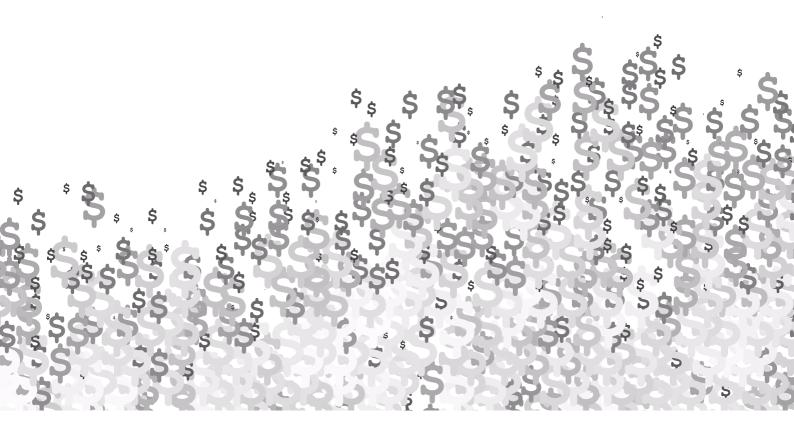


NEWSLETTER

NOVEMBER | 2020

THE SILVER ECONOMY: WHY INVESTORS SHOULD RIDE THIS TREND NOW

Rising life expectancy and falling birth rates are shrinking and ageing populations. The coming unprecedented demographic shift is to have a profound impact on consumer behaviour and technological innovation.



THE SILVER ECONOMY

BY THE EARLY-2030S, EVERY BABY BOOMER (THOSE BORN AFTER THE WORLD WAR 2 UP TO MID 1960S) WILL BE 65 OR OLDER.

Having held the distinction of being the oldest president sworn into office at age 70, President Trump record will be beaten by President elect Biden, who will be 78 years old on his Inauguration. According to a scientific paper in the Journal on Active Ageing, despite an unhealthy lifestyle, Trump is expected to live to 89 - but he will beaten again by President elevate Biden, whose 'exceptional health profile for a man his age' is projected to give him lifespan of 97 years.

George Bush Senior remained an athlete well beyond age 80 and celebrated his 75, 80, 85 and 90 birthdays with a skydive. Having survived a dire cancer diagnosis in 2015, Jimmy Carter celebrated his 96 birthday this year and is still writing (including a self-help book 'Everything to Gain: Making the Most of the Rest of Your Life'), painting, making wine, teaching Sunday school and putting his carpentry skills to work in homes for those in need.

Even back in the 19th century US
Presidents were comparatively long
lived: an average of 69 years
compared to the average man 47
years. But a long life is no longer the
preserve of the presidential
demographic, for as their privileged
access to good nutrition, healthcare
and living conditions extended to
the general populace, life
expectancy in the US has increased
by a staggering 30 years over the
past century.



We are living longer than ever, giving rise to the largest ageing population ever. By the year 2030, one in five Americans will be over 65. In Western Europe it will be one in four. Two hundred million people will pass the age of 65 in Asia over the next decade. Thirty percent of Hong Kong's population will be 65 and over by 2033. Japan will be the first to pass this milestone in 2023.

THE 65+ AGE GROUP IS NOW THE FASTEST GROWING CONSUMER MARKET, FROM WHICH IS EMERGING A 'SILVER ECONOMY' THAT COULD ACCOUNT FOR OVER HALF OF US AND JAPAN GDP BY 2030 - AN EMERGING MARKET TO RULE THEM ALL

Since the greying of the population is an eminently predicable trend, being predetermined by rising life expectancy and falling birth rates, the outcome is a lot less uncertain than the typical emerging market.

The US Census Bureau projects by 2035, those aged 65 and over will outnumber those under age 18 for the first time. Investors will need to respond to this coming shift, as demographics produce new and growing markets, while some established markets shrink.

A fifth of those over the age of 65 in the US do not drive. They are likely to be enthusiastic users of driverless vehicles which do not require a license. This demographic could reshape the market for cars.

While the technology is not quite there yet, demographics is already impacting transportation. After Japan introduced tests for older drivers renewing their licenses, the sales of e-bikes rocketed. They are now ubiquitous in Japan, with 698 thousand electric two-wheelers, worth almost 58 billion Yen (\$530m) sold in 2019 alone.

E-bike sales are expanding across the globe, as more people discover the addition of a battery to pedals flattens any hill. The market in the US is estimated to have reached \$4.6 billion this year. A Dutch based ebike company has been likened to a two-wheel Telsa, after its revenues increased ten-fold in just the last two years. These numbers have attracted venture capital firms to e-bike startups, while established companies are also getting in on the act e.g. the legendary Triumph motorbike manufacturer launched its first ever e-bike costing £2,950 (\$3,200). The accountancy firm Deloitte estimates that between 2020 and 2023 over 130 million e-bikes will be sold.



THE BBC RECENTLY HEADLINED A 'JAW-DROPPING GLOBAL CRASH IN CHILDREN BEING BORN', WITH 23 NATIONS - INCLUDING JAPAN, S.KOREA, ITALY, SPAIN, PORTUGAL AND THAILAND, FORECAST TO SEE THEIR POPULATIONS HALVE BY 2100. CHINA'S WILL FALL NEARLY AS MUCH, FROM 1.4 BILLION TO 730 MILLION.

This downward trend in the birth rate is causing consternation in Beijing. A legacy of China's one child policy and preference for sons has reduced the number of women of childbearing age, which will send the country over a 'maternity cliff': from 2023 the number of Chinese is predicted to enter into an unstoppable decline, so that by 2065 China's population will return to the level of the mid-1990s.

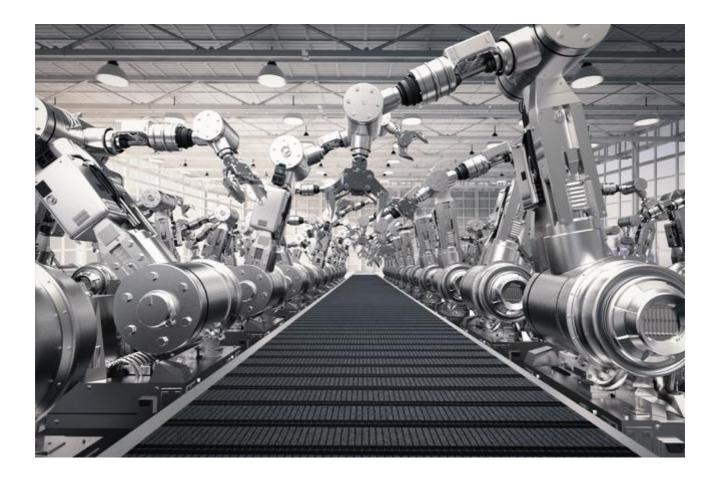
THE NUMBER OF WORKING AGE CHINESE IS SET TO PLUMMET FROM ABOUT 950 MILLION NOW, TO JUST OVER 350 MILLION BY THE END OF THE CENTURY — A 62% DROP Fewer workers and fewer consumers will put a brake on China's economic rise. Since 2006 China has been by far the largest contributor to the world's economic growth, as high as 28% in recent years, the threatened slowdown could turn global.

Fewer young taxpayers propping up a growing older generation could exhaust China's national pension fund by 2035. A number of provinces in China's 'rust belt' would have defaulted on pension payments already, had the central government not shifted funds from more prosperous regions. But even the better-off provinces are facing a big drain on their pension funds as their populations age - over the next decade, 245 million baby boomers born in the 60s will retire.

China's Millennials, those born in the 1980s and 90s, could become the first generation in modern China to face the prospect of retirement without a state pension.

China has risen to the level of a mid income country, with a GDP per capita of US\$10K. But its leaders dream of matching Japan (\$40K), Germany (\$46K) and the US (\$65K), could be scuppered by its population getting old before they get rich.

Beijing is seeking to avoid this fate: its 'Made in China 2025' programme set a goal of producing one million industrial robots per year by 2025, to replace nearly 5 per cent of China's workforce.



Japan became the world's oldest major economy, after its population declined to the level of two decades ago. But Japan demonstrates that with innovation, a shrinking population need not necessarily lead to a shrinking economy. It's no accident that Japan is home to seven of the ten world-leading industrial robotics companies, as the country's employers were the first to see automation as the solution to a shortage of workers.

The growing market for factory robots has given rise to Japan's fourth biggest company, with a market cap of \$120 billion.

Automating the factory floor generated so much cash for this company, that early-on during the pandemic, it declared it could

survive for 17 years without any new sales revenues. As the chief investment strategist at Mitsubishi UFJ Morgan Stanley Securities said: "It's the type of long-term stock you want to leave to your kids or your grandkids."

A Tokyo based cutting-edge artificial intelligence billion dollar start-up is working on robots endowed with 'deep learning' ability - where algorithms learn from large amounts of data collected via experience - to increase innovation in all kinds of settings, from factories to self-driving cars to early drug discovery.

The Japanese government aims to embed such innovation into every corner of its ageing society. Japan's blueprint for this future, named 'Society 5.0', being the fifth stage of human development, (after hunter-gatherer, agrarian, industrial and information), envisages a 'super-smart' economy where everything is connected and integrated through technology.

DEMOGRAPHIC CHANGE CAN BE PERCEIVED AS A FUTURE RISK, OR IT CAN BE VIEWED AS THE FOREFRONT OF A FUTURE THAT WILL BE DEFINED BY HUMAN INGENUITY



ARTIFICIAL INTELLIGENCE DEVELOPED BY DEEP MIND, AN OFFSHOOT OF GOOGLE, HAS JUST SOLVED BIOLOGY'S 'PROTEIN-FOLDING' GRAND CHALLENGE DECADES EARLIER THAN SCIENTISTS HAD EXPECTED. FUNDAMENTAL TO UNDERSTANDING THE BIOLOGICAL MACHINERY OF LIFE - PROBLEMS IN PROTEIN-FOLDING CAN LEAD TO DISEASES SUCH AS ALZHEIMER'S AND PARKINSON'S - DEEP MIND'S ALGORITHMS PAVE THE WAY TOWARDS NEW DESIGNER MEDICINES.

The human genome is a sequence of 3.2 billion letters that determines a person's physical make-up, propensity to disease and lifespan. The technology to 'read' these letters was first developed in 2001 and took 13 years at a cost of \$2.7 billion. The cost of genome sequencing has since fallen to just \$600. It is expected to continue to fall to \$100 and take just an hour to complete. This promises a revolution in healthcare, enabling physicians to identify which diseases and illnesses an individual is most prone and then target the perfect foods, supplements, exercise and drugs to prevent the conditions from developing.

After reading the human genome, the next step is to rewrite parts of it. Harnessing a naturally occurring biological system called CRISPR, which acts like a pair of genetic scissors, it is now possible to edit the code of life. Within the last month, Israeli scientists succeeded in using CRISPR-edited immune cells to kill cancer cells. Unlike conventional chemotherapy and radiotherapy treatments, there were no side effects, nor return of the disease.

There is a long way to go, but gene editing could usher in a world free of genetic disease, launching medical science into a new epoch.

Owning the future of medicine could be incredibly profitable for biotechs and their shareholders:

THE STOCK PRICE OF A COMPANY FOUNDED BY A CO-RECIPIENT OF THE 2020 NOBEL PRIZE IN CHEMISTRY FOR DISCOVERING CRISPR, HAS RISEN 1,000% SINCE ITS IPO IN 2016

Investors are looking to its potential pipeline, for while sales today are only in the millions, developing treatments for diabetes, kidney disease, cystic fibrosis and sickle cell disease would be worth billions.



Robotics, automation, artificial intelligence are converging with genetics and pharmaceuticals to transform the approach to ageing and vitality.

100 could become the new 60.

Unprecedented longevity promises a demographic and technological transformation of the global economy.

You do not have to be a long-sighted investor to see the rewards. Apple is targeting 2024 to introduce its self-driving technology. Between 2020-2025 the global market for medical robots is predicted to grow by 20% per year. Healthcare is already booming, with over 80 biotech and biopharma IPOs in 2020 having raised \$15 billion -more than 2018 and 2019 combined.

THE WORLD HEALTH
ORGANISATION DESIGNATED
2021-2030 THE DECADE OF
HEALTHY AGEING - BY ITS
END, THE 'SILVER ECONOMY'
IS FORECAST TO BE THE SIZE
OF CHINA AND UK COMBINED
- A \$17 TRILLION
OPPORTUNITY

ALL INVESTMENTS INVOLVE THE RISK THAT YOU MAY NOT GET BACK ALL THE MONEY YOU INVESTED.

THE VALUE OF AN INVESTMENT CAN CHANGE QUICKLY AND MAY GO DOWN AS WELL AS UP.

PAST PERFORMANCE IS NOT A RELIABLE INDICATOR OF FUTURE RETURNS.

INVESTORS SHOULD BUILD A DIVERSIFIED PORTFOLIO TO SPREAD RISK.

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