

The Long View

2025

Annual Macroeconomic Insights



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Foreword



Three months after Donald Trump swore his oath of office to be the President of the United States of America, the shake-up of the world order is in motion, with effects to the market already being acutely felt and other effects that may not be realized for decades to come. Gone is the steady flow of business across the Atlantic, built on decades of shared interest and mutual trade. In its place, uncertainty around alliances and punitive tariffs and retaliatory tariffs.

It is against this backdrop (although before the dramatic events of April's market rout) that the 2025 edition of the Trinity Student Managed Fund's *Long View Magazine* was constructed. It seems only fitting that this second edition of the magazine be published during times of uncertainty as the first was published in the wake of the Covid-19 pandemic. In 2020 and 2021, the world's status quo was being deconstructed by forces outside of the control of humanity or the markets. In 2025, we are seeing a different type of reconstruction, brought on by the concerted efforts of various political groups and zealous individuals. The need for clear thought and well-reasoned opinions grows during times like these. It is my hope that the research provided here, and the opportunities identified, can create value for interested investors in such times of volatility.

This issue contains two main themes. The first is geographic, focusing on the macroeconomics of certain markets across North America and Europe and the issues affecting them. The second is sectoral, looking at growing or peaking industries, offering forecasts on their future.

Thank you to all the Macro Analysts who have put extraordinary time and effort into their work. Thank you also to the phenomenal leadership team of the Student Managed Fund for enabling this work.

And, of course, your feedback is always welcome

A handwritten signature in blue ink that reads "Ethan Coplan".

Ethan Coplan
Chief Macroeconomist
Trinity Student Managed Fund

From War to Wi-Fi and Now AI

The Price of Progress: How Defence-Led Breakthroughs Reshape Society

By Matthew Barnes

The US Defence machine is an often-overlooked source of American innovation. The coming years will likely see more of the same, however it will likely be AI which receives its benefits. US Secretary of Defence Pete Hegseth's Department of Defence (DoD) - is expected to prioritise autonomous warfare and AI - driven systems. In tandem with increasing R&D allocations within the DoD budget, there is significant scope for economic benefits from defence innovation - and for pioneering corporations, such as Palantir and Anduril, to grow.

Historical precedent

Historically, many on the European side have seen US Defence spending as a misallocation of resources, with critics pointing to the country's lack of universal healthcare and overabundance of death-bringing machines.

However, we have seen enormous economic developments as a product of

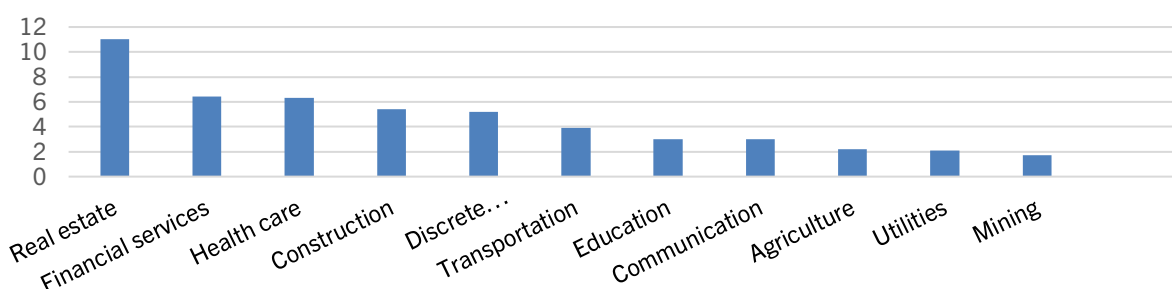
defence spending, and the unfortunate but unavoidable truth is that the threat of war fuels innovation like no other.

Such innovations have included the Manhattan Project's atom bomb developments using nuclear fission, pioneered with the Chicago Pile-1 success in December '42. Two other such innovations are GPS, and the Internet, which started as ARPANET under the 1973 DARPA (Defense Advanced Research Projects Agency) program.

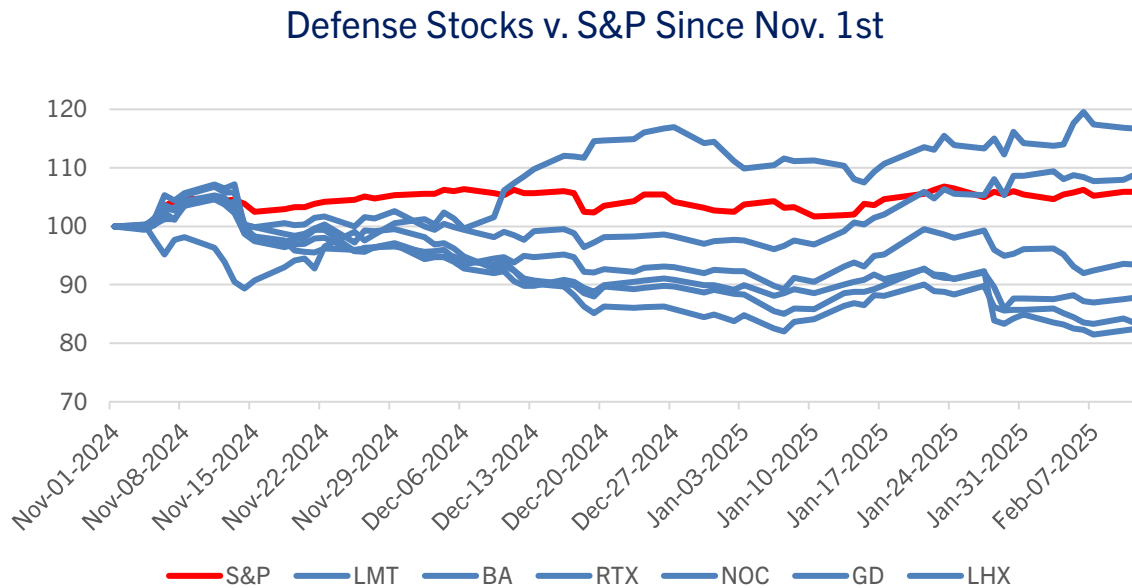
Defence-funded research can produce earth-shattering technological change, and in the era of AI why would this be any different?

A 2011 McKinsey report (McKinsey & Company, 2011, p.12) stated that the Internet in 2011 accounted for 3.4% of GDP of the largest economies, which make up >70% of global GDP. This mammoth economic catalyst underscores the profound ripple effect which defence innovation can have on broader economic growth.

Sector Contribution to GDP %



Investors bearish on defence



It is understandable why many investors are bearish on defence, with Defence stocks underperforming the S&P 500 since Trump’s nomination. (Yahoo Finance, 2025)

Two reasons:

- Boeing’s decline fuels scepticism. A defence leader being marred by safety concerns and 3 consecutive earnings misses
- The alleged war being waged by Elon Musk. His Department of Government Efficiency (DOGE) has investors wondering what impact cuts to the \$850 billion Defence budget and procurement changes may have on the sector’s revenues.

At the same time, however, the potential role for more dynamic new entrants and

tech-focused firms is immense.

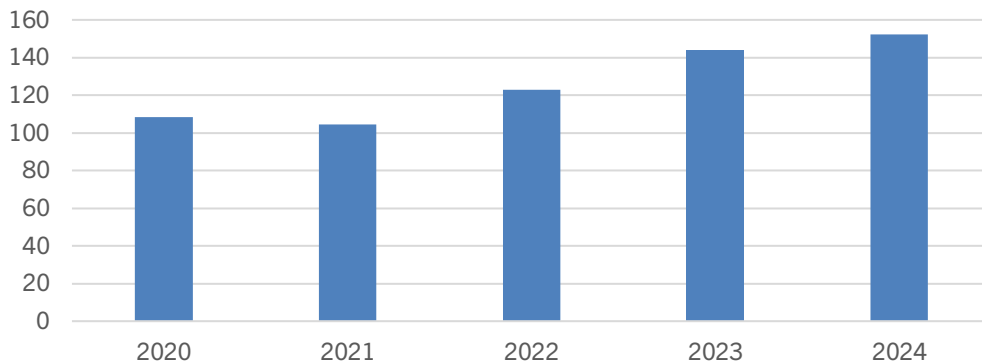
Hegseth, in his confirmation hearing, attacked the Pentagon for becoming “too insular”, vowed the DoD budget “must focus on lethality and innovation” and praised more agile Silicon Valley contractors (Fischer, D. 2025).

Criticisms of the major defence players, the drive to cut costs by increasing competition in procurement, and the potential for AI and drone innovations in reshaping defence all point to opportunities for innovative new entrants.

Trump 1.0 saw record national defence spending. He has since pushed NATO allies to reach 5% defence spending, and with the backdrop of geopolitical uncertainty, it seems likely European allies will comply.



US Department of Defence R&D Budget (\$mm)



Trump 2.0 will likely see the US seek military AI supremacy to counter rapid Chinese advancements.

In 2024, the US military spent \$148.3 billion for research, development, and testing of platforms (RDT&E), \$8.6 billion more than in FY 2023. (U.S. House Committee on Appropriations, 2023,p.4) This is in line with significant growth in the last five years, and spending is expected only to increase under a second Trump presidency.

AI's role will involve autonomous targeting and detection software, predictive analytics, and machine learning to allow drones to operate independently.

The ongoing conflict in Ukraine has shown the world the new requirements of modern war: Today that means drone warfare capability, as seen with the Ukrainian attack on Russian vessels, such as the Olenegorsky Gorniyak (Reuters, 2023).

Companies poised to benefit

The transformative shift in warfighting towards utilisation of drone fleets, as seen in Ukraine, suggests a significant opportunity for AI-integrated drone warfare systems of the future. Premium defence stocks currently look overvalued. That points to more dynamic, smaller firms that focus on AI technology, or the drone manufacturer Anduril, which will likely look to IPO in 2025. These may be the more apt choices for the defence investor in the years to come.

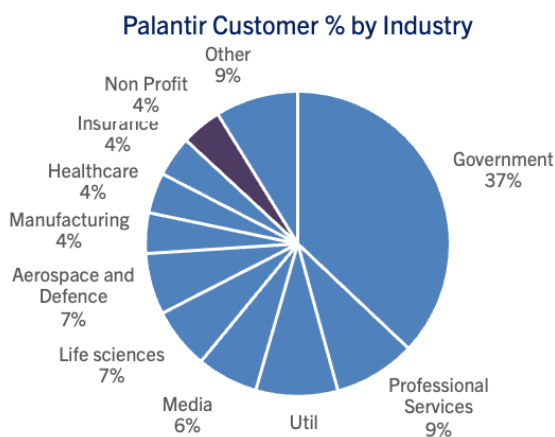
For example, American entrepreneur Palmer Luckey's Anduril boasts autonomous defence systems, including Lattice AI, which enables real-time battlefield intelligence and drone coordination. Palantir's AI models are poised to power data-driven military decision making and cybersecurity. (Fildes and Fontanella-Khan, 2024)

Emerging players such as Shield AI, Skydio, and Epirus specialise in autonomous aircraft, drones, and cyberwarfare, respectively.

These firms' growing acquisition of government contracts, alongside the Trump Administration's push to shake up the industry, suggest a bright future ahead.

The macroeconomic impacts of technological advancements

AI-powered logistics models, such as Palantir's Foundry and Gotham models, will enable organisations to automate decision-making in supply chain management. Large customers already include the British NHS, to which the AI-powered tech can bring huge efficiency savings. (Apps Run the World, 2025) The following graphic shows the enormous industry penetration possible with such wide-ranging tech.



1. The transformation of digital security

AI-driven cybersecurity software such as Palantir's will likely be adopted by the private sector, leading to enhanced encryption for communications, finances and governmental institutions.

2. AI-drone logistics and delivery advances

Military grade AI will likely be adapted for commercial use, making autonomous drones a reliable delivery system for civilian use in logistics, medical supply chains and e-commerce. One particular area of advancement should be organ delivery, with companies such as United Therapeutics already investing in eVTOL aircrafts to rapidly deliver, with low environmental impact, urgent organs to patients in need. (Warwick, 2020)

Conclusion: It is already happening

The integration of AI and drone technology into military operations is more than inevitable—it is already happening. Trump 2.0 is likely to accelerate such advancements, with opportunities abundant for tech-first defence firms.

Beyond defence, we believe the spillover effects of such advancements into the civilian world will be immense.

If history is to be our guide, defence innovation will not stay confined to the battlefield, as it did not with DARPANET, The Manhattan Project, GPS or the Internet. AI-powered warfare will extend far beyond military applications and reshape the world in ways we are only beginning to understand.

An Embattled Britain: The unravelling of an Empire

An economic reckoning is at hand

By Izaak Dooley

The UK's economy is unravelling. Years of stagnant productivity, fiscal mismanagement, and inflationary pressures have created a fragile financial environment that now lies bare to the cruel scalpel of macroeconomics. The economic model that sustained the country through low interest rates and high government spending is no longer viable, yet the political establishment remains in denial.

The bond market is flashing red. The UK 10-year gilt yield has surged to 4.49% at the time of publishing, a stark contrast to Greece's 3.29%, a country historically considered the weakest economy in Europe (FT 2025). This extraordinary inversion is indicative of an inability to successfully re-enter the post-Covid world. It serves as a damning signal that global investors now see Britain's fiscal path as riskier than that of a nation that required an IMF-EU bailout just a decade ago. For the first time, Greece—a country once synonymous with sovereign debt crises—can borrow at a lower rate than the UK, a damning indictment of Britain's financial credibility.

The return of spectres past

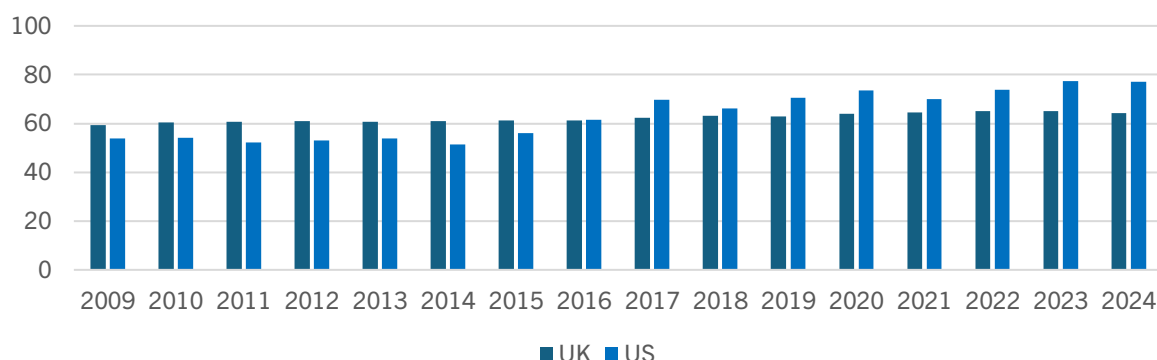
Britain has seen economic crises before, but the current trajectory bears

uncomfortable similarities to the nation's darkest days. In the 1992 monetary crisis of Black Wednesday, the government clung to an unsustainable economic position until market forces brutally corrected it. The exit from the Exchange Rate Mechanism (ERM) was a humiliating moment for British policymakers, exposing the illusion that the UK could maintain an artificially strong currency while running persistent current account deficits (Kenton 2024).

'The current trajectory bears uncomfortable similarities to the nation's darkest days'

Now, a similar mistake is unfolding. The UK has failed to address its productivity decline, yet continues to rely on the same debt-driven consumption model that worked in a low-interest rate world. With borrowing costs surging and inflation proving sticky, Britain is finding itself cornered by market forces once again. The pound remains vulnerable to further shocks, as investors lose confidence in the UK's ability to chart a path out of economic stagnation.

Labor Productivity in Pounds Per Hour Worked



Why productivity matters - and why the UK has failed

The root of Britain's economic woes is its persistent failure to raise productivity, growth - the engine of long-term economic prosperity (ONS 2025). Over the past 15 years, the UK has consistently underperformed relative to its peers. Compared to the U.S., where post-pandemic investment in AI, automation, and energy production has boosted output, Britain has failed to capitalize on new economic trends (U.S. BoLS 2025).

Data: US Bureau of Labour, Office of National Statistics

Britain's stunted productivity development can be attributed to a host of market activities. Overall capital investment in the economy is weak - UK businesses invest significantly less in infrastructure and technology than their counterparts in the U.S. Furthermore, the labour market is shrinking. We believe high levels of long-term sickness, early retirements, and post-Brexit migration restrictions have reduced the available workforce. Finally,

the UK must address a widening education and skills gap. The UK's education system has failed to adapt, leaving workers ill-equipped for a modern, high-tech economy (OFSTED 2016).

The impact of this stagnation is clear. GDP growth is anaemic, real wages are struggling to recover, and the tax base is shrinking at a time when government spending is at historic highs (OBR 2024). Unlike in the 1980s and early 1990s, when financial services helped sustain economic growth, the UK is now too reliant on consumption rather than productive investment.

An elevated interest floor: the end of cheap money

All of the above has laid a grand policy dilemma before the Bank of England: lowering interest rates too soon could trigger another inflationary spiral, while keeping them high for too long risks long-term stagnation. Unlike the U.S., where rising productivity has helped absorb the impact of high rates, Britain has no such cushion.

As noted, markets have already priced in a higher-for-longer rate environment for Britain through severe yield expectations. The days of ultra-low interest rates are over. The UK government can no longer rely on cheap debt to fund spending, meaning fiscal discipline is now essential. However, no major political party has a coherent plan to address the crisis.

The political paralysis: no plan, no credibility

The logical response to Britain's deteriorating economic situation would be fiscal consolidation - cutting unnecessary spending, reducing deficits, and restoring market confidence. However, neither opposition leader Kemi Badenoch's Conservatives nor PM Keir Starmer's Labour Party appear willing to confront reality.

In the case of the Conservatives, the path forward is shrouded by the discord between their historic commitment to fiscal responsibility and the political need to maintain public services. As a result, the party has opted for incoherent half-measures that neither reduce debt nor stimulate growth, and indeed previously contributed to the fall of Liz Truss' government in 2022.

Conversely Labour – despite being ahead in the polls, has failed to present a credible economic plan. Their promises of public investment are unfunded, and without major tax hikes or spending cuts, they risk worsening the deficit.

With no party willing to cut spending, and tax hikes politically difficult, Britain is left in a dangerous position where deficits continue to grow, and investor confidence erodes further. This makes external intervention - whether through an IMF bailout, currency collapse, or bond market panic - an increasing risk.

The case against British assets

We believe investors should delay and if possible, avoid the purchase of British assets. The risks far outweigh the potential returns, given the combination of economic stagnation, high borrowing costs, and fiscal mismanagement.

‘Sterling is vulnerable – the pound remains structurally weak’

A plethora of indicators can be drawn upon to support this case. Most noticeably, UK gilt yields have surged, making government borrowing more expensive and signalling that investors see Britain as a high-risk borrower. In addition to this, sterling is vulnerable – the pound remains structurally weak, with little room for appreciation in the current climate. Any unfavourable macro event (for example sudden and heavy tariffs) could trigger sharp depreciation. The continued underperformance of British equities (OBR 2024), in comparison to its US or European counterparts, and the resulting inability to attract prominent listings further reflect Britain's weak economic fundamentals.

Conclusion: Britain's economic trajectory is unsustainable

Britain is approaching economic straits of a dire nature. With a collapsing productivity base, a worsening bond market outlook, and a government unwilling to enact reforms, the risks of capital flight, external intervention, or a deep recession are rising. The fact that Britain now borrows at a higher rate than Greece is an alarming sign of the country's declining financial credibility.

Without structural reform, Britain is headed toward prolonged economic stagnation or an outright fiscal crisis. Investors should avoid British assets, as the risks far outweigh any potential rewards. The UK's economy needs drastic change, but for now, policymakers remain in denial. However, one must recall it's an ill wind that blows nobody any good and the question remains... who will emerge as this generation's George Soros.

The Threat of Trump Tariffs on the EU

The Consequences for Ireland

By Philip Lindstrom

Note that this article was written in March of 2025 before Trump announced tariffs and the market sell off ensued.

Since President Trump regained his seat in the White House, his nationalistic economic policies have been on full display. Aiming to accomplish key campaign promises, Trump placed sweeping tariffs on the U.S.'s three biggest trading allies: Canada, Mexico, and China. The question isn't if, but when, Trump will hit the European Union with tariffs, and Ireland will be on the blunt end of the impact.

Some believe President Trump's bully-like tactics are a bluff. After talks with Prime Minister Justin Trudeau and President Claudia Sheinbaum, Trump suspended the Canadian and Mexican tariffs just hours before the levies took effect. The EU, the world's largest free trade bloc, has pledged a unified response to potential U.S. mandated tariffs and has not ruled out retaliatory counter tariffs. A trade war between two economic powerhouses would shake the foundations of global markets.

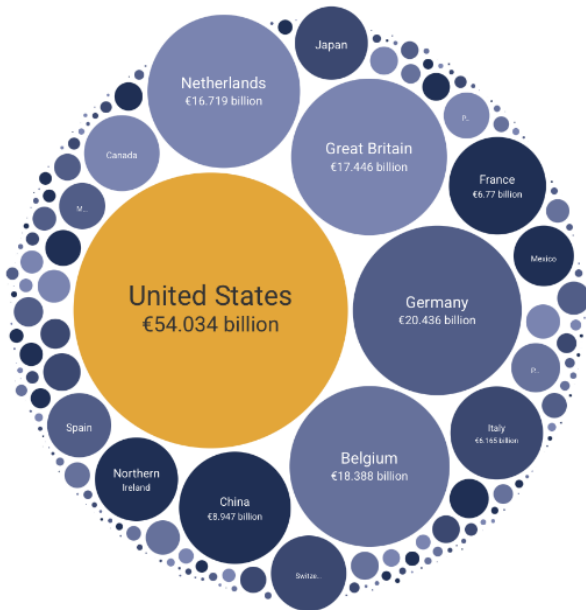
However, traders and investors need to be weary and should avoid assuming that Trump is merely posturing. Donald Trump is adamant about rebalancing the U.S.'s \$235.57 billion trade deficit with the European Union. Additionally, he is deeply fixated on acquiring

Greenland, a Danish-owned territory. No longer bound by the need for voter approval, Trump will be eager to assert his dominance and will do so through tariffs.

"A trade war between two economic powerhouses would shake the foundations of global markets"

A corporate tax haven, Ireland houses many U.S. multinational giants, and according to statistics from the Corporation Tax: 2023 Payments and 2022 Returns, MNCs paid a staggering 87% of Ireland's total corporate tax. If the U.S. imposes a 20% blanket tariff on Irish exports, a promise made during President Trump's campaign, it could force Irish-based United States MNCs to shift operations overseas. This would be devastating to Ireland's high-beta economy and could uncover its true brittleness.

Value of Ireland's Exported Goods by Country



Source: CSO | Chart: Tomas Doherty/breakingnews.ie

The United States is Ireland's most important trade partner. Data from the Central Statistics Office shows Ireland exports over €54 billion worth of goods to the U.S., which is €30 billion more than second place Germany.

Ireland's pharmaceutical industry would be affected the most by sweeping tariffs, as it accounts for nearly half of the country's exports to the United States. After a surge in popularity among the American consumer, the Irish whiskey and liquor industry is also bracing for repercussions. Under his last term, President Trump levied a 25% tariff on Irish dairy products. It seems likely history will repeat itself.

In this environment, it is impossible for traders to completely avoid risk. The VIX, the metric for investor expectations for volatility, is above its long-term historic mean. Nevertheless, there are ways to navigate the challenges imposed by tariffs.

The key is to allocate exposure among multiple asset classes and geographic regions. Emphasize investment in firms and countries with diverse export markets. Refrain from investing in automobile, steel, aluminum, energy, and other industries Trump has pledged to protect.

The value of the euro has rapidly declined since the election results and expect it to drop even further. The U.S. dollar will likely continue to strengthen, at least in the short run.

Given Trump's obsession with stock index levels, a severe market downturn in response to his actions could prompt him to reverse course. With U.S. markets being relatively stable since his victory in November, it seems unlikely his plans will change anytime soon.

Although it is expected that Trump will impose tariffs on the European Union, let's hope Ireland's economic boom won't be nearing an abrupt end. A well-crafted strategy will be necessary to counter the consequences.

Trump vs. The Fed: A Battle for Economic Stability

The Future of United States Monetary Policy at Risk

By Jemima Eastwood

The US Federal Reserve (Fed) is politically neutral by design, but President Donald Trump has a history of trying to pressure it to set lower interest rates to drive financial markets and the economy (Derby and Burns, 2025). Trump will have the opportunity to appoint a more compliant chair in 2026, which may threaten economic stability (Omeokwe, 2024)

Trump's tariffs, mass deportations, and tax cuts all have inflationary risks. Lowering rates amid these policies would exacerbate inflation and put pressure on the Fed and its ability to control price stability.

Concerns over inflation and fiscal deficits have driven up US Treasury bond yields, and concerns over Fed independence could be added to this list (Xie and Tajitsu, 2025). Investors are—and should be—shifting towards short-duration bonds, defensive assets like gold, and international markets as they hedge against US economic instability (Wynne, 2025).

The history of the Federal Reserve

The Federal Reserve is a cornerstone of economic stability in the US, tasked with conducting the nation's monetary policy through setting interest rates, managing the money supply, and

regulating financial markets. It does this using strategies of open market operations, in other words, buying and selling bonds to raise or lower interest rates. The usage of these strategies is meant to achieve the Fed's main goals of promoting maximum employment, stable prices, and moderate long-term interest rates in the US economy (McBride et al, 2024).

The inflation target has been 2% per year since 2012 (Ferguson and Lahiri, 2023). One of the most important aspects of the Federal Reserve is the fact that it is politically neutral. If the Fed were to succumb to political pressures, it would be catastrophic for economic stability. This can be seen in the case of Arthur Burns' tenure as chair under former President Richard Nixon, Nixon pressured Burns to maintain low rates for political gain, contributing to stagflation in the 1970s (Hughes, 2023). There is a reason why Congress outsourced monetary policy to the Fed on its establishment in December 1913 (McBride et al, 2024).

Trump and the Fed

President Trump has repeatedly challenged the neutrality of the Fed, and if he has the opportunity to undermine this neutrality, there will be far-reaching implications. Despite being the President to appoint current Fed

Chair Jerome Powell, Trump had a very fraught relationship with the Fed during his first term. He tried and failed to put loyalists into leadership roles and even previously considered removing Powell. (Omeokwe, 2024). This tension, in its current form, comes from Trump wanting to lower interest rates more aggressively and faster than Powell and Fed analysts think economically appropriate. Trump's goal, in this case, is to drive financial markets and the economy. He sees the market as a scorecard and mirror of success. (Omeokwe, 2024).

Despite pressures from Trump, it is likely that Powell will not be stepping down as chair of the Fed. However, his term is up in May 2026, leaving Trump with the opportunity to appoint a more compliant chair (Omeokwe, 2024). Powell has stated that his mission for his last year as chair is to complete the "soft landing," with inflation at 2% and full employment, "in what's likely to be trickier weather." In a recent address to Congress, he confirmed his view that the economy is strong overall and has made significant progress towards the Fed's goals in the last two years, but unemployment is still at 4% (Schneider, 2024). With unemployment and inflation both above target, the Fed still has work to be done (Mutikani, 2025).

Trump's economic policies vs. inflation

Powell has been vocal about the inflationary nature of Trump's changes to the economy. Trump's economic

agenda—if executed in full—is a recipe for inflation. His proposed tariffs, mass deportations, and tax cuts each carry unique inflationary risks. Lowering rates would exacerbate these risks, with supply chain disruptions from tariffs or labour shortages from deportations possibly leading to higher wages and prices (Schneider and Saphir, 2025).

Investment and Trump's Fed attacks

If Trump, or any political leader for that matter, were to pressure the Fed to keep rates low for political reasons, markets may begin to have fears, including that:

- the Fed will not act aggressively against inflation,
- there will be high inflation that could hurt long duration bonds,
- rising fiscal deficits could push yields even higher.

This uncertainty makes bonds less attractive and explains why many investors now have a preference for short-duration bonds. There has been a surge in 10-year US Treasury yields, which may suggest that the market is reacting to either higher deficits, inflationary policies, or uncertainty over whether the Fed will fully maintain its independence (Zief, 2025).

Conclusion: Implications of lost confidence

Investors seeking less traditional means of playing this theme may now look to buy defensive assets such as gold, look

to trade the VIX (a measure of US market volatility), or look outside of the US. The Stoxx Europe Index is up 8% so far in 2025 versus the S&P 500 up less than 3% (Ponthus and Jaisinghani, 2025).

While there is uncertainty as to whether as to whether President Donald Trump's pressure will impact the US Federal Reserve's neutrality, a politically motivated Fed could have disastrous consequences for the US.

The Green Rush

Cannabis, Trump, and Market Growth

By Quinn Collins

The global cannabis industry is currently valued at \$49.8 billion, with projections indicating it will surge to \$445 billion by 2030. Despite legalisation in only nine countries, cannabis is gaining significant traction worldwide, with the United States leading the market and the European Union emerging as a key player. Anticipated regulatory shifts in the U.S. could catalyse substantial market expansion. With increasing bipartisan support and potential policy shifts under consideration, the U.S. cannabis industry is positioned for significant growth. The DEA has proposed reclassifying cannabis to Schedule III, and a majority of American voters support legalisation, signalling an important shift in federal policy.

Green History

Cannabis has been used for thousands of years for medicinal, recreational, and industrial purposes. It has played a role in producing textiles, ropes, and insulation and was even used in World War II uniforms. However, in the U.S., cannabis was criminalised in 1937 after a campaign linking it to crime and social decline. The 1970 Controlled Substances Act classified cannabis as a Schedule I drug, which deemed it to have no accepted medical use and a high potential for abuse. Despite this, the growing body of research on its medical benefits, such as pain relief and

anxiety management, is challenging old perceptions. Public opinion is shifting, and cannabis is increasingly seen as a safer alternative to many prescription drugs.

The German Model

Germany provides a compelling case study on how reclassifying cannabis from a narcotic to a non-narcotic can lower costs and reduce friction in obtaining medical cannabis. By allowing imports and fostering competition, Germany has driven prices to a level where illegal markets are no longer profitable. Since legalising medical cannabis on April 1st, 2024, patient enrollment has surged from 200,000 to over a million, showing how similar reforms in the U.S. could regulate cannabis, expand access, and undermine illegal markets. Legalisation also benefits users by ensuring product quality and safety. For the German government, cannabis generates substantial tax revenue, with estimates of €3.4 billion annually, along with the creation of approximately 27,000 new jobs and savings from reduced law enforcement costs, according to a study conducted by the Institute for Competition Economics (DICE) at Heinrich Heine University in Düsseldorf. By following Germany's approach, the U.S. could similarly reduce the profitability of illegal cannabis markets,

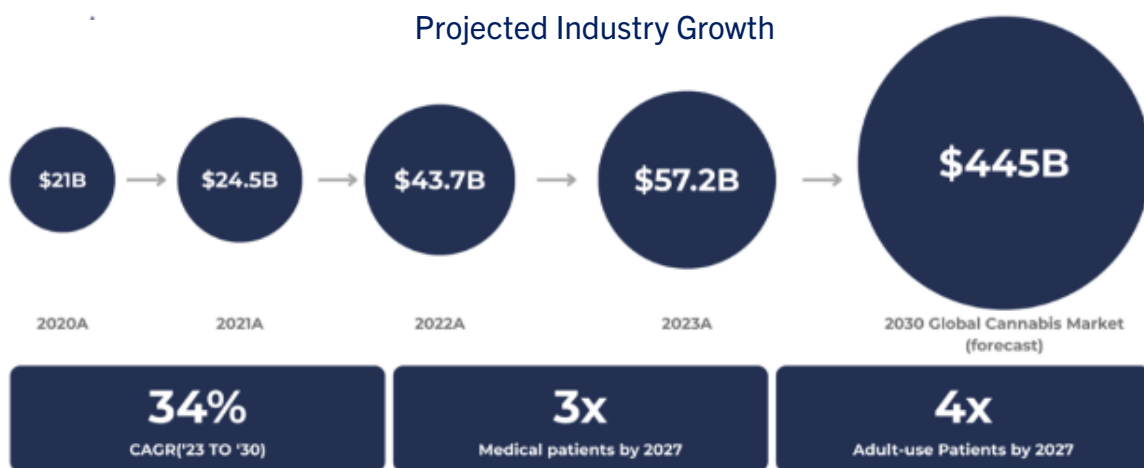


ensure safer, regulated user access, and unlock significant economic benefits through job creation and tax revenue.

U.S. Cannabis Reform Developments

Recent political shifts in the U.S. suggest that federal cannabis reform may soon be achievable, though concrete action is still lacking. President Donald Trump, on his Truth Social platform, expressed support for rescheduling cannabis, stating, **“As President, we will continue to focus on research to unlock the medical uses of marijuana as a Schedule 3 drug, and**

work with Congress to pass common-sense laws.” While this signals potential progress, the path forward remains uncertain, with many hurdles still in place, including opposition from lawmakers who are sceptical of loosening federal cannabis restrictions. Despite this, the growing bipartisan momentum is visible in efforts like the SAFER Banking Act, which aims to reconcile state-led legalisation with federal law. If the U.S. followed Germany’s model, such reforms could reduce costs, improve product safety, disrupt illegal markets, and generate significant tax revenue while creating new jobs.



Prohibition Partners, New Frontier Data, Fortune Business Insights

Opportunity and Barriers to the U.S. Market

Despite federal illegality and regulatory challenges, the U.S. cannabis market stands on the brink of significant growth, supported by broad public and governmental backing. Cannabis companies face profitability struggles due to their Schedule I classification, resulting in high taxes (IRS 280E), restrictive trade regulations, banking

barriers, and a fragmented market. This has allowed the illegal market to thrive, offering 25-40 % cheaper products and undermining the regulated sector. However, the U.S. is nearing a reclassification of cannabis to Schedule III, which would eliminate many of these barriers, enabling the industry to trade on major exchanges like the NYSE and NASDAQ. This shift would attract institutional investors, driving capital influx and boosting valuations.



In 2023, cannabis contributed nearly \$3 billion in tax revenue and supported over 440,000 full-time jobs. The cannabis industry is projected to create almost 800,000 jobs and an evaluation of 445 billion dollars by 2030 according to Fortune Business Insights. Market expansion, technological advancements, and federal rescheduling are key drivers of industry growth. If cannabis is reclassified, the U.S. could regulate the illegal market, ensuring safer products, increasing tax revenue, and attracting institutional and foreign investments. This positions cannabis as one of the fastest-growing industries of the next decade.

Insights from Industry Expert Will Muecke

Will Muecke, co-founder of Artemis Growth Partners and former Goldman Sachs Managing Director, highlighted the potential impact of cannabis reclassification. He explained that federal legalization would streamline access for patients and position the U.S. as a leader in cannabis research. Artemis Growth Partners is recognised as one of the largest private equity firms dedicated to the cannabis sector. Muecke explained that reclassification would allow every state to implement a federally legal medical program, simplifying access to be solely between patient and doctor and positioning the US as a leader in cannabis research and development. He emphasised, “The US would instead lead an industry that has created 440,000 jobs today and growing. Since they are federally illegal, those jobs don't show in our

employment numbers, but if you start including those numbers, it's possibly the fastest-growing industry in the US. The administration could achieve this with one stroke of the pen.”

The Road Ahead: Growth, Investment, and Policy Shifts

Now presents a prime opportunity for investors to enter the cannabis market, with potential regulatory changes on the horizon. This is the highest chance for a policy or rescheduling shift in the U.S. cannabis market during this presidential term, which could unlock significant growth in the coming years. Given the current uncertainty about which companies will lead the market, the most effective strategy is to invest in a diversified portfolio of OTC cannabis firms, such as Green Thumb Industries, rather than focusing on individual stocks.

The cannabis market in Europe is experiencing significant growth, with Germany leading the way. Companies such as Tilray and Aurora are strategically positioned to benefit from Germany's legalisation and the anticipated expansion of cannabis reforms across the continent. This momentum is expected to drive increased market competition, enhance regulatory clarity, and provide opportunities for established and emerging industry players. With strong growth potential in the U.S. and Europe, investors should monitor regulatory changes and consider diversifying into European cannabis firms.

The growing market of surgery robots

A strong market with a promising future

By Oliver Escott

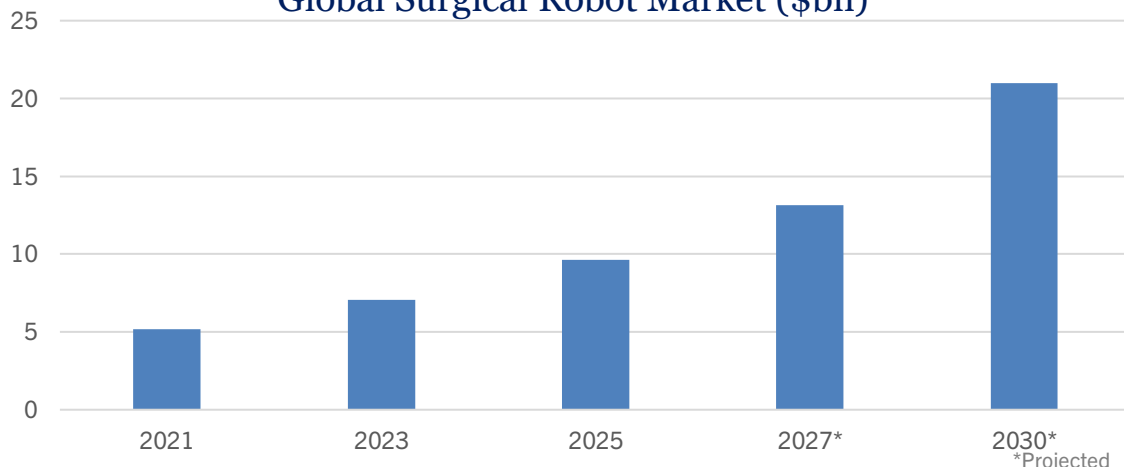
The market for surgery robots is growing rapidly due to innovation and a greater need for more effective and safer surgical procedures.

Medical tech companies such as Intuitive Surgical (a dominant industry leader), Stryker and CMR Surgical (with its Versius) have been creating and selling robots that assist surgeons in surgical procedures. These machines include the Da Vinci series (from Intuitive Surgical), which can perform general, gynecological, urology and other surgeries; and the Mako (from Stryker), which can perform orthopedic surgeries from hip replacements to total or partial knee replacements. These models are not autonomous, requiring a surgeon to use them. It is useful to think of the current state of surgery robotics as a technology that enhances a

surgeon's skills and extends their capabilities.

This industry has been quietly growing for decades and that promises to continue: the medical device market is forecast to grow at a 6% CAGR, to \$1,146.95 billion by 2034. The proportion of robotically assisted surgeries has been steadily growing, from 1.8% of all surgeries in 2012 to 17% in 2022 (Strategic Market Research, 2023), and at the time of writing, over 10,000,000 of these surgeries have been performed, with a majority of those being from Intuitive Surgical's Da Vinci model series (such that to speak of Da Vinci is to speak for the entire industry) (Intuitive Surgical, 2024, Strategic Market Research, 2023). Approximately 51% of the industry is focused in America, but the market has been steadily expanding into the rest of the world (Pandey, 2025).

Global Surgical Robot Market (\$bn)



(Strategic Market Research, 2022)



Considering safety

Metric	vs. Laparoscopy	vs. Open Surgery
Conversion to open surgery	56% less likely	N/A
Blood loss	12.26ml less	293.44mls Less
Blood transfusions	21% less likely	75% less likely
30-day postop complications	10% less likely	44% less likely
Hospital stay	0.5 days shorter	1.9 days shorter
Operative time	17.7 minutes longer	40.9 minutes longer

(Ricciardi, 2024, Intuitive Surgical, 2024)

Factors contributing to the increasing use of these technologies are that they are safer than traditional forms of surgery, they reduce hospital expenditure and the average age of the population is rising, increasing instances of diseases requiring surgery.

In terms of safety, the Da Vinci model operations are much safer than traditional laparoscopy (a procedure that allows viewing of the abdominal cavity with a laparoscope inserted through a small incision in the abdomen (The Editors of Encyclopedia Britannica, 2025)) and open surgery methods. Da Vinci procedures are less likely to require blood transfusions, less likely to have 30-day post operative complications and shortened hospital stays of patients, according to Ricciardi (2024). This is due to numerous benefits that the Da Vinci system provides such as its ability to make more accurate movements than the human hand by mechanically minimizing tremors, and incorporating

redundancy measures to prevent unintended movements and mistakes. It provides 3D vision of the surgical site through the “heads up” display the surgeon sits in while controlling Da Vinci, giving them a more precise vision than the naked eye. The key element in the systems efficiency and patient experience is its minimally invasive approach to surgery, typically employing smaller incisions than traditional surgery methods (Rivero Moreno, et al., 2023).

While conventional laparoscopic surgery is shorter than the Da Vinci surgery time, it relies on two-dimensional vision and the surgeon’s hand movements without any mechanical aid or redundancies. Open surgery, whilst it allows direct visualization of the site and is cheaper than robotic alternatives, involves more blood loss and recovery time. In enhancing patient experience, the Da Vinci model is not only good at what it does, but provides value to hospitals in the form of reducing the

cost of inpatient care and freeing up hospital space for more patients as post-operative stays are shorter (Rivero Moreno, et al., 2023).

An example of this is when the Da Vinci model helped ProMedica Health System avoid over 3000 bed days in 2022, and helped them save \$2.5 million dollars in care expenses, according to Intuitive Surgical (2023). With a price range between \$1.5 and \$2 million dollars (Rivero Moreno, et al. 2023), the Da Vinci system may make its cost back in the savings to the healthcare system many times over during the course of its operating life.

The Da Vinci suite of surgical operations include gynecology, urology, cardiothoracic, ENT and general surgery, and the system is often employed in the removal of various cancers. Stryker's Mako is used in total knee/hip replacements, and partial knee replacements.

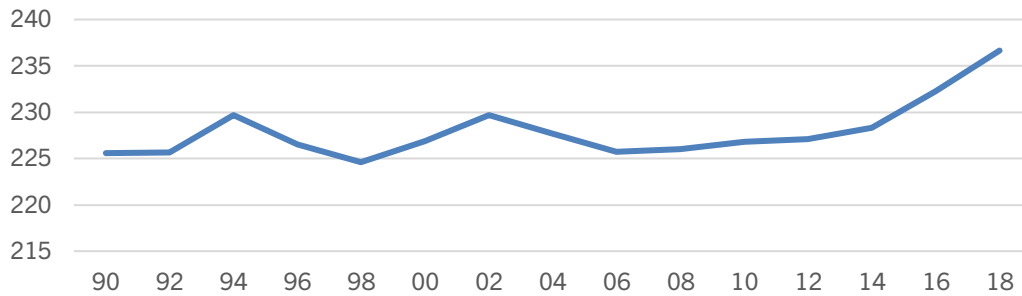
The impact of demographics and disease prevalence on the market

With the rising average age and life expectancy in the major markets for surgery robots (America) the demand for efficient and safe surgery will likely continue to rise, and should be a driving factor in the growth of the surgery robot market. Dr. Shane Martin, a medical professional at Stryker, says that "outpatient total joint surgery is expected to grow by 77% over the next 10 years" and from the present data, his statement does not seem far-fetched.

Knee and hip replacements occur mostly between the ages 60 and 80, and the average life expectancy in the US is 77.43 years, and 73.33 years in the world at the time of writing. Instances of colorectal cancer are also on the rise, especially in younger cohorts (Vuik et al, 2019. Siegel et al, 2023). Prostate cancer is the second most common cancer in men, and 42.4% of all new cases of this cancer occur in men aged between 65 and 74 (National Cancer Institute, 2018). This is a cancer that the Da Vinci is capable of removing. Prostatectomies are also a common use of the Da Vinci model. Heart disease has also been increasing from 225 per 100k to 240 per 100k from 1990 to 2019, and is especially prevalent in the 60 to 80 years cohort, who have a 77%-80% incidence of heart disease. Adults 80 years and older have an 85% incidence of heart disease. The American Heart Association forecasts that one in five people will be 65 and over by 2030 (World Heart Observatory, 2023 Qu, 2023). The Da Vinci can handle this increasing trend of heart maladies: it is capable of many heart operations, from coronary artery bypass grafting to removal of benign heart tumors.

The statistics paint a picture of a morbidity market in which populations are living to old enough ages to experience these diseases and cancers, providing a need for minimally invasive medical technologies, such as the Da Vinci, the Mako, and other surgical machines, on a macroeconomic scale.

Trends in Cardiovascular Disease (per 100k)



(World Heart Observatory, 2023)

Conclusion: Optimism about the future

Looking to the future of this market, many surgical robots are semi-autonomous at most. Autonomous models are currently in their experimental stages. Such models, once developed, may become more efficient and effective than surgeons themselves as they leave no room for human error and may be capable of performing an analysis of surgical sites that surgeons cannot do by eye.

Robotic surgery machines are being continually improved upon in a market that is growing handsomely, according to the available forecasts and statistics.

It is my opinion that this growth trend will continue for the foreseeable future, as populations continue to age and accrue diseases requiring surgeries that will themselves become less invasive and more efficient as the machines performing these surgeries are developed.

Even if preventive medicine reaches a stage where such diseases become uncommon, a future in which surgery itself will become obsolete is, I believe, utopian and distant. And a future in which a machine can perform an operation more effectively than traditional surgery is more tangible now than ever before.

The Sky's the Limit to Catastrophe Bonds?

Bonds that pay out when catastrophe strikes set to hit record highs in 2025

By Emer Desmond

The Los Angeles area wildfires scorched 37,000 acres in just over a week. El Niño fueled global temperatures to exceed the 1.5 degrees climate tipping point. The Atlantic Hurricane Season comprised five major hurricanes (The Economist, 2025b; Kluger, 2025). And severe drought left nearly half a million children at risk in the Amazon rainforest (Poynting, 2024). As such, 2024 became the third-largest year for insured losses from natural disasters, hitting \$140 billion (Hübner and Sims, 2025).

Given this context of an increasingly catastrophe-prone world, surely few would want to bear the risk of a natural disaster striking?

The sale of catastrophe bonds, in which investors bet against the occurrence of pre-defined natural disasters, proves otherwise. The catastrophe bond market is booming. Issuance is soaring and the investor base is widening. The market is now worth \$50 billion (The Economist, 2025a). Even with ever-increasing numbers of disasters striking with worsening severity, instead of large pay-outs being made, bondholders are availing themselves of juicy returns (Gautam, 2024; The Economist, 2025b).

How do catastrophe bonds work?

Cat bonds are insurance-linked securities (ILSs) designed to transfer natural disaster risk to capital markets. In essence, this innovative form of reinsurance protects issuers, mostly insurance companies and governments, from bankruptcy by triggering pay-outs when the natural disaster reaches a predetermined threshold (Polacek, 2018). How can record-high natural disaster costs be reconciled with minimal pay-outs to overburdened insurers and instead great returns to bondholders? The catastrophe bond market emerged after Hurricane Andrew wreaked havoc on Florida in 1992. This Category 5 hurricane (the highest classification on the scale, meaning it has sustained maximum wind speeds of 252kn/hr or higher) redefined hurricane catastrophe risk, and cost insurers \$15.5 billion (Carpenter et al., 2018). Catching the insurance industry off guard, these financial losses led to the failure of 16 insurers. The chain of risk transfer from insurance companies to reinsurers and then to retrocessionaires, failed due to a lack of capital to bear this risk. Traditional insurance models collapsed in the wake of this unmanageable risk. Catastrophe bonds were born (Braun and Kousky, 2021).

Catastrophe bonds work by transferring the natural-disaster related risk from an issuer to an investor in return for a premium, composed of a floating-rate coupon (its rate linked to the interest the SPV makes from the collateral account, effectively a floating rate) and a risk spread (the premiums paid by the sponsor). Investors will receive their principal investment at the end of the term, unless the disaster strikes, and the specific preconditions are fulfilled because then the principal is paid out to the issuer (Reitmeier, 2024).

In a standard cat-bond transaction, the insurer enters into a reinsurance agreement with a Special Purpose Vehicle (SPV). The SPV, a legal entity established to hold raised capital, issues cat bonds to capital market investors up to a particular limit. The bond principal is then deposited with a trust company that invests the capital in securities with a high credit rating. As a result, since cat bonds are fully collateralized, the credit risk is essentially zero. The process is unlike that of traditional reinsurance companies, which utilize the strength of their balance sheets to promise insurers that they can cover claims. Also, standard reinsurance contracts do not always pay out on every claim and usually last up to a year. By contrast, cat bonds use triggers, either indemnity-based, parametric, modelled-based or industry loss, for paying out claims and the term of coverage usually spans three to five years. This is meant to remove ambiguity regarding payment and allows

insurers to lock in a price of protection for a greater period (Polacek, 2018).

Are cat bonds' risks worth the returns?

While individual investor decisions will be informed by their own restraints, risk appetite, and value judgements, it is worth analysing at large where investors, issuers, and other key market players stand in relation to the catastrophe bond market.

From an investor perspective, cat bonds offer a high risk-high return proposition. They have become one of the world's fastest growing and most lucrative asset classes. The benchmark Swiss Re Global Cat Bond Index's two-decade performance realized an average annual return of 6.7% (Evans, 2025). Particularly against other debt markets, they have been offering elevated returns, including 18% in 2024 and 20% the previous year (The Economist, 2025b).

This is even more understandable given the context of the increasingly catastrophe-prone world nowadays. The strong returns to investors because of disasters demonstrate the unique nature of this bond market. John Seo, a Harvard Physics graduate and now one of the world's largest cat bond investors, has highlighted that catastrophe bonds "are truly meant to be the very last dollar lost" (in other words, many others will pay out before Seo). They essentially function as a pay-out of last resort; similar, perhaps, to an extraordinary

IMF bailout of a failing central bank (Evans, 2025; Rosen, 2024).

Also, there is significant demand from high-net-worth individuals and institutional investors for diversified exposure, so cat bonds are fulfilling a role by playing into their hedging strategies - particularly since 2022, when both bonds and equities took a huge hit due to the Coronavirus pandemic. Since cat bonds are based on a real physical phenomenon, they provide returns essentially uncorrelated to the volatility of mainstream financial markets.

However, the fears over the regulatory and legal dynamics at play are not unfounded, and thus the total risk associated with this market should not be understated. After all, the clue is in the name.

On top of the risk of the disaster materializing and satisfying the given loss threshold, there are liquidity and counterparty risks. Cat bonds are less liquid compared to other ILSs, which could make it more challenging for investors to sell their positions. However, diversification across cat bonds encompassing different regions, issuers, and disaster classes would largely mitigate this risk.

Second, there is the risk that the counterparty (the insurance company) may default on its obligations. The regulatory landscape does not seem to be keeping pace with recent significant market developments and transaction volumes. Cat bonds are mainly

regulated by supervising the operation of the SPV that is facilitating such transactions. Notably, safeguards like investor protection are largely absent from legislation in the U.S., Europe, and Asia. Given that a substantial amount of cat bonds are traded privately, and private markets are less regulated, the amount of protection afforded to investors in this context is unclear.

As catastrophe bonds gain a central role within the insurance space, the potential impact on the financial system is serious. On a catastrophic note, such an outcome would be all too reminiscent of the Global Financial Crisis of 2008, whereby the failure of institutional investors produced a spillover effect, causing the whole financial system to collapse (The Economist, 2025a; Braun and Kousky, 2021; Ip and Coid, 2025).

Disaster Capitalism

A name has been coined for the catastrophe bond market: “disaster capitalism”. Critics argue the intervention of capital markets is morally wrong and should be subjected to moral opprobrium, essentially in that investors are vying to profit from the destruction of people’s livelihoods and even lives (O’Dwyer, 2025). However, the flip side of the coin (or bond note!) is that catastrophe bonds were first invented to aid the emergency funding of ever-frequent disasters globally. Catastrophe bonds are central for liquidity provision, when insurance companies, governments and NGOs are all scrambling to offer often inadequate emergency aid or find themselves with

insufficient “rainy day funds.” The fundamental point of insurance is to collectivize risk, and how could that be better achieved than by attaching it to the enormous capital markets globally? However, capital markets cannot solve the issue of an insurance system being partially warped by political forces. Then, there is a political issue (The Economist, 2025a).

First, the L.A. wildfires illustrate the limitations of the insurance market in terms of risk capacity due to a lack of capital funding on the part of the insurance companies. The laws of supply and demand simply demonstrate there is excessive demand for capital that is limited. This limited capital largely refers to insurance companies being unable to cover the large pay-outs because the disaster is too catastrophic. However, it also now includes a lack of capital on the part of homeowners, businesses, and institutions to pay the premiums for the insurance, that is, the market price that is proportionate to the market risk of the natural disaster. For instance, the year before the blaze hit the Pacific Palisades, State Farm Group (the largest U.S. property, casualty and auto insurance company) pulled out of 69% of their policies in the Palisades alone. Simply because they were massively over risk given their financial capacity. And unfortunately, insurance companies’ lack of capital causes a snowball effect onto everyday people because the tragic reality of the insurance sector not having enough risk capacity is that people cannot buy

insurance at any price (The Economist, 2025a; Semuels, 2025).

Second, and more of a root issue, points to L.A.’s poor land use, deficient housing policy regime, and attempt to lock in a politically agreeable insurance premium price for homeowners (which is disproportionate to the risk assumed by insurers). Effectively the insurance market is broken as there are a significant number of people facing enormous risk and politics is pushing aggressively back against those individuals bearing the risk themselves. It is understandable that political forces are acting to try and protect the value of people’s homes. While good-intentioned, this political involvement has been undertaken in the insurance market throughout L.A. without due regard to the nature and functioning of the insurance market, leading to detrimental consequences. Consequently, catastrophe bonds are not going to solve insurability issues in places like L. A. where insurers are pulling out, and where there is a government-enabled insurance operation. This political problem is not within the specialty of capital markets to solve (The Economist, 2025a; Johansmeyer, 2025; Semuels, 2025).

Learning from L.A. points to reform on the horizon

Is the cat bond market failing? The L.A. Wildfires demonstrated the crux of the controversy: Can catastrophe bonds make the most perilous regions, like L.A., insurable again?

Markets, predicated on the laws of supply and demand, cannot be asked to perform a quasi-executive function, to flatten the inequalities of outcomes that emerge in the insurance sector. More importantly, the root causes of these inequalities stem from poor housing policies, unambitious climate risk mitigation plans, lack of global collectivism against climate change, and a politically involved insurance sector exacerbating adverse market outcomes. The catastrophe bond market does not, and should not, bear this responsibility.

The moral argument against cat bonds is not justified. It is important to realize that catastrophe bonds fill the gaps within the traditional insurance sector - although they are not perfect, by any means. Without them, insurance in perilous regions would only further decline, since cat bonds exert downward pressure on reinsurance market prices. And without cat bonds, the money to finance recoveries in these disaster-stricken regions would likely be coming out of taxpayers' pockets (The Economist, 2025b).

After learning from L.A., the potential for reform to strengthen the catastrophe bond market should be on the horizon. Meaningful reform would be threefold:

1. Standardisation of risk modelling and assessment.
2. Improved trigger mechanisms encompassing hybrid parametric-indemnity triggers and tiered pay-out mechanisms that provide partial

pay-outs for events just below full triggering thresholds.

3. Development of a comprehensive regulatory framework to monitor the securitisation of catastrophe risks and ensure fairness and transparency within contractual agreements.

Such reforms would not only improve the insurability of disaster-stricken regions like L.A. but also serve to improve investment prospects by increasing investor protection and confidence in the market; reducing legal complexity; deepening market liquidity; and extending market reach (Ip and Coid, 2025; Evans, 2024; Johansmeyer, 2025; Rözer, Reitmeier and S. Dookie, 2025; Semuels, 2025).

Conclusion: Blue Skies Ahead

While ethical and legal considerations expose the perils of catastrophe bonds, investor sentiment, recent investor activity, and long-term market trends seem to favour the promises that this innovative form of reinsurance has to offer for the future.

Even looking at the period between 2000 and 2023, the Swiss Re Global Cat Bond Performance Index's maximum drawdown (the largest peak-to-trough decline in the value of the index) was only 10%. Over the same period, the S&P 500 experienced a max drawdown of 57%, and global bonds' (measured by the Bloomberg Global Aggregate Index) was 26% (Farran, 2025).

On balance, the catastrophe bond market holds hope as a promising

investment landscape and partial
insurability solution in an ever-changing
world. It is early days for catastrophe
bonds but watch this market fly sky high
in the next decade.



The Carbon Credit Conundrum

By James De Barra

The Voluntary Carbon Credit Market (VCM) was once projected to reach a trillion dollar valuation by 2037 (Chyka, 2023) but due to mounting uncertainty and recent scandals, its total market value today barely surpasses one billion dollars while continuing to decline. Despite this, some of the world's foremost economists, policymakers, and philanthropists continue to endorse the market. Our approach to VCMs needs re-evaluation, and Donald Trump may be the unlikely catalyst for change.

- VCMs offer companies a means to offset emissions, support climate goals, and serve as an investment opportunity in sustainability projects.
- Trump's first term saw VCM growth, with businesses seeking alternatives to federal regulations on sustainability amidst his anti-ESG stance.
- Trump's second term could further elevate demand for carbon removal and sustainability-driven markets as companies continue to self-regulate.
- The future of VCMs hinges on the success of VCM governing organisations' ability to restore market integrity by implementing robust safeguards to ensure transparency.
- Success in these areas could drive significant growth in the carbon removal market and other related

sustainability sectors, unlocking environmental benefits and investment opportunities.

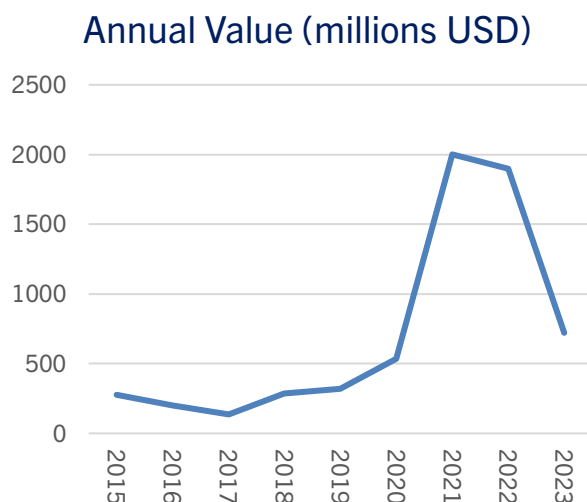
Carbon credits are tradable permits that grant companies the right to emit a specified amount of CO₂. Compliance credits are issued under regulatory frameworks, while voluntary credits are purchased by firms seeking to offset emissions beyond legal mandates. In principle, voluntary carbon markets enable participants to mitigate their carbon footprint by financing projects that remove greenhouse gases from the atmosphere, with each credit representing the removal of one metric ton of CO₂.

The voluntary carbon credit market initially experienced rapid growth, with projections suggesting it could reach a trillion dollar valuation by 2037. However, since 2022, concerns over greenwashing and credit reliability have led to a market downturn. BloombergNEF has warned that, without strong regulatory supervision, the predicted market value could plummet to as low as 34 billion dollars by 2050. With the future of the voluntary carbon market clouded by uncertainty, the key question is whether this market represents a profitable innovation or merely a high risk venture masked by greenwashing.

An Unlikely Catalyst

Despite growing uncertainty, one unexpected factor could reignite interest in voluntary carbon markets. Trump's second term in office may raise alarms for climate advocates, especially given his administration's history of environmental policy rollbacks. However, During Trump's first term, The VCM experienced significant growth, with its value increasing from \$136 million in 2017 to \$2.1 billion in 2021 (Procton, 2024) This surge was largely driven by proactive measures from European nations and the U.S. private sector, compensating for the absence of federal regulations.

an increase in their market price. As a result, companies sought cost-effective ways to offset emissions, indirectly boosting demand for voluntary carbon credits.



The Fall of VCM

The voluntary carbon market experienced a major downturn in 2023, as investigative reports exposed critical flaws in carbon credit verification.

In response to the U.S. withdrawal from the Paris Agreement in 2017, French President Emmanuel Macron launched the "Make Our Planet Great Again" campaign (Macron, 2017). This initiative aimed to position France as a leader in climate action by attracting international climate experts and businesses.

Concurrently, the European Union introduced the Market Stability Reserve within its Emissions Trading System to address the surplus of carbon allowances by adjusting the supply based on market conditions. This mechanism effectively reduced the availability of carbon permits, leading to

Accusations of greenwashing spread rapidly, shaking investor confidence and causing carbon offset prices to collapse.

"In the voluntary carbon market, there has long been an oversupply of credits perceived as low quality, which ultimately fail to contribute to actual carbon avoidance or removal," said Kyle Harrison, Head of Sustainability Research at BloombergNEF (Brown & Khan, 2024).

The market's credibility suffered a major blow following high profile scandals. The 2022 Gold Standard controversy revealed that a hydroelectric project in Asia had issued carbon credits for electricity generation that had already been taking place before its certification, raising serious concerns about the integrity of carbon offset mechanisms (Lakhani, 2023). Further undermining confidence, a

January 2023 investigation more than 90% of rainforest carbon credits certified by Verra did not lead to actual emissions reductions (A&L Goodbody, 2023).

These scandals and ongoing uncertainties underscore the significant risk of greenwashing in the carbon credit space. To restore integrity and trust amongst investors, consumers, and stakeholders, the market needs stronger regulatory oversight, better verification processes, and new methodologies for assessing and generating carbon credits.

"Voluntary carbon markets have the potential to accelerate our fight against climate change, but only if they operate with integrity and transparency" - Michael Bloomberg

Restoring Integrity

Mark Carney, newly appointed Canadian Prime Minister, co-founded the Integrity Council for the Voluntary Carbon Market with the hope of restoring integrity to the market. Central to this effort is the development of the Core Carbon Principles, a global benchmark defining what qualifies as a high-quality carbon credit. These principles emphasise real, verifiable, and additional emissions reductions or removals while promoting sustainable

development. In addition, the council has introduced new methodologies to assess and generate carbon credits, including initiatives like the recently approved approach aimed at cutting emissions through cleaner fuels in domestic cookstoves (Twidale, 2025).

Alongside ICVCM, the VCM Integrity Initiative is developing codes of conduct to ensure businesses responsibly integrate carbon credits in line with their decarbonisation goals. Concurrently, the Global Carbon Markets Utility is building infrastructure to support a transparent and efficient market, focusing on standardisation and data management to enable scalable growth.

At the 29th United Nations Climate Change Conference, Mark's efforts, alongside those of other Voluntary Carbon Market regulators were officially recognised (Integrity Council, 2024). These regulatory bodies, alongside Article 6.4 of the Paris Agreement, present a significant opportunity to establish a more unified and consistent policy for VCM (Furness, 2024), enabling smoother trade at both international and national levels.

Big Players Backing Carbon Removal

For investors, the future of voluntary carbon markets presents both risks and opportunities. Under the Trump administration, voluntary carbon markets could experience a paradoxical resurgence. His anti-regulatory stance may lead to the removal of federal climate mandates, which could place

greater pressure on corporations to self-regulate. As environmental concerns intensify, demand for reliable, high-quality voluntary carbon credits could rise again.

Carbon removal companies are gaining the attention of major investors, with corporations like Microsoft and JPMorgan Chase backing firms such as Climeworks (Mundy, 2024). Furthermore, Graphyte, an emerging player in permanent carbon removal, has secured strategic partnerships, including one with American Airlines, positioning it for considerable growth in 2025. Backed by Bill Gates, Graphyte is set to deliver its first carbon removal

credits in 2024, with a targeted operational capacity of 50,000 tons of CO₂ equivalent by early 2025 (Calma, 2023).

In an economic climate where federal neglect could hinder progress in the global fight against climate change, the voluntary carbon credit market stands at the critical crossroads of becoming a glimmer of hope or a greenwashing hoax. If executed effectively, carbon removal companies and other sustainable initiatives not only offer a compelling investment opportunity but also could play a pivotal role in shaping a sustainable future for our planet.

The Impact of Tracker Mortgages

The tracker mortgage was an attractive option. Then, rate hikes began.

By Reuben Cahill

A tracker mortgage rate is a form of variable-rate mortgage, tied to the the European Central Bank's (ECB) main refinancing rate (MRO), which can fluctuate depending on interest rate changes. Historically these ECB rates were lower than the fixed and variable mortgage rates offered by banks in Ireland; however, due to various scandals, multiple customer accounts being charged higher rates on their repayments, and the recent increase of global interest rates since the Covid-19 pandemic.

The treatment of tracker mortgage rate customers has negatively affected many lives, including my own.

An option for lower repayments

As noted, tracker mortgage rates are usually set at 1% above the ECB rate and will rise and fall in line with the ECB rate. The problem is that tracker mortgage rates are not profitable for banks, and at times, after the global financial crash of 2008, interest rates became lower than many had predicted. The previous rates were set during the Celtic Tiger from 1995 through to 2007, when rates were high and there was great demand in the housing market. During the financial crash, the ECB lowered its rates from 4.25% in 2008 to 1.5% in 2011 and as low as 0% in 2016 (ECB, 2025), meaning for many first-

time buyers and homeowners, the tracker mortgage was an attractive option. Unlike their customers, banks experienced the negative effects of tracker mortgages as they became less profitable and gave rise to the "Tracker Mortgage Scandal". As far back as 2006, banks had offered tracker mortgages to those eligible, which at the time was seen as a way for many borrowers to decrease their repayments (since, as noted, the rates were usually lower than fixed or variable mortgage rates). In the years following the crash, many banks began to see losses on these mortgages and, to dampen their losses, refused many eligible customers the chance to move on to the tracker mortgage rate and kept them on a fixed or variable with higher rates and repayments. Approximately 60% of the 30,000 customers impacted by the Tracker Mortgage Scandal were affected due to Irish banks refusing to offer homeowners a tracker mortgage, and 40% of cases were because banks charged tracker mortgage rate customers a higher rate than they should have (Morohan, 2017).

A double-edged sword for homeowners

After a long wait, many cases have been "solved" as by the end of 2019, 40,100 customers affected received

compensation and €683 million was paid out by lenders (Central Bank of Ireland, 2019). However, the solving of these cases has acted as a double-edged sword for many homeowners. In my family's case, my parents fought hard to be put on the tracker mortgage rate they were wrongly denied for many years; however with the recent interest rate hikes many are left with the same financial stress as before, because of the recent interest rate hikes that have seen rates rise to the highest levels since 2008. Through 2022 and 2023, the ECB raised interest rates ten times to try and combat the 9.2% inflation recorded in the EU in 2022, the highest level ever measured (Eurostat, 2023). In turn, this has created around 80,000 “mortgage prisoners” who cannot change their tracker mortgage to a fixed or variable rate, as many mortgages were given to so-called vulture funds that offer no option to change the borrowing terms once the agreement has been made. This means that about 20% or more of these borrowers' gross income must be devoted to the payment of their mortgage debt (Weston, 2023). In 2023 the percentage of mortgage borrowers forced to pay more than 20% of their gross income almost doubled from 7% to around 14% (Weston, 2023).

The impact of declining inflation

In 2024, interest rates began to decrease, and the ECB lowered its rates. Now the deposit rate is at 3%, and the borrowing rate at which tracker mortgages are priced was, at publishing

time, 3.15% (Brennan, 2024).

Homeowners on a tracker mortgage rate will now see savings of around €1000 a year for those who have over €250,000 left on their mortgage and around €400 a year for those with €100,000 left on their loan (O’Keeffe, 2024). The big question is Will rates continue to drop in 2025? According to reports from Piero Cingari of Euronews, interest rates are likely to decline until the “first quarter of 2025”. This is because inflation has eased, and many worry that inflation is becoming too low, indicating slow economic growth.

(Halder, Paperjam, 2025)

The ECB's change from a hawkish to a dovish stance has led many analysts to have a positive outlook for interest rates in 2025 Bank of America economist Ruben Segura Cayuela stated, “We expect back-to-back cuts from the ECB, to a 1.5% deposit rate by September”. This may be a necessary adjustment as many fear the Trump administration in 2025, and his many proposed tariffs could cause disinflationary effects in the eurozone. The head of macro research at ABN Amro, Bill Diviney, said he expects the ECB to cut rates by 25basis points at each governing council meeting and eventually to see interest rates dropping to 1% in the coming years. Conclusion

For many homeowners, tracker mortgages have been both a blessing and a curse. While lower rates provided relief in the past, the recent surge in interest rates has placed many in difficult financial positions once again.

As the ECB moves towards a more dovish stance, lower rates may offer some much-needed respite, leaving us with the question: Have these changes come too late to undo the financial strain they have already endured?

What is next for Quantitative Trading?

By Morgan Brennan

A “solved” equities market would presume almost perfect efficiency. New information would have prices adjust practically instantly, leaving scant room for retail investors or stock pickers. In this case, algorithmic trading would be primed to expand. The only edge to be found would be in the sub-millisecond speeds. In this case individual edges would yield only tiny returns, only algorithms can automate these trades at the scale and frequency required to be competitive and profitable. While this market would reduce traditional alpha opportunities, it also sets the stage for a large mergers and acquisitions, as large firms compete to get the infrastructure, talent and, technology to succeed

There would be a tech arms war between these firms. Setting up the infrastructure required to make money in algorithmic trading requires a very significant amount of money. You need low-latency connections, cloud computing capabilities, data pipelines, compliance frameworks, and the wage bill of the engineers who run and set up all this hardware and software. This means that only those firms with access to already significant capital and/or these frameworks set up could be poised to come out on top. You would see smaller players get eaten for their quant teams, architecture, or their niche specialty.

Foremost to benefit from the M&A market this would create are the bulge-bracket banks – powerhouses such as Goldman Sachs, JPMorgan and Morgan Stanley. Their resources, client networks and already sophisticated electronic trading platforms put them in a strong position to absorb smaller quantitative trading shops. These banks have the balance-sheet and the infrastructure to integrate new acquisitions with relative ease. Outside of acquisitions, these large banks may forge alliances or minority investments in boutique firms in order to gain footholds in the market while maintaining their focus on prime brokerage, wealth management and corporate banking.

Firms like Citadel and Jane Street have an advantage in that their current business model would continue to work in the future where quant trading is the norm. They already attract talent and have the track record and profitability to grant them the capital needed to eat smaller competitors. These firms are also growing, as you can see in the attached graph, they now make up the largest part of market trading volume. As market dislocations become more fleeting and subtle however these firms may have to adjust their strategies to more and more niche methods. You could see more targeted acquisitions of boutique firms with niche specialities.



Giving these prop firms the “edge” they are always looking for.

For boutique firms, the market presents large opportunity but also incredible risk. On one hand, firms with a niche expertise would be able to bring in a high valuation, like the tech startup success stories from the VC world. By demonstrating an ability to exploit overlooked signals/use advanced algorithms that outpace industry norms, they could get lucrative buyout offers from larger firms seeking to consolidate their space in the market. On the other hand, failing to differentiate in this world of algorithms leads to death or worse bankruptcy, there would be no space for an unimpressive firm in this market. There is too much money moving too quickly for the lack of success to go unnoticed. The most viable smaller players would have to be those that structure themselves like a successful startup, by having their own niche, such

as having expertise in a less algorithmically traded asset class, a strong balance sheet, and a demonstrable capacity for innovation. This mix of high-stakes and high rewards would be difficult but extraordinarily rewarding path for these firms.

In conclusion, as equity markets get more optimised only the institutions who can adapt will survive. There will be a Darwinian period until the market becomes stable around a few solid players, likely made up of the familiar names today, but perhaps in an unfamiliar composition. The traditional stock picker and excel analyst will become a thing of the past, replaced by people with the technical knowledge and the will to apply it, in this never-ending search for edge in a market with an ever-narrowing amount.

EU-Mercosur Trade Deal

25 Years in the Making—What It Means for Commodities

By Eloi Noyon

Officially started in 1999, but in discussions since 1990, the negotiations of EU-Mercosur trade agreement have been controversial. Representing around 720 million of people, Brazil, Argentina, Uruguay, Paraguay and the 27 EU countries tend to cooperate and negotiate a fair deal. On 6th of December 2024, a huge step was made: the signature of a free trade and cooperation agreement. The main purpose is to remove trade barriers on goods and services to facilitate EU firms in generating greater profits in the Mercosur zone and permit more advantageous investments. Regarding the commodity market, this would help EU to secure sustainable access to critical raw materials (CRM), strengthen economic security and support the green transition. However, the agreement tends to foster Mercosur's agriculture exportation, which arouses potential risks. Now in ratification phase, the text needs to be translated in all languages necessary and signed by all countries. There is a slight chance that the deal won't be finalized. For now, only France really seems to be against, which doesn't represent the 35% of the EU population needed to cancel the agreement. The implementation of the new rules is forecasted by the end of 2026.

Charging Europe's Batterie: Mercosur Supplies the Critical Minerals, Europe Powers Ahead!

To be a climate neutral economy by 2050, the EU has to secure CRM within its supply chain to enhance resilience and adopt a clean digital transition. Essential minerals for batteries and aluminum production are extracted in Mercosur's region, especially in Argentina and Brazil. The deal could be a precious opportunity for EU's procurement. Lowering the trades tariff would permit cheaper imports and higher competitiveness. It's even more necessary as China is on the race for Latin's America CRM. The rising empire aims to control 1/3 of the world's lithium by the end of this year (Bloomberg, 2023). Their goal is to manage 80% of the solar photovoltaic supply chain, including the production of lithium batteries (Jütten, 2024). Based on the International Energy Agency's data, lithium world demand is expected to rise by 1500% by 2050 (UNCTAD, 2024). It is now the time to secure the future for the EU!

If the text is agreed by all countries, the agreement will prohibit export monopolies. It should ensure that no single entity within the Mercosur can dominate the export of certain raw materials. This will lower the risk of

prices manipulation and limit control over exported volumes. Overall, the new deal will promote better market conditions and transparency in trade between the two regions. Stronger EU foreign investments in local Mercosur industries are then expected to foster competitiveness and secure durable CRM sourcing.

According to E. Pradier, lithium trader at Gerald Group, in the long term it could help. On paper, trade agreement seems advantageous for EU regarding CRM. However, for many mining firms, especially mid and small size, Mercosur's regulations will be very hard to check. Many producers don't even speak English. The ways of doing trade are still archaic to a certain extent. It will take time to ensure that every mine operator respects the deal without giving its proper rules.

Mercosur Agricultural Imports: Fuelling EU Export or Undermining European Agriculture?

One of the most important issues of the free trade agreement is the potential negative impacts on EU agriculture. To apply the deal, the European bloc will gradually reduce tariffs barrier and eliminate them directly for unsensitive products. As a major actor and cheap producer, Mercosur threatens the EU farmers. After extensive negotiations, the two regions have found a solution: quotas on sensitive Mercosur agricultural exports. Beef, poultry, sugar, ethanol and rice are concerned.

In theory it should efficiently manage risks, but the situation is still very blurry. Even with quotas, an external pressure of additional volumes on the market will inevitably foster competitiveness within the EU territory. As a result, farmers tend to see their margin decrease with potentially lower prices for sensible products.

To overcome this negative forecast, the EU is promising 1 billion euros to help farmers (Devault, 2025). Even if there are quotas, the economic union is already considering a large impact on farmer's profits. When details of this mysterious subsidy are presented, a focus will be necessary to understand which sector will benefit the most, and which will be endangered.

The key argument from stakeholders in support of the agreement is that it offsets losses on sensitive products by creating opportunities for EU exports of other goods. Reduced tax on EU milk-based products (Cheese, milk powder) to Mercosur tends to benefit specific farmers and industries. Moreover, renown products of quality with EU Geographical Indications (GIs) certification (Champagne, Prosciutto di Parma...), now under high tax, will benefit from this agreement. These goods with a significantly higher margin than raw agricultural crops should create bright opportunities.

A final aspect of the recently signed agreement is the concerns toward ethical ways of production. The deal includes a mirror clause for pesticides and chemical use standards. It should

ensure that agricultural imports comply with EU restrictions on chemicals harmful to humans and ecosystems. It is essential to have fair norms regarding chemicals as it significantly impacts yields, and consequently competitiveness. Moreover, environmental protection and deforestation prevention are brought to the forefront in the media. Strict clauses are included in the deal to prevent imports linked with illegal deforestation. It is widely happening in the Amazon and Cerrado regions.

According to B. Devault, journalist for La France Agricole, the EU-Mercosur trade agreement tends to have an overall

negative impact on EU agricultural performance. However, certain sector will see opportunities and merit particular attentions. Regarding all the ethical section, it is idealistic to respect clauses in a short period as the resources for control are not yet sufficient. In fact, the chemicals used for crops are not the same within the two regions because of distinct climates. It is a tough challenge to find common norms of production

While the deal opens doors for trade, it also plants the seeds of debate, whether those seeds grow into fruitful opportunities or thorny challenges...

AI is stealing our jobs! Or is it?

Insights into the Future of the Job Market

By Robin Schulz

With AI on the rise, this question seems to be in the back of everyone's mind.

Is AI going to steal our jobs or can we work together to use its power and to unlock new possibilities?

What is clear, is that AI is reshaping the industries and the workforce rapidly. But what does this shift really mean for worker productivity and the labor market as a whole?

AI has moved from being this futuristic concept and new unexplored part of tech to something much greater that seems to have become indispensable. It has boosted productivity and is creating entirely new roles. Are the workers pulling the short straw and is AI rendering certain jobs obsolete? Or is it rather an opportunity that we cannot afford to miss?

Disruption and Demand: How the Job Market Is Being Reshaped

Research suggests that the replacement of workers through the technology is getting out of hand. In August 2024 the unemployment rate of IT workers in the United States reached 6% (Belle, 2024) which is the highest it has been since the early 2000s dotcom bubble. This increase can easily be associated with the major changes in the labor force through AI (Belle, 2024).

On the contrary, since the rise of AI the amount of AI specialist jobs or jobs demanding AI specialist skills has increased by so much, that its growth outpaced the growth in all other jobs since 2016 (PwC, 2024). Especially knowledge work sectors, for instance financial services (2.8x more jobs like this), professional services (3x) and information and communication sectors (5x) are looking for a workforce with enlarged AI capabilities. This leads to a great increase in job postings.

Working Smarter: What Productivity Really Looks Like

Considering worker productivity, there is a clear increase in productivity across various sectors to notice. Industries with higher AI adoption rates, have experienced up to 5 times greater worker productivity growth than those sectors with lower rates (Figure 1). For instance, in customer service, the introduction of AI has increased productivity by 14% with less experienced workers in the field benefiting the most from the help of AI (Soroushian, 2024).

Expert Insights Coeo GmbH: How AI and People Work Side by Side

Coeo is a German debt collection service provider with locations in 8 countries that recently has made the

shift to using cutting-edge AI-based processes and insights derived from behavioral research to not just increase their performance and efficiency but also to harmonize customer relationships for the long term. They do that by not just using AI but also combining it with the expertise of their customer service employees.

Prof. Dr. Anja Hanisch-Blicharski (former Head of AI at Coeo GmbH; personal communication, 20 February 2025) explains: “AI helps us a lot, with the automation of processes, thereby improving customer interaction, for example, faster analyzing data to make data-driven decisions and prediction and constantly improving to get even better and more efficient.”

When asking about the worker productivity and how it has been influenced by AI, Prof. Dr. Hanisch-Blicharski (2025) shares an interesting insight: “For example, we have become faster at responding to incoming mail, i.e. customers don't have to wait as long for help. AI is helping us with efficiency and especially with precision.” All of this while not leaving out the workers themselves.

Especially in the customer service, where personal and direct human contact plays a major role: “We have humans and AI working together. For example, our Voice agent helps our customer service agents to verify debtors and can also answer initial simple queries. Complicated cases and where human interactions are important

remain with humans.” (Hanisch-Blicharski, 2025)

That way the AI and the employee can build a strong partnership that is completely focused on the goal and the customer/debtor.

Could this collaboration lead to an increase worker productivity for a longer period of time? Prof. Dr. Anja Hanisch-Blicharski (2025) explains: “I assume that this is a long-term effect. Both the models and the infrastructure for data storage will improve. In my view, it's a start and only the beginning. Sustainable effect.”

With this lasting longer into the future, is there a need for people to be worried about their job? Some people would say no. But what could people do and what skills could they develop to remain competitive in the AI-driven labor market?

Prof. Dr. Hanisch-Blicharski (2025) says this: “An interest in new things, critical questioning and being open to accepting help. It will become a togetherness.”

As mentioned above, the shift has happened quite quickly and every continent, country, sector and industry has so far reacted differently or is at least affected differently. Considering the global labor market, how can we predict the shifts going further? Will it create more equal opportunities or widen the gap between developed and developing economies? (Schellekens and Skilling, 2024) Prof. Dr. Hanisch-Blicharski (2025) herself was not quite

sure: “Phew that's a very good question! I don't think AI can help close a gap that has unfortunately grown historically. I fear the gap will widen for the time being, as those who have the opportunity to apply and integrate AI will have an advantage. However, this possibility is not equally accessible to everyone and every company.”

Conclusion: Finding Balance in a Time of Change

So, to summarize: AI has displaced certain jobs and has created new jobs and new opportunities. While it has led to job losses, there is a huge rise in jobs needing AI maintenance, AI-human collaboration and human oversight. AI developers did not exist a few years ago. But now there are many companies that cannot work without AI. As AI continues to evolve, it promises not only to redefine roles but to unlock a future where human potential is amplified, leading to more efficient, dynamic, and sustainable workforces.

References *(by Article)*

From War to Wi-Fi and Now AI

- Apps Run The World. (n.d.) *Palantir Foundry Customers and Market Share*. Available at: <https://www.appsruntheworld.com/customers-database/products/view/palantir-foundry> [Accessed 4th March 2025].
- Fildes, N. and Fontanella-Khan, J. (2024) *US military spending surge fuels defence sector boom*. Financial Times, 15 March. Available at: <https://www.ft.com/content/6cfdfe2b-6872-4963-bde8-dc6c43be5093> [Accessed 30th March 2025].
- Fischer, D. (2025) *Fischer questions Pete Hegseth at confirmation hearing*. U.S. Senator Deb Fischer. Available at: <https://www.fischer.senate.gov/public/index.cfm/2025/1/fischer-questions-pete-hegseth-at-confirmation-hearing> [Accessed 11th February 2025].
- McKinsey & Company. (2011) *Internet Matters: The Net's sweeping impact on growth, jobs, and prosperity*. Available at: [MGI_internet_matters_full_report.pdf](#) [Accessed 11th February 2025].
- Reuters. (2023) *Blasts, gunfire reported near Russian Black Sea port Novorossiysk*. Available at: <https://www.reuters.com/world/europe/blasts-gunfire-reported-near-russian-black-sea-port-novorossiysk-2023-08-04/> [Accessed 12th February 2025].
- U.S. House Committee on Appropriations. (2023) *Fiscal Year 2024 Defense Appropriations Bill Summary*. Available at: <https://democrats-appropriations.house.gov/sites/evo-subsites/democrats-appropriations.house.gov/files/Defense%20FY24.pdf> [Accessed 12th February 2025].
- Warwick, G. (2020) *United Therapeutics digs deep to back longer-range eVTOL aircraft*. *AIN Online*. Available at: <https://www.ainonline.com/news-article/2020-12-15/united-therapeutics-digs-deep-back-longer-range-evtol-aircraft> [Accessed 12th February 2025].
- Yahoo Finance. (2025) *Stock price history for selected companies*. Available at: [Yahoo Finance - Stock Market Live, Quotes, Business & Finance News](#) [Accessed 11th February 2025].

An Embattled Britain: The unravelling of an Empire

- Financial Times (2025). Latest bond rates, interest rates, Libor and interbank rates - FT.com. [online] Ft.com. Available at: <https://markets.ft.com/data/bonds>. [Accessed 13 February 2025]
- Kenton, W. (08 September 2024). *What Was Black Wednesday?* [online] Investopedia. Available at: <https://www.investopedia.com/terms/b/black-wednesday.asp>. [Accessed 2 March 2025]
- Office for Budget Responsibility. (2024). *Economic and fiscal outlook – March 2024 - Office for Budget Responsibility*. [online] Available at: https://obr.uk/efo/economic-and-fiscal-outlook-march-2024/?utm_source=chatgpt.com#chapter-5 [Accessed 3 Apr 2025].
- Office of National Statistics, (29 January 2025). *Productivity trends in the UK*. [online] Ons.gov.uk. Available at:

<https://www.ons.gov.uk/economy/economicoutputandproductivity/productivitymeasures/articles/productivitytrendsintheuk/julytoseptember2024>. [Accessed 7 March 2025]

OFSTED (2016). *Schools should be doing more to prepare young people for the world of work*. [online] GOV.UK. Available at:

<https://www.gov.uk/government/news/schools-should-be-doing-more-to-prepare-young-people-for-the-world-of-work>. [Accessed 5 March 2025]

U.S. Bureau of Labour Statistics, (06 March 2025). Tables : U.S. Bureau of Labor Statistics. Available at: <https://www.bls.gov/productivity/tables/>. [Accessed 7 March 2025]

The Threat of Trump Tariffs on the EU

Campbell, J. (2025). What will Donald Trump's tariffs mean for Ireland? *BBC*. [online] 3 Feb. Available at: <https://www.bbc.com/news/articles/cdxe4dy592vo>.

Doherty, T. (2024). *How vulnerable is Ireland to Trump's tariffs?* [online] BreakingNews.ie. Available at: <https://www.breakingnews.ie/ireland/how-vulnerable-is-ireland-to-trumps-tariffs-1707291.html> [Accessed 31 Mar. 2025].

Healy, A. (2025). *Ireland's small, open economy is about to be put to the test*. [online] Irish Examiner. Available at: <https://www.irishexaminer.com/business/economy/arid-41566672.html> [Accessed 31 Mar. 2025].

Lucey, C. (2024). *Ireland's high-beta economy and the incoming 'Trump effect' - ..rteredaccountants.ie*. [online] Charteredaccountants.ie. Available at: <https://www.charteredaccountants.ie/Accountancy-Ireland/Articles2/Comment/Latest-News/ireland-s-high-beta-economy-and-the-incoming-trump-effect> [Accessed 31 Mar. 2025].

Lynch, C. (2025). *Donald Trump's tariffs are coming – Irish firms need to adjust to the new reality*. [online] Irish Independent. Available at: <https://www.independent.ie/business/donald-trumps-tariffs-are-coming-irish-firms-need-to-adjust-to-the-new-reality/a463188826.html>.

Muiris O'Cearbhaill (2025). *'Bigger than Brexit': What would a Trump trade war with the EU mean for Ireland?* [online] TheJournal.ie. Available at: <https://www.thejournal.ie/how-will-tariffs-impact-ireland-6613098-Feb2025/> [Accessed 31 Mar. 2025].

Novik, M., Smith, I., Clarfelt, H., Steer, G. and Costas Mourselas (2025). *How to trade the trade war*. [online] @FinancialTimes. Available at: <https://www.ft.com/content/d5dfc114-ac9a-4452-ac22-3fcb61ab208f>.

Taylor, C. (2023). *Leprechaun economics: Ireland's international status as a tax haven is no longer a debate*. [online] The Irish Times. Available at: <https://www.irishtimes.com/opinion/2023/02/03/cliff-taylor-leprechaun-economics-lives-on-in-our-12-economic-growth-rate/>.

Tradingeconomics.com. (2025). *Ireland Exports of beverages, spirits and vinegar to United States - 2025 Data 2026 Forecast 1992-2024 Historical*. [online] Available at: <https://tradingeconomics.com/ireland/exports/united-states/beverages-spirits-vinegar> [Accessed 31 Mar. 2025].

Usbank.com. (2024). *Stock Market Under the Trump Administration | U.S. Bank*. [online] Available at: <https://www.usbank.com/investing/financial-perspectives/market-news/stock-market-under-trump.html>.

www.cso.ie. (n.d.). *Goods Exports and Imports - CSO - Central Statistics Office*. [online] Available at: <https://www.cso.ie/en/statistics/externaltrade/goodsexportsandimports/>.

Trump vs. The Fed: A Battle for Economic Stability

- Derby, J. and Burns, A. (2025). 'Trump says he will demand lower interest rates immediately', *Reuters*, 23 January 2025. Available at: <https://www.reuters.com/markets/us/trump-says-he-will-demand-lower-interest-rates-immediately-2025-01-23/>
- Omeokwe, A. (2024). 'What Trump Can and Can't Do to Sway the Fed', *Bloomberg*, 19 June 2024. Available at: <https://www.bloomberg.com/features/trump-federal-reserve/?embedded-checkout=true>
- Schneider, H. (2024). 'Powell has long to do list in his last full year as Fed chief', *Reuters*, 18 December 2024. Available at: <https://www.reuters.com/markets/us/powell-has-long-to-do-list-his-last-full-year-fed-chief-2024-12-18/>
- Wynne, A. (2025). 'Navigating rate risks: How bonds are better positioned in 2025', *JPMorgan Insights*, 2025. Available at: <https://www.jpmorgan.com/insights/markets/top-market-takeaways/tmt-navigating-rate-risks-how-bonds-are-better-positioned-in-2025>
- Zief, S. (2025). 'Why have ten-year US Treasury yields increased since the Fed started cutting rates?', *JPMorgan Insights*, 2025. Available at: <https://www.jpmorgan.com/insights/markets/top-market-takeaways/tmt-why-have-ten-year-us-treasury-yields-increased-since-the-fed-started-cutting-rates>
- McBride, J. et al. (2024). 'What is the US Federal Reserve?', *Council on Foreign Relations*, 2024. Available at: <https://www.cfr.org/background/what-us-federal-reserve>
- Ferguson, R. and Lahiri, U. (2023). 'History and future of the Federal Reserve's 2 percent target rate of inflation', *Council on Foreign Relations*, 2023. Available at: <https://www.cfr.org/blog/history-and-future-federal-reserves-2-percent-target-rate-inflation-0>
- Hughes, C. (2023). 'Rethinking Arthur Burns: The Worst Fed Chair in History', *Democracy Journal*, 2023. Available at: <https://democracyjournal.org/magazine/67/rethinking-arthur-burns-the-worst-fed-chair-in-history/>
- Mutikani, L. (2025). 'US job growth misses expectations in January, unemployment rate at 4.0%', *Reuters*, 7 February 2025. Available at: <https://www.reuters.com/markets/us/us-job-growth-misses-expectations-january-unemployment-rate-40-2025-02-07/>
- Schneider, H. and Saphir, A (2025). 'Powell says tariffs could feed inflation, Fed must wait to determine the impact', *Reuters*, 7 March 2025. Available at: <https://www.reuters.com/markets/us/powell-says-fed-has-time-wait-clarity-trump-policy-shifts-2025-03-07/>
- Ponthus, P. and Jaisinghani, S. (2025). 'Skeptics Circle European Stocks After \$1 Trillion 2025 Rally', *Bloomberg*, 13 February 2025. Available at: <https://www.bloomberg.com/news/articles/2025-02-13/skeptics-circle-european-stocks-after-1-trillion-rally-in-2025?embedded-checkout=true>

The Green Rush

- Artemis Growth Partners (2023). *Global Cannabis Industry Outlook (Chart)*. [Internal data chart highlighting global market size projections and patient growth multiples]. Source provided by Artemis Growth Partners; data drawn from Fortune Business Insights and industry reports.
- Benzinga (2023). “This European Country Is Expected To Have Millions Of Medical Marijuana Patients, Say Experts.” *Benzinga*, December 2023. (Niklas Kouparanis quoted on German patient growth) benzinga.com
- Benzinga (2025). “Despite 8% Salary Drop in 2024, US Cannabis Industry Jobs Expected to Reach ~800K by 2029.” *Benzinga*, Feb 2025. (CannabizTeam 2025 Cannabis Industry Salary Guide findings) benzinga.com
- Cannabis Business Times (2024). “These 23 States, DC Collected \$2.9 Billion in Cannabis Excise Tax Revenue in 2023.” *Cannabis Business Times*, 4 April 2024. (State tax revenue compilation) cannabisbusinesstimes.com
- Fortune Business Insights (2023). *Cannabis Market to Hit USD 444.34 Billion by 2030 | At 34.03% CAGR*. Fortune Business Insights Research Report, July 17, 2023 (via GlobeNewswire press release) globenewswire.com
- Gallup (2023). “Grassroots Support for Legalizing Marijuana Hits Record 70%.” *Gallup News*, 8 November 2023. (Lydia Saad) news.gallup.com
- Heinrich Heine University DICE (2021). *Economic Impact of Cannabis Legalization in Germany* (Study commissioned by Deutscher Hanfverband). Results summarized in Reuters (Nienaber, 2021) – estimated €3.4B tax revenue, 27k jobs reuters.com
- Marijuana Moment (2024a). “Trump Says He Agrees People Should Not Be Criminalized Over Marijuana As More States Legalize.” *Marijuana Moment*, 8 August 2024. (Kyle Jaeger reporting Trump’s Mar-a-Lago comments) marijuanamoment.net
- Marijuana Moment (2024b). “Trump Says Florida Marijuana Legalization Ballot Measure Will Be ‘Very Good’ For The State, Adding That Medical Use Is ‘Absolutely Amazing’ For Patients.” *Marijuana Moment*, 3 September 2024. (Kyle Jaeger interview summary).
- Muecke, W. (2024). *LinkedIn Commentary on Cannabis Rescheduling*. LinkedIn post by Will Muecke (“A Milestone for Cannabis: DEA’s Decision to Reschedule...”), May 2024. (Discusses industry providing 420k+ US jobs and need for inclusive growth) linkedin.com

The growing market of surgery robots

- Barrie, Robert. “Why 2025 Is a Key Year for the Surgical Robotics Market.” *Medical Device Network*, 19 Feb. 2025, www.medicaldevice-network.com/features/why-2025-is-a-key-year-for-the-surgical-robotics-market/?cf-view. Accessed 7 Mar. 2025.
- Intuitive Surgical. *Investor Presentation*. 2024, isrg.intuitive.com/static-files/c164a46a-a4ba-4936-b5c2-a6dc8f0f4f90.
- The Case for Financial Viability in the Innovative or How Da Vinci Surgery in a Value-Based Foundation Can Impact Economic Value*. Feb. 2024.

- National Cancer Institute. "Cancer of the Prostate - Cancer Stat Facts." *SEER*, 2018, seer.cancer.gov/statfacts/html/prost.html.
- Pandey, Deepa. "Surgical Robotics Market Size to Hit US\$ 21.3 Billion by 2030." *Www.precedenceresearch.com*, 21 Jan. 2025, www.precedenceresearch.com/surgical-robotics-market.
- Qu, Chunrun, et al. "Burden of Cardiovascular Disease among Elderly: Based on the Global Burden of Disease Study 2019." *European Heart Journal - Quality of Care and Clinical Outcomes*, vol. 10, no. 2, 9 June 2023, <https://doi.org/10.1093/ehjqcco/qcad033>.
- Ricciardi, Rocco, et al. *Maturing Clinical Evidence*. Nov. 2024, www.intuitive.com/en-us/-/media/ISI/Intuitive/Pdf/Outcomes-Evidence-Navigator-Summary.pdf, <https://doi.org/10.1097/SLA.00000000000006572>.
- Rivero-Moreno, Yeisson, et al. "Robotic Surgery: A Comprehensive Review of the Literature and Current Trends." *Cureus*, vol. 15, no. 7, 24 July 2023, www.cureus.com/articles/166890-robotic-surgery-a-comprehensive-review-of-the-literature-and-current-trends#, <https://doi.org/10.7759/cureus.42370>.
- Siegel, Rebecca L., et al. "Cancer Statistics, 2025." *CA: A Cancer Journal for Clinicians*, vol. 75, no. 1, 16 Jan. 2025, <https://doi.org/10.3322/caac.21871>.
- Strategic Market Research. "Surgical Robots Market Size, Global Industry Statistics 2030." *Www.strategicmarketresearch.com*, May 2022, www.strategicmarketresearch.com/market-report/surgical-robots-market.
- "Top Robotic Surgery Statistics to Follow in 2023." *Www.strategicmarketresearch.com*, Aug. 2023, www.strategicmarketresearch.com/blogs/robotic-surgery-statistics.
- The Editors of Encyclopedia Britannica. "Laparoscopy | Definition, Procedure, Uses, & Facts." *Encyclopedia Britannica*, 2025, www.britannica.com/science/laparoscopy.
- Vuik, Fanny ER, et al. "Increasing Incidence of Colorectal Cancer in Young Adults in Europe over the Last 25 Years." *Gut*, vol. 68, no. 10, 16 May 2019, pp. 1820–1826, <https://doi.org/10.1136/gutjnl-2018-317592>.
- World Heart Observatory. "Trends." *World Heart Observatory*, 2023, world-heart-federation.org/world-heart-observatory/trends/.

The Sky's the Limit to Cat Bonds

- Braun, A. and Kousky, C. (2021). *Catastrophe Bonds. Wharton Risk Center Primer*. Available at: <https://esg.wharton.upenn.edu/wp-content/uploads/2023/08/Cat-Bond-Primer-July-2021.pdf> [Accessed 3 Apr. 2025].
- Carpenter, O., Mahalingam, A., Coburn, A., Tuveson, M. (2018). *Disaster Recovery Case Studies, US Storms 2012: Superstorm Sandy*. Cambridge Centre for Risk Studies, September 2018.
- Evans, S. (2024). *Cat bonds a key focus of future capacity & price discussions: Goldman Sachs - Artemis.bm*. Artemis - The Catastrophe Bond, Insurance Linked Securities & Investment, Reinsurance Capital, Alternative Risk Transfer and Weather Risk Management. Available at: <https://www.artemis.bm/news/cat-bonds-a-key-focus-of-future-capacity-price-discussions-goldman-sachs/> [Accessed 3 Apr. 2025].

- Farran, R. (2025). *Cat bonds are purring – and now they're easy to buy*. Finimize. Available at: <https://finimize.com/content/fat-cat-yields-the-first-ever-catastrophe-bond-etf-is-set-to-start-trading> [Accessed 3 Apr. 2025].
- Hübner, A. and Sims, T. (2025). Climate change shows 'claws' with rising costs for disasters, Munich Re says. *Reuters*. Available at: <https://www.reuters.com/business/finance/climate-change-shows-claws-with-rising-costs-disasters-munich-re-says-2025-01-09/> [Accessed 3 Apr. 2025].
- Ip, C. and Coid, S. (2025). *Despite Strong Growth in the Catastrophe Bonds Market, Something Seems to be Missing*. Axco. Available at: <https://www.axcoinfo.com/thought-leadership/despite-strong-growth-in-the-catastrophe-bonds-market-something-seems-to-be-missing/> [Accessed 3 Apr. 2025].
- Johansmeyer, T. (2025). *The LA Fires Could Change the Insurance Industry*. Harvard Business Review. Available at: <https://hbr.org/2025/01/the-la-fires-could-change-the-insurance-industry> [Accessed 3 Apr 2025].
- Kluger, J. (2025). *L.A. Fires Show the Reality of Living in a World with 1.5°C of Warming*. TIME. Available at: <https://time.com/7205644/los-angeles-california-fires-climate-change/> [Accessed 3 Apr. 2025].
- O'Dwyer, R. (2025). *'Catastrophe bonds' may offset LA wildfire damage, part of a perverse trade in dystopia*. The Irish Times. Available at: <https://www.irishtimes.com/opinion/2025/01/20/rachel-odwyer-catastrophe-bonds-may-offset-la-wildfire-damage-part-of-a-perverse-trade-in-dystopia/> [Accessed 3 Apr. 2025].
- Semuels, A. (2025). *Home Losses From the LA Fires Hasten 'An Uninsurable Future'*. TIME. Available at: <https://time.com/7205849/los-angeles-fires-insurance/> [Accessed 3 Apr. 2025].
- Rosen, P. (2024). *A hedge fund run by Harvard physics grad returns 20% on extreme weather*. Markets Insider. Available at: <https://markets.businessinsider.com/news/bonds/hedge-fund-harvard-physics-catastrophe-bonds-extreme-weather-cimate-change-2024-3> [Accessed 3 Apr. 2025].
- The Economist (2025a). *Can capital markets protect people from disasters like wildfires?* The Economist. Available at: <https://www.economist.com/podcasts/2025/02/06/can-capital-markets-protect-people-from-disasters-like-wildfires> [Accessed 3 Apr. 2025].
- The Economist (2025b). *Why catastrophe bonds are failing to cover disaster damage*. The Economist. Available at: <https://www.economist.com/finance-and-economics/2025/01/16/why-catastrophe-bonds-are-failing-to-cover-disaster-damage> [Accessed 3 Apr. 2025].

The Carbon Credit Conundrum

- Brown, H. C. & Khan, Y., 2024. Economists, policymakers push for integrity in carbon market. The Wall Street Journal, 27 September. Available at: https://www.wsj.com/articles/leading-economists-and-policymakers-push-for-higher-integrity-in-carbon-markets-9c9814a0?utm_source=chatgpt.com [Accessed 3 April 2025].
- Calma, J. (2023) 'American Airlines will pay to bury 10,000 tons of CO₂ underground', The Verge, 28 November. Available at:

- <https://www.theverge.com/2023/11/28/23979258/american-airlines-graphyte-startup-climate-carbon-removal> (Accessed: 3 April 2025).
- Chyka, K. (2023) 'Carbon offset market could reach \$1 trillion with right rules', BloombergNEF. Available at: <https://about.bnef.com/blog/carbon-offset-market-could-reach-1-trillion-with-right-rules/> (Accessed: 3 April 2025).
- Procton, A. (2024) 'State of the Voluntary Carbon Market 2024: On the Path to Maturity', Ecosystem Marketplace, 29 May. Available at: https://3298623.fs1.hubspotusercontent-na1.net/hubfs/3298623/SOVCM%202024/State_of_the_Voluntary_Carbon_Markets_20240529%201.pdf (Accessed: 3 April 2025).
- Macron, E. (2017) Make Our Planet Great Again — VF. 1 June. Available at: <https://www.youtube.com/watch?v=LUAGNeKpzBE> (Accessed: 3 April 2025)
- Lakhani, N. (2023) 'Revealed: top carbon offset projects may not cut planet-heating emissions', The Guardian, 19 September. Available at: <https://www.theguardian.com/environment/2023/sep/19/do-carbon-credit-reduce-emissions-greenhouse-gases> (Accessed: 3 April 2025)
- A&L Goodbody (2023) 'Navigating the carbon offsets maze: emerging standards and regulation'. Available at: <https://www.algoodbody.com/insights-publications/navigating-the-carbon-offsets-maze-emerging-standards-and-regulation> (Accessed: 3 April 2025).
- Twidale, S. (2025) 'Global carbon offset standard approves three clean cookstove methods', Reuters, 7 March. Available at: <https://www.reuters.com/sustainability/global-carbon-offset-standard-approves-three-clean-cookstove-methods-2025-03-07/> (Accessed: 3 April 2025).
- (2024) 'Unlocking private climate finance: high-integrity carbon markets at COP29', Integrity Council for the Voluntary Carbon Market, 27 November. Available at: <https://icvcm.org/unlocking-private-climate-finance-high-integrity-carbon-markets-at-cop29/> (Accessed: 3 April 2025)
- urness, V. and Abnett, K. (2024) 'COP29 countries endorse global carbon market framework', Reuters, 11 November. Available at: <https://www.reuters.com/markets/commodities/cop29-countries-endorse-global-carbon-market-framework-2024-11-11/> (Accessed: 3 April 2025).
- Mundy, S. (2024) 'It's time for a shift in approach to carbon credits', Financial Times, 13 December. Available at: <https://www.ft.com/content/969b487f-9534-44b6-a47d-ce7519667884> (Accessed: 3 April 2025).

The Impact of Tracker Mortgages

- Centralbank.ie. (2023). €683 million paid to affected customers – Final Report of Central Bank Tracker Mortgage Examination. [online] Available at: <https://www.centralbank.ie/news/article/press-release-final-tracker-report-16-july-2019> [Accessed 5 Mar. 2025].
- Cox, A. (2017). Explainer: The tracker mortgage scandal. www.rte.ie. [online] Available at: <https://www.rte.ie/news/business/2017/1025/915149-explainer-the-tracker-mortgage-scandal/>.

- Eurostat (2023). Annual inflation more than tripled in the EU in 2022 - Products Eurostat News - Eurostat. [online] ec.europa.eu. Available at: <https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20230309-2>.
- Extra.ie. (2017). Everything you need to know about the tracker mortgage scandal - Extra.ie. [online] Available at: <https://extra.ie/2017/10/20/business/tracker-mortgage-explainer> [Accessed 5 Mar. 2025].
- Paperjam.lu. (2025). Economists see 25bps ECB rate cut but question pace of easing. [online] Available at: <https://en.paperjam.lu/article/economists-see-25bps-ecb-rate-cut-but-question-pace-of-easing> [Accessed 5 Mar. 2025].
- Pope, C. (2024). Tracker mortgage holders to save up to €1,000 per year with double interest rate cuts. [online] The Irish Times. Available at: <https://www.irishtimes.com/business/2024/09/12/tracker-holders-to-save-close-to-1000-per-year-after-ecb-rate-moves/>.
- Weston, C. (2023). Mortgage holders on low incomes and those on trackers hit hardest by ECB hikes. [online] Irish Independent. Available at: <https://www.independent.ie/business/personal-finance/mortgage-holders-on-low-incomes-and-those-on-trackers-hit-hardest-by-ecb-hikes/a679773933.html> [Accessed 5 Mar. 2025].
- www.ft.com. (n.d.). ECB to start cutting interest rates in second quarter of 2024, economists predict. [online] Available at: <https://www.ft.com/content/3bdd81a0-e9d8-4f54-9ac5-8530d3fed1ad>.

What is next for the Quantitative Trading Industry?

- The Economist, 2019. *The stockmarket is now run by computers, algorithms and passive managers*. Available at: <https://www.economist.com/briefing/2019/10/05/the-stockmarket-is-now-run-by-computers-algorithms-and-passive-managers> [Accessed 31 March 2025].
- Goldman Sachs Asset Management, 2018. *Top of Mind: Machine Learning*. [pdf] June 2018. Data from Goldman Sachs Global Investment Research and Aite Group. Available at: <https://www.goldmansachs.com/insights/pages/top-of-mind/machine-learning/report.pdf> [Accessed 29 March 2025].

EU-Mercosur Trade Deal

- International Energy Agency (IEA), 2022. *The role of critical minerals in clean energy transitions: Executive summary*. Available at: <https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions/executive-summary>.
- European Commission, 2023. *Factsheet: EU-Mercosur partnership agreement – Enhancing trade and investment in critical raw materials*. Available at: https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/mercosur/eu-mercosur-agreement/factsheet-eu-mercosur-partnership-agreement-enhancing-trade-and-investment-critical-raw-materials_en#:~:text=The%20EU%2DMercosur%20agreement%20will%20ensure%20one%20of%20the%20highest,Promoting%20corporate%20social%20responsibility%20standards.
- Bloomberg, 2023. *China could control a third of the world's lithium by 2025*. Available at: <https://www.bloomberg.com/news/articles/2023-03-13/china-could-control-a-third-of-the-world-s-lithium-by-2025>.

- European Parliamentary Research Service (EPRS), 2024. *EU critical raw materials act: A framework for securing supplies*. Available at: [https://www.europarl.europa.eu/RegData/etudes/BRIE/2024/767163/EPRS_BRI\(2024\)767163_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2024/767163/EPRS_BRI(2024)767163_EN.pdf)
- The Greens/EFA, 2023. *The EU-Mercosur free trade agreement: Its impacts on agriculture*. Available at: <https://www.greens-efa.eu/en/article/study/the-eu-mercotur-free-trade-agreement-its-impacts-on-agriculture>
- European Commission, 2023. *Study on critical raw materials for the EU: Final report*. Available at: https://single-market-economy.ec.europa.eu/publications/study-critical-raw-materials-eu-2023-final-report_en
- Pauwelyn, J., 2024. *Reinventing trade, environment and development interlinkages: Lessons from the EU–Mercosur Association Agreement*. *Journal of International Economic Law*, 27(4), pp.723–792. Available at: <https://academic.oup.com/jiel/article/27/4/723/7927777>
- France 24, 2024. *Accord UE-Mercosur: faut-il signer des accords de libre-échange?* *Youtube*. Available at: <https://www.youtube.com/watch?v=SmDdK9UaRXs>
- Pradier, E., 2025. *Impact of the MERCOSUR agreement on lithium trading*. Personal interview conducted by Eloi Noyon
- Devault, B., 2025. *Impact of the MERCOSUR agreement on the EU Agriculture*. Personal interview conducted by Eloi Noyon

AI is stealing our jobs! Or is it?

- Belle, L. (2024) IT Unemployment Hits 6% Amid Overall U.S. Jobs Growth. Available at: <https://www.wsj.com/articles/it-unemployment-hits-6-amid-overall-u-s-jobs-growth-bc2f2915> [Accessed 26th February 2025].
- Schellekens, P. and Skilling, D. (2024) Three Reasons Why AI May Widen Global Inequality. Available at: <https://www.cgdev.org/blog/three-reasons-why-ai-may-widen-global-inequality> [Accessed 20th February 2025].
- Soroushian, J. (2024) Is AI making the workforce more productive? Available at: <https://bipartisanpolicy.org/blog/is-ai-making-the-workforce-more-productive> [Accessed 26th February 2025].
- PwC (2024) AI jobs barometer 2024. Available at https://www.pwc.com/hu/hu/sajtoszoba/assets/ai_jobs_barometer_2024.pdf [Accessed: 21th February 2025].
- Coeo GmbH (n.d.) Coeo Headquarter Germany. Available at: <https://www.coeo-group.ai/group/germany> [Accessed: 22th February 2025].
- Hanisch-Blicharski, A. (2025) '[No formal title]'. Interview by Robin Schulz [Teams], 20 February.

