For professional investors and qualified investors only

Thematic Insights

Human capital – supply: the impact of demographic transition on investments

Sally Springer
Senior Thematic Research Analyst, Global Research

At a glance

- Working populations are in decline – the demographic dividend that has supported economic growth in many developed markets, and places such as China, is under threat as baby boomers retire and there are fewer younger people to take their place.
- This will have a direct impact on the firms in which we invest – in terms of changes to the products and services they will offer, and in the way they manage their human capital.
- In the face of shortages of labour and declining populations which could affect growth opportunities, we are engaging with companies to gain better insights into how they are managing the myriad disruptive impacts affecting the workplace.

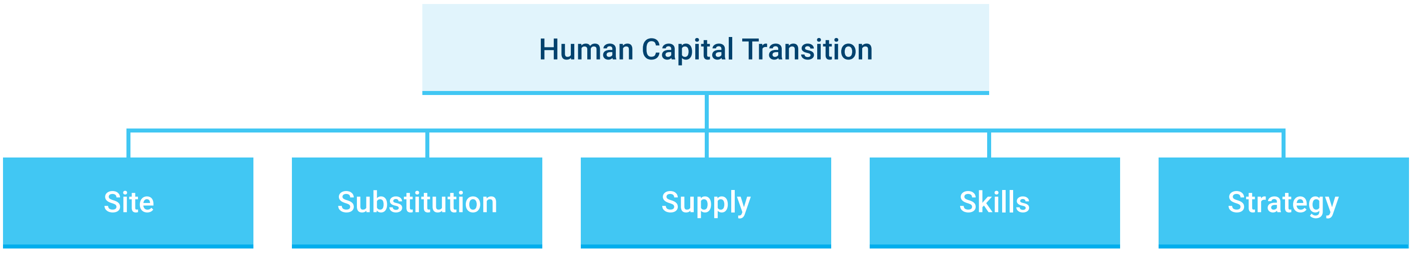
Issued June 2024

Introduction

At Columbia Threadneedle Investments, we believe firms which recognise and manage their human capital effectively should outperform in the longer term. To help us assess how well an investee firm is doing this we created the "Five 'S' framework of human capital management". This sets out five factors a firm may consider when managing human capital (Figure 1).

In this Thematic Insight we primarily focus on "supply", specifically how businesses are adapting to changing demographics in the global economy and their impact on corporate strategies. Ageing employees will require reskilling and the different attitudes of younger people towards work will require companies to refine their culture.

Figure 1: the Five 'S' framework of human capital



Source: Columbia Threadneedle Investments, 2023

Demographic dividend

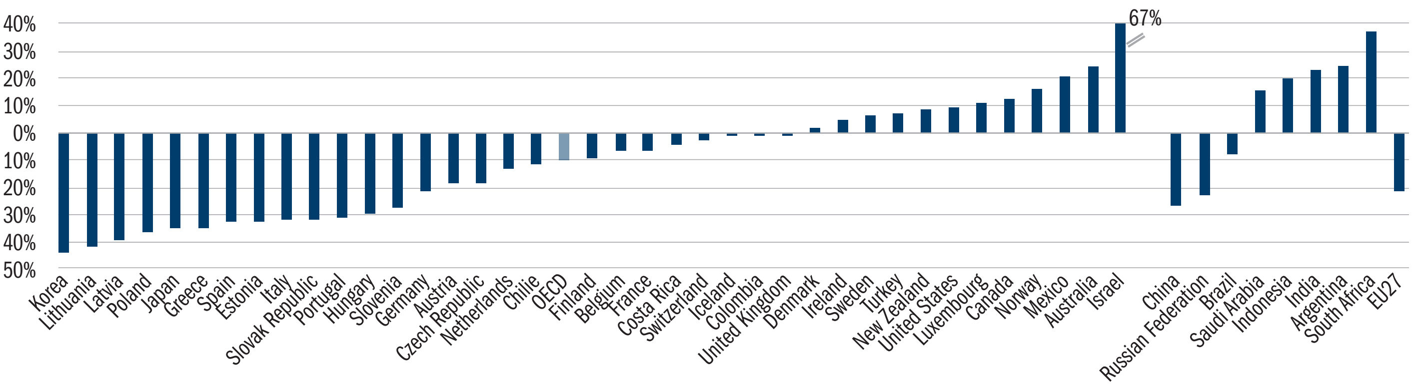
Over the past 50 years or so, most developed and some developing economies (notably China) have benefitted from the proportion of the population that is of working age exceeding the proportion that doesn't work, for example children and older people. This has supported global economic growth and productivity, greater savings and investment, as well as a surge in consumer demand – the so called "demographic dividend"[1].

This trend is now clearly in reverse (Figure 2) as the world's population ages. The global median age has risen from 20.3 in the 1970s to 30.5 in 2023[2]. With continued falling fertility rates it is forecast to rise to 36 by 2050[3].

The speed with which we are seeing changes in populations is a new phenomenon. The number of over-65s in the world is set to rise at the fastest pace ever over the course of this decade, averaging roughly 3% a year[4], and since the Covid pandemic birth rates have on average been falling 3% a year, despite expectations there would be a post-pandemic baby boom[5]. The UN predicts that the percentage of the global population aged 65 and over will rise from 10% in 2022 to 16% in 2050, with double the number of individuals over 65 as there are children under five[6].

[1] David E Bloom & David Canning, The Demographic Dividend: A New Perspective on the Economic Consequences of Population Change, 2003
[2] United Nations, Data portal – population division (https://population.un.org/dataportal/home)
[3] Finance & Development, The Long Good Life – Demographics and Economic Well-Being, pg. 46, March 2020
[4] HSBC Global Research, The big baby bust, 22 August 2022
[5] HSBC Global Research, The baby bust intensifies, 21 January 2024
[6] United Nations, Ageing, 3 January 2021

Figure 2: the working age population will decline in a large number of OECD countries



Source: United Nations World Population Prospects: The 2019 Revision

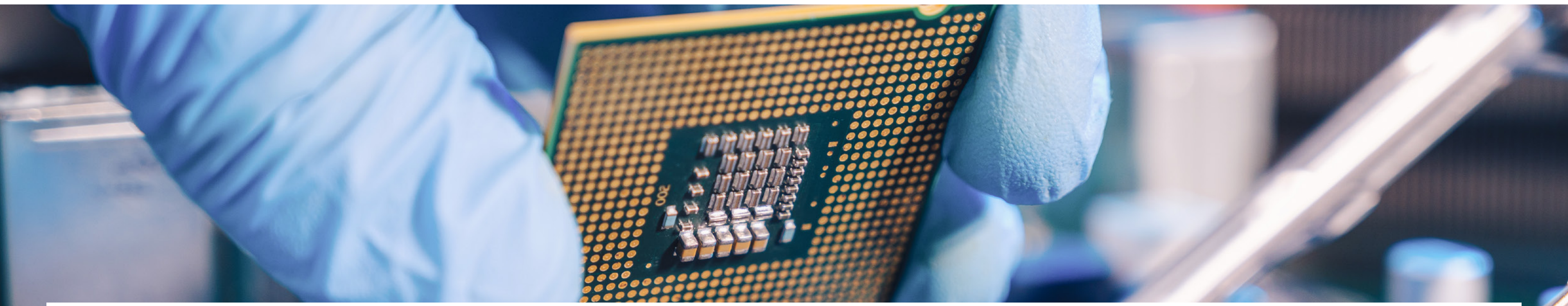
Demographic tax

These changing demographics will put fiscal pressure on governments to raise taxes and fund pensions. They will also have a direct impact on the firms in which we invest – both in terms of changes to the products and services consumers demand, and in the way companies manage their human capital.

Firms in Spain and Italy will have a particular challenge, as working populations are forecast to decline by 27% by 2050, with 40% of the population forecast to be over 65 by that time. Companies in these markets will need to adapt marketing strategies to ensure their products and services appeal to a broader range of ages. In relation to their human capital, they will need to implement human capital strategies to appeal to both younger and older workers. They will need to persuade the former – who are in high demand – to join their company through strong incentives and culture; and encourage the latter to stay or return to work, for example by providing training and reskilling and flexible working patterns. Firms may also need to consider the use of robotics and automation to fill labour supply gaps and improve productivity.

Engagement: from high tech to hard hats

To determine how firms are managing this significant operational risk associated with their human capital management, Columbia Threadneedle has undertaken a series of engagements across numerous sectors to understand how firms are managing this significant demographic transition.



Semis – keeping up with (labour) demand

Semiconductors are the foundation of modern economies. They are an essential component of electronic devices enabling advances in communication, computing, artificial intelligence, healthcare, transportation, clean energy and everyday consumer products from laptops to washing machines.

However, making semiconductors is highly complex, involving hundreds of steps, and takes up to four months from design to mass production[7]. This fabrication process requires specialised equipment, facilities and highly skilled personnel[8].

The phenomenal demand for semiconductors over the past decade has seen revenues of some of the largest firms grow at just shy of 20% CAGR (compound annual growth rate)[9]. As such, access to the necessary "highly skilled personnel" to support continued innovation and growth is a major concern for the industry. Indeed, in an annual survey conducted by KPMG, talent risk was seen as the biggest issue facing the semiconductor industry over the next three years[10]. The survey also showed that talent development and retention remains a top strategic priority for the industry with two-thirds naming it a top three strategy priority (higher than supply chain flexibility and digital transformation).

Columbia Threadneedle engaged with two leading European semiconductor firms to understand how they were managing the human capital risks and opportunities associated with the phenomenal demand for their products. Both have experienced remarkable growth in revenues and a corresponding increase in employee numbers – one has doubled in size in three years and the other tripled over 10 years.

Constant assessment

The growth in sales and employee numbers has required constant re-evaluation of human capital strategies. Scenario analysis, based on internal corporate strategy projections and external announcements from other wafer fab equipment companies, and increasingly from governments looking to secure the production of semiconductors in domestic markets, is used to ensure they have well developed workforce plans. The analysis is very thorough and will, for example, incorporate the capacity of local governments to provide the educational requirements needed in the semiconductor industry. It also includes the types of skills and talent required in both the near and long term, which allows them to understand how small or large the potential pool of talent is and the roles where they may need to consider alternatives.

Corporate purpose

They believe that understanding the scale of their human capital challenge is imperative to their long-term employee strategy. This enables them to develop approaches to help attract enough employees to support their growth plans. Indeed, talent acquisition has become more systematic. HR policies are regularly reviewed to ensure offers remain competitive. Exit, new joiner and boomerang employee focus groups are undertaken to ensure they can pick up early on issues that could lead to increased staff turnover. Where areas are working well, they make certain these flow through into their recruitment. For example, feedback from new and rejoining employees suggests that the opportunity to innovate and travel is attractive, as is the autonomy and early responsibility individuals are granted – and so this is promoted in job adverts. The need for firms to be good corporate citizens is a particularly attractive trait among younger workers, so the sector has spent time on corporate responsibility initiatives.

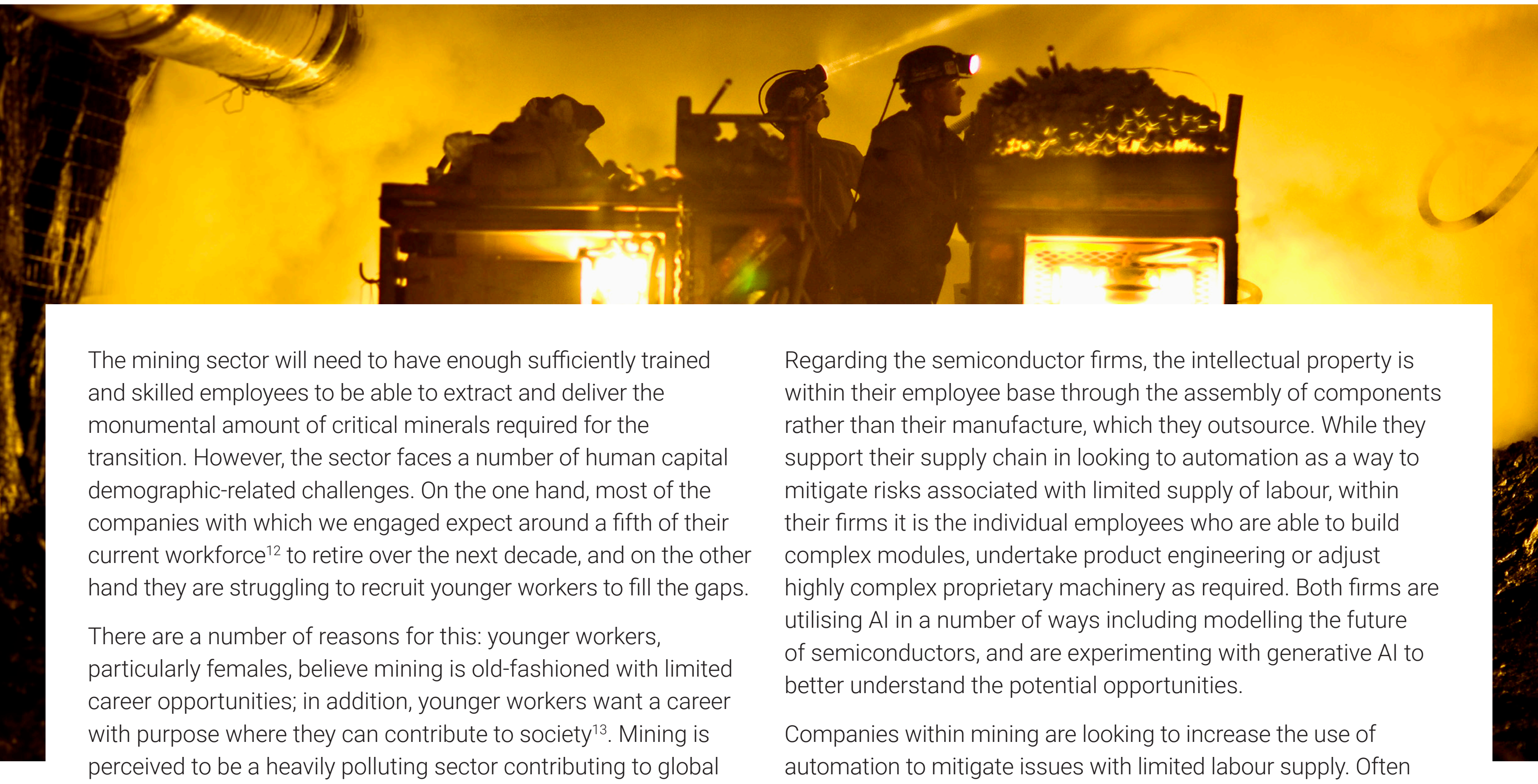
Understandably the role of HR is important, and in both the firms a senior executive sits on the executive committee and reports directly and regularly to the Board.

Columbia Threadneedle will continue to engage with the semiconductor sector to assess how it is managing its human capital in relation to the phenomenal rise in demand for semiconductors.

Mining – bottleneck planning

The transition to low carbon economies will be metal intensive. The mining sector will play a vital role in producing the critical minerals and metals needed to create the myriad of renewable energy and climate technologies required to support net zero economies. The world bank predicts that the production of minerals such as graphite, lithium and cobalt could increase by nearly 500% by 2050 to meet the growing demand for clean energy technologies[11].

[7] ASML, How microchips are made
[8] MRL, Semiconductor Manufacturing Process: How are semiconductor chips made? 15 February 2023
[9] Columbia Threadneedle estimates based on Bloomberg Data, March 2024
[10] KPMG, Global semiconductor industry outlook for 2023
[11] The World Bank: Climate-Smart Mining: Minerals for Climate Action, 26 May 2019



The mining sector will need to have enough sufficiently trained and skilled employees to be able to extract and deliver the monumental amount of critical minerals required for the transition. However, the sector faces a number of human capital demographic-related challenges. On the one hand, most of the companies with which we engaged expect around a fifth of their current workforce[12] to retire over the next decade, and on the other hand they are struggling to recruit younger workers to fill the gaps.

There are a number of reasons for this: younger workers, particularly females, believe mining is old-fashioned with limited career opportunities; in addition, younger workers want a career with purpose where they can contribute to society[13]. Mining is perceived to be a heavily polluting sector contributing to global warming, which puts many young people off joining the industry.

Through our discussions with some of the largest companies in the sector, it is clear they are working hard to mitigate short- and longer-term labour shortages by promoting to undergraduates and graduates the role the industry plays within the global transition, as well as offering them financial support through their education. A company in Portugal where lithium is mined is working with universities to highlight mining as a role with long-term career opportunities within a "green" future. Firms are also highlighting the technological advances in mining such as near fully automated mines, which mean it can be done remotely to minimise risk but also offer exciting roles in robotics/tech and artificial intelligence (AI).

As the bottleneck of older workers progresses through, Columbia Threadneedle will continue to engage with firms in the sector to determine whether they are addressing the risk of an operational impact on their business strategies either by attracting younger workers to the sector or looking at technological solutions.

A quick word on automation

As supply of labour falls, many companies will look for ways to address this human capital risk through technology or automation (referred to as "substitution" in the Five 'S' framework of human capital). In both engagement examples, automation was less of a complete solution to their human capital challenges.

Regarding the semiconductor firms, the intellectual property is within their employee base through the assembly of components rather than their manufacture, which they outsource. While they support their supply chain in looking to automation as a way to mitigate risks associated with limited supply of labour, within their firms it is the individual employees who are able to build complex modules, undertake product engineering or adjust highly complex proprietary machinery as required. Both firms are utilising AI in a number of ways including modelling the future of semiconductors, and are experimenting with generative AI to better understand the potential opportunities.

Companies within mining are looking to increase the use of automation to mitigate issues with limited labour supply. Often mines are too deep and the cost of retrofitting for automation would be too great. Another key reason mines are not fully automated, even when it could be possible, is that national and regional governments will only grant a licence on the prerequisite that a certain number of jobs are created in the local community. This social licence to operate does limit automation opportunities.

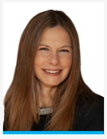
Conclusion

The workplace is in a state of flux. Changing values and attitudes towards work, the continued fallout in working practices following Covid-19, and seismic advances in technology coupled with geopolitical events are all leading governments to assess the security of their economies and creating incentives to shift the production of critical goods and services onshore. This has significant implications for the labour market and how firms manage their human capital. Alongside these often unpredictable developments is the long-term and predictable trend of demographic change – ageing populations and falling fertility rates are leading to a smaller working age population. This means the firms in which we invest are exposed to the risk of a shortage of the supply of labour and talent needed to meet their growth forecasts.

Columbia Threadneedle will continue to engage with companies to gain better insights into how they are coping with the myriad impacts affecting the workplace and managing their "greatest asset" – human capital (or indeed lack of it!) – as a result.

12 Columbia Threadneedle Investments Mining sector engagement, Q4 2023
13 Adecco: Gen Z wants a meaningful career. So what can employers do? 3 March 2023

Get to know the author



Sally Springer, Senior Thematic Research Analyst, Global Research

Sally joined Columbia Threadneedle Investments in 2023. As part of the global research team she undertakes thematic research, engages with companies, and collaborates with investment teams on the risks and opportunities arising from the transition in human capital. She previously worked as an equity research analyst and an industry policy lead for responsible investment regulation and legislation. Sally studied at the University of Warwick (BSc Economics) and gained the CFA charter in 2003.

Contact us

columbiathreadneedle.com

Follow us on LinkedIn

To find out more visit **columbiathreadneedle.com**