Research Global

Diverging Demographics: The Global Workforce Puzzle

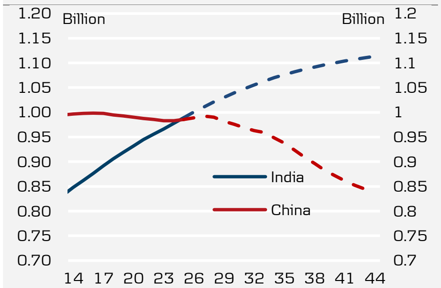
- **Demographics will likely play a key role for economies and markets in the coming decades, In the first paper on a series on the impact of changing demographics on economic growth, we dive into the outlook for working-age populations.**
- **The working-age population in the US will likely continue to grow over the coming decades in contrast to Europe, Japan and South Korea, where it will likely shrink further. The Nordics, excepts for Finland, will likely see modest growth.**
- **India's workforce is predicted to surpass China's, becoming the largest globally, while countries like Indonesia, Pakistan, and Nigeria will experience significant growth in their working populations.**

Time to play close attention to demographics

Demographics is one of the few things that can tell us quite a lot about the future with quite high certainty. We know how many people that are alive, what the age structure within a country is and we know what the expected length of a life is on average. The most uncertain aspects of demographics usually relate to migration shocks or surprising changes in fertility trends. From an economic perspective, legislative changes to the retirement age could also be important, which could shift expected changes in e.g. working age population.

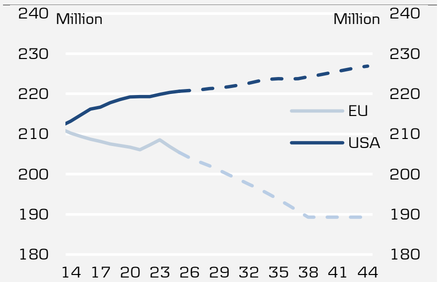
Demographic changes can have far-reaching and dynamic effects on the economy. Changes in age structure affect consumption patterns, investments, labour market dynamics and public finances among many other things. Demographics is also key in understanding the growth potential of a country or region. On the other hand, demographics is not the truth; innovation, changes in preferences or legislation can change presumed effects from demographics.

India's working-age population is set to surpass China's in size



Source: UN
Note: The working-age population is defined as those aged between 15 and 64 years

The U.S. workforce will expand as the EU's diminishes.



Source: UN
Note: The working-age population is defined as those aged between 15 and 64 years

Currently there are large demographic changes taking place across the globe making it key to understand what is going on and what these changes could imply. It is common to study demographics at country or global level, but it is also worth stressing that different demographic patterns across countries can drive economic developments more broadly.

Global Head of Research
Heidi Schauman
heidi.schauman@danskebank.com

Director
Jens Nærvig Pedersen
jenpe@danskebank.dk

Assistant Analyst
Johan V Raychaudhuri Christensen
johanc@danskebank.dk

.

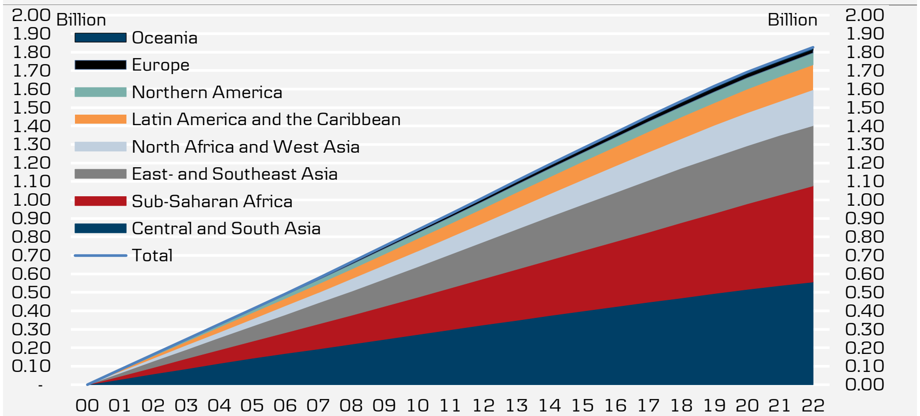
This is the first paper in a series on demographics and its implications on the economy and markets. Here we set the scene by digging into data on demographics on a global scale. In coming papers, we look at the implications for economic growth, investments etc.

The final stage of the population boom

Before we get to our analysis of the demographic outlook and what it might imply for economic growth, we want to take a brief look back at recent years' development in the world population. Since the start of the millennium, the world's population has grown by more than 1.8 billion people to 8 billion. Chart 1 below breaks down how much different geographical regions have contributed to growth in world population and more than 90% of the increase has occurred in regions, where most economies are classified as low- or lower-middle-income.

The population in Central and Southern Asia has grown by 550 million people closely followed by Sub-Saharan Africa at 520 million people. The population in East- and Southeast Asia has grown by 326 million, Northern Africa and Western Asia follow at 197 million while Latin America and the Caribbean has grown by 140 million. In contrast, the population in high-income countries has grown far less over the past two decades, with North America having added 63 million people, while population in Europe has barely increased – it grew just 13 million people.

Chart 1. Cumulative population growth since 2000



Source: Macrobond Financial

Population peak and economic growth

Growth can come from two sources; either we work more or we get more out of the work we do. Put in another way; in order to achieve economic growth either labour input has to increase or productivity has to improve. Given the same productivity trajectory, if the pool of labour for some reason starts to decrease, growth will slow. This is traditionally what happens when a society ages and fertility declines. As we show below, this is the situation many high-income economies face right now.

The baby boomer generations are retiring thus moving out of the labour force, which together with lower fertility, has created a situation that few countries have been in before; a shrinking labour force. All else equal this will lead to slower growth and potentially chronic labour shortages if tasks cannot be outsourced to other countries, automated, or if immigration of skilled labour is limited. Some of the other big trends such as near-sourcing and geopolitical tensions potentially worsen the situation. In the rest of the paper, we take an in-depth look at the outlook for working-age populations across regions and countries.

Rise and fall of the world's largest labour forces

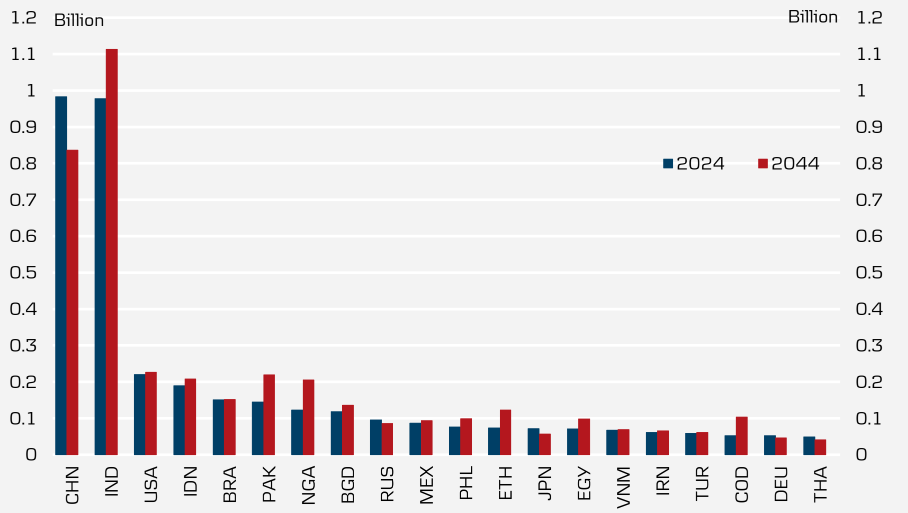
As mentioned above, our research focus will be on the impact of demographical changes on economic growth in different countries and regions. We therefore focus on the development in working-age population. We define the working-age population as 15-64 years of age but note the actual working-age population varies between countries, e.g. due to changes in education systems, retirement age etc. In all projections, we use the median estimates from UN projections based on medium-fertility scenarios. Chart 2 shows the twenty countries with projected the largest working-age population in 2024 and in twenty years.

Unsurprisingly, China and India stand out with the largest working-age populations – both estimated just shy of 1 billion this year. But over the coming two decades, the two will move in different directions. India will likely see its working-age population increase by another 100 million people, while China would experience a drop in its working-age population by more than 100 million people.

The US has the third-largest working-age population at 220 million people and it will likely keep this position over the coming two decades. After the US come Indonesia, Brazil, Pakistan, Nigeria, and Bangladesh with working-age populations at between 100 and 200 million. Pakistan, Nigeria and Bangladesh in particular will catch up to the US over the coming years. In twenty years from now, Pakistan will likely have the world's fourth largest working-age population of more than 200 million people.

Ethiopia and D.R. Congo will likely also climb the ladder in the top twenty below. In addition, countries in Sub-Saharan Africa will likely make their way into the top. Working-age populations in Tanzania and Kenya are projected to grow substantially from 33 and 36 million, respectively, to 67 and 50 million, and will push Thailand and Germany out of the list. Other countries, notably Russia and Japan will see their supply of labour shrink and drop on the list.

Chart 2. Working-age population now and in the future



Source: UN

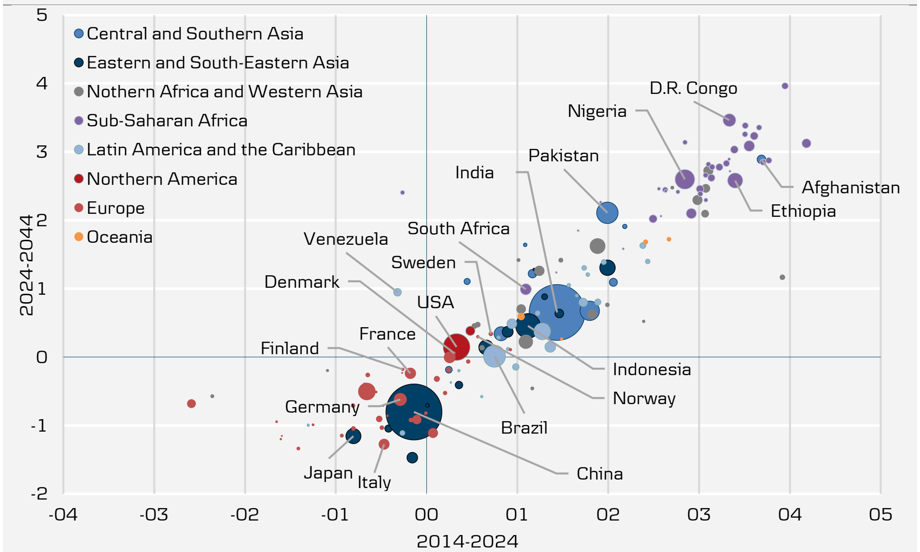
Diverging working-age population trends

For the majority of countries around the world, the trend in recent years for the development in the working-age population is set to continue over the coming years, as chart 3 below shows. The graph illustrates the average annual growth in working age population in the past 10 years, and the projected growth for the next 20 years, respectively. The size of the bubble indicates the size of the current working-age population. Either a typical country's workforce has grown in the past and will continue to grow, or it has shrunk in the past and will shrink further. Most high-income economies are in the latter group, as many countries – particularly in Europe – will likely see their working-age population shrink. Many, but not all, have already seen their workforces decrease in recent years, but for some the trend is about to turn. Working-age populations in Germany, France and Italy will likely continue to decline while Spain will go from a stagnant workforce size to a shrinking one. Large Southeast Asian countries are also found in this group. I.e., Japan, South Korea, and China are projected to see their workforce decline further in size the next 20 years.

As for the Nordics, Sweden, Norway, and Denmark have all seen modest growth in their working-age populations, with Sweden leading the pack at an average annual growth rate of 0.7%. In the next 20 years, they are also likely to see their workforce grow, though at a slower pace. Conversely, Finland's workforce has shrunk in the past 10 years, and it is projected to continue to shrink in size in the coming 20 at a pace similar to France's.

In the other group, the countries located in Sub-Saharan Africa stand out. As chart 3 below shows, they have seen the highest growth over the past ten years and stand to experience the highest growth over the coming decades. This group also consist of other emerging economies in Latin American, Northern African, West Asian, and Central and Southern Asian countries located here. These countries will likely see their working-age populations grow on average between 1-2% annually. Some high-income economies also make their way to this group. The U.S. workforce will grow slightly going forward, as will Canada's.

Chart 3. Annual growth in working-age population by country (pct.)



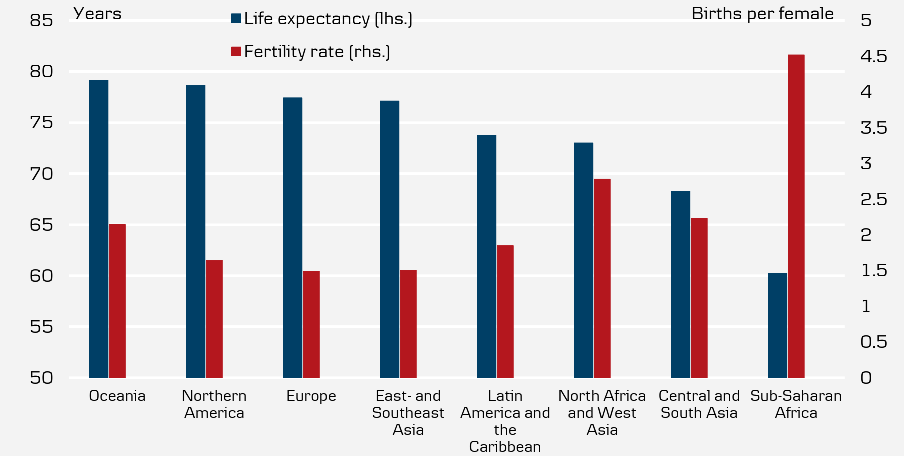
Source: UN and Danske Bank calculations
Note: Bubble size represents population size as of 2024.

Workforce drivers – the role of fertility and longevity

Finally, we look at two important drivers for changes in the working-age population – fertility and longevity. Chart 4 displays the fertility rates and life expectancy for major geographic regions in 2022 and sheds lights over the reasons for the demographic divergence shown in chart 3. The fertility rate of Europe, Northern America, and East- and Southeast Asia all hover around 1.5 births per female, much lower than the standard replacement rate of 2.1. The life expectancy in these regions is comparable at around 78 years. Oceania has the highest life expectancy, but also a relatively high fertility rate of 2.1.

On the other side of the spectrum is Sub-Saharan Africa, with a fertility rate of 4.5, though a much lower life expectancy at 60. In the middle are Latin America and the Caribbean, North Africa and West Asia, as well as Central- and South Asia. Latin America has the highest life expectancy of the three regions, but a fertility rate comparable to the high-income economies. The latter two both have fertility rates above 2.1, although the former's is the highest at 2.7, while life expectancies are 72 and 68, respectively.

Chart 4. Life expectancy and fertility, 2022



Source: UN

Conclusion: demographic challenges await

To sum up, over the next twenty years the global economy will face the challenge of having to deal with sharp diverging trends in the working-age population across regions and countries with likely implications for economic growth. Broadly speaking high-income economies will follow one trend, and low and middle-income economies another, with notable exceptions such as China, whose workforce size is expected to follow the same downwards trajectory as the Europeans, and the US, where the workforce likely will grow further.

India will take over from China as the country with the largest workforce at just north of 1.1 billion, while China workforce shrinks to 850 million. Indonesia, Pakistan and Nigeria will likely see a big expansion of their working-age populations of above 200 million over the coming decades and thus near the size of the working-age population in the US of around 220 million. The working-age population in the US will likely continue to grow over the coming decades in contrast to Europe, Japan and South Korea, where it will likely shrink further.

In upcoming papers, we examine the implications for economic growth and look at how investments and new technologies may help deal with the challenge of a shrinking workforce.

Disclosures

This research report has been prepared by Danske Bank A/S ('Danske Bank').

Analyst certification

Each research analyst responsible for the content of this research report certifies that the views expressed in the research report accurately reflect the research analyst's personal view about the financial instruments and issuers covered by the research report. Each responsible research analyst further certifies that no part of the compensation of the research analyst was, is or will be, directly or indirectly, related to the specific recommendations expressed in the research report.

Regulation

Danske Bank is authorised and regulated by the Danish Financial Services Authority (Finanstilsynet). Danske Bank is authorised by the Prudential Regulation Authority in the UK. Subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from us on request.

Danske Bank's research reports are prepared in accordance with the recommendations of Capital Market Denmark.

Conflicts of interest

Danske Bank has established procedures to prevent conflicts of interest and to ensure the provision of high-quality research based on research objectivity and independence. These procedures are documented in Danske Bank's research policies. Employees within Danske Bank's Research Departments have been instructed that any request that might impair the objectivity and independence of research shall be referred to Research Management and the Compliance Department. Danske Bank's Research Departments are organised independently from, and do not report to, other business areas within Danske Bank.

Research analysts are remunerated in part based on the overall profitability of Danske Bank, which includes investment banking revenues, but do not receive bonuses or other remuneration linked to specific corporate finance or debt capital transactions.

Financial models and/or methodology used in this research report

Calculations and presentations in this research report are based on standard econometric tools and methodology as well as publicly available statistics for each individual security, issuer and/or country. Documentation can be obtained from the authors on request.

Risk warning

Major risks connected with recommendations or opinions in this research report, including as sensitivity analysis of relevant assumptions, are stated throughout the text.

Date of first publication

See the front page of this research report for the date of first publication.

General disclaimer

This research has been prepared by Danske Bank A/S. It is provided for informational purposes only and should not be considered investment, legal or tax advice. It does not constitute or form part of, and shall under no circumstances be considered as, an offer to sell or a solicitation of an offer to purchase or sell any relevant financial instruments (i.e. financial instruments mentioned herein or other financial instruments of any issuer mentioned herein and/or options, warrants, rights or other interests with respect to any such financial instruments) ('Relevant Financial Instruments').

This research report has been prepared independently and solely on the basis of publicly available information that Danske Bank A/S considers to be reliable but Danske Bank A/S has not independently verified the contents hereof. While reasonable care has been taken to ensure that its contents are not untrue or misleading, no representation or warranty, express or implied, is made as to, and no reliance should be placed on, the fairness, accuracy, completeness or reasonableness of the information, opinions and projections contained in this research report and Danske Bank A/S, its affiliates and subsidiaries accept no liability whatsoever for any direct or consequential loss, including without limitation any loss of profits, arising from reliance on this research report.

The opinions expressed herein are the opinions of the research analysts and reflect their opinion as of the date hereof. These opinions are subject to change and Danske Bank A/S does not undertake to notify any recipient of this research report of any such change nor of any other changes related to the information provided in this research report.

This research report is not intended for, and may not be redistributed to, retail customers in the United Kingdom (see separate disclaimer below) and retail customers in the European Economic Area as defined by Directive 2014/65/EU.

Disclaimer related to distribution in the United States

This research report was created by Danske Bank A/S and is distributed in the United States by Danske Markets Inc., a U.S. registered broker-dealer and subsidiary of Danske Bank A/S, pursuant to SEC Rule 15a-6 and related interpretations issued by the U.S. Securities and Exchange Commission. The research report is intended for distribution in the United States solely to 'U.S. institutional investors' as defined in SEC Rule 15a-6. Danske Markets Inc. accepts responsibility for this research report in connection with distribution in the United States solely to 'U.S. institutional investors'.

Danske Bank A/S is not subject to U.S. rules with regard to the preparation of research reports and the independence of research analysts. In addition, the research analysts of Danske Bank A/S who have prepared this research report are not registered or qualified as research analysts with the New York Stock Exchange or Financial Industry Regulatory Authority but satisfy the applicable requirements of a non-U.S. jurisdiction.

Any U.S. investor recipient of this research report who wishes to purchase or sell any Relevant Financial Instrument may do so only by contacting Danske Markets Inc. directly and should be aware that investing in non-U.S. financial instruments may entail certain risks. Financial instruments of non-U.S. issuers may not be registered with the U.S. Securities and Exchange Commission and may not be subject to the reporting and auditing standards of the U.S. Securities and Exchange Commission.

Disclaimer related to distribution in the United Kingdom

In the United Kingdom, this document is for distribution only to (I) persons who have professional experience in matters relating to investments falling within article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the 'Order'); (II) high net worth entities falling within article 49(2)(a) to (d) of the Order; or (III) persons who are an elective professional client or a per se professional client under Chapter 3 of the FCA Conduct of Business Sourcebook (all such persons together being referred to as 'Relevant Persons'). In the United Kingdom, this document is directed only at Relevant Persons, and other persons should not act or rely on this document or any of its contents.

Disclaimer related to distribution in the European Economic Area

This document is being distributed to and is directed only at persons in member states of the European Economic Area ('EEA') who are 'Qualified Investors' within the meaning of Article 2(e) of the Prospectus Regulation (Regulation (EU) 2017/1129) ('Qualified Investors'). Any person in the EEA who receives this document will be deemed to have represented and agreed that it is a Qualified Investor. Any such recipient will also be deemed to have represented and agreed that it has not received this document on behalf of persons in the EEA other than Qualified Investors or persons in the UK and member states (where equivalent legislation exists) for whom the investor has authority to make decisions on a wholly discretionary basis. Danske Bank A/S will rely on the truth and accuracy of the foregoing representations and agreements. Any person in the EEA who is not a Qualified Investor should not act or rely on this document or any of its contents.

Report completed: 04 April 2024, 14:30 CET

Report first disseminated: 05 April 2024, 06:00 CET