service sectors than to become agriculture workers. In Vietnam, workers leaving the finance sectors have a comparatively high likelihood of becoming unemployed or leaving the labor force.

Table 5: Within-country transition matrices for Lao PDR and Indonesia

	Agriculture, forestry and fishing	Mining and quarrying	Manufacturing	Electricity, gas and water	Construction	Trade, restaurants and accommodation services	Transport, storage and communication	Financial institution, real estate, leasing and services company	Services community, social and individual	Unemployed / out of labor force
Sector	Lao PDR, 2007/08 to 2012/13									
Agriculture, forestry and fishing	63.6	0.4	4.3	0.1	3.0	7.6	0.9	1.7	7.1	11.3
Mining and quarrying	54.2	8.3	4.2	0.0	4.2	8.3	4.2	4.2	4.2	8.3
Manufacturing	60.3	0.4	7.0	0.2	2.3	7.7	1.3	2.0	8.5	10.4
Electricity, gas and water	41.2	0.0	0.0	11.8	5.9	17.6	0.0	11.8	5.9	5.9
Construction	57.7	1.2	4.1	0.4	7.3	5.3	2.0	2.4	9.8	9.8
Trade, restaurants and accommodation services	55.7	0.1	4.7	0.3	1.7	16.0	1.3	1.3	7.0	12.0
Transport, storage and communication	50.7	0.0	7.2	0.0	5.1	9.4	3.6	4.3	11.6	8.0
Financial institution, real estate, leasing and services company	53.1	1.0	4.2	1.0	3.1	9.4	2.1	4.2	10.4	11.5
Services community, social and individual	52.4	0.5	4.5	0.3	3.7	8.6	1.1	2.9	16.0	9.9
Unemployed / out of labor force	52.6	0.2	4.6	0.2	2.0	6.8	0.8	1.9	6.5	24.6
Sector	Indonesia, 2000 to 2007									
Agriculture, forestry and fishing	65.8	0.3	4.6	0.1	2.2	6.9	0.9	0.2	4.8	14.3
Mining and quarrying	34.1	17.1	4.9	0.0	4.9	4.9	4.9	0.0	17.1	12.2
Manufacturing	11.6	0.4	35.3	0.2	2.6	16.1	2.1	0.4	12.8	18.5
Electricity, gas and water	8.7	0.0	8.7	26.1	8.7	4.3	0.0	0.0	39.1	4.3
Construction	16.6	0.3	9.1	0.3	35.1	12.5	3.8	0.0	11.6	10.7
Trade, restaurants and accommodation services	9.3	0.1	6.4	0.1	2.0	51.5	1.4	0.6	8.6	19.9
Transport, storage and communication	13.2	1.8	6.6	0.0	3.7	12.5	32.4	1.1	23.2	5.5
Financial institution, real estate, leasing and services company	5.0	0.0	2.5	2.5	2.5	17.5	0.0	32.5	27.5	10.0
Services community, social and individual	9.3	0.5	7.6	0.2	2.9	13.0	2.9	0.8	49.2	13.6
Unemployed / out of labor force	12.5	0.2	6.8	0.2	1.7	15.8	1.1	0.6	12.1	48.9

Source: Hollweg 2016 based on data from country-level household surveys

Table 6: Within-country transition matrices for Vietnam and the Philippines

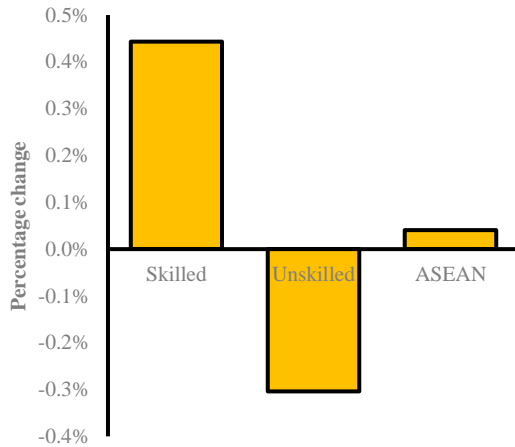
	Agriculture, forestry and fishing	Mining and quarrying	Manufacturing	Electricity, gas and water	Construction	Trade, restaurants and accommodation services	Transport, storage and communication	Financial institution, real estate, leasing and services company	Services community, social and individual	Unemployed / out of labor force
Sector	Vietnam, 2010 to 2012									
Agriculture, forestry and fishing	80.7	0.1	4.2	0.0	2.3	2.5	0.5	0.5	1.7	7.5
Mining and quarrying	10.3	59.0	10.3	0.0	0.0	0.0	0.0	0.0	10.3	10.3
Manufacturing	22.5	0.3	57.7	0.0	4.2	3.9	0.9	0.9	3.9	5.7
Electricity, gas and water	0.0	0.0	0.0	66.7	0.0	33.3	0.0	0.0	0.0	0.0
Construction	19.2	0.9	8.8	0.9	59.6	4.1	1.7	1.7	0.9	2.4
Trade, restaurants and accommodation services	7.5	0.0	6.2	0.0	1.3	68.4	3.3	1.0	4.6	7.8
Transport, storage and communication	10.8	2.9	8.3	0.0	0.0	8.3	61.4	1.4	1.4	5.4
Financial institution, real estate, leasing and services company	0.0	0.0	4.3	0.0	11.7	8.5	4.3	43.6	11.7	16.0
Services community, social and individual	5.0	0.0	1.4	0.0	2.0	3.9	3.4	3.0	75.8	5.4
Unemployed / out of labor force	10.3	0.0	3.5	0.2	0.4	6.0	0.9	0.4	3.5	74.9
Sector	Philippines, 2006 to 2009									
Agriculture, forestry and fishing	77.9	0.3	2.0	0.0	2.8	2.9	1.7	0.3	2.7	9.4
Mining and quarrying	22.4	65.3	0.0	0.0	4.1	0.0	0.0	4.1	4.1	0.0
Manufacturing	10.3	0.0	57.4	0.0	5.5	9.6	1.7	1.1	3.1	11.4
Electricity, gas and water	0.0	5.4	5.4	56.8	5.4	0.0	0.0	5.4	16.2	5.4
Construction	13.4	0.9	3.7	0.9	56.9	5.0	4.4	0.6	5.0	9.2
Trade, restaurants and accommodation services	8.9	0.0	3.4	0.5	2.3	59.5	3.2	2.7	5.0	14.3
Transport, storage and communication	8.9	0.3	1.6	0.0	2.4	5.8	67.7	1.3	4.4	7.5
Financial institution, real estate, leasing and services company	3.8	0.0	3.8	0.0	2.5	7.6	3.8	53.2	10.1	15.2
Services community, social and individual	7.4	0.5	1.0	0.5	2.2	4.8	2.6	2.3	67.7	10.9
Unemployed / out of labor force	11.0	0.0	2.5	0.2	3.4	8.2	2.7	1.7	5.7	64.7

Source: Hollweg 2016 based on data from country-level household surveys

D. Appendix D: Country-level simulation results

a. Baseline: effects of enhanced trade integration with no change in labor mobility costs

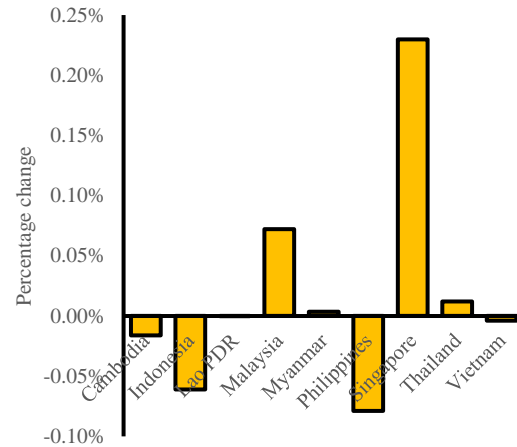
Figure 3: Change in employment rate in ASEAN following enhanced trade integration



Source: World Bank simulations based on Hollweg (2016).

Note: Positive numbers indicate higher employment rates following enhanced trade integration.

Figure 4: Change in employment rate within countries following enhanced trade integration



Source: World Bank simulations based on Hollweg (2016).

Note: Positive numbers indicate higher employment rates following enhanced trade integration.

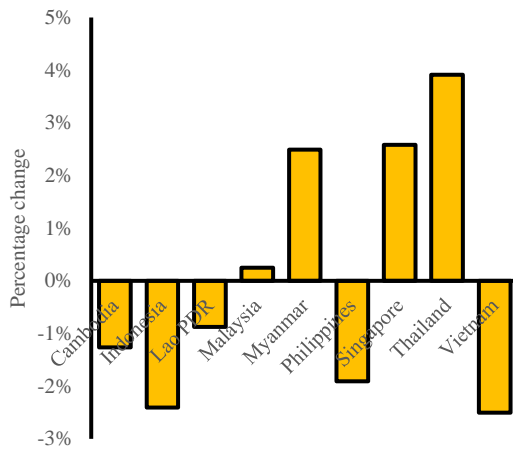
Figure 5: Change in skilled and unskilled employment share within countries following enhanced trade integration



Source: World Bank simulations based on Hollweg (2016).

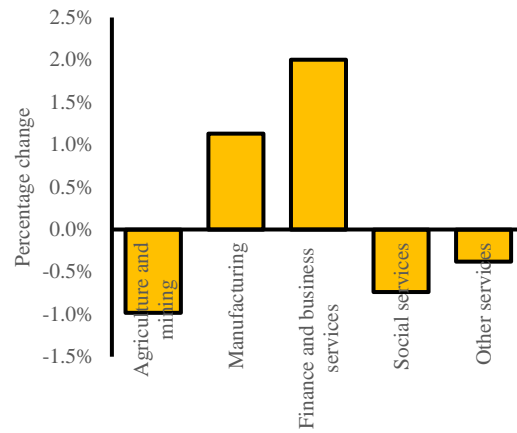
Note: Positive numbers indicate higher employment rates following enhanced trade integration.

Figure 6: Change in employment share across countries following enhanced trade integration



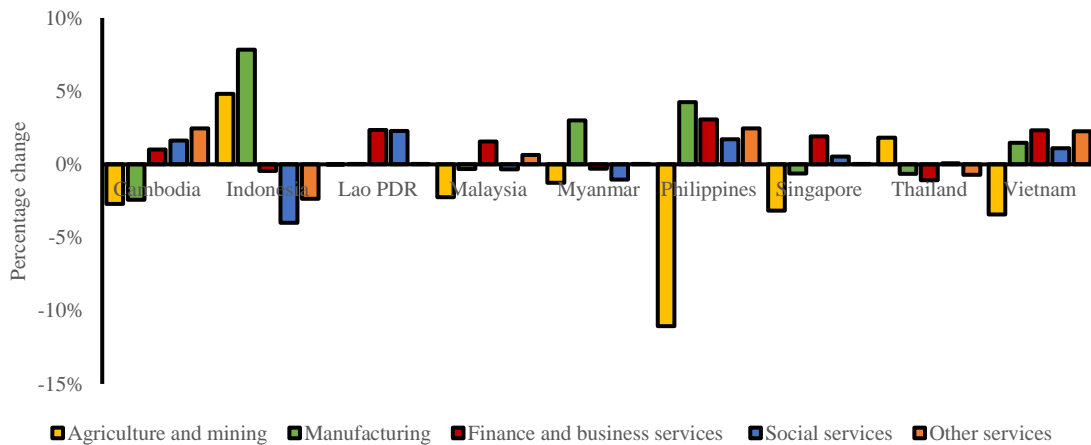
Source: World Bank simulations based on Hollweg (2016).
 Note: Positive numbers indicate higher employment rates following enhanced trade integration.

Figure 7: Change in employment share across sectors following enhanced trade integration



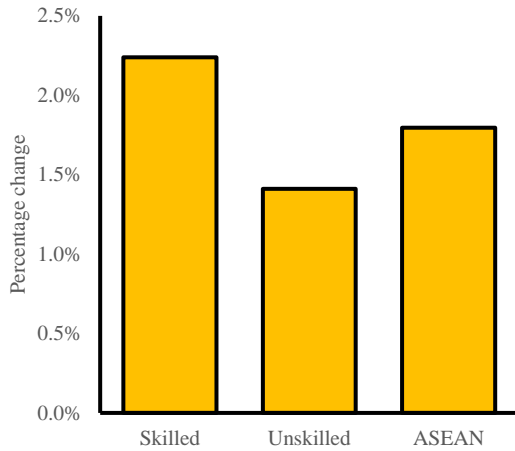
Source: World Bank simulations based on Hollweg (2016).
 Note: Positive numbers indicate higher employment rates following enhanced trade integration.

Figure 8: Change in sectoral employment share within countries following enhanced trade integration



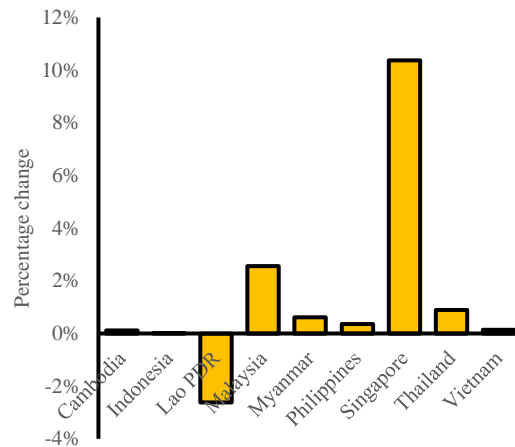
Source: World Bank simulations based on Hollweg (2016).
 Note: Positive numbers indicate higher employment rates following enhanced trade integration.

Figure 9: Real wage changes in ASEAN and across skill levels following enhanced trade integration



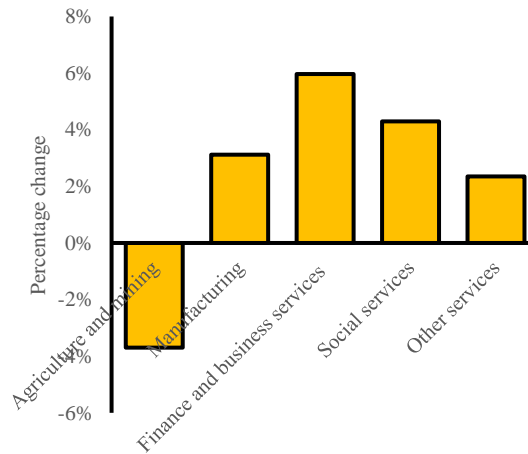
Source: World Bank simulations based on Hollweg (2016).
 Note: Positive numbers indicate higher real wages following enhanced trade integration.

Figure 10: Real wage changes across countries following enhanced trade integration



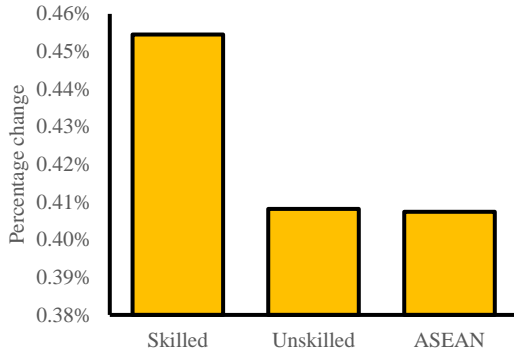
Source: World Bank simulations based on Hollweg (2016).
 Note: Positive numbers indicate higher real wages following enhanced trade integration.

Figure 11: Real wage changes across sectors following enhanced trade integration



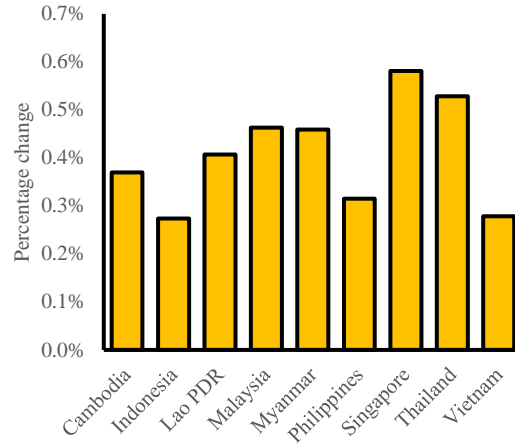
Source: World Bank simulations based on Hollweg (2016).
 Note: Positive numbers indicate higher real wages following enhanced trade integration.

Figure 12: Welfare changes in ASEAN and across skill levels following enhanced trade integration



Source: World Bank simulations based on Hollweg (2016).
 Note: Positive numbers indicate higher welfare following enhanced trade integration.

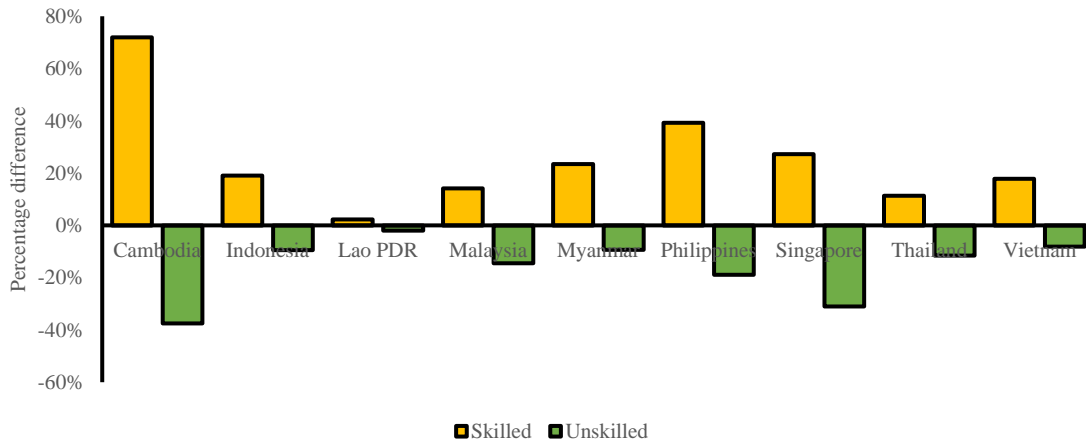
Figure 13: Welfare changes across countries following enhanced trade integration



Source: World Bank simulations based on Hollweg (2016).
 Note: Positive numbers indicate higher welfare following enhanced trade integration.

b. Scenario I: Policy measures facilitate a reduction in labor mobility costs for skilled service workers

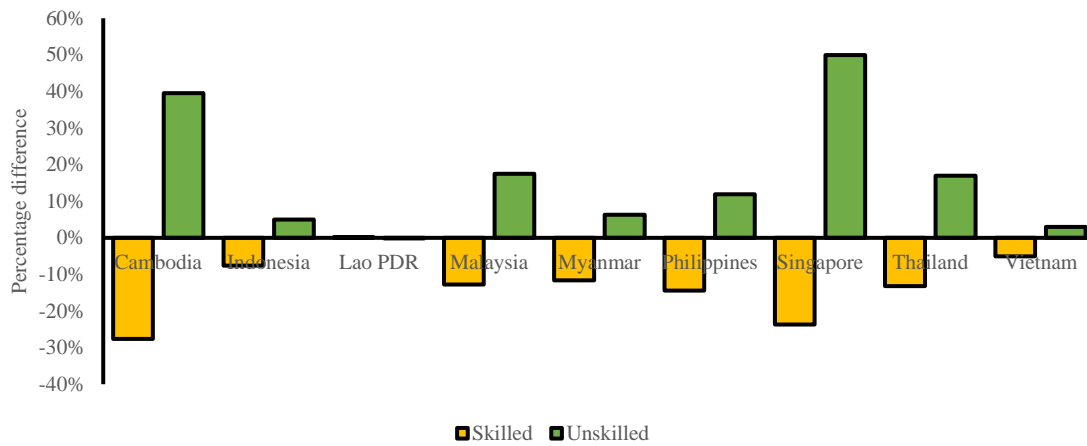
Figure 14: Difference in skilled and unskilled employment share within countries between Scenario I and baseline



Source: World Bank simulations based on Hollweg (2016).
 Note: Positive numbers indicate higher employment shares under Scenario I than baseline.

c. **Scenario II: Policy measures to facilitate a reduction in labor mobility costs for all workers**

Figure 15: Difference in skilled and unskilled employment share within countries between Scenario II and Scenario I



Source: World Bank simulations based on Hollweg (2016).

Note: Positive numbers indicate higher employment shares under Scenario II than under Scenario I.