## The Global Labor Market and the End of World Population Growth David Lam and Murray Leibbrandt Extended Abstract for IUSSP, Sept. 2024

In the last 50 years the global labor market has experienced massive demographic upheaval. The world added over 3 billion people to the working-age population between 1970 and 2020, growing from 2.1 billion to 5.1 billion. The average annual growth rate of the world's working-age population from 1970 to 2020 was 1.75%, with a maximum growth rate of 2.3% in the 1980s. Growth at this rate is historically unprecedented. Asia has been by far the largest contributor to this growth, accounting for 2 billion of the 3 billion increase. Adding 3 billion working-age people to the world, with over 70 million added per year in the 2000s, was an enormous shock to labor markets. Surprisingly, most of the countries with the most rapid growth did not experience significant increases in unemployment. Data from the International Labour Organization indicate relatively low levels of unemployment in most Asian countries in this period, in spite of the rapid growth of the working-age population.

This paper looks at demographic trends in the rest of the 21<sup>st</sup> century and their implications for global labor markets. We put a major focus on the demography of the labor force in Africa, since that is where most of the growth will occur. We put these trends in the context of the experience of other regions in order to consider the ways in which Africa's experience is and is not unique. We also look at trends for different African countries to clarify the extent of heterogeneity across the region. We use data from the 2024 revision of the United Nations' World Population Prospects, which provides estimates from 1950 to 2023 and projections from 2024 to 2100. Most of our analysis uses the UN's "Medium Variant" projections, although we discuss the sensitivity of these projections to alternative assumptions about fertility decline.

There continue to be large demographic challenges to global labor markets, but the nature of those challenges is rapidly changing. Growth of the working-age population in Asia will soon be negative, a dramatic change from the situation of just one or two decades ago. Sub-Saharan Africa, on the other hand, will experience rapid growth of its working-age population, comparable in percentage terms to Asia's growth in previous decades. Over the next 50 years, Sub-Saharan Africa's working-age population is projected to triple. By 2040 it will be the only major region with a growing working-age population.

We begin the paper with an overview of trends in the working-age population from 1950 to 2100 for the world and major regions, and look at the role of fertility in driving these trends. We then look at the changing age structure of global labor markets, showing the important shift from a "youth bulge" to an "older worker bulge." We look at the rural-urban distribution, pointing out that most of the growing labor force will be in urban areas, although Africa will continue to have a growing rural population. We discuss the demographic dividend, exploring the challenges and opportunities created by Africa's growing working-age population. Harnessing the demographic dividend requires putting the working-age population to productive work. In line with this, we move from demography to the labor market. On the labor supply side, we add to the demography by documenting the rapid increases in education in Africa, and discuss its implications for the ability to absorb millions of young people into the labor force. We then move to the demand side of the labor market, discussing the potential for job creation in Africa as the working-age population declines in other regions.

## Growth of the Working-Age Population

The rapidly changing roles of Asia and Africa in shaping the world's working-age population can be seen in Figure 1, which shows the estimated and projected working-age population for Asia, Sub-Saharan Africa, Latin America, and the Rest of the World – the sum of which is global population (the line at 2024 separates the UN estimates for 1950-2023 from the projections for 2024-2100). We follow the ILO in defining age 15-64 as the working-age population. The



working-age population of the world is projected to grow from 5.3 billion in 2025 to a peak of 6.3 billion in 2070, decreasing to 6.1 billion in 2100. The working-age population for Sub-Saharan Africa is projected to increase from 700 million in 2025 to 1.3 billion in 2050 and 2.2 billion in 2100. One of the key patterns shown in the figure is that Africa will be the only region with a

growing working-age population after 2040. In fact, Africa is the only region that is projected to have a larger working-age population in 2100 than in 2025. Africa's share of the global working-age population, which was below 10% until around 2010, will reach 20% around 2045 and almost 40% in 2100, roughly equaling the share for Asia.

We look at two measures that demonstrate the implications of these changes for global labor markets – the absolute number added to the working-age population each year and the growth rate of the working-age population. The number added to the world's working-age population grew dramatically starting in the 1960s, reaching a peak of 73 million in 2005. Most of these additions were in Asia. Asia accounted for 65% of the 68 million people added to the world's working-age population in 2000, while Sub-Saharan Africa accounted for only 14%. Additions to the world's working-age population have dropped rapidly since 2005, though the numbers are still large. In 2025, the world's working-age population will increase by 53 million people, with 28 million in Asia and 21 million in Sub-Saharan Africa. Annual additions will drop rapidly in Asia in the coming years. Sub-Saharan Africa will surpass Asia in 2028, and Asia will have zero increase in its working-age population by 2037. Sub-Saharan Africa is projected to add 21 million people to the working-age population in 2025, rising to a peak of 27 million in 2050.

The growth rate of the world's working-age population rose from 1.5% per year in the 1960s to a peak of 2.4% in 1970, falling to about 1% in 2025. Asia reached a peak growth rate of 2.8% in 1979, declining to a 2025 level of 0.9%. Sub-Saharan Africa experienced growth rates in the 1980s similar to those of Asia. The striking feature about Sub-Saharan Africa is that annual growth rates of around 3% have persisted for several decades, in contrast to the short period of time in which Asia experienced growth at that level. Despite Africa's dominance in the growth of the global working-age population going forward, growth rates projected for Africa for the coming decades are below those experienced by Asia in the 1970s and 1980s.

We translate these projections into the number of new jobs needed per month to keep up with the growth of the working-age population. For Africa, this number is 2 million jobs per month in 2020-30, rising to 2.3 million in 2040-50, falling to 2.2 million in 2050-60. For Asia, the number is 1.9 million jobs per month in 2020-30, similar to the number for Africa. But this number falls to a *decline* of 300,000 per month in 2040-50 and a decline of over 1 million per month in 2050-60. In other words, the decline in the number of working-age people each month in Asia in 2050-60 is roughly half the number of people being added per month in Africa. A critical question, then, is whether jobs being freed up in Asia can be turned into jobs in Africa.

In the paper we document the considerable heterogeneity across Africa in the demography of the working-age population. The decadal growth of the working-age population for 2020-30 ranges from a high of 47% in Niger to a low of 13% in South Africa. Uganda, Democratic

Republic of Congo, Angola, and Tanzania all will increase by around 40%. All countries are projected to have significantly lower growth in the 2040-50 decade, ranging from 6% in South Africa to 35% in DRC. At the same time, the growth of the working-age population from 2040 to 2050 is projected to be negative or near zero in other parts of the world, with a projected 13% decline in China, a 6% decline in Brazil, and 1% growth in India. As we document in the paper, projections of the working-age population to 2050 are not very sensitive to assumptions about the rate of fertility decline, so these projections have a fairly low level of uncertainty.

## The aging of the working-age population

While it is well known that populations around the world are aging, even in Africa, less attention has been given to the aging that takes place within the working-age population. The



working-age population gets older just as does the overall population, creating important changes in labor force dynamics. Figure 2 shows the evolution of the age distribution of the working-age population in Sub-Saharan Africa in the 21<sup>st</sup> century, with the working-age population divided into 10-year age groups. The working-

age population is currently highly concentrated in the youngest age groups, with the 15-24 age group being the most prominent. This reflects the "youth bulge" that resulted from the rapid population growth of previous decades, which caused the population to become very young. As is clear in Figure 2, however, the working-age population is rapidly aging. The size of the 15-24 year age group is leveling off, while the older age groups will become a significantly larger share of the working-age population throughout the century.

In the paper we show the age breakdown of the working-age population in 2020, 2050, and 2080. The 15-24 age group accounted for 36% of Africa's working-age population in 2020, while the 55-64 age group accounted for only 7%. Reflecting the pattern in Figure 2, by 2080 the relative shares of the age groups will become more similar, with the youngest age group account for 14%. Asia is much further through the transition to an older labor force. The absolute number of 15-24 year-olds and 25-34 year-olds will fall in Asia between 2020 and 2050, while there will be absolute increases in the older age groups. The number of 15-24 year-olds in Asia is projected to decline by almost 200 million between 2020 and 2080.

The number of workers aged 15-34 in the world only increases by 51 million between 2020 and 2080, a stability that hides vast regional differences. Sub-Saharan Africa's addition of 250 million 15-24 year-olds over the period is almost entirely offset by declines in the rest of the world. For the world as a whole, the growth of the working-age population will be due entirely to the growth in older age groups. The "youth bulge" is turning into an "older worker bulge. It is the rising number of older workers that will need to be accommodated, with no growth in the number of young workers for the world as a whole, or in any major region, after 2050.

Another way to see the implications of this population aging for labor markets is to look at the annual additions to the working-age population. Figure 3 shows the annual additions to Sub-Saharan Africa's working-age population, divided into 10-year age groups. Until about 2025, the



15-24 age group has the largest annual increase, with the age group growing by 7 million per year in 2025. That addition means that the 2001-2010 birth cohort is 7 million larger than the 2000-2009 birth cohort, measured at the time each cohort is 15-24. The 2001-2010 birth cohort is tracked across the graph, a reminder that as we

move through the century, we are following the same cohorts as they move through the age distribution. The 2001-2010 birth cohort shows up as the largest addition to the working-age population in every year, with the absolute size of the addition falling as mortality reduces the size of the cohort as it ages. The number added at age 15-24 reaches its historic high around 2025. The number of new 15-24 year-olds being added each year is on the decline for the rest of the century, and is projected to go negative by 2090. At the same time, the number of 55-64 year-olds being added each year will increase until around 2065, when the 2001-2010 birth cohort reaches that age.

## How will the global labor market adjust?

An obvious question is whether the decline in the working-age population in the rest of the world can help offset the millions of new potential workers being added in Africa. As seen in Figure 1, by 2070 there will be no net additions to the working-age population of the world. If all the jobs freed up by the decline in the working-age population in other regions could be transferred to Africa, Africa's employment challenge would be met. Will capital move from Asia to Africa in response to Asia's declining working-age population? Will Africa be able to generate Asia-style employment growth in the coming decades, and will this become easier as Asia's working-age population declines? These are complex questions that our paper goes some way to addressing, combining a detailed look at the demography with discussions of both the supply and demand sides of the labor market.

On the supply side, we go beyond the demography to look at the dramatic increases in education in all regions, including Africa, an important factor in the ability to absorb new workers. We also look at the rural-urban divide and how that may affect labor market dynamics. On the labor demand side, we explore the potential for Africa to create 2 million jobs per month, and how that potential may be affected by the declines in the working-age population in other regions. The dominance of the informal sector in African labor markets means that formal unemployment may not be a good measure of success. Rather, the focus for economic development has to be on formal sector job creation alongside stronger formal-informal linkages. While these are complex questions with no simple answers, the paper makes it clear that understanding the demography of the working-age population is critical in thinking about the dynamics of the global labor force in the rest of this century.