Labor Migration Out of Agriculture in Today's World

Jingbei Hu

Abstract: The world is witnessing a massive migration of labor forces from agriculture into nonagricultural activity. The absolute number of agricultural labor forces dropped from 970 million to 870 million between 1991 and 2020 while the agricultural employment share (AES) from 43% to 27% during this period of 30 years. Just around the year 2000, quantity of agricultural labor forces reached its maximum and began to decrease absolutely and AES reached the mark of 40%. Assuming AES were 80% around the year 1700 when the modern labor migration out of agriculture would start and 0% when the migration end, it was around the year 2000 when humans managed to reduce AES to 40% after 300 years of arduous efforts. Human beings finally completed half of the road of the migration as they entered the third millennium. We show that the current speed of the migration should be the highest in history. Take the difference in AES between two time points as the speed of decrease in AES. It was more than 15 percentage points of AES decrease during the 30 years from 1991 to 2020 while AES fell by 40 percentage points between 1700 and 2000, an average of 4% per 30 years. Therefore, the speed of the migration in the last three decades is almost four times that of the past three hundred years on average. Moreover, the current labor migration should be the widest in the spatial dimension in the history of mankind, which will be demonstrated with data from country groups and individual countries all over the globe on labor migration out of agriculture.

Keywords: Labor migration out of agriculture, Transfer of agricultural labor into nonagriculture, Agricultural labor outmigration, Labor migration out of agriculture from 1991, Agricultural Employment Share, Change in agricultural employment share

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Labor Migration Out of Agriculture in Today's World [1]

1.1 Current Labor Migration Out of Agriculture in the World

One of the most striking features of the present era in which we live is that most humans get sufficient food while only a minority works producing it. This is a wholly new feature in more than two million years of human history. In the case of China, the world's most populous country, only forty years ago most Chinese were still engaging in agriculture but going to bed hungrily. There were urbanites fortunate enough not to have to toil in the fields daily. However, they had to go to the countryside to "support agriculture" during the busy farming seasons: helping them harvest mature crops and plant the next ones. All of these were so usual forty years ago that that almost no one in China questioned them. Nevertheless, for young people today, they are an unimaginable nightmare. Indeed, the most profound change that has taken place around us is that mankind has been freed from hunger at the same time when most people do not have to produce food. Prior to this change, the majority of humanity were farmers, and most, if not all, human labor was used in food-producing agriculture. The abundance of food meant that lots of labor forces could shift to the production of useful non-food items, i.e., from agriculture to non-agricultural activities. The subject of this book is agricultural labor migration, i.e., the occupational shift of labor forces from agriculture to non-agriculture. Migration of this kind is a prominent phenomenon of economic and social changes in the world today. Whether one travels to rich or poor countries, to cities or villages, one can find workers who have freshly moved out of agriculture into industry and services and joined the market economy. One of the most important signs of the rapid growth of the world economy and economic globalization in the last thirty years or so is the immediate combination of the two factors of production, labor migrated out of agriculture and capital, on the world stage. The labor migration from agriculture occurs within each country, which extends to the worldwide migration of labor forces. Thus, an important prerequisite for understanding the present era in general and the world economy, in particular, is to understand the migration of agricultural labor.

Economists often refer to the world economic growth that began during the eighteenth century as "modern economic growth" and consider agricultural labor migration one of its key characteristics. However, for most of the last three centuries, the migration was not a worldwide phenomenon: it took place only in parts of the world. For example, the migration occurred in a few Western European countries such as England and the Netherlands in the eighteenth century, expanded to other Western European countries and North America in the nineteenth century. In the first decade of the twentieth century, trains from the US South to the North were often filled with Southern farmers moving to the non-farm sector in New England. However, most of the world was not even informed of this. Although the two world wars in the first half of the twentieth century gave a major boost to the outmigration of agricultural labor, it was largely confined to Europe and the United States. After the Second World War, a lot of the East Asian and Middle Eastern countries witnessed large-scale agricultural labor migration. But it still did not become a worldwide phenomenon. In the same period, a few countries still tried to reverse the trend of the outmigration

[1] Parts of the contents of the first three sections of this chapter were published in Jingbei Hu, 2018, World Labor Migration Out of Agriculture at the present and Deagriculturalization Transition in the Big History, *Academic Monthly* (Shanghai, China), vol. 50, No. 1, pp. 85-95.

of agricultural labor. Even in the 1960s and 1970s in the second half of the twentieth century, the governments of China and Cambodia forced their urban populations, including workforces, to relocate to the countryside on a very large scale. [2] Nevertheless, from the 1990s onward, agricultural labor migration suddenly went from an unnoticed local phenomenon to a global tidal wave that swept the world. Mankind suddenly found itself amid a great wave of population migration with agricultural labor migration at the core. Whether in populous countries like China and India or sparsely populated ones in West Africa and Central Asia, in developed Western Europe and North America, or in the underdeveloped sub-Saharan region, agricultural labor migration can be found everywhere in the world.

Let's demonstrate this phenomenal wave with data. The International Labor Organization (ILO) has compiled and published statistics on the world labor forces including the agricultural ones. We utilize them from 1991 to produce Fig. 1.1 with two indicators of agricultural employment (AE) and agricultural employment share (AES). [3] The latter refers to the share of agricultural labor in the total amount of employment. [4] The height of the bars in Fig. 1.1 indicates the absolute quantity of AE while the curve represents AES. The curve shows the strongly diminishing trend of AES for the whole period since 1991. The world AES was 43% in 1991, decreased to 41% in 2000 and further to 33% in 2010, and dropped to as low as slightly above 27% in 2020. Since the world has not experienced any large-scale natural and social catastrophes leading to reductions in the agricultural labor forces in the last three decades, the decrease in ASE should only suggest a mass migration of the agricultural labor forces to the nonfarm sector in the context of continued growth in global population and employment.[5]

[2] The author of this book was among the tens of millions of Chinese urbanites who were relocated to rural areas by the government in the 1960s. The areas where I moved out and in were the City of Nanjing and Baohua People's Commune, Jurong County (now known as Baohua Township, City of Jurong), both in Jiangsu Province, respectively. I lived as an agricultural laborer in the latter location for nearly nine years.

[3] We begin with 1991 in Fig. 1.1 because there are extremely big irregularities in China's labor statistics for the year 1990. Usually, China grew its total labor force (L), employment (E), and AE at around 3%, 3%, and 1% yearly before 1990, but all at around 17% in 1990. We demonstrate the absurdity of the 1990 growth rates in Sec. 3.5 of Chap. 3. It seems that China's 1990 census, with substantial helps from the World Bank, is the first one with standards largely similar to that of both the World Bank and the ILO. Since then, China's labor statistics seem plausible. Around 1990, China's share in the world's total labor, employment, and AE may be around 27%, 29%, and 40%. Hence, China's very big irregularities in 1990 should make the world statistics of that year implausible. See Dada Appendix 1 and 2. ---- added to English translation.

[4] For the strict definitions of AE and AES, see Sec. 2.3 of Chap. 2.

[5] Fig. 1.1 and other charts and tables of the world and regional data in this chapter serve only to suggest long-term trends in agricultural labor migration, not the actual state of annual changes. The ILO released nine versions of world labor statistics through 2016, each with substantial revisions to the data released in the previous version. After 2016 it publishes its labor statistics primarily on its website. Also, they are often revised and updated. Of particular note is that the data of most recent years are dominated by estimates and projections. Therefore, the ILO data utilized in this book are very likely to be revised in the coming years. The reader of the world and regional data in this chapter and this book is encouraged to focus on the trends they may show and to pay close attention to the latest revision of such data. See the ILO's statistical information website: ILO, 2021, https://ilostat.ilo.org; ILO, 1999-2016. Key Indicators of the Labor Market, 1st to 9th ed.

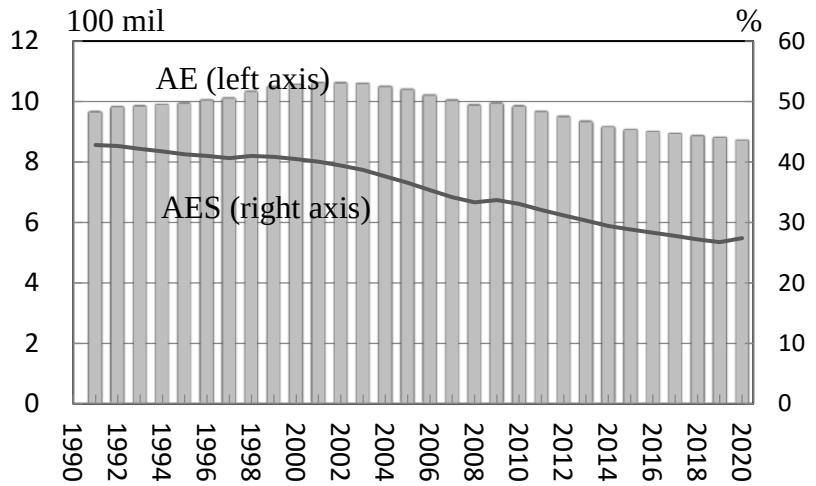

Fig. 1.1 World Agricultural Employment and Agricultural Employment Share 1991-2020

Source: Data Appendix 1.

If the decrease in AES is indicative of a relative reduction in total AE, then the ultimate sign of agricultural labor migration is the absolute reduction in AE. It is during the recent period since the 1990s that the world's AE began to diminish in absolute terms. As the bars in Fig. 1.1 show, the world AE reached an all-time high of 1,064 million in 2001. [6] From 2002 on, it decreased absolutely, and by 2020, the year with the latest data, it has dropped to 870 million, 190 million less than the peak in 2001, and more than 90 million less than in 1991, the beginning year of Fig.1.1.[7] The absolute decrease in AE unambiguously confirms the outmigration of agricultural labor.

In terms of the absolute quantity of AE, mankind finally reached a new stage of its reduction, a landmark achievement humans made on the path of deagriculturalization. Looking at the relative indicator, we assume both that the world AES was 80% around 1700 when modern economic growth and agricultural labor migration might begin, and that AES would tend to zero when the migration ends at some time point in the future, then its decrease to 40% around 2000 could imply that mankind has finally completed the half of the agricultural labor migration after three hundred

[6] Before 2001, AE slowly increased from 970 million in 1991 to the 2001 level, with an average annual growth rate of less than 1% during that period. Compared to the average annual growth rate of total world employment of over 1.6% over the same period, most of the natural additions to the agricultural labor force each year must have shifted out of agriculture and AE must have been in relative decrease. In fact, despite the slow and steady increase in total AE from 1991 to 2001, the AES still decreased from 42.8% in 1991 to 40.1% in 2001. See Data Appendix 1 of this book.

[7] In the 8th edition of the ILO's Key Indicators of the Labor Market, published in 2014, the maximum number of the world AE was one billion and seventy million, and appeared in 2003; however, in the 9th edition, published in 2016, the maximum number was revised to one billion and sixty million in 2001. See ILO, 2014; 2016, and see Data Appendix 1.

years of hard work.[8] [9] Although the accuracy of the available data is questionable and we may never be able to obtain accurate data on the migration in the last thirty years, we could still conclude that, as mankind entered the third millennium AD, the absolute amount of human labor devoted to agriculture peaked and began to decrease while the relative share of human labor devoted to agriculture dropped to about half of the height at the beginning when humans started labor migration out of agriculture.[10]

The world agricultural labor migration not only crossed a historic milestone in the last three decades but also should reach the fastest level ever in terms of migration rate. Here, we use changes in AES to measure the speed of the migration. It is doubtless that the trend of absolute decrease in AE starting in 2002 has accelerated the speed of decrease in AES so that over the nearly two decades from 2001 to 2020, the world AES dropped by nearly 13 percentage points. But even for the entire period from 1991 to 2020, the speed of the migration should be the highest ever achieved since its beginning. The world AES decreases to 27% in 2020, a reduction of more than 15 percentage points compared to 1991. The incredible rapidity of this period could be highlighted by imagining history. In Table 1.1 below, we imagine two starting points for the migration, i.e., 1700 and 1800. [11] Suppose that the task of humans for agricultural labor migration is to reduce AES from 80% to near zero. We know the reduction of 15.4 percentage points during the period of twenty-nine years between 1991-2020. Let us conservatively assume that AES reduced by 15 percentage points for the thirty years from 1990 to 2020. At this rate, it would take only five to six "thirty years", or about 160 years, for humanity to complete the task of transferring the entire agricultural labor into nonagriculture. However, historical facts show a fully different picture: If human beings started to transfer agricultural labor in 1700, the world AES only fell to 40% in 2000 after three hundred years. The total reduction in the three centuries was only 40 percentage points, or an average of 4 percentage points every "thirty years". But the recent thirty years, starting in

[8] The world AES around the year 2000 were 1999: 40.9%; 2000: 40.5%; 2001: 40.1% and 2002: 39.4%, respectively. As shown in Fig. 1.1, the share shows a significantly decreasing trend after 2000 and continues until 2020, the year of the latest data. Therefore, although the accuracy of the statistics around 2000 is questionable, our statement that "the world AES reaches 40% around 2000" should be valid to a considerable extent. See Data Appendix 1.

[9] If we take the total labor force as the denominator and AE as the numerator, we get the agricultural labor share (ALS). It was 40.2% and 39.6% in 1992 and 1993, respectively, and 37.9% in 2000 according to data in the 9th edition of the Key Indicators of the Labor Market published by the ILO in 2016. The difference between ALS and AES is whether the denominator includes unemployment. Assuming that there was no unemployment in the modern sense in the agricultural society before the agricultural labor migration, the ALS and AES were equal at the historical starting point of the migration. Therefore, we can also say, generally and imprecisely, that if we take the year 1700 as the starting point, ALS also decreased by half by the turn of the twentieth and twenty-first centuries. For the data, see Data Appendix 1. For an economic history study of the origins of modern unemployment, see Keyssar, 1986.

[10] Fig. 1.1 also shows that the world financial and economic crisis in 2008 failed to stem the tide of agricultural labor migration in the last three decades. In Fig. 1.1, both the absolute number and relative share of AE rebounded only in 2009 and then resumed the long-term strong downward trend.

[11] There is a consensus in the circles of historians, especially economic historians, that the Industrial Revolution or modern economic growth began between 1700 and 1800 AD, i.e., within the eighteenth century AD. Speaking more precisely, the Industrial Revolution should begin no earlier than the middle of the eighteenth century. For example, after studying a large amount of historical data, Mitchel points out that the Industrial Revolution in England began no earlier than the mid-eighteenth century and takes 1750 as the starting year for his edited historical data, see Mitchel, 2003, p. VII. However, agricultural labor migration studied in this book may begin earlier than the Industrial Revolution. And for chronological convenience, we assume the year 1700 as the historical starting point for the migration.

1990, witnessed a reduction of 15 percentage points! In other words, the world transferred agricultural labor nearly four times faster since 1990 than the average rate of 1700-2000! To be more conservative, assuming human beings started to transfer agricultural labor in 1800, human beings reduced AES by 40 percentage points in 200 years, or by 6 percentage points every "thirty years", the rate of AES reduction since 1990 is also two and a half times of the average rate in 1800-2000 according to Table 1.1. Thus, the data comparison in Table 1.1 reveals the high rate of decrease in AES over the last three decades. In this regard, despite the lack of a series of historical data on the rate of agricultural labor migration in the last two to three centuries, and the inaccurate information on agricultural labor migration in the last thirty years, we could still estimate, to a fairly high degree, that the last thirty years since 1991 should be the fastest period of agricultural labor migration in human history so far.[12]

Tab. 1.1 Comparisons of Supposed Speed of Agricultural Labor Migration 1700, 1800 and 2020

Percentage point

	1700-2000	1800-2000	1991-2020
Number of years	300	200	29
Total reduction in AES	40	40	15.4
Average reduction per 30 years	4.0	6.0	>15
Average reduction p.a.	0.13	0.20	0.53

1.2 Labor Migration Out of Agriculture by Countries or Groups of Countries

The last three decades witnessed the world agricultural labor migration which is probably not only the fastest in the temporal dimension but also the widest in the spatial dimension in the history of mankind. The ILO once divided the countries of the world into nine groups according to both the level of economic development and geographical location and provided labor statistics for them. We compare AE with the total labor force and refer to their ratio as the agricultural labor share, or in short, ALS. Using it, we compile the ILO statistics in Fig. 1.2. It shows that, regardless of the level of economic development, geographical location, quantity of AE at the beginning of

[12] It is worth noting that the dissolution of the former Soviet Union also occurred in 1991. Of course, there may not be any direct links between the starting year of 1991 in the ILO world data and the breakup of the former Soviet Union. However, there should be some historical eventual and economic theoretical connections between the collapse of the former Soviet Union and the massive wave of agricultural labor migration of recent thirty years. E. Hobsbawm defended the former Soviet system after its failure with the new argument that the system facilitated agricultural labor migration if it is considered a historical trend. However, he did not present materials to prove his point. Although we lack data before 1991, the data cited here for agricultural labor migration after 1991 at least suggest that the collapse of the former Soviet system was followed by one of the most rapid migrations of labor out of agriculture in the last three hundred years. The author of this book once argued that it was the collapse of the former Soviet system that opened the floodgates for a worldwide wave of agricultural labor migration since the collapse allowed capital and agricultural labor to combine on a worldwide scale, thus making the massive worldwide migration of agricultural labor forces possible. See Hobsbawm, 1994, p. 9; Jingbei, Hu, 2008b.

the period reviewed, or even the difference in social systems, ALS decreased significantly in all nine country groups from 1991 to 2013. Hence, agricultural labor migration occurred within all these groups and became a universal phenomenon worldwide. Because we lack reliable and comprehensive data on agricultural labor migration for the whole world and different regions before 1991, and because the reliability of the ILO's world statistics does not reach a rather high level, we cannot arbitrarily claim that humans did not experience agricultural labor migration that occurred simultaneously worldwide before 1991. However, based on our general knowledge of the history of world economic growth in the last three hundred years, it should be reasonable to estimate that the world agricultural labor migration since 1991 also be the first such widespread phenomenon experienced by mankind in the last three hundred years.

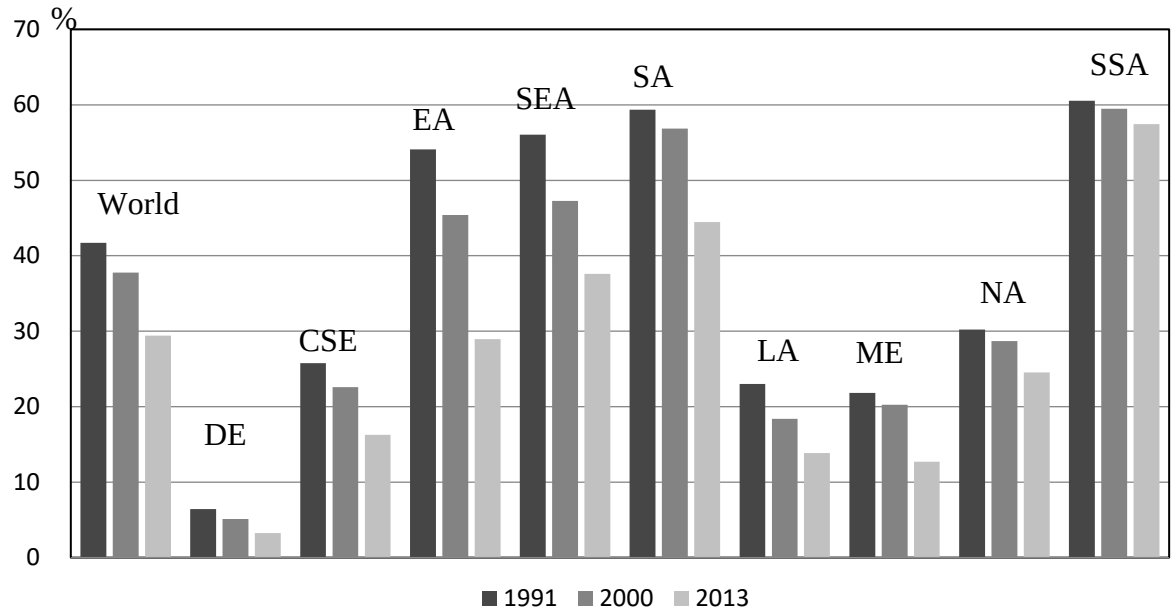

Fig. 1.2 Agricultural Labor Migration, the World and Nine Groups of Countries 1991, 2000 and 2013

Note: Vertical axis indicator is ALS. The full names of the nine country groups are "developed economies and EU countries (DE in this figure)", "non-EU Central and Southern European and CIS countries (CSE)", "East Asia (EA)", "Southeast Asian and Pacific countries (SEA)", "South Asia (SA)", "Latin American and Caribbean countries (LA)", "Middle East (ME)", "North Africa (NA)" and "Sub-Saharan countries (SSA)". See sources for the composition of each group of countries. [13]

Source: Data: ILO, 2014, Key Indicators of the Labor Markets, 8th ed., ILO, Geneva, Switzerland, Table R4 and R5. Country groupings: ILO, 2015, World Employment and Social Outlook: Trend 2015, ILO, Geneva, Switzerland, p. 95.

[13] The ILO regrouped the countries in the ninth edition of its Key Indicators of the Labor Market, published in 2016, and subsequent labor statistics. However, such regrouping does not affect the widespread occurrence of the world agricultural labor migration that we show in Fig. 1.2. For the reclassified country groups, see e.g. ILO, 2016. For the latest ILO country groupings, see ILO, 2021a, Appendix A: Country Groupings by Region and Income Level, p. 117.

The rapid agricultural labor migration on a world scale is the result of the rapidity of such migrations in most countries of the world. We look at Fig. 1.2 again. Among the nine country groups the East Asian group, which includes China, stands out astonishingly. In 1991 and 2000, the ALS of this group was 54% and 45% respectively, both significantly higher than the world average. However, by 2013, its ALS has dropped to 29%, even slightly lower than the world level. In the twenty-two years from 1991 to 2013, East Asian countries reduced their ALS by 25 percentage points, doubling the amount of the world's reduction. If the migration of agricultural labor is regarded as a race of competition, the East Asian group came out on the top in this twenty-two-year competition. The achievements of both Southeast Asia and South Asia groups are also outstanding, with a reduction of 18 and 15 percentage points respectively in 22 years. The three groups of East Asia, Southeast Asia, and South Asia include the countries with the largest stock of agricultural labor force in the world. Therefore, the rate of reduction in their ALS has the greatest impact on that of the world ALS. In this sense, we could say that it is the rapid agricultural labor migration in these large agricultural countries that has driven the rapid decrease in ALS for the whole world.

With these three regions as the center, the rate of reduction in ALS gradually slows down in the process of spreading outward. The rate decreases to 3 percentage points in twenty-two years in both groups of developed and sub-Saharan countries, respectively, which are geographically farthest away from the center. However, considering that ALS in the developed countries was already as low as 6% in 1991, using the amount of ALS reduction compared to the original ALS level (i.e., dividing the reduction between 1991 and 2013 by the 1991 level), the rate of agricultural labor migration in this group in these twenty-two years is even as high as the second highest, just after the East Asian group. The world's poorest country group of sub-Saharan countries has also achieved a reduction of 3 percentage points in the period. We confidently expect that if the current trend of rapid global deagriculturalization continues, the sub-Saharan countries will significantly increase the rate of reduction in ALS soon.

We further demonstrate the agricultural labor migration in individual countries all over the world. The National Bureau of Statistics of China has attached statistics of AES for a few dozen countries in the "China Statistical Yearbook" published annually. [14] We select the data of AES of each country for a total of four years 1991, 2000, 2010, and 2019 and compile them into Table 1.2. The table includes 38 countries. [15] At the same time, we calculate differences in AES between the first three years and 2019 for the selected countries, as shown in the three columns to the right of Table 1.2.

[14] Both the number of countries and specific countries selected in the China Statistical Yearbooks, tables of the employment structure of countries, change frequently. Table 1.2 uses the most recent yearbooks as the criterion for selecting the total number of countries and specific countries. It then adds two more criteria, namely that a country has data appearing in the yearbooks for at least two of the four years 1991 (or 1990), 2000, 2010, and 2019, and that city countries are excluded. The only exception is Romania. The China Statistical Yearbook selected data for Romania for only two years 1991 and 2000, which cannot be compared with the 2019 data in Table 1.2. In addition, the data for those two years are 29.8% and 42.8%, respectively, which are hardly credible, so Romania is not selected in Table 1.2. For data on Romania, see China Statistical Yearbook-1994, Appendix Tables 4-6; China Statistical Yearbook-2009, Appendix Tables 2-2.

[15] Data published in the China Statistical Yearbooks of different years for the same data year and same country often differ. We selected data for four years 1991 (or 1990), 2000, 2010, and 2019 from the more recently published China Statistical Yearbook.

Table 1.2 Agricultural Labor Migration, Selected Countries, 1991-2019

Country	AES				Reduction in AES		
	1991	2000	2010	2019	1991-2019	2000-2019	2010-2019
	%				Percentage Point		
China	60.0	50.0	36.7	25.4	34.6	24.6	11.3
Bangladesh		62.1		38.6		23.5	
Cambodia			54.2	32.3			21.9
India			51.1	42.4			8.7
Indonesia	55.9①	45.1	38.3	28.6	27.3	16.5	9.7
Iran			21. 2⑤	17.9			3.3
Israel		2.2	1.7⑥	0.9		1.3	0.8
Japan	6.7	5.1	3.7	3.4	3.3	1.7	0.3
Kazakhstan		35.5④	28.3	15.8		19.7	12.5
South Korea	16.7	10.6	6.6	4.9	11.8	5.7	1.7
Malaysia	26.0①	18.4	13.3	10.4	15.6	8.0	2.9
Mongolia		48.6	40.0⑥	27.4		21.2	12.6
Pakistan	47.4	48.4	44.7	36.7	10.7	11.7	8.0
Philippines	45.2①	37.4	33.2	23.4	21.8	14.0	9.8
Sri Lanka		24.2④	32.7⑤	24.5		-0.3	8.2
Thailand	64.0①	48.8	38.2	31.6	32.4	17.2	6.6
Vietnam		65.3		37.4		27.9	
Egypt		29.6	28.2	23.8		5.8	4.4
South Africa		14.5	4.9	5.1		9.4	-0.2
Canada	4.5	3.3	2.4⑤	1.5	3.0	1.8	0.9
Mexico		17.6	13.1	12.6		5.0	0.5
USA	2.9	2.6	1.6	1.3	1.6	1.3	0.3
Argentina		0.7	1.3	0.1		0.6	1.2
Brazil	22.8①	20.6④	17.0⑥	9.2	13.6	11.4	7.8
Venezuela		10.2	8.7	8.3		1.9	0.4
Czechia ②	9.9	5.1	3.1	2.7	7.2	2.4	0.4
Germany	3.5	2.7	1.6	1.2	2.3	1.5	0.4
France	5.7		2.9	2.4	3.3		0.5
Italy	8.4	5.3	3.8	3.7	4.7	1.6	0.1
Holland		3.1	2.8	2.0		1.1	0.8
Poland	26.7	18.8	12.8⑥	9.2	17.5	9.6	3.6
Russia ③	18.2①	14.5	9.7	5.8	12.4	8.7	3.9
Spain		6.6	4.3	4.1		2.5	0.2
Türkiye		36.0	23.7	18.4		17.6	5.3
Ukraine		23.4	15.8⑤	14.5		8.9	1.3
UK	2.1	1.5	1.2	1.0	1.1	0.5	0.2
Australia	5.5	5.0	3.3⑥	2.6	2.9	2.4	0.7
New Zealand		8.7	6.6⑥	5.7		3.0	0.9

Note 1: ① 1990 data. ② 1991 data for former Czechoslovakia. ③ 1990 data for the former Soviet Union. ④ 2001 data. ⑤ 2008 data. ⑥ 2009 data.
Note 2: Decreases in AES are the differences between AES in the first and last year of the period.
Note 3: The order of countries is based on China Statistical Yearbook-2021, Appendix Table 1-2.
Source: 1991 data: China Statistical Yearbook-1993, Appendix Table 4-6; China Statistical Yearbook-1994, Appendix Table 4-6. 2000 data: China Statistical Yearbook-2009, Appendix Table 2-2. 2010 data: China Statistical Yearbook-2013, Appendix Table 2-2; China Statistical Yearbook-2014, Appendix Table 2-2. 2019 data: China Statistical Yearbook-2021, Appendix Table 1-2. If data from the yearbooks of different years differ, the data of the latest yearbook prevail. In addition, all the above tables in the China Statistical Yearbooks indicate that the source of the data is the World Bank database.

First, we look at the midpoint of the historical process of agricultural labor migration when it is assumed at 40% of AES. Although the world as a whole has already passed the historical midpoint around 2000, many countries, especially many Asian countries with a large stock of agricultural labor force, have not yet reached or are even far from it. As seen from the data in the first four columns of Table 1.2, among 19 countries in 1991, 14 crossed the midpoint and the other 5 that have not yet reached it were all in Asia, especially in East, South, and Southeast Asia. Of the 34 countries in 2000, 27 had crossed the midpoint, and the remaining 7 countries that lagged were still all in Asia. In 2010, a total of 33 of the 36 countries, including Mongolia, crossed or reached the midpoint, with only three Southeast and South Asian countries - Cambodia, India, and Pakistan - still failing behind the midpoint. In 2019, the year of the latest data available, only one of the 38 countries, India, failed a little from the midpoint, while all other countries crossed it. These data suggest that over the last three decades, many Asian countries that previously had high AES and concentrated the world's most agricultural population have been scrambling to shift their agricultural labor force, rapidly reducing their AES, and moving past, or at least approaching the historical midpoint of agricultural labor migration in their respective countries. This phenomenon is not only fully consistent with the rapid agricultural labor migration profile of the East, Southeast, and South Asian country groups during 1991-2013 as demonstrated earlier in Fig. 1.2, but extends this profile to 2019.

Second, Table 1.2 points out that the vast majority of the non-Asian countries selected for Table 1.2 reduced their AES to below 20 percent as early as around 1991. Western European and North American countries, as well as Japan and Australia, had already reduced the ratio to below 10 percent or even 5 percent by then. This shows that before the massive wave of agricultural labor migration in today's world was launched, the world's migration of such kind mainly occurred in Europe and America. After 1991, although these countries continued to transfer labor out of agriculture, they were no longer able to offer the main body of the world's agricultural labor migration because their AES was already very low and their total stock of agricultural labor forces was small. The main body of migrated agriculture labor forces must be ones from Asian countries.

Indeed, from the data in the right three columns of Table 1.2, Asian countries played a decisive role in the world's agricultural labor migration during the period concerned. All four countries. namely China, Thailand, Indonesia, and the Philippines, which have reduced their AES by more than 20 percentage points during 1991-2019 are Asian. China and Thailand even achieved the miracle of an average reduction of 1 percentage point per year. Looking at the decadal phasing. Since Table 1.2 only presents data for the decadal phasing in the column 2010-2019, we discuss

the data in that column briefly. Over this effectively nine-year period, Mongolia, Kazakhstan, and China are the top three players in the agricultural labor migration race, all experiencing decreases in AES of more than 10 percentage points. The Philippines, Indonesia, India, Sri Lanka, and Pakistan had decreases of more than or up to 8 percentage points. Beyond this phase, Bangladesh reduced its AES by nearly 24 percentage points over the nineteen years 2000-2009, the average annual reduction being significantly more than 1 percentage point, the benchmark which can be taken as an exceptionally high rate of reduction. It is known that China, India, Indonesia, Pakistan, and Bangladesh were the five countries with the highest concentration of agricultural employment and the largest number of agricultural workers in the world thirty years ago, the amount of agricultural labor forces that they need to transfer to reduce their AES by 1 percentage point is far over the same amount of 1 percentage point reduction in AES in other countries, we will be able to imagine how spectacular the wave of agricultural labor migration in the last thirty years has been!

Third, almost all countries included in Table 1.2 reduced AES and achieved a shift of agricultural labor to the nonfarm sector in all three sub-phases of 1991-2019, 2000-2019, and 2010-2019. Only Sri Lanka and South Africa, in the periods 2000-2010 and 2010-2019, respectively, saw a reverse increase in AES and a rebound in the number of agricultural laborers. At a micro level, the migration of labor between the agricultural and nonagricultural sectors is inherently bidirectional: some people go from agricultural to nonagricultural employment, while others move conversely. The migration of labor out of agriculture discussed in this chapter refers to the general trend of labor migration from agriculture to non-agriculture at the macro level. It does not exclude that a country, a group of countries, or even the whole world briefly experience more labor transferred from nonagriculture into agriculture, or "backflows". As long as the backflows are not very large in scope and magnitude, they should be considered normal fluctuations in the general trend. These fluctuations show that although the outmigration of the world's agricultural labor force in the last three decades seems to be unstoppable, it is not an easy task for any individual country to achieve it.

Of course, the number of countries with employment statistics published in the China Statistical Yearbooks is limited. Based on it, the number of countries selected for Table 1.2 must be more limited. The inclusion of only four special years for Table 1.2 further reduces the number of countries selected. For example, Table 1.2 includes too few African countries. Only two of the more than fifty African countries are present in it. They are Egypt and South Africa, neither of which is typical of African countries in terms of agricultural labor migration. No countries of the "sub-Saharan group" of the previous nine country groups are represented in Table 1.2. But African countries have also experienced an unprecedentedly large agricultural labor migration in the last three, especially in the last decade. Take Nigeria, the most populous country in Africa, as an example. Its AES fell from 58.3% in 2005 to 35.1% in 2019 according to the China Statistical Yearbook,[16] a reduction of 14.2 percentage points in fourteen years, exceeding the benchmark of 1 percentage point per year. In addition, Table 1.2 considers only four exceptional years and excludes other years, making it difficult to reveal a full picture of agricultural labor migration in many countries over the last three decades. For example, Cambodia's AES was 72.2% in 2008,[17] but "plummeted" to 54.2% two years later in 2010 and dropped incredibly quickly further to 32.3% in 2019 as Table 1.2 shows. The Cambodian data may contain big bias. The Cambodian political

[16] See China Statistical Yearbook-2017, Appendix Table 2-2; China Statistical Yearbook-2021, Appendix Table 1-2.

[17] See China Statistical Yearbook-2012, Appendix Table 2-2.

and economic environment may be unique as it forced most of the country's urban population to move back to the countryside in the 1970s. But in any case, the Cambodian example shows that if we consider other years not covered in Table 1.2, we will be able to learn more about the process and pace of agricultural labor migration in individual countries and around the globe.