

ORDER WITHIN CHANGE

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Dear Reader,

Step into a moment of transition with us in Issue 35 of The Economic Tribune, aptly titled “Order within Change.” This issue marks the first under a new editorial team, highlighting a period of change not just in the world we analyse, but within the magazine itself. We take on this responsibility mindful of what has come before, and attentive to what lies ahead.

From the proverbial caterpillar morphing into a butterfly to the Sun rising from the east and setting in the west, change is everywhere. Yet, the process by which change occurs is often restricted by some axiom, some law, some order. Rather than treating change as disorder, the pieces that follow explore how systems evolve within boundaries, and how stability and disruption are not opposites but complements.

We start our introspection with the first of three sections, Markets With Borders. Markets may feel borderless, but they are built on jurisdiction. Follow through with Louis, as he explores the challenges both the existence of and lack of borders brought for the United Kingdom with their accession from the European Union. Dimitrios treads similar territory, unravelling the factors that limit the European Union’s levels of growth. Matteo offers a comparatively refreshing outlook for the trade bloc, exploring the implications of the introduction of a digital Euro on a weak retail banking system. Janice and Saksham shift their focus to the American economy. Inspired by “liberation day” (which was far from liberating for many nations), Janice investigates the role of

international sanctions as a punitive tool for two things: coercion, and the seemingly kinder use-case of negotiation. Saksham questions the semantics of the word “circular” in the phrase “circular energy”, showing us how chipmakers and AGI companies forge deals that benefit themselves but exclude consumers from the “circle” of prosperity.

Next, we enter a world of alliteration with Booms, Busts, and Belief. The sequence of these forces is often debated, resembling a more complicated version of the classic chicken-and-egg problem - though, true to form, economists rarely resist adding a few extra variables. Sushant and Shreyas explore two sides of the same coin: the artificial intelligence mania in financial markets. Sushant takes a rear-view approach and compares the price action of AI companies to everything from Dutch tulip markets of the early 1600s to the more recent dot-com bubble of the 2000s. Shreyas, on the other hand, uses telling variables like Google Trend searches as a proxy for public excitement in hopes to understand what drives valuations. Alisa explores a complement to equities in her piece on gold, subtly but shrewdly challenging the old-age wisdom of gold acting as a hedge for large swings in market activity. Deniz calls attention to how rate hikes, in conjunction with falling asset prices, have contributed to a ‘silent’ credit crunch in the United Kingdom and how this very environment has allowed private credit providers to prosper. If equities,



gold, and credit represent familiar asset classes, Shalin turns to a less conventional one: attention. He examines how attention is increasingly commodified - and how this asset can be misused.

Finally, we turn our attention to the last section: Growth Meets Resistance. As the saying goes, “there are no free lunches”. The pieces that follow examine the constraints and trade-offs that increasingly shape expansion. Samuel opens the section by examining how capitalism absorbs ever more aspects of life, focusing in particular on moments when individuals delegate moral judgement to commodities. In a similar vein, as capitalism and corporate profit become increasingly associated with environmental harm, focus groups emerge in the struggle over climate responsibility. Siddhant spotlights the climate problem, exploring solutions ranging from green bonds to - as ironic as it may sound - creating a ‘market’ for pollution. In wake of recent discourse of immigration, Amba then proceeds by writing on the costs of closing borders to migrants. Through regression analysis, she makes the compelling argument that the world could be “leaving trillion dollar bills on the sidewalk” by restricting labour from easily penetrating the borders. Dhvani compounds research on the role of borders, pointing to the legal and sovereign separation between industrial policy in sanctuary cities embedded within larger nation states. Using the geographically relevant case of London and Westminster, she foregrounds the conflict of interest between the two actors. Atreyi concludes by drawing on the greats - Samuelson and Piketty - in her explanation for why the housing affordability crisis is one that cannot be explained by any given factor; it is systemic.

Order and change are not opposites, but conditions that coexist. As this issue closes, we hope the ideas within have reflected that balance. As a new editorial team, we step forward with that same balance in mind - respecting the foundations that have defined The Tribune, while remaining open to evolution where it is needed. We hope this issue offers clarity amid flux, and perspective in a world in motion.

Through change, with clarity,

Jai Vasandani

Director, 2025/26



MARKETS WITH BORDERS



How the Digital Euro Could Push European Banks to Compete

Matteo Zibordi

Europe's next major financial transformation might not be triggered by a crisis, but by deliberate design. As the European Central Bank (ECB) moves closer to issuing a digital euro, the project promises far more than a new way to pay. By giving households and firms access to a digital form of public money directly backed by the ECB, a well-designed digital euro could reshape how Europeans hold money and confront the long-standing weaknesses of the continent's retail banking sector.

A central-bank digital currency (CBDC) would coexist with cash, allowing anyone to store risk-free central bank money in electronic form. This seemingly simple shift could profoundly reshape the relationship between banks and depositors, injecting competitive pressure into a market that has lacked it for decades.

The Purpose of the Digital Euro

The ECB envisions the digital euro as a fast, secure, and universally accessible means of payment that preserves public access to central bank money in an increasingly digital economy. When people use online banking today, they hold digital claims on a commercial bank, which are promises by that bank to repay them. Those promises are only as strong as the bank itself, even if deposit insurance offers partial protection. A digital euro, by contrast, would be a direct liability of the ECB. Like notes and coins, it would be fully backed by the central bank, which can always guarantee its value. Households and firms would therefore hold truly risk-free digital money rather than a claim on a commercial institution.

The project is designed to reduce Europe's reliance on foreign payment providers such as Visa and Mastercard and to stimulate competition and innovation across the payments market. Over the long term, the digital euro could also enhance monetary policy transmission, especially if it were ever remunerated, by giving the ECB a more direct channel to households and firms.

Europe is not the only one considering this shift. More than 80% of central banks are actively exploring CBDCs, and around 10% expect to issue one within the next three years. The rise of stablecoins and other privately issued digital assets has already begun to reshape global finance, reinforcing the ECB's view that a digital euro is both a strategic necessity and a natural extension of central banks' traditional role.

Yet the digital euro would be introduced at a time when Europe's banking sector continues to struggle with a deeper structural problem: weak retail competition.



Europe's Competition Problem

For years, policymakers have warned that European retail banking suffers from weak competition. An OECD comparative report shows that national markets remain characterised by high switching costs, geographic fragmentation, and regulatory barriers that protect incumbents and discourage new entrants. These structural frictions help explain sluggish deposit-rate pass-through and the limited pressure on banks to innovate or improve services.

Empirical evidence reinforces this diagnosis. Since the 2008 financial crisis, consolidation has sharply reduced the number of credit institutions in Europe, raising concentration in many countries. National regulators continue to shield domestic “champions” by discouraging or blocking cross-border mergers, preventing the emergence of a truly integrated EU-wide retail banking market. Standard indicators tell the same story: the Lerner index, a common measure of market power, rose across euro-area countries after 2008, while persistently high margins relative to global benchmarks point to subdued competitive pressure. The crisis response itself, involving state aid and forced mergers, further distorted market dynamics and strengthened incumbents.

Fragmentation also limits banks' ability to realise economies of scale. As a result, European consumers face lower-quality digital services, higher fees, and fewer product choices. Research by ECB and Federal Reserve economists shows that deposit rates in Europe have been unusually sticky during the post-pandemic tightening cycle. Meanwhile, cross-border activity remains muted: cross-border deposits are small, mergers are rare, and banks' balance sheets remain overwhelmingly domestic.

Consumers ultimately bear the cost. They receive lower deposit rates, face limited cross-border offerings, and encounter uneven access to modern digital banking services. Despite repeated attempts to complete the banking union, progress has stalled, national barriers persist, and competitive pressure remains weak.

A Catalyst for Competition?

Current ECB plans do not envisage the digital euro paying interest. Yet even a non-interest-bearing version could reshape competition in retail banking by giving savers a credible, risk-free alternative to commercial bank deposits.

The mechanism is straightforward. Once depositors have a viable outside option, banks must work harder to retain them, whether by offering higher rates or improving the quality of services. An ECB working paper finds that even a non-remunerated CBDC reduces banks' market power and pushes them to raise deposit rates to prevent outflows. In other words, a CBDC can enhance competition without meaningfully disintermediating the banking sector. A remunerated digital euro would amplify these effects by giving households and firms an even stronger alternative. The ECB has kept this option open, noting that remuneration could improve deposit-rate competition and enhance monetary-policy transmission.

Design choices can also mitigate fears of destabilising deposit flight. Research by the Bank of England finds that caps on CBDC holdings are effective at preventing large and sudden outflows from bank deposits when a digital currency is introduced. These limits help protect bank funding during the transition without undermining the core functionality of the CBDC.

Taken together, these findings suggest that a digital euro could provide exactly the competitive pressure missing from Europe's retail banking market. Even modest holding limits and no remuneration would force banks to respond. This potential disruption comes at a pivotal moment. After years of stagnation, European banks are increasingly profitable, their valuations have improved, and cross-border merger activity is tentatively reappearing. A well-designed digital euro could deliver the competitive shock the sector has long needed, not to weaken European banks but to push them to innovate, modernise, and compete.

Strategic Implications

Beyond its impact on banking, the digital euro carries significant strategic implications. By creating a European alternative to the dollar-centric payment infrastructure, it would strengthen the EU's financial sovereignty and give Europe greater influence over global standards for secure digital payments. Rather than depending on foreign technologies and governance models, the EU could develop and promote its own.

However, greater autonomy brings difficult governance choices. How much transaction data should the ECB be allowed to access? How should the EU balance strong privacy protections with legitimate anti-money-laundering requirements? The credibility of the digital euro, and ultimately its adoption by the public, will depend on how these questions are resolved.

What Comes Next

The digital euro is the EU's most ambitious monetary innovation since the launch of the single currency. Its significance extends well beyond

payments. If designed with clarity and ambition, it could deliver the competitive shock that Europe's banking sector has long lacked.

It could strengthen monetary policy transmission, improve outcomes for consumers, and push the EU towards the integrated retail banking market it has struggled to build through regulation alone. A timid version, built around restrictive caps, limited functionality, and political compromise, would accomplish little. A more ambitious version could promote innovation and align Europe's banking sector with the scale and expectations of its monetary union.

The EU now faces a choice. It can create a digital euro that merely digitises the status quo, or design one capable of making Europe's financial landscape more integrated, more innovative, and, crucially, more competitive.



Built for Stability, Not Scale: Why the EU Struggles in a World of Industrial Superpowers

Dimitrios Zikos

The European Union was designed for a world that no longer exists. Its unique economic model was built around fiscal discipline, strict competition rules, and a cautious approach to state intervention. This worked fine in an era that assumed markets, not governments, would drive industrial development. But COVID-19, the energy crisis, and the U.S. Inflation Reduction Act exposed a fundamental problem: the EU's architecture delivers stability, yet struggles to deliver scale. While the U.S. and China mobilise hundreds of billions to build strategic industries, Europe relies on fragmented national budgets, slow regulatory processes, and emergency measures that disappear once crises pass. This article asks a simple question with enormous implications: can the EU compete without changing its core design – and if not, how should it change?

Why the EU cannot compete in its current form

Recent data suggest the European Union is not on pace with global industrial leaders. According to the European Commission's Spring 2025 forecast, EU GDP growth is expected to be a very modest 1.1% in 2025. Meanwhile, the gap in labour productivity between the EU and comparable economies has been widening: since 2020, productivity per hour worked in the euro area has barely risen (just 3.8% in aggregate) while the US Bureau of Labor Statistics reports U.S. hourly labour productivity rose by 12.4% over the same period. This makes a big difference for 'strategic' industries like clean tech and advanced manufacturing. At the same time, global industrial output is shifting rapidly: China now accounts for nearly 30% of world manufacturing output, dwarfing what the EU 27 produce. These trends show that the EU is being visibly overtaken in growth, productivity, and industrial scale.

The European Union's struggle to match the US and China in terms of 'federal' industrial output stems from its institutional design. The EU was built to ensure fair competition, fiscal discipline, and monetary stability – not to run large industrial strategies. This is evidenced by some of the EU's foundational rules: the Stability and Growth Pact, strict state-aid controls, and the independence of the European Central Bank. The issue lies not with these factors, but with what they do not provide. The EU has no federal treasury, no ability to issue large-scale joint debt on a permanent basis, and no central tax authority capable of funding long-term industrial programmes. Instead, almost all fiscal power remains at the national level, which means 27 governments must agree before the EU can act collectively. That makes fast, large, and unified investment almost impossible. When Germany and Italy follow different budget rules, have different fiscal capacities, and face different domestic politics, they cannot mobilise resources with the speed or consistency of a single federal actor. With the EU budget capped at roughly 1% of GDP and fiscal instruments fragmented across member states, Europe lacks the centralised financial capacity necessary for major strategic investment.

In contrast, both the United States' and China's systems can mobilise capital quickly and at scale. The U.S. benefits from a strong federal government able to deploy debt-financed programmes like the CHIPS Act and Inflation Reduction Act. China goes even further: centralised planning, state-directed finance, and large public banks allow Beijing to channel massive investment into targeted sectors and scale industries rapidly. While the models differ, both countries share two advantages the EU lacks: central fiscal power and the political ability to

pursue national industrial missions without needing agreement from 27 governments with different economic models, interests, and risk preferences.

The impact of recent crises shows this structural gap clearly. During COVID-19, the EU briefly behaved like a more federal system through NextGenerationEU, showing that joint borrowing and coordinated investment can work, but only when normal rules are relaxed. Once the emergency passed, long-standing divisions over fiscal governance resurfaced, and the EU reverted to its fragmented model. The energy shock in 2022 exposed the same limits, as member states responded unevenly and lacked a central authority capable of protecting energy-intensive industries at scale.

What needs to change?

For the EU to be competitive with the likes of the U.S. and China in strategic industries, its leaders would have to look at two issues: the scale of its fiscal tools on a federal level and the coherence of its regulatory system. These are not easy changes to make, as they would require the EU member states to rethink how much coordination they're willing to tolerate.

The clearest example of what stronger EU-level fiscal policy looks like is NextGenerationEU (NGEU), the €800 billion COVID-recovery fund. For the first time, the EU borrowed money collectively and distributed it to member states based on need rather than size. This allowed countries with fiscal constraints (Italy, Spain) to invest far more in their recovery than they otherwise could have, while also giving investors and firms a unified signal about the EU's long-term priorities. In practice, NGEU worked, at least in the context of this dilemma: the EU borrowed cheaply, deployed funds quickly, and showed that joint borrowing can create far more scale and stability than 27 national plans ever could.

A permanent version of this model (often called a "Green Sovereignty Fund") could give Europe the financial firepower to compete with the U.S. Inflation Reduction Act. It would also help fix one of the EU's biggest internal problems: subsidy inequality. Today, richer countries like Germany and France can offer far more support to their industries than smaller economies. EU-level financing would level that playing field and give companies a predictable framework, making investments easier.

Of course, this path is not without risks. Fiscally conservative governments worry that permanent joint borrowing could turn into a "transfer union," where wealthier states end up supporting others indefinitely. Even NGEU barely passed, even though it was temporary, limited, and created during an unprecedented crisis. A permanent version would require a level of trust and integration the EU has historically struggled to reach.

The EU has succeeded with coordinated industrial strategy before. Airbus remains the classic example of a multinational project capable of rivaling a global leader. The ETS reforms also show that Brussels can fix policy design over time and build credibility in markets. These precedents don't guarantee success, but they prove Europe can act strategically when it commits to a shared goal.

Taken together, stronger EU-level fiscal tools and regulatory coherence could give Europe the scale, speed, and credibility it currently lacks. The question is not whether these changes would work, but whether the EU is politically willing to make them.

Why has the EU not Changed Yet?

Despite growing recognition that Europe's current model is ill-suited to an era of strategic competition, the EU has been slow to reform its

fiscal and industrial framework. The core obstacles are political rather than economic. Any major shift, whether establishing a permanent EU-level fiscal instrument or loosening competition rules, requires unanimous agreement among 27 governments with very different economic philosophies and incentives. For many Northern member states, the existing system is a safeguard against fiscal risk; for others, especially in Southern Europe, deeper integration invites concerns about external oversight. This divide creates structural inertia even as the strategic costs of inaction rise.

Institutional path-dependence adds another barrier. The EU's rules were built for market integration, not large-scale investment, and changing them means reworking decades of legal precedent and administrative practice. Such reforms imply a long-term transfer of authority to Brussels – an outcome that remains politically sensitive in an age of resurgent nationalism and scepticism toward supranational power. As a result, the EU tends to act ambitiously only under crisis conditions, and even then through temporary instruments designed to expire once normal politics return.

Finally, distributive politics make structural reform difficult. A more federal fiscal architecture would inevitably produce winners and losers: richer countries fear becoming permanent net contributors, while smaller or fiscally weaker states worry that looser rules could entrench the dominance of Europe's largest economies. These conflicting preferences mean that the tools needed for coordinated industrial policy (joint borrowing, centralised funding, and flexible state-aid rules) are precisely the ones that are the hardest to agree on.

While the extent of the changes required can be debated, if Europe sticks completely to its current model, it risks drifting into strategic irrelevance:

innovative but small-scale, environmentally ambitious but dependent on foreign production, and wealthy but exposed to geopolitical shocks.



THE UK'S POST-BREXIT TRADE

Louis Fritsch

Ambitious Expectations

When the UK finally left the EU's economic orbit in January 2021, it marked the beginning of a new chapter that many supporters of Brexit had waited decades to see. For them, Brexit was supposed to be a moment of renewal, a chance for the UK to rediscover the global commercial reach they believed had been restrained by EU membership. The political case for Brexit rested heavily on the belief that Europe's rules placed the UK in a straitjacket. Critics argued that as long as the country remained inside the EU's vast Single Market, it could not fully shape its own trade policy.

That vision was reinforced by high-profile statements throughout 2020, including then Prime Minister Boris Johnson's declaration that Brexit would allow the UK to "take full advantage of the opportunities of an independent trading nation."

One of the least acknowledged dynamics of the referendum campaign was how profoundly the UK's economy had become intertwined with the EU over forty years. Much of this integration was invisible in everyday political debate.

Politicians spoke about simply "shifting" trade elsewhere. This gap between political slogans and day-to-day economic practice only became apparent after 2021 when firms suddenly encountered frictions that had been shielded by decades of seamless EU market participation. This framework allowed firms to move goods, services and workers across borders without checks, delays or regulatory duplication.

Disappointing Outcomes

The UK avoided tariffs through the Trade and Cooperation Agreement (TCA) but the deal introduced a full suite of new border checks and red tape that did not exist before. Numerous firms describe the process as "exhausting" with some choosing to stop serving EU customers altogether because the paperwork is simply too time-consuming. According to the British Chambers of Commerce, 49% of UK exporters report difficulties adapting to new EU rules.

For example, one of the largest structural shifts has been the UK's exclusion from the EU's system of diagonal cumulation. This previously allowed British manufacturers to count EU and third-country components as "local" when exporting under the EU's network of trade agreements. Since Brexit, many UK-made goods no longer qualify for preferential tariff treatment abroad because their inputs are no longer recognised as originating within the same trade bloc. This has weakened the competitiveness of British products in sectors like automotive, machinery and chemicals. Several manufacturers say they have faced higher tariffs in key export markets because the UK now sits outside the integrated origin system.

According to the House of Commons Library, overall UK goods exports to the EU in 2024 were 18% below their 2019 level. Growth in newer markets has picked up in places but it has not meaningfully changed the picture. The scale of the EU market means that even substantial gains elsewhere register only

modestly in comparison. Therefore, it comes at no surprise that, according to a 2022 survey by the British Chambers of Commerce: more than 77 per cent of UK firms claim the post-Brexit deal has not helped them increase sales or grow their business.

Recently signed agreements with Australia and New Zealand have been heavily promoted as proof of the UK's new global reach. Despite the political fanfare, the government's own figures show that both FTAs deliver only very minor economic benefits in the long run. Some trade analysts also point out that these deals overwhelmingly benefit foreign exporters who now enjoy easier access to UK markets, while offering British firms limited new commercial space abroad. Securing favourable terms requires leverage and with its domestic market far smaller than the EU's, the UK often negotiates from a weaker position. This limits what it can realistically secure. Australian beef and lamb exporters gained significantly expanded tariff-free quotas into the UK market. In contrast, British farmers received almost no new access to Australia where strict biosecurity rules limit commercial opportunities.

Official data shows that exports to EU states (goods and services) with new restrictions have grown far more slowly than those where barriers have not changed. Larger firms can sometimes shoulder the added burden but smaller ones often struggle. Many report that the new complexity discourages them from attempting EU expansion at all. This means the UK risks becoming a market where only major actors have the resources to maintain European operations.

Chambers of commerce warn that smaller exporters risk being squeezed out of international markets altogether. This will widen the competitive gap between large

corporations and the more fragile SME sector. A clear illustration is the UK craft furniture and home-ware sector: small workshops exporting custom pieces to EU clients have reported that new customs declarations, product safety attestations and return-logistics rules now require hiring specialist brokers. For shipments worth only a few hundred pounds, these administrative and compliance fees often exceed the value of the item itself. By contrast, large retail chains can absorb these costs through scale and existing legal departments.

Brexit has unintentionally fuelled a surge in customs-intermediary firms. Thousands of SMEs now outsource rules-of-origin checks and declarations to private brokers. This service barely existed before 2021.

Yet it is worth acknowledging the benefits that supporters hoped Brexit would unlock: greater freedom to set UK-specific regulations, the ability to negotiate independent trade agreements and opportunities to streamline rules in areas like finance, agriculture and digital services. These potential gains were presented as a chance for Britain to operate with more agility on the global stage. However, even with these upsides in mind, the early evidence suggests that the practical costs of new trade frictions have so far outweighed the promised advantages. Indeed, the Office for Budget Responsibility reports that by the third quarter of 2023, UK trade intensity remained 1.7 per cent below its pre-pandemic 2019 level whereas in the rest of the G7 it had risen to 1.7 per cent above pre-pandemic levels.

To conclude, the post-Brexit era is still young and businesses can adapt but the first few years outside the EU show that while new commercial possibilities are emerging, they remain overshadowed by the practical frictions introduced in 2021.

FROM TANKS TO TARIFFS: THE RISE OF GEOECONOMICS

Janice Goh

In April 2025, President Trump took the world by storm by introducing a whole spate of tariffs on many countries. From threatening a 100% tariff on China's rare earth exports to 41% reciprocal tariffs on Syria, the "Liberation Day" tariffs prompted diplomatic outreach from many countries to the United States in an attempt to negotiate better terms. Albeit shocking, this weaponisation of economic policies for political goals signifies the rise of geoeconomics. Traditionally, geopolitics is characterised by military strength, territorial influence, and national sovereignty. Yet, globalisation has resulted in countries being so economically intertwined through trade routes and economic dependence. Now, global influence and power to shape global affairs do not merely lie in the control of armies and borders. Rather, they hinge on the capacity to control supply chains, capital flows, and trade routes – the very crux of geoeconomics.

In this article, I will break down how economic policies have been wielded as a punitive tool of coercion and negotiation, and a mechanism to broaden a country's sphere of influence. I argue that the weaponisation of economic policies is ultimately harmful, despite its efficacy in attaining desired political outcomes.

Economic Policies as an (Un)Diplomatic Tool

A natural intuition of geoeconomics is to weaponise economic policies as a punitive tool of coercion – compelling other countries to oblige by certain rules. This was observed most prominently during Russia's invasion of Ukraine. In response to Russia's military aggression, governments across the board imposed sanctions on key economic sectors. Notably, the United States, Australia, Canada, and the United Kingdom banned imports of Russian oil, coal, and liquefied

petroleum. Such trade restrictions shrank the Russian economy, which relied heavily on the extractive energy industry – in 2022, its Gross Domestic Product fell by 2.2%. Moreover, the US Department of Commerce restricted Russia's access to technology crucial to warfare (e.g., communications and semiconductors) through export controls. At the core of sanctions, the intention was to shrink Russia's economy and limit its capacity to finance the war. Furthermore, targeting strategic industries cuts off access to advanced military technology, preventing further aggression. Therefore, economic policies, specifically sanctions, have been employed to cripple and compel states into desired actions.

Beyond its punitive function, economic policies have been used as a bargaining chip between countries. Given the crippling effect economic sanctions can have, the mere threat of possibly implementing tariffs can strong-arm a country to concede on bilateral matters that political agreements fail to address. We see this most acutely during the spate of Trump's on-and-off tariffs. With the existing United States-Mexico-Canada Agreement (USMCA), the US is the biggest customer of Canada and Mexico – making up 76% and 72% of their respective exports. Capitalising on their economic dependence on the US, President Trump threatened to impose a 25% tariff on imports from Canada and Mexico if they refused to clamp down on fentanyl trafficking and illegal immigration. Similarly, to bolster domestic supply chains, the US initially threatened to impose a 25% tariff on Japan's critical automotive sector. However, this evolved into negotiations that enabled the US to extract \$550 billion worth of investment pledges from Japan, in exchange for a tariff reduction to 15%. By leveraging threats of sanctions, countries can be pressured

into making compromises to avoid an economic fallout, allowing the imposer of the tariff to achieve a desired political outcome.

Lastly, economic policies have become a means of increasing a country's sphere of influence. Through investments, countries can embed themselves in foreign soil and forge stronger bilateral relationships, allowing them to exercise greater power and influence across the globe. An example is China's Belt and Road Initiative. As an ambitious infrastructure project, the project sought to link East Asia and Europe through development and investment initiatives. For example, China embarked on the \$62 billion China-Pakistan Economic Corridor – a collection of projects connecting China to Pakistan's Gwadar Port on the Arabian Sea. By developing a trans-regional network, China is effectively increasing its economic engagements with emerging economies and standing out as a leader in global affairs. Such economic ties and international recognition are highly critical as China engages in a hegemonic trade war with the United States.

Impacts of Geoeconomics

While weaponising economic policies on foreign countries is arguably effective in forcing political concessions, they are undesirable given the economic toll. For the tariffed country, export tariffs reduce the foreign demand for goods. This results in a lower demand for domestic currency, causing it to depreciate. As there is an appreciation of foreign currency relative to domestic currency. This makes it more expensive for affected countries to import foreign goods. The increased production costs lead to higher goods prices transferred onto consumers. As for countries utilising geoeconomics, the pivot from free trade to increased dependence on domestic industries shields them from foreign competition, creating less competitive and efficient industries. With less incentive to lower prices, consumers suffer from welfare loss. Moreover, leveraging on sanctions may invoke an economic retaliation, spiralling into

a trade war as observed in the case of US and China. Ultimately, sanctions are economically undesirable despite their political advantages.

Yet, it seems unlikely that countries will wane off economic policies as a negotiation and punitive political tool. It is, therefore, critical for countries to build resilience against any threats of geoeconomics. A potential solution is to diversify trade partners. Given the volatility of geoeconomics, having multiple trade partners allows one to de-risk and fall back on other countries even in the midst of sanctions. By spreading eggs in different baskets, countries can maintain their supply chains and mitigate any impacts to the trade balance. This offers a greater level of economic stability by dampening the effects of reduced exports and rising prices.

The age of tanks and territorial conquests has given way to an era where tariffs and sanctions are the main instruments of power. The rise of geoeconomics marks a transformation in how countries exert influence. Yet, this comes at significant economic costs of inflation and retaliatory trade wars. Going forward, the challenge for policymakers is to strike a balance between economic security and global openness. Rather than relying on punitive tools, nations should invest in resilient and diversified trade networks that reduce vulnerability to coercion.

HAVE WE ENTERED THE AGE OF CIRCULAR ENERGY?

Saksham Verma

For centuries, energy has been the epicenter of economies; from coal-powered factories to oil-fueled cars to today's renewable sources. Recently, however, energy is discussed not in barrels of oil or the efficiency of solar panels, but in gigawatts of compute. The raw material fueling the AI landscape.

Circular energy in this context has nothing to do with renewable sources, it is simply a term referring to the self reinforcing feedback loop driving billions of dollars into AI capital expenditure, and the two pioneers are chip manufacturing giants, Advance Micro Devices (AMD) and Nvidia. Brought together by the frontrunner of AI news - Open AI.

To explain the sheer size of the deal between Open AI, AMD, and Nvidia, if the proposed data center plans run 24/7 the energy output produced would rival the gridlines of entire nations.

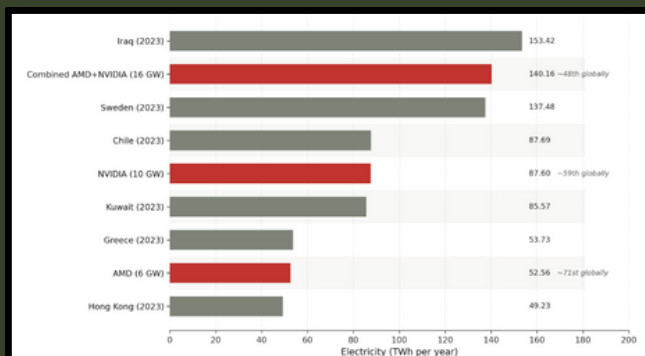


Figure 1: The comparison of electricity in Open AI's deals vs Bordering Countries; Source: Ember

Figure 1 compares the size of Open AI's deals to the 2023 Electricity output of countries, it can be seen that combined the expected electricity of the deals would be ranked 48th globally.

These massive deals aren't just about chips, they signify a fundamental change in AI infrastructure

economics, and energy sources globally. While the industrial revolution relied mainly on coal and oil, the new AI revolution is all about circular energy.

NVIDIA & The Everyday Consumer

NVIDIA and OpenAI recently signed a deal wherein OpenAI buys 10 gigawatts (GW) of computing power from NVIDIA, in exchange for NVIDIA investing 100 billion dollars into OpenAI. However, it is important to note that this 100 billion dollars is not upfront cash but rather provided as and when OpenAI buys NVIDIA chips to reach the 10 GW scale. Thus, introducing the circular component. Simply put, NVIDIA gives billions of dollars to OpenAI, only for OpenAI to use this investment (or at least a part of it) to buy NVIDIA's own chips, which leads to an increase in AI capital expenditure and computing power, which poses the circular energy questions in the first place.

But what are the implications of a massive deal like this? The impact goes far beyond Silicon Valley. 10 GW of computing power does not magically appear from thin air. According to CNN, Ashburn, Virginia, also known as "Data Center Alley", has seen data centers built for AI compete directly with homes and factories for electricity; this has put pressure on grids that were never designed for this level of demand. All of this has led to rising electricity bills for local households and businesses.

The NVIDIA–OpenAI deal is more than a commercial agreement; it illustrates how technology and energy economics are becoming interlinked. The commitment to 10 GW of

compute will not only shape AI development and infrastructure but also directly relates to how power is allocated across grids. This is the essence of circular energy: capital flows into chips, chips drive demand for electricity, and that demand loops back into investment decisions. As data centers scale and utilities adjust, the challenge is for grid centers to meet rising energy needs without compromising reliability for households and industries.

In this emerging AI landscape, development progress should not just be measured in model performance but in how efficiently we manage the energy cycle that sustains it.

AMD & Investors

While NVIDIA is by far the largest chipmaker, it is also imperative to consider one of its competitors, which is AMD. In October 2025, AMD and OpenAI settled on a multi-year agreement for OpenAI to deploy up to 6 GW of AMD GPU capacity. In exchange, AMD issued OpenAI warrants to purchase up to 160 million shares (about 10% of the company) vesting as deployment and share-price milestones are met. This deal was a hit across investors as AMD's stock jumped over 20%. However, it is evident that yet again there is a circular structure as OpenAI gains GPU capacity, then effectively reinvests via stock-driven purchases which creates another loop of compute and capital.

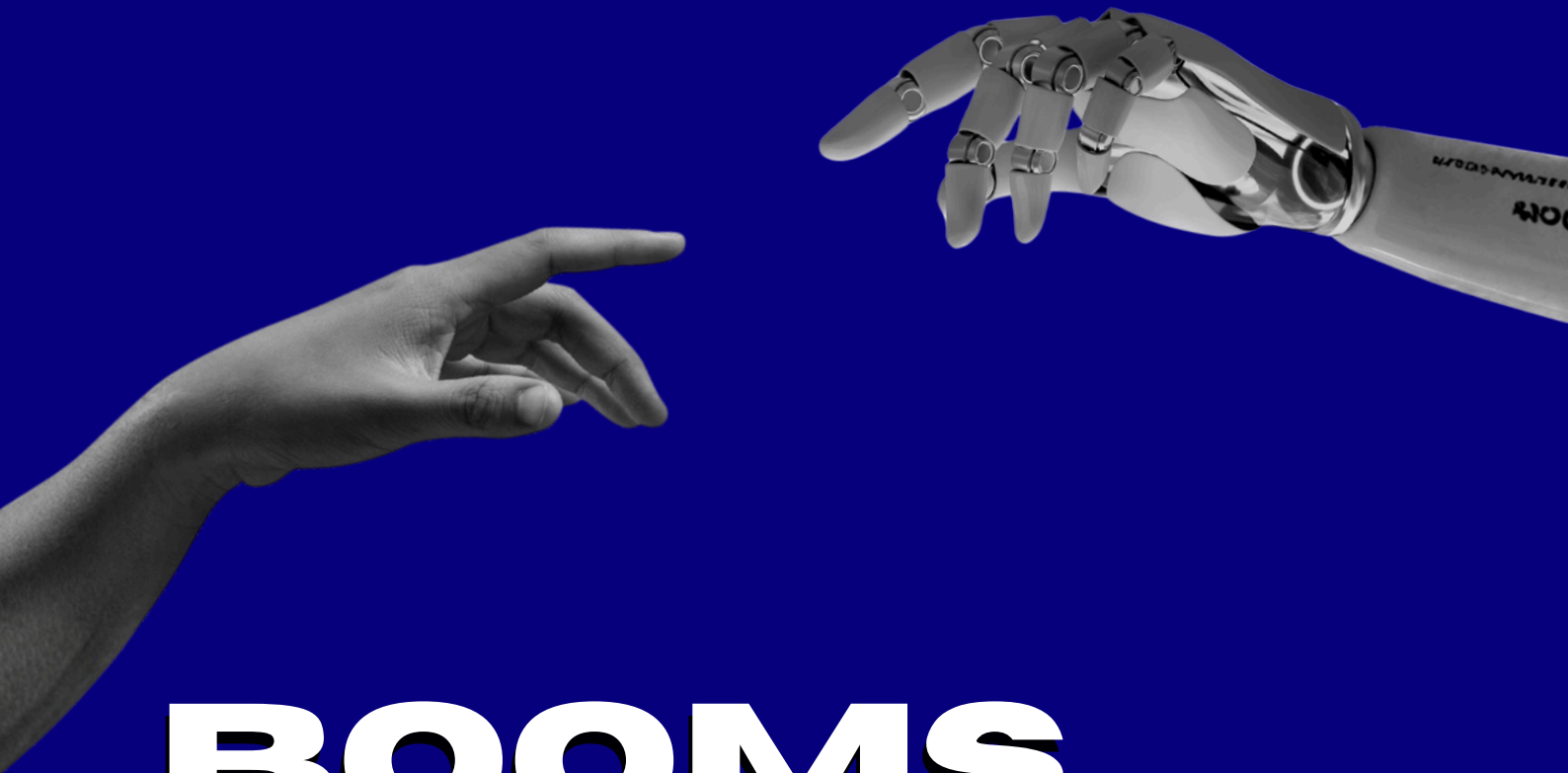
The AMD–OpenAI deal signposts to other chipmakers and players in the AI market one clear message: to boost valuations, build, build, and build. Six gigawatts of GPU capacity is a deal that should be analyzed and critiqued from every angle possible before coming to a conclusion of its true value, but really it seemed like optimism was driving stock prices. An increase which will now just drive more capital expenditure. We have

seemed to reach a constant cycle of loops. A concept quite difficult to wrap our heads around considering the fact that it underpins the daily necessity of energy. Circular energy clearly isn't just a technical loop; it is also a financial one, where electricity demand and supply rise and fall with share prices.

What to make of it all?

With these massive deals as well as countless other circular AI agreements happening everywhere, it is a challenge to comprehend what this all really means. For some clarity, these AI deals have turned energy and the infrastructure for it into a circular feedback loop. Coupled with this is the way these companies have been rewarded by the markets for the same deals. This works well for now: more energy for AI companies and more money for investors. Yet the moment these deals fail to meet expectations, as money flows away and projects get stranded, it is ultimately everyday consumers who suffer through rising electricity prices, a result far less impressive than these companies anticipate. So, to answer the question posed at the start: yes, we have entered the age of circular energy, and it is certainly not an age filled with security.





BOOMS, BUSTS, & BELIEF



LEARNING FROM THE PAST: WHAT THE DOT-COM BUBBLE AND BEYOND CAN TELL US ABOUT THE AI BOOM TODAY

Sushant Shyam

Imagine, if you will, that you were a Dutch tulip farmer in the early 17th century. It would likely have been a peaceful if unexciting venture, cultivating flowers for a small niche of wealthy buyers. But starting in 1634, things would have begun to change for you. Almost inexplicably, an avalanche of demand for these flowers was unleashed, which pushed up prices almost two-hundred times. Traders, merchants and materialistic aristocrats were all jostling for a piece of the pie. It would undeniably have been surreal to witness such an immense boom. But in a few years, this would all come crashing down. In 1637, as inexplicably as it arose, so did the Dutch 'tulip-mania' evaporate. It is still unclear what drove merchants to become so fixated on the practice, nor what suddenly deterred them just a few years later. But this story does provide us one of the most illustrative examples of what we now understand as an 'Asset Bubble'. Hype, speculation, and 'circular spending' - where agents fuel an unsustainable rise in prices by exchanging cash between themselves in spite of a dearth of genuine demand on either side - were key to Tulip overvaluation. And when this overvaluation was realised in the market, the 'bubble' burst quickly, and all at once.

There is little evidence that the Tulip bubble had a significant impact on the 16th century Dutch economy - Tulip farming was hardly a systemic industry. But in the 21st century, this disconnect between traded assets and the wider economy is no longer there. Nowhere is this as potentially potent as in the current AI Boom. Driven by widespread adoption of LLM usage by both individuals and firms, AI-exposed firms such as Amazon and Google have seen exponential growth over the last 3 years. According to Reuters, market capitalisations of AI-exposed firms have increased by an average of more than 200% in the last four years. Central to this has been the ripping success of chip company Nvidia, who recently became the first four-trillion dollar company.

Is all this cause for celebration? Perhaps not. Because from economists, to leading figures in tech, to punters on the stock market, everyone and their dog seems to reckon that this 'boom' is shaping up to be the mother of all bubbles. And with almost 50% of recent US economic growth being driven by AI expansion according to the FT, the implications of an AI crash could be destructive.

Determining whether a market boom is proof of a bubble is easier said than done. After all, if bubbles could be reliably predicted, they wouldn't occur in the first place! But there are a few useful indicators. Firstly, the presence of excessive hype in the industry is a sign that related assets may be overvalued. Undeniably, there is evidence that this has been a consistent presence in the AI industry in the last few years. Specifically, excitement over Artificial General Intelligence (AGI) has been brought up by investors and industry leaders as a reason to be bullish on AI, with billions of speculative investments being directly targeted towards this goal. However, with prominent figures such as ex-Tesla AI Chief Andrej Karpathy suggesting that AGI is more than a decade away, there is good reason to believe that investors have overestimated the proximity of AGI. Secondly, a considerable presence of circular spending is a likely sign that the current boom could be a bubble. On this mark, there is further cause for concern.



JPMorgan's Asset Management division has identified that much of AI growth has been fuelled by two-way cash flows between chip firms and model developers in the form of investment and capital spending, with 'suppliers, customers and investors' overlapping.

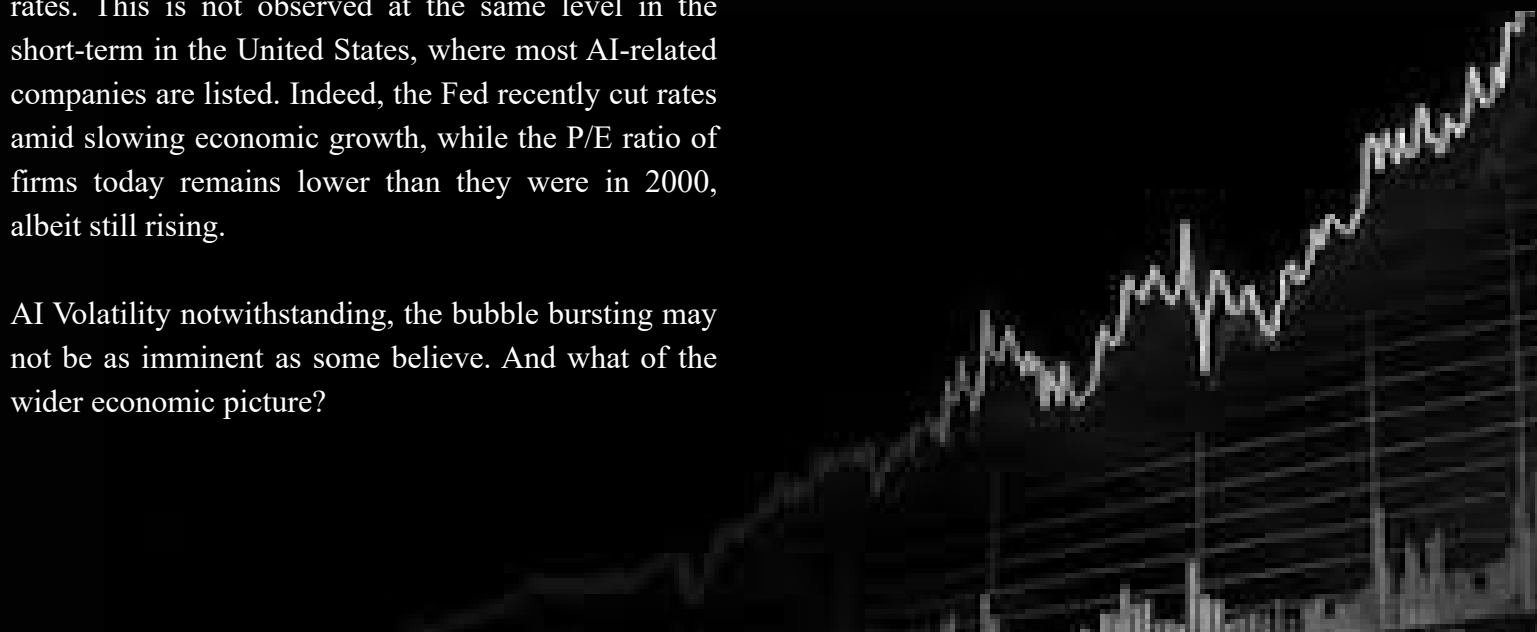
Perhaps the most direct parallel that can be drawn to this situation is that of the Dot-com bubble of the late 1990s, which popped in the year 2000. The Internet took on a very similar role as AI is doing in sparking investor excitement, with a flurry of new 'Dot com' companies being registered to take advantage of the craze. But circular spending and excessive dilution leading to asymmetric information for investors meant the surge in the stock market, which itself helped spur economic growth, wasn't to last. The Dot-com crash led to companies such as Amazon losing 80% of their market capitalisation, which had the knock-on effect of 1.7 million jobs being shed amid a recession in 2001. Considering the similarities in the movement of stocks between 2000 and 2025, it is not unreasonable to believe that we are heading down the same path now. This is particularly alarming when considering that a potential recession triggered by market corrections now would be many scales larger than that of the early 2000s.

Yet, while the similarities between the situation in 2000 and 2025 may be important in understanding what we face today, the differences are in some ways just as crucial. Firstly, the Dot-com crash was immediately signalled by high equity P/E ratios - a measure of financial health calculated as Current Shares Price / Earnings per Share - and rising interest rates. This is not observed at the same level in the short-term in the United States, where most AI-related companies are listed. Indeed, the Fed recently cut rates amid slowing economic growth, while the P/E ratio of firms today remains lower than they were in 2000, albeit still rising.

AI Volatility notwithstanding, the bubble bursting may not be as imminent as some believe. And what of the wider economic picture?

Though the Dot-com bubble did lead to a shallow recession, the long-term productivity gains, as noted by the FT, helped improve output and revenues considerably in the two decades since. By contrast, though AI is expected to achieve productivity gains also, it is believed by bodies such as the St Louis Fed that this will be accompanied by a deep rise in long-run structural employment as more jobs are automated. This could damage government receipts through derived unemployment benefits more than productivity gains improve them.

Nothing in the current global markets, or indeed the current economic picture, is certain. But on the balance of odds, we can accept that there is a large chance the current AI Boom will end in the burst of a bubble. The similarities in its manifestation to that of the Dot-com bubble may provide us with a framework of what to expect. But the uniqueness of the AI Bubble leaves us much to be worried about. A lack of synonymous financial indicators can make it difficult to anticipate when the penny will drop, and the destabilising effects of AI on the job market means that the economic costs of a crash could be felt by more families for far longer than that of 2000, or indeed any prior bubble. In an ideal world, governments would be ready with potential regulations, and large fiscal stockpiles, to deal with this potential fallout. This is likely not the case. So while caution and preparation seem the optimal path, achieving this may be as difficult as predicting the timing and scale of a crash in the first place. All that leaves us to do for now is to watch and wait.



Quantifying the risk of an AI bubble

Shreyas Veturi



Previous investment in technology has been far outshone by investment in AI since 2023, with firms such as Microsoft, Amazon, Google and Nvidia splashing hundreds of billions into data centres and model training infrastructure. A result of this has been Nvidia surpassing a valuation of \$2.5 trillion. For some, this could suggest evidence of a technological transition. For others, it represents a sign of investor overexcitement reminiscent of the late 1990s dot-com boom.¹

These concerns have been voiced by the IMF and the Bank of England, which both warn that the current speed and scale of investment in AI resemble patterns seen before previous market corrections.^{4/5} In Q1 2025, 58% of all global venture capital went to AI startups. This concentration was unseen in other sectors. Public enthusiasm for “AI Stocks”², tracked through Google Trends, has risen significantly, matching this excitement.⁶ Naturally, this raises the question of whether the basis of this boom is speculation or true economic value.

The scale of corporate expenditure on developing AI infrastructure makes this question more pressing. Amazon Web Services (AWS) has pledged \$150 billion to build new data centres, while Microsoft has strengthened its partnership with OpenAI through multi-year investments.³ The increasing demand for Nvidia’s GPUs has started to push costs sharply upward, creating supply shortages and, therefore, incentives for companies to hoard chips and rent computational capacity beyond their current requirements. This defensive investment behaviour indicates not only confidence in expected returns but also a fear of exclusion.

Investment in AI will strengthen its capabilities and accelerate adoption, yet the rapid pace raises familiar concerns. It has been noted that we may be entering the early stages of a ‘hype cycle’.³ This is where optimistic market sentiment and capital flows outpace economic output, which may indicate that the foundations of this boom are fragile.

Situating the boom within a broader economic context can provide a better understanding of whether it represents a genuine technological transition. Historically, in the short term, major innovations have attracted levels of investment that exceed performance before yielding long-term productivity gains. Economist Joseph Schumpeter coined the term “creative destruction” for this process. He describes the phenomenon where transformative technologies attract capital rapidly, displacing older systems in the process, but also generating periods of instability. Many technologies viewed as essential, such as railways, electrification and the internet, underwent dramatic booms and market corrections before reshaping the global economy.

Behavioral economics lends further insight. Yale professor Robert Schiller’s work on “irrational exuberance” suggests that narratives, or the belief that others will keep buying, drive the performance of asset prices more than core fundamental indicators. Keynes’ “beauty contest” analogy and George Soros’ theory of reflexivity reinforce this point: rising prices can feed into speculation of inevitable success, which in turn pushes prices higher until reality and expectations diverge.

This suggests that rapid investment surges are not inherently irrational but carry some excess. AI could follow the Schumpeter’s “creative destruction” pattern, but for further insight, quantitative methods must be employed to test the integrity of the boom empirically.

A regression model can be employed to assess the main thesis. This analysis allows one to determine whether daily changes in share prices for AI companies are more strongly linked to company fundamentals or shifts in public interest. The regression equation can be shown as follows:

$$\ln(\text{Share Price}) = \alpha + \beta_1(\text{Fundamentals}) + \beta_2(\text{Public Excitement}) + \epsilon$$

Taking the natural logarithm of a company’s daily

share price serves two purposes. It smooths out any large jumps in price, making time-series analysis easier. It also allows price changes to be interpreted in percentages, which is more useful in volatile markets when the purpose is to analyse why the price changes from one day to the next, rather than using numeric values.

‘ α ’ is a constant term capturing the average level of the log share price that has not been accounted for by fundamentals or excitement. Essentially, having this term ensures that the regression line fits the data properly.

β_1 (Fundamentals) measures a company’s economic performance. Fundamentals are a business’s financial indicators of success - in this case, revenue. The beta coefficient represents the responsiveness of the share price to a change in fundamentals. A positive coefficient means that stronger fundamentals are associated with higher prices. A negative one indicates that fundamentals are not contributing, perhaps even moving in the opposite direction.

β_2 (Public Excitement) captures public attention, derived from data from Google Trends for the term “AI Stocks”.⁶ A higher value suggests more people are looking up information about AI-related equities, serving as a proxy for market sentiment. This beta coefficient measures the responsiveness of the share price to a change in excitement. A positive one represents a positive association.

Finally, epsilon (ϵ) represents error, or everything not accounted for by fundamentals or excitement, comprising mainly day-to-day noise and randomness.

To perform the analysis, daily stock prices and revenue were collected using the publicly available Yahoo Finance library since the start of 2023 for Nvidia, the only large AI company with sufficient data points to perform a reliable analysis. The datasets of sentiment curated from Google Trends and the prices and fundamentals were matched by date to enable comparison.

Ticker	β (Fundamentals Z)	p (Fundamentals)	β (Hype Z)	p (Hype)	R ²	n
NVDA	-4.622414	0.000	0.05224	0.038065	0.005945	724

Figure 1: Regression results for Nvidia

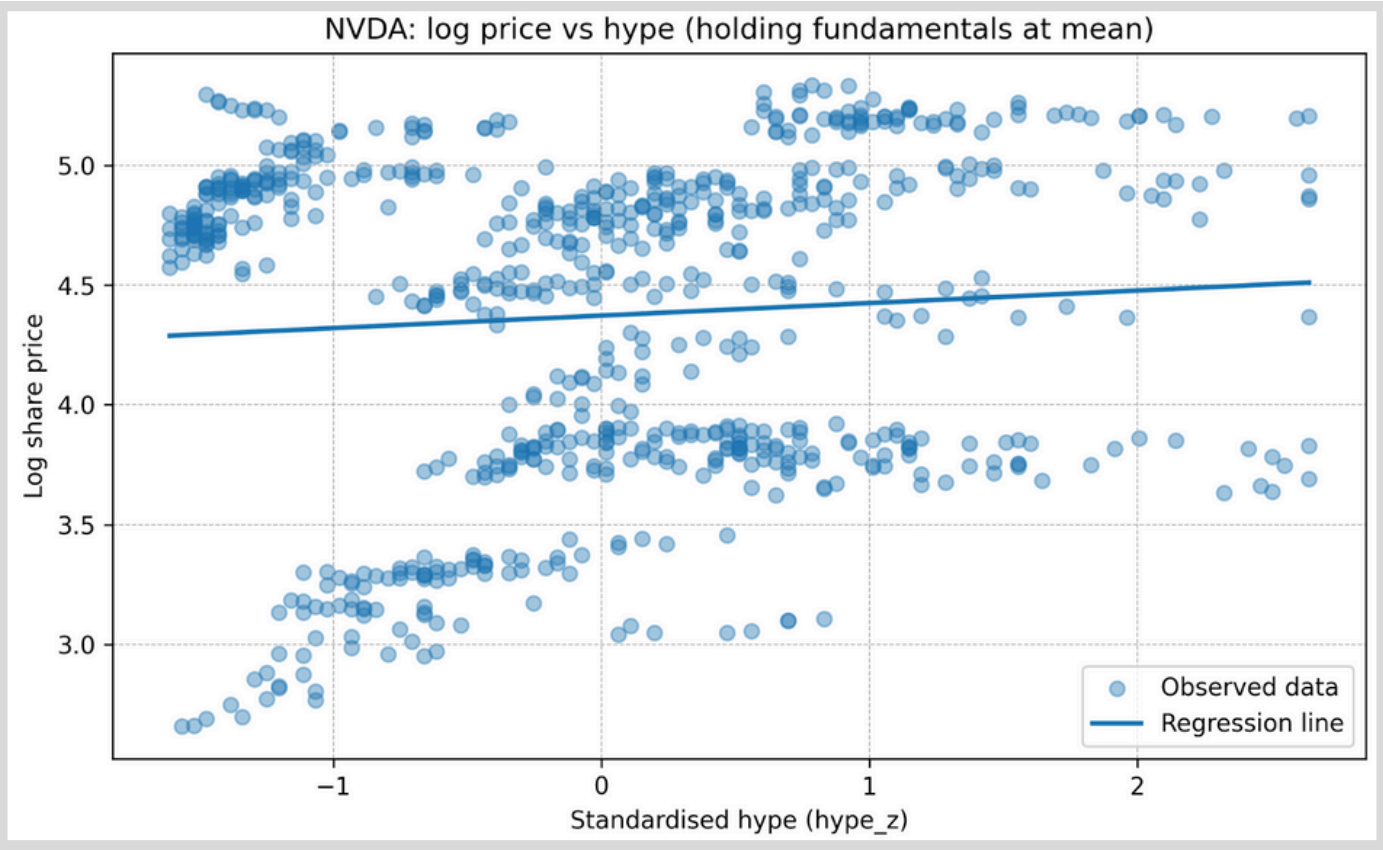


Figure 2: Regression graph generated for Nvidia. Log price against standardised sentiment.

Figure 1 shows that the regression yields a negative β_1 of -4.62 (with the p value < 0.001) and a marginally positive β_2 of 0.049 ($p = 0.05$). This suggests that Nvidia’s daily share price movements are not explained by fluctuations in performance. It also indicates that higher public interest in “AI Stocks” is associated with higher prices. Therefore, speculation, rather than fundamentals, has been the marginal driver of Nvidia’s valuation pattern.

The regression graph of Figure 2 further emphasises this. It shows the widely scattered cloud of log prices and a shallow, upward-sloping regression line when fundamentals are constant (to provide a ceteris paribus analysis). Daily price variation is noisy, but there is a consistent weak positive correspondence with a higher price level. This means that sentiment exerts a measurable

influence on Nvidia’s share price. The limitations of this is that it only explains a small amount of short-run volatility.

Metric	Value
Ticker	NVDA
Market cap	\$4,405,368,193,024
Years used	4
Avg net income	\$29,190,000,000
Last net income	\$9,752,000,000
CAPE-style ratio	150.92

Figure 3: Nvidia market cap/income and CAPE ratio

CAPE = Market Capitalisation / Average Real Earnings over the Previous 10 Years

Figure 4: CAPE ratio formula

Another metric used to show the extent of Nvidia's valuation stretch is the Cyclically Adjusted Price-to-Earnings (CAPE) ratio. The equation is presented in Figure 4. It compares a firm's current price to inflation-adjusted earnings over time, usually ten years. Here, data was only freely available for four.

This was developed by Schiller to identify periods when asset prices became detached from long-run earnings. In times preceding past market corrections, most notably the dot-com bubble, CAPE ratios rose rapidly as prices increased faster than earnings. Figure 3 shows that Nvidia's CAPE ratio was approximately 151. This extraordinary level means that investors are pricing the firm at roughly 151 times its average recent earnings, inconsistent with sustained future growth.

A high CAPE ratio does not imply an imminent correction but reinforces the evidence that Nvidia's valuation is derived more from anticipated future potential.

However, it is possible that current AI valuations are not purely driven by speculation but rather by elements of rational investment too. Previous bubbles were based on intangible and non-productive assets. AI investment finances data centres and distributed computing systems, which retain lasting economic value. Schumpeter's perspective that new technologies would produce delayed long-term value is echoed by the IMF, who believe that AI's long-run potential justifies the current mismatch between earnings and price. The private sector provides an optimistic forecast, with Goldman Sachs estimating that AI has the potential to raise global GDP by 7% over the next decade.⁷ The emergence of the US CHIPS Act, the EU Act and the UK's front show that governments

are also backing the sustained success of AI.⁸

In the future, should valuations correct sharply, the consequences could mirror those of the dot-com boom. Layoffs, contractions in venture funding and a deceleration of innovation could be experienced.

The Bank of England has warned that the oligopolistic market of AI-exposed firms may amplify risks.⁵ Conversely, if growth persists, there could be substantial productivity gains to vindicate current investment levels. Regulators, as a result, are placed in a delicate position to prevent speculative imbalances while also avoiding interventions which could stifle technological progress.

Whether the current AI boom represents a bubble or a rational investment cycle is dependent on how effective the deployment of capital has been, rather than how much of it has been spent. The OECD calls for greater transparency in how AI firms generate profits and manage data.⁸ McKinsey emphasises that how investment is allocated, rather than the scale of spending, will determine whether AI achieves its projected economic impact.

What Drives Gold's 2025 Surge?

Alisa Gao

Introduction

The price of gold hit a record high on 17 October 2025 to \$4,338.25 per troy ounce, marking an increase of over 50% in just one year (1). The surge has reignited the question: what drives the sustained rise in gold price?

A Rush in ETF: Evidence from Quantile Regression

The World Gold Council points to one answer. In Q3 2025, ETF inflows surged to 221 tonnes, a 134% year-on-year jump, putting financial demand “firmly in the driving seat” (2). However, gold remains an odd market leader: unlike equities, it has no earnings, no cash flows, and no growth narrative. Thus, the recent rush into gold looks irrational, especially at a time when global inflation has cooled and interest rates remain high.

To understand why gold rises despite lacking growth fundamentals, we need to consider it as a hedge or a safe haven that attracts investors when markets are down. Baur and Lucey (2010) defined a hedge as “an asset that is uncorrelated or negatively correlated with another asset or portfolio on average”, and a safe haven as “an asset that is uncorrelated or negatively correlated with another asset or portfolio in times of market stress or turmoil.” (3). The year 2025 is marked by heightened geopolitical instability and trade uncertainty, causing severe decline in stock market index and increasing the demand for safe assets.

Following their framework, I estimate a quantile regression between the returns from stocks and gold.

$$r_{\text{gold},t} = \alpha + \beta_1 r_{\text{stock},t} + \beta_2 r_{\text{stock},t(q)} + \varepsilon_t$$

The dataset consists of daily S&P500 and LBMA

gold prices from 2 January to 18 November 2025, with a one-day lag included to detect delayed market responses.

β_1 measures gold's average hedging relationship with stocks, while β_2 captures its safe-haven role under extreme stock market declines. It only takes effect when daily returns of S&P500 drop below 1%, 2%, and 3% in a day.

Findings

Table 1, 2 and 3 demonstrates the regression result with S&P500 chosen quantile decline of 1%, 2% and 3% respectively.

Table 1 (1%)

Gold	Coefficients	Standard Error	P-value	T-statistic
β_1	0.0745	0.0859	0.386	0.868
β_2	-0.269	0.140	0.0552	-1.95
$\beta_1(t+1)$	0.0159	0.0865	0.854	0.184
$\beta_2(t+1)$	0.0800	0.141	0.571	0.567

Table 2 (2%)

Gold	Coefficients	Standard error	P-value	T-statistic
β_1	0.0339	0.0746	0.650	0.454
β_2	-0.251	0.141	0.0759	-1.78
$\beta_1(t+1)$	0.00589	0.0756	0.938	0.0780
$\beta_2(t+1)$	0.147	0.142	0.301	1.04

Table 3 (3%)

Gold	Coefficients	Standard error	P-value	T-statistic
β_1	-0.0475	0.0709	0.504	-0.670
β_2	0.0339	0.154	0.826	0.220
$\beta_1(t+1)$	0.0503	0.0713	0.482	0.705
$\beta_2(t+1)$	-0.00259	0.154	0.987	-0.0168

Results from Table 1-3 indicate that gold behaves as a hedge on average, as the β_1 coefficients are consistently close to zero and statistically insignificant across all thresholds.

Under mild market stress - 1% and 2% daily declines - the β_2 coefficients are negative and marginally significant ($p = 0.0552$ and 0.0759), suggesting a weak safe-haven role.

However, under more extreme market stress (3% shocks), both contemporaneous coefficient β_2 and lagged coefficient $\beta_2(t+1)$ become statistically insignificant with higher p-value ($p = 0.826$ and $p = 0.987$). One plausible explanation is that investors may shift toward alternative hedging instruments with stronger convexity or leverage exposure - such as VIX indexes (4). Gold's traditional safe-haven function fades when stress becomes too extreme.

This finding stands in contrast with Baur and Lucey's (2010) findings for the 1995 - 2005 period, which identified gold as a safe-haven only under episodes of extreme volatility (5).

Across all thresholds, lagged responses $(t+1)$ remain insignificant. This may suggest that the market adjusts almost instantaneously to shocks, and any hedging or rebalancing behaviour takes place in an instant.

Evaluation

While the model captures gold's asymmetric response during market downturns, it does not account for other determinants of gold prices, such as changes in real interest rates and inflation expectation. Empirical evidence from past easing cycles shows that gold prices tend to rise following sustained declines in interest rates (6). However, gold may not react strongly to a single policy cut; its price often adjusts in advance as markets form expectations about future policy. Gold prices continued to climb prior to 17 September 2025, when Chair Powell announced a 25-basis-point cut, but fluctuated once the cut was implemented (7). This may indicate that rate-cut expectations had already been priced in, limiting the immediate post-announcement reaction - a typical pattern when realised policy actions align with prior expectations. Nonetheless, it would be overly simplistic to draw a definite causal relationship between gold and any single factor, whether interest rates or equity markets, as gold prices are jointly shaped by multiple forces, and market expectations around these factors are often difficult to quantify.

Central Banks: The Second Engine

Central banks are another major force behind the inflated gold prices. Quarterly purchases hit 220 tonnes in Q3 2025, up 28% from the previous quarter, and strongest buyers this year include Poland, Kazakhstan, Turkey and China (8). While central banks typically accumulate gold to hedge against currency depreciation and reserve-asset risk, this year's surge increasingly points to a shift away from the US dollar amid uncertainty surrounding Trump's Tariff Act. China, who stands in strategic opposition to the US, has been steadily adding to its gold reserves while selling US Treasury holdings (9). As Jeff Currie of Carlyle told Financial Times, "China is buying gold as part of their de-dollarisation strategy." (10). Some unofficial estimates place China's real gold stockpile near 5,500 tonnes (11). Not only in the case of China, emerging economies such as India also show a preference of gold over dollars: U.S. Treasury statistics show an 8% reduction in India's Treasury holdings over the past year, alongside an accumulation of 600 kilograms of gold (12).

Conclusion

ETF inflows and demand from central banks form the two key forces behind the rapid rise in gold price. Econometric results show that gold is a hedge for stock, a weak safe haven during mild stock market crashes, and the lagged response of gold is insignificant. Furthermore, the accelerating accumulation of gold by central banks reflects uncertainty over the global economy. In particular, the movement away from dollars toward gold in Southern countries in particular could be a long-term strategic "de-dollarisation" and a search for financial independence. However, it is important to recognise that real-world gold demand is influenced by a wide range of forces that interact in complex ways, making it difficult to attribute price movements to any single driver. Overall, gold's traditional role as a stable store of value still shines in today's digital economies - albeit in a different way.

CREDIT, FINANCIAL CONDITIONS, AND THE QUIET TIGHTENING IN THE UK

Deniz Cecik

Introduction

The past three years have given us the most aggressive monetary tightening cycle in the UK since the early 1980s. This is seen by the contractionary policies of The Bank of England (BoE), increasing the Bank Rate from near the zero lower bound in 2021 to as high as 5.25% mid-2024.¹ Despite this tightening, GDP growth has not seen a significant decrease.² However, the UK has been going through what can be a ‘silent credit crunch,’ a gradual but meaningful tightening in credit availability. Different parts of the economy have been impacted differently as well. Lending volumes have declined and standards have become stricter across 2023-24, according to British Business Bank.³

This article examines how monetary policy and financial markets influence the growth of UK bank credit. Using quarterly data on policy rate changes and FTSE 100 returns, I establish quantitative methods to estimate an empirical model that underlines how asset-price movements interact with monetary tightening. These results shine light upon the tightening in the credit being persistent but quiet.

Economic Framework

When trying to understand the relation between monetary policy and credit, there are two main arguments that can be used. First, the bank lending channel explained by Bernanke and Blinder in 1988; and the financial accelerator developed by Bernanke and Gertler in 1989.

The bank lending channel emphasises the effect of tightening monetary policy on the supply of credit. This is by the increase in the policy rate increasing banks’ funding costs and lowering their willingness to lend.⁴ This mechanism’s most significant evidence comes from analyses on bank-dependent borrowers like SMEs. Though I will attempt to incorporate the ideas put forward

in this framework, it will not be the biggest focus. The financial accelerator tells us how changes in asset prices affect balance sheets of borrowers. A decrease in asset prices lead to falls in net worth and value of collateral, rises in risk premia, and most importantly a contraction in credit supply that is more than proportional.⁵ Due to better availability of data and wider applicability of the financial accelerator, it will be this article’s focus. I claim that the credit crunch is more ‘silent’ than abrupt, therefore, a connecting relationship between policy rate and credit is likely. Asset prices may prove to be a fitting connector given the accelerator’s significance in the model.

Data and Methodology

The empirical approach examines how monetary policy and financial conditions jointly influence bank credit growth in the UK.

$$\Delta Credit_t = \alpha + \beta_1 \Delta \iota_t + \beta_2 r_t^{FTSE} + \beta_3 (r_t^{FTSE})^2 + \beta_4 (\Delta \iota_t \times r_t^{FTSE}) + \varepsilon_t$$

I use data covering the post-Global Financial Crisis recovery, 2015, until 2025. The dependent variable is the quarterly credit growth rate of banks to non-financial institutions.⁶ I use quarterly measures to be in line with analysis of financial markets and aim to capture bank credit using data provided by BoE. Then, I use the change in Bank Rate (ι)⁷ and FTSE All Share returns (r^{FTSE})⁸ to capture monetary policy and financial conditions. The policy rate being the central bank’s main instrument, and FTSE returns giving a comprehensive representation of equity markets, they prove to be fitting proxies for monetary policy and asset prices. While the inclusion of the policy rate allows the traditional bank lending channel to be tested, the structure of the regression is designed more towards capturing the nonlinear balance sheets effects highlighted by Bernanke and Gertler, as well as Kiyotaki and Moore.

Capturing the nonlinear effects using a quadratic rFTSE proved sensible after seeing its substantial impact on specification seen in the Ramsey RESET Test. I finally add an interaction term between ι and rFTSE. I use an OLS estimation, and the diagnostic tests confirm that the nonlinear model is statistically well-behaved. To be specific, I ran the Breusch-Pagan test for heteroskedasticity, the Breusch-Godfrey test for autocorrelation, Jarque-Bera test for normality of residuals, VIF for multicollinearity and the RESET test for misspecification. Details can be found in the appendix.

Results and Discussion

The regression results provide evidence that the tightening of UK credit conditions since 2015 has been driven mainly by financial market dynamics rather than the direct changes in the Bank Rate. Though the coefficient on ι is negative (-0.0057), it is also statistically insignificant ($p=0.258$). This indicates that monetary tightening does not explain much of the variation in credit growth directly once the nonlinear effect of financial conditions are controlled for. This seems to be consistent with the post-crisis banking environment in the UK where banks have been liquid and well-capitalised, therefore, rate changes do not directly translate to problems in loan supply.

Nonlinear financial conditions look both economically and statistically strong. The squared FTSE term's size, sign and significance (0.8553, $p<0.001$) imply a strong convex relationship between market performance and credit growth. So, sharp declines in equity prices have disproportionate negative effects on credit supply, whereas moderate or positive returns have a lesser impact. The interaction term (-0.1448, $p=0.066$, significant at the 10% level) further suggests that policy rate hikes have the biggest influence when markets are weak.

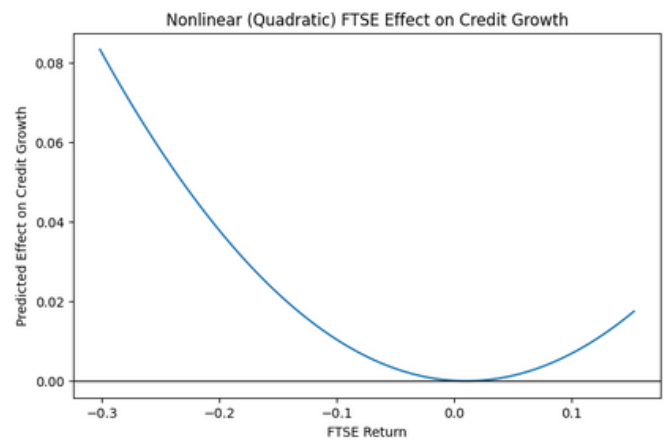
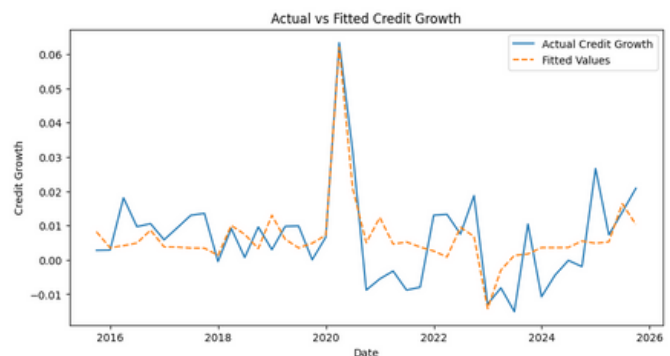


Figure 1: Nonlinear (Quadratic) FTSE Effect on Credit Growth

This implies that the effect of monetary policy is transmitted indirectly, through worsening balance sheets and higher risk premia. This matches well with the financial accelerator framework.

These dynamics explain why the UK has been going through a silent credit crunch and not an abrupt one. There hasn't been insolvency or liquidity issues with banks but lending growth slows as asset prices fall, amplifying the effects of higher rates.¹¹ For many firms, tighter credit standards and weaker collateral values together make bank financing harder to obtain.¹² We observe this in the regression as the effects of asset-price movements on bank credit growth. This environment has quietly created the need of alternatives for said firms, especially SMEs as they are more bank-dependent. That alternative seems to be the private credit sector so far. The rise of the sector may bring a reconfiguration of credit markets in high-rate and risk-sensitive periods. More on this later.



Conclusion

This analysis shows that the tightening of UK credit conditions in the past few years has been through a more subtle interaction of monetary policy and financial markets rather than a direct collapse in bank lending similar to the Global Financial Crisis. Although changes in the policy rate alone do not explain much of the variation in credit growth, the nonlinear effects of FTSE returns show that falling asset prices have a major weakening effect on borrower balance sheets and they amplify the impact of higher rates. This combination gives us a silent credit crunch, a gradual but real squeeze. This pattern also helps explain the growing role of private credit providers who step in more and more when traditional banks do not meet the demands of firms during periods characterised by financial stress. Understanding these indirect channels is essential in explaining credit dynamics in the current environment.



THE POLITICS OF "ATTENTION ECONOMICS": Is focus the New Currency?

Shalin Bhansali

We're no longer grabbing headlines from broadsheets; now it's all 15-second TikToks. In fact, 17% of U.S. adults now say they regularly get their news from TikTok, up from just 3% in 2020. As we skim-swipe and scroll, it's not just our attention that's on the line; it's the currency of power itself.

We live in what economists now call the Attention Economy, a field most of us didn't even realise existed, yet one that quietly shapes almost every interaction we have with the world. The idea goes back to Herbert Simon's 1971 insight that in an information-rich society, attention—not information—is the real scarcity. Today, that scarcity has become the organising principle of both politics and business. For politicians, the goal is no longer persuasion but focus; for companies, not loyalty but screen time. That's why modern political campaigns chase virality and emotional spikes over substance. Outrage is simply the most economically rational route to engagement.

And the research behind this trend reveals just how dramatically our attention is being reshaped. Pew Research Centre found strong links between media habits, ideological "bubbles," and public opinion on political and economic issues. They concluded that algorithms contribute to echo chambers and reduce exposure to diverse viewpoints. Empirical Studies also back this claim. Bail et al. (PNAS, 2018) found that exposure to opposing political views on Twitter didn't create moderation — it actually intensified polarisation, as engagement reinforced existing tribal attitudes. More recent work, including Kubin (2021) and a 2025 study in *Nature*, shows how social platforms actively shape which issues feel urgent and which fade into the background, deepening divides on everything from climate and

COVID to global conflicts. The takeaway is that social media platforms monetise division, where algorithms amplify outrage because outrage sustains attention.

If you want to see attention economics in its purest political form, look no further than the UK's very own Nigel Farage. Empirical research and journalism show how, in the pre-Brexit era from 2018-2020, Farage strategically used social platforms to amplify emotionally charged themes like immigration, sovereignty, and Brexit, while sidestepping deeper policy scrutiny. Studies by Karamanidou & Sahin (2021), along with investigations in *Wired* and *The Guardian*, reveal the movement's heavy reliance on high-engagement social media tactics that consistently pushed Farage's narratives to the top of public discourse. An NBER analysis estimates that Brexit-related uncertainty drove UK investment down by roughly 11% in the three years after the referendum, with productivity falling 2–5% in the short run.

Attention-driven politics didn't just win the feed; it reshaped the economy!

When governments begin prioritising attention over actual outcomes, public spending shifts accordingly. Instead of directing resources toward productive areas such as education or R&D, policymakers gravitate toward projects that generate immediate visibility and emotional reaction, including border controls, defence initiatives, or short-term populist subsidies. Research from the Peterson Institute (2022) shows this pattern clearly: populist governments allocate about 25% more to short-term transfers and around 15% less to long-term investment compared to non-populist administrations. The

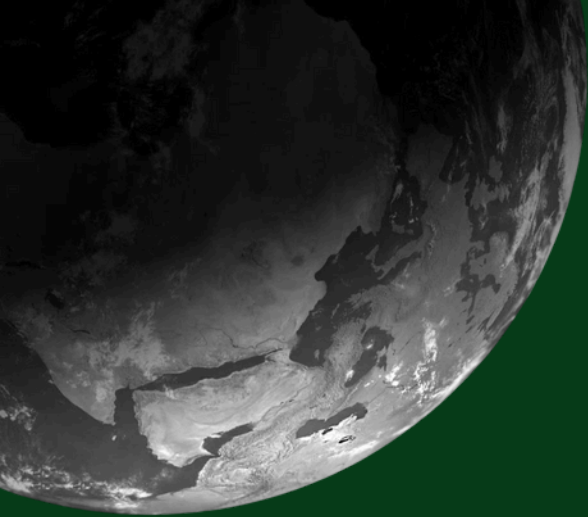
UK reflects this dynamic as well. Digital engagement around NHS funding or housing policy remains significantly lower than engagement on topics like immigration or “small boats,” which creates a clear misalignment between the country’s economic needs and the issues that receive political attention. Recent work finds that countries run by populists see worse economic outcomes: after 15 years, GDP is on average about 10% lower than in comparable non-populist countries.

Take Turkey as a stark case study of how attention-driven populism can morph into a full-scale economic disaster. Under Erdoğan’s leadership, the government increasingly governed for spectacle rather than stability, using nationalist rhetoric and high-visibility political gestures to maintain public support. This same logic spilt directly into economic decision-making. To preserve the appearance of rapid growth and “strong leadership,” Erdoğan publicly rejected conventional economics and pressured the central bank to slash interest rates, framing high rates as unpatriotic and harmful to “the people.” The policy was not rooted in economic logic but in a populist narrative designed to attract attention and signal defiance of elite technocrats. The consequences were immediate: inflation surged to 60–80 per cent, the lira collapsed, and monetary credibility evaporated. Massive currency interventions drained foreign reserves, investor confidence plummeted, and households saw the value of their savings disappear. Turkey shows how attention politics can override technical expertise, incentivising leaders to choose headline-friendly policies over sustainable ones.

In the digital era, attention has become both a form of political capital and a valuable economic resource. What this means is that now economists must recognise that information asymmetry stems not from a scarcity of data, but from a scarcity of focus. And the main challenge for modern

democracies is to redirect attention from outrage to outcomes, before the cost becomes structural.

We must realise that attention is the new currency, and it can either empower or trap us. Social media hooks us with outrage and instant hits, but we are not powerless. We can push back by questioning what we scroll, seeking diverse viewpoints, and prioritising substance over sensationalism. Governments and institutions also have a role to play. Policies that promote media literacy, transparency in algorithms, and accountability in political advertising can reduce the distortionary effects of attention-driven narratives. Strengthening independent journalism and supporting public-interest media can redirect focus toward long-term issues rather than viral distractions. In the end, mastering our attention is the only way to turn it into real power at both the individual and societal levels instead of falling into the digital trap.



GROWTH MEETS RESISTANCE



SLOW ECONOMICS: IS GEN-Z ANTI-CAPITALIST?

Samuel Ducrey



I) The turn to Analogue

I was strolling around London recently, drifting by some shops and watching people pass by, a convenient activity when three problem sets are due in a few days. After admiring the airy and sleek Apple store, I walked into an Urban Outfitters, where the demographic was a lot younger. Beyond the clothing racks, I found a photo booth and a printing station. A vinyl record collection with some turntables for sale sat alongside a display of film cameras.

I began to wonder: why sell these analogue products when the iPhone next door consolidates all of them into one hyper-efficient device? Why is Gen-Z moving away from efficiency, towards organic or analogue products? Is this shift just another teenage trend, or caused by structural issues? To answer these questions, we need to merge philosophy, sociology and economics.

II) Moral Outsourcing and Interpassivity

A useful starting point is Pfaller's concept of "interpassivity": the idea that we want our commodities to act on our behalf, allowing us to remain passive and free from moral burden.

Slow consumption becomes not an act of rebellion but individual self-optimisation framed as social moral virtue. Ethical responsibility is outsourced to the objects of consumption themselves: The commodity is doing the restraint, the lengthy action or sustainability on behalf of the agent. The very moral kernel of the action is delegated to the thing, acts that the subject no longer has to perform.

Why slow our consumption and create deprivation if our commodities can simulate it on our behalf? This is perhaps best shown in the statement that 83% of Gen Z say they want brands to take a stand on social issues. The individual feels less compelled to carry the moral burden and delegates it to the corporate actor. Slow consumption thus shifts from sacrifice to simulation.

One can, therefore, participate in this slow, minimal, anti-efficient economy without having to suffer the absence and the barrenness that would result from it.

III) Capitalism Absorbs Its Critics

This is an excellent example of capitalism's absorptive capabilities. A well-functioning economic regime not only tolerates criticism, rather it actively adapts to it.

We then observe a supply-side filling of the niche that the illusion of the anti-consumptive movement opened. The cycle becomes self-fulfilling; critiques become the fuel for the very market economy from which they emerged. In this sense, apparent shifts in the economic order are less transformative than they seem and serve more as temporary adaptations. The defining strengths of our contemporary economic system lie in its ability to monetise what appears to oppose it.

One illustration of the profitable countercultural niches filled by firms is the anti-screen-time and anti-social-media sentiment. As soon as consumers began to turn against the accelerating pace of screen consumption and recognised the harms associated with social media, companies saw gold. The £520 3-day “digital detox” retreat offered by Unplugged or the 4% rise in flip-phone sales in Western Europe in 2024 are perfect examples of the profitability of ostensibly anti-capitalist consumption.

Another successful example is the fashion and sportswear brand Patagonia, profiting from the sustainable slow fashion movement. Its “DON’T BUY THIS JACKET” marketing campaign featured their signature fleece and bold lettering, urging the consumer to consider the ecological impact of their purchase. The campaign resulted in a 30% increase in sales the following year. Patagonia profited not in spite of its anti-consumption messaging, but because of it. Buying Patagonia becomes a proxy for non-consumption, a way to purchase the feeling of restraint.

At first glance, this may appear to be naive or youthful hypocrisy. What matters, however, is to show that this is not the case and highlight the drivers of this new form of commodified anti-consumption. Essentially, we want to explore the economic and social context that makes these patterns not only possible but rational among younger consumers.

IV) Precarity and the Search for Control

We can also read these consumption behaviours again

against the backdrop of declining traditional stability and mobility metrics. For example, the widening gap between wages and house prices or the volatility of the modern employment market.

The average house price in the UK today is nearly six times higher than it was three decades ago, while wages have not kept pace. Average deposits, now almost 10 times higher, are increasingly out of reach, especially as rent consumes a bigger proportion of the young people’s income. Initially, this may seem unrelated to the behavioural questions surrounding slow consumption, however, the connection is both economic and psychological. Rucker & Galinsky point out that powerlessness, and consequently the feeling of Gen Z in front of the ever-expanding property ladder, drives compensatory consumption.

The slow consumption outlined earlier aligns closely with this type of consumer behaviour. It is precisely because we feel a lack of power and control that we splurge on symbolically important commodities. These symbolic commodities restore a sense of control. Instead of shuffling my playlist on Spotify, I place the needle onto my vinyl record, restoring a sense of agency. Instead of having my pictures uploaded automatically from my iPhone to the cloud, I have to go to the shop and get a physical development of my pictures, restoring a sense of tactility. Instead of passively accepting the reality of animal harm, I try to adopt vegan alternatives, restoring a sense of ethical control.

We can, therefore, read these vinyl records, film cameras, and vegan meat as compensation for feeling powerless in the face of traditionally important purchases. As economic stability becomes harder to access, these small acts of control help render an unmanageable landscape slightly more navigable.

V) Identity, Ritual, and ‘Luxury Poverty’

We can also interpret these consumer behaviours as forms of group-identity seeking. The modern shortcomings of the employment market and the growing uncertainty surrounding future career paths

can be seen as stripping away many socio-economic markers from the younger generation. It is no mystery that sociologists like Durkheim pointed out that employment and stable work create status groups and foster social solidarity.

Gen Z, however, struggles to access this employment-created identity and solidarity because they simply struggle to get a job. The Independent reports that “Entry-level job postings have fallen by 29 percentage points since January 2024” while UK youth unemployment has risen from 13.7% to 14.5% between June 2024 and June 2025. Coupled with the threat of AI replacing many junior roles, the younger generation has been forced to reevaluate stability markers.

Consumption has always been identity-driven, but it now carries a heavier role in the construction of identity. For Gen Z, consumption is no longer a decorative extension of, but rather one of the remaining foundations on which identity can be built. This consumption phenomenon is not merely a trend. Trends are governed by taste and aesthetics. Rather, this is a precarity-driven shift. Macro stability weakens, so micro stability is found in consumptions that are proxies for control, predictability, and meaning. These are slow, analogue, durable and more often ritualistic commodities rather than a form of fun mass-following novelty.

While music taste corresponds to a trend, the record player corresponds to a timeless ritual, where stability is found somewhere other than the job market and a predictable wage. In this sense, Gen-Z lives in a sort of luxury poverty, able to afford expensive organic goods, costly photography habits, but not homes or jobs, which can be seen as real economic stability. The consumption of the younger generation, therefore, results from structural problems and cannot be reduced to a simple surface-level trend.

Essentially, Gen-Z’s consumption is less a form of rebellion and more a rational response to structural precarity, mediated through capitalist adaptability. When traditional routes to stability, housing, secure work, and upward mobility narrow, consumption steps in to provide both control and identity. The market quickly adjusts, packaging authenticity and restraint as profitable niches. What appears to be rebellion is, in reality, adaptation: a generation navigating uncertainty through imperfection with a ribbon. And if that means buying a turntable at Urban Outfitters after passing the Apple store, it only proves the economy still knows how to sell both the problem and the cure.



OUR PLANET IS NOT FOR SALE

How can we make markets solve the climate problem?

Siddhant Mathur

“Our planet is not for sale.” These words were on a sign presented by a group of protestors from a local ethnic group called the Tupinamba, who had stormed into the conference hall for this year’s Conference of the Parties (COP 30) summit happening in Belém, Brazil.

Indigenous to the country, the Tupinamba people have lived in the Northern Brazilian state of Para for thousands of years, predating the Portuguese colonial settlers. These groups have lived around the São Sebastião River but have suffered from air and water pollution from nearby shipping lanes. This group has faced further challenges with spiralling climate emissions, from forest fires to droughts and floods. Even though this year’s COP Summit had marketed itself as the “Indigenous Peoples’ COP, the focus on the impacts of air pollution and lack of green financing for indigenous groups has been surprisingly little.

The Tupinamba do have reason to be worried. Progress towards reducing the impact of human environmental damage through climate emissions has been dangerously little, with world temperatures expected to rise to 2.6 degrees Celsius, far higher than the 1.5 degrees agreed at Paris in 2015. The significant climate-related damage poses an existential threat to such groups, with the potential loss of key living environments.

What economic policy options are available to governments to solve this?

Buying and selling pollution?

One highly contentious issue with the COP climate negotiations is the transition away from fossil fuels, a step which is crucial for reducing harmful greenhouse gas emissions. To reach the ambitious target set at Paris of 1.5 degrees Celsius, annual emissions need to fall by over 50% by 2030 and such emissions need to reach net-zero by 2050.

Climate taxes may help create incentives for firms to cut emissions by creating a market for pollution,

ironically in lieu of the title, putting pollution up for sale. The principal objective for an effective carbon tax is to tip the scales of costs for a firm in favour of cutting emissions. The tax would increase the costs associated for firms with polluting the environment at the current level - this cost would exceed the cost of reducing emissions by one unit (marginal costs of abatement). This gives a profit incentive for the firm to cut costs by cutting emissions (since it is cheaper to reduce emissions by one unit rather than pay the tax). This will continue until the costs of reducing emissions by one unit equals the costs to the environment by emitting an additional unit of carbon, achieving net-zero.

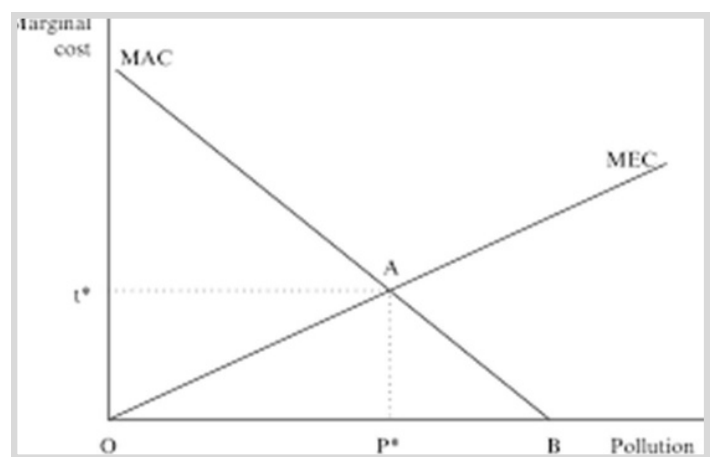


Figure 2: Marginal Costs of Abatement and Damage curves.
(Source: Olivier Goddard, ResearchGate, 2023)

Note how at quantity B, $MAC < t^*$ - it costs less for the firm to reduce emissions than to pay the tax.

The best part is that these taxes work. Unfortunately, Brazil has never implemented such a tax but a report by J. Grosjean et al. compared the performance of Nordic countries to a synthetic counterfactual (a ‘basket’ of non-Nordic countries which did not implement such a tax to the same extent – this basket included countries like the UK and Turkey). This is called a Synthetic Control Model (SCM). This counterfactual allowed for a relatively fair comparison between countries which implemented the tax to what would have happened in the same countries should they have gone with “business as

usual” policies.

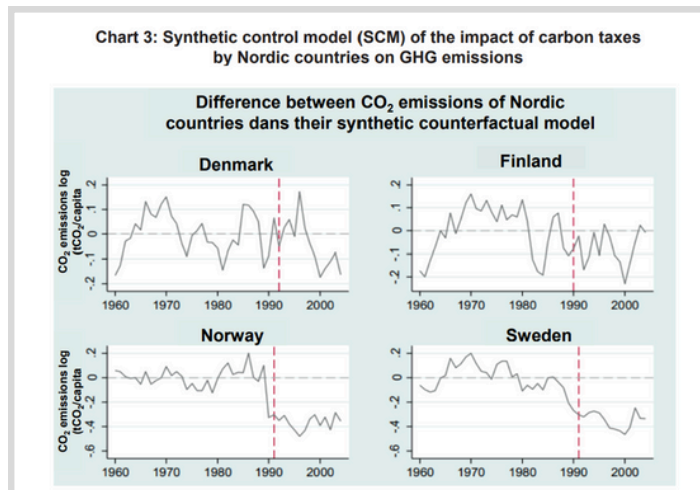


Figure 3: Synthetic Control Model comparing the difference between each Nordic country and their respective synthetic counterfactual. (Source: Tresor Economics, 2024)

There is significant evidence of such a tax being successful in cutting emissions. Looking at the high climate tax economies of Norway and Sweden, CO₂ emissions per capita have decreased, with consistently falling emissions relative to themselves if they did not implement the tax. This contrasts with the performance of Denmark and Finland, economies with lower climate taxes. Thus, there is strong evidence to suggest that climate taxes are highly effective in cutting emissions and easing the transition to low-carbon technologies.

Unfortunately, close relationships between fossil fuel giants and governments has led to a slow implementation of these taxes. Many fossil fuel giants have benefitted from a close relationship with governments, engaging in regulatory capture of key environmental regulators, leading to fewer punishments for non-compliance. Governments persisted in not prioritising climate reform, with Bolsonaro’s government hitting the Tupinamba people by pushing for a 200% increase of oil and natural gas production.

Thus, significant challenges still remain for the implementation of such taxes in climate reform, particularly in weakening the influence of large fossil fuel corporations on government policy.

Green Bonds

Another key point of contention at the COP 30 Climate Summit has been the role of developed countries in climate financing. So far, developed countries are arranging \$100bn in funding for climate-related projects in developing and emerging economies. However, such funds have often been very slow to impact their designated project, partly due to many of such countries implementing austerity measures (measures designed to reduce spending to reduce a budget deficit).

A policy measure suggested by economists seeking to increase green project funding independently of government in the private sector is through financial products like Green Bonds.

These bonds work very similarly to traditional bonds - a corporate or government entity seeking to raise capital issues bonds - in effect, a loan made by the investor to the bond issuer (the firm or government) in return for interest (also known as the yield of a bond) and a repayment of the loan at a given point in the future. The key difference from traditional bonds is the use of funds - the funds raised from these bonds may only be used for financing green projects like energy-saving production methods and pollution mitigation efforts.

A key reason why this market has grown has been due to the opportunity for portfolio managers to diversify their investments. They may support sustainable investments while hedging against any substantial risk, fulfilling institutional demands for investments with lower risk and sustainable impact.

This has enabled the market to have a CAGR (current annual growth rate) of 10.8% and a market capitalisation of \$2.9tn.

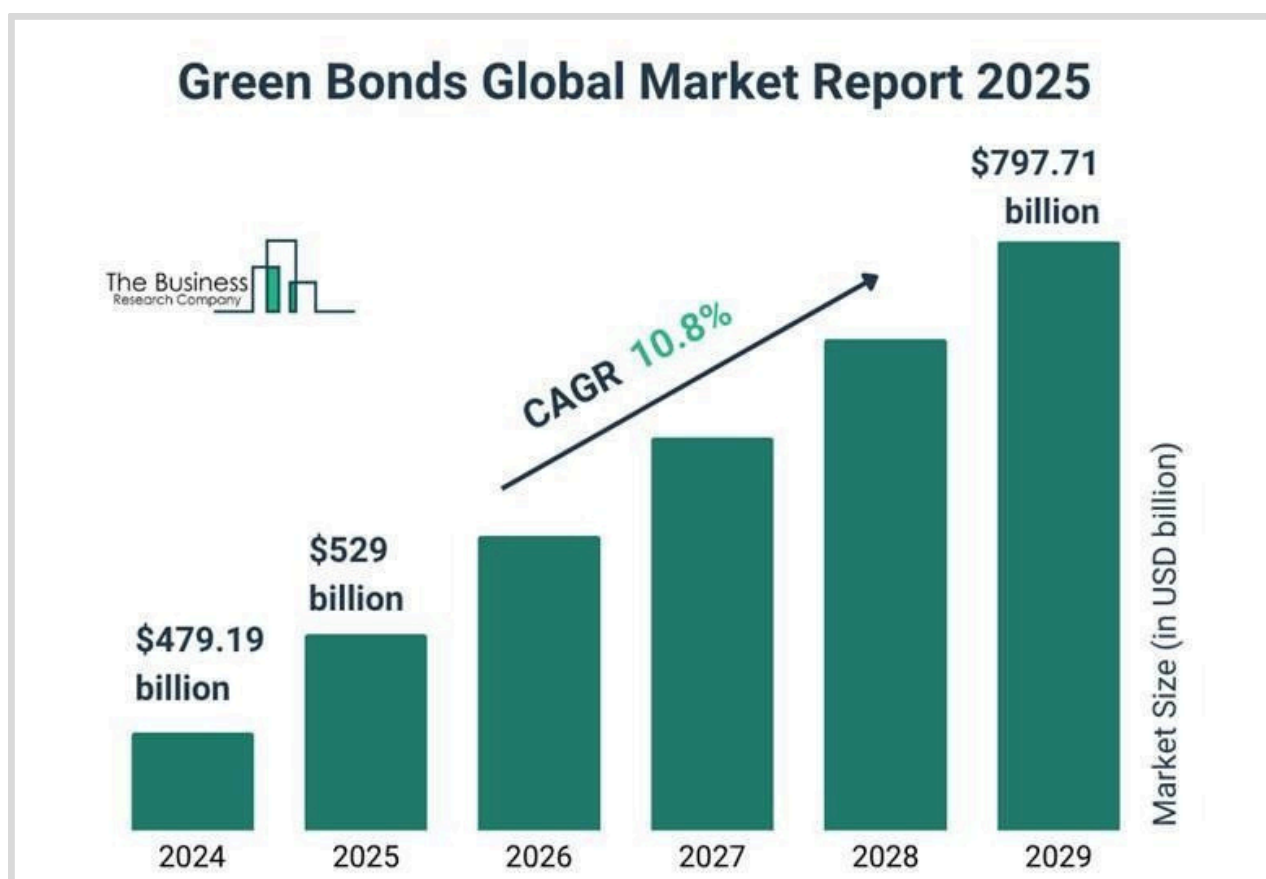


Figure 4: The growth of the Green Bonds market - with a current annual growth rate (CAGR) of 10.8%, such a market has a very strong future. (Source: The Business Research Company)

These products have a range of benefits. The bond issuers benefit with lower financing costs for their climate change mitigation projects, up to 8 basis points (0.08%) lower than traditional bonds due to such significant demand from investors leading to a ‘greenium’ (a premium investors are willing to pay on top of the current market price for a green bond).

However, there are still many significant challenges faced in making green bonds a competitive option relative to traditional bonds. There is no standardised universal regulation for which bonds are considered “green.” This increases the vulnerability of investors to “greenwashing”, where funds are not used for sustainable purposes. This in turn may lead to higher costs for investors in due diligence research to ensure that the bond is legitimate or not, reducing the competitiveness in terms of returns. Thus challenges still persist in using green bonds as a measure to support climate financing.

Overall, current climate policies being pursued by governments are insufficient to reduce average global temperatures to the desired 1.5 degrees Celsius target. Governments may be more effective by developing more strictly enforced accountability standards of funds in green bonds, government relationships with corporations, and specific climate targets.

Whether governments can implement this, only time will tell.

CAPPED BORDERS, LOST BILLIONS:

The Truth About Migration Controls

Amba Arjun

Migration is often incriminated as a humanitarian dilemma or a cultural flashpoint, leaving it unappreciated for what it truly is: the unsung key to global economic prosperity. Economists like Michael Clemens have long argued that restricting migration from poor to rich countries represents a massive economic inefficiency. Clemens argued that the world is “leaving trillion dollar bills on the sidewalk” by restricting labour from easily penetrating the borders. He estimated that a 5% increase in labor mobility could generate more economic gains than eliminating all tariffs and capital movement barriers.(1) In other words, allowing people to work where they are most productive would be more economically rewarding than trade liberalisation. This argument is rooted in the concept of “the place premium”, the idea that a worker can multiply their PPP adjusted earnings by merely crossing a border without necessarily having to increase their human capital.

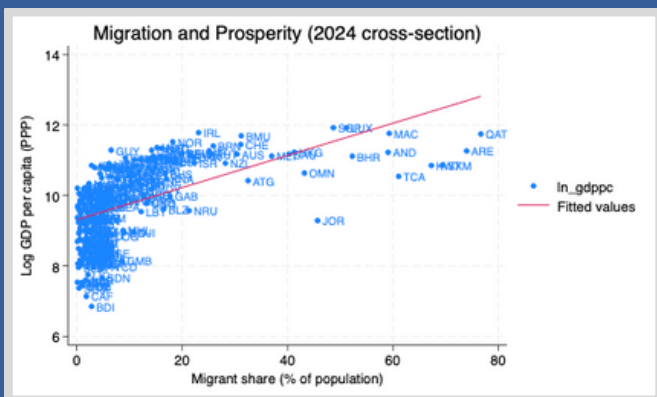


Figure 1, which plots International migrant stock (% of the population) against GDP per capita using data from The World Bank, brings this reality to light.(2)

The pattern is unmistakable as it reveals that countries with high migrant shares, such as the Gulf States, are among the richest in the world. This positive association, rather than appearing sporadically or by chance, is a consistent global pattern. If migration inherently depressed

wages, slowed growth or exploited resources, we would expect wealthy nations to have smaller foreign born populations.

Instead, the world’s most productively efficient economies are also most open to migrant labour. This alone is a powerful rebuttal to political narratives that frame migration as an economic threat as wealth multiplies in those societies that act as magnets for global talent rather than those that have closed themselves off.

Yet, governments continue to tighten borders in ways that directly sabotage their own success. A recent report from the Home Office estimates that the UK government’s clamp-down on overseas skilled workers and international students will cost businesses over £40 billion over 10 years, creating a net societal cost of around £26.5 billion.(3) These costs are not only representative of lost tuition and visa fees, but carry the weight of foregone productivity, stalled innovation and the compounding effects of excluding high potential workers who would have otherwise been strong assets to the economy.

Migration as a Money multiplier

Migration is not only beneficial to origin, but also destination countries. For developing economies, emigration improves their balance of payments status through remittances, which can often exceed aid and act as resilient income streams. Rather than leaving permanently, migrants may return with up-to-date and essential skills, savings and international connections which will boost entrepreneurship and long-term productivity. Instead of hollowing out fragile economies, outward migration strengthens them both economically and financially, which is what economists refer to as a “brain gain”.

This is far from a zero sum game as destination countries do not lose out in any way during this process. It is indeed a common misconception that “cheap labour” has the potential to drive down wages and “steal” jobs from locals.

In fact complementary labour effects are gained as migrants typically help fill up lower status roles, such as care work and construction, that domestic workers avoid.(4) This frees natives to move up the job ladder, improving labour market efficiency rather than displacing domestic workers. Hence, the fact that immigration and prosperity move in the same direction in Figure 1 is further supported. As migrants go where opportunities are abundant, their presence helps bolster these opportunities by expanding productive capacity and innovation potential.

The Hidden Costs of Migration Restrictions

Governments treating migration primarily as a risk rather than an opportunity is economically equivalent to imposing tariffs on labour. In the same way that protectionism in goods markets raises prices and reduces efficiency, migration controls create a deadweight loss by preventing mutually beneficial exchanges that will help global output reach its maximum potential. A concrete example of this is the caps on H-1B visas in the United States. Firms, especially start-ups in the tech sector, have been hurt with rising costs and growing hiring delays.(5) This is driving innovation and investment away from the US, let alone negatively affecting future prospects in terms of competitiveness of frontier industries as talented workers relocate to more open economies such as Canada and Western Europe.(6)

Europe faces similar challenges which are compounded by demographics. Many countries are ageing rapidly, with shrinking workforces and rising dependency ratios. Meanwhile, developing countries are facing youth bulges due to the abundance of young workers with

limited economic opportunities. The World Bank’s analysis shows that whether a youth bulge becomes a “dividend” or a “bomb” depends partly on mobility.(7)

Restricting migration between young, labour-abundant regions and ageing, labour-scarce ones is economically irrational as it entrenches inefficiencies on both sides.

Migration controls are often justified in the name of protecting native workers, but the long-term effect is to sacrifice growth, innovation and demographic stability.

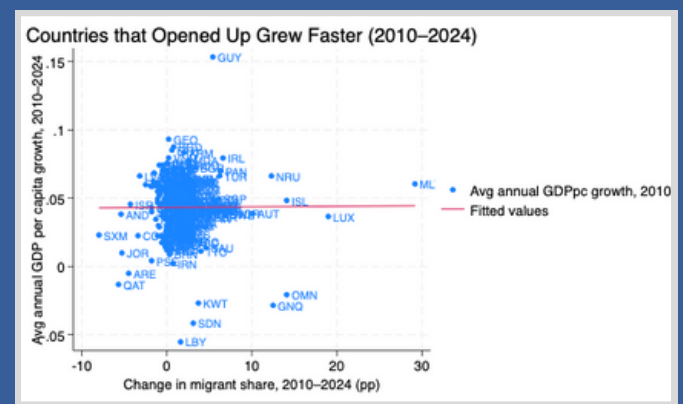


Figure 2 plots changes in migrant share between 2010 and 2024 against average annual GDP per capita growth over the same period.

The pattern is striking in its neutrality as the fitted line is almost perfectly flat, directly refuting the political claim that “letting migrants in slows growth”. If anything, there is a faint positive relationship that shows that countries that opened up did not fall behind.

Running the regression,

$$growth = \alpha + \beta_1 \Delta migration + \beta_2 \ln(GDPpc2010) + \varepsilon,$$

using the same data, also reinforced this argument. Controlling for income adjustment, which is an essential adjustment considering convergence effects between rich and poor countries, migration changes remain uncorrelated with slower growth.

The coefficient being slightly positive (0.0005878) shows that growth is strongly

linked to where countries started, showing that poor countries may grow faster due to migration as they have a vast amount of unexplored potential. This is a data-driven rebuttal to the claim that migration imposes long-term economic burdens.

Why is Migration Politically Unpopular?

Public perception plays a major role. Across the OECD, citizens dramatically overestimate the number of migrants in their country and believe that migrants use more welfare than they do.(8) Events such as terrorist attacks fuel this fire, leading to the “securitisation” of migration. Politicians, especially from populist parties, often frame migration as a "crisis" or "threat" to gain support.

This erodes public trust and further politicises the issue. In the US, debates about border control intensified even during periods of record-low unemployment, contradicting claims that migrants “take jobs by crowding out native workers”.(9) Such claims can obscure the economic reality shown in the figures and regression results.

All this data points towards a single conclusion: The world’s wealth isn’t trapped in oil fields or tech patents, it’s trapped behind borders. Figure 1 shows that countries with higher migrant shares are consistently richer which is evidence of the place premium and the massive productivity gains unlocked when people can work where they are most effective. Figure 2 and Regression 3 confirm that increases in migrant share between 2010 and 2024 did not slow growth; if anything, the relationship is slightly positive even after controlling for initial income.

This means the economic case for easing migration barriers is overwhelming. Smarter mobility policies including portable visas,

bilateral migration agreements, and targeted pathways that match workers to shortages would reduce deadweight losses and help ageing economies grow.(10)(11) Instead of putting up high walls in a world of productivity stagnation and demographic decline, people must be allowed to climb over them to help realise the true potential of globalisation. If the 20th century was defined by free trade in goods, the 21st could be defined by free trade in people.

SANCTUARY ECONOMIES: WHY CITIES DEFY THEIR NATION-STATES

Dhwani Aachi

Introduction

The term “sanctuary cities” refers to urban areas that limit cooperation with federal immigration enforcement. However, the underlying logic extends far beyond immigration. As globalisation becomes more uneven, major cities are increasingly diverging from the political and economic priorities of their nation-states.

Sociologist Saskia Sassen’s concept of the “global city” helps explain why. Cities like London and New York act as command centers in the global economy, drawing in resources and talent from across the world. National governments, on the other hand, often gain politically from policies that emphasise protectionism, strict borders, or national identity. This gap has given rise to what can be called “sanctuary economies,” where cities selectively defy national policies to preserve the economic conditions they rely on, a development signalling a reconfiguration of sovereignty itself as states gradually cede influence to powerful subnational actors.

Economic Causes: Why Cities Need Openness

In 2023, London generated 22.3% of the UK’s GDP, a share driven by industries that rely on international labour markets, foreign investment, and cross-border financial activity. London’s economic weight, therefore, stems from global rather than purely local connections.

This dependence is built into the very structure of global cities. Their productivity comes from agglomeration: dense clusters of firms, specialist workers, and fast-moving information flows that can function only in open, highly connected environments. To succeed, these ecosystems need access to large, flexible labour markets, which national protectionist policies can severely restrict.

While high-skill migrants drive the knowledge economy, lower-wage migrants sustain vital sectors such as hospitality, transport, and care. Openness also shapes fiscal strength and investment. Global cities draw substantial foreign direct investment, host multinational headquarters, and welcome international students. Each of these factors boosts tax revenue and consumer spending. Therefore, in cities built on global connections, openness is less of a political choice and more of an economic necessity.

In this context, sanctuary-style policies serve as economic signals. By presenting themselves as open, even when national politics move in the opposite direction, cities reassure firms, investors, and workers that they remain internationally oriented.

Why Nation-States Move in the Opposite Direction

Just as cities have strong economic reasons to stay open, states often have equally strong political reasons to stay “closed.”

National governments must respond to voters across the entire country, and those voters do not benefit from globalisation the same way London or New York do. Much of a state’s electoral base lies in older, rural, or post-industrial regions, where people are more exposed to the downsides of global competition. These areas tend to see immigration or foreign capital as cultural or economic threats. Politicians, therefore, gain support by promising a return to national self-sufficiency.

There are also practical incentives behind national restrictions on immigration. States bear the fiscal responsibilities of welfare systems, healthcare,

and social services, which makes governments more cautious about large inflows of migrants. Cities, meanwhile, often benefit from increased migration without shouldering the same political or fiscal pressure. What looks economically essential from a city's perspective can appear politically costly from the state's.

All of this means that cities and nation-states often move in opposite directions, not because one is "right" and the other is "wrong," but because their economic structures and political incentives simply don't align. This mismatch is what sets the stage for sanctuary economies, and the backlash they inevitably provoke.

Case Study: London vs Westminster

London is one of the clearest examples of a sanctuary economy whose growth model pushes it into direct conflict with its own state. The city's economic structure is deeply globalised: finance, tech, higher education, creative industries, and advanced services make up a large share of local output. For instance, the financial and insurance sector alone accounts for roughly a quarter of London's total economic output and employs over 360,000 people, of whom 11% are from the EU.

This tension intensified with Brexit. London relied heavily on EU passporting, enabling nearly 5,500 UK-registered companies to offer services across Europe without separate licenses. For Westminster, ending passporting was seen as a way to reclaim sovereignty while for London, it threatened a major pillar of its economy. The City of London Corporation lobbied openly for a bespoke post-Brexit arrangement to retain access to EU markets, directly opposing the government's stance.

The migration debate exposed a similar divide. London's universities and business leaders have repeatedly opposed Westminster efforts to restrict the "Graduate Route" post-study work visa and have lobbied heavily against reforms, arguing that

attracting top global talent is essential to the city's world-leading universities, tech startups, and creative industries.

Furthermore, as Westminster tightened immigration rules and framed mobility as a political liability, the Mayor of London launched the "London is Open" campaign, an explicit signal to global talent, investors, and universities that the city intended to remain outward-facing. London & Partners, the city's investment agency, continued to operate overseas offices in cities such as Paris, New York, and Shanghai. They effectively conducted city-level economic diplomacy even as the national government repositioned the UK away from the EU.

These moves have attracted criticism from national politicians who accuse London of being out of step with the country. But for the city, the economic cost of closing itself off from the world is too high. The city has consistently prioritised openness over contraction, and in doing so, it demonstrated the central argument of sanctuary economies: when a city's growth model depends on global connectivity, it will prioritise openness even if the national political climate is moving in the opposite direction.

Conclusion

The tension between cities and nation-states is often framed as a political disagreement, but at its core, it is driven by economics. Global cities such as London occupy positions in the economy that depend on openness to people, capital, and ideas. Even small national restrictions can disrupt the labour markets and investment flows that underpin their prosperity. Sanctuary-style policies are less about making a statement and more about protecting the conditions that make urban growth possible.

The sequence is straightforward. Cities globalise first and build industries that rely on mobility and connectivity. When national governments move

toward protectionism, cities respond by safeguarding the openness that sustains them.

Nation-states operate under a distinct set of pressures. Their political incentives reflect the concerns of voters who may not benefit from globalisation and may feel its effects more sharply. When national politics leans toward protectionism, cities face a choice: align with a restrictive narrative or defend their economic foundations. Sanctuary economies emerge when they choose the latter.

As globalisation continues to benefit regions unevenly, this divide is unlikely to fade. The friction between urban openness and national restriction will remain a defining feature of political economy in the years to come.



THE HOUSING AFFORDABILITY CRISIS AS A GENERATIONAL EXTERNALITY: A TIME-SERIES ANALYSIS OF UK HOUSING AND INCOME DYNAMICS (1995-2024)

Atreyi Roy

For the past three decades, the United Kingdom has experienced a relentless crisis regarding affordability of housing, posing severe implications on distribution of wealth, labour mobility and intergenerational divide within British society. In 1995, the median house price in England and Wales was around 3.6 to 4 times the average annual salary, a historically affordable level. However, by 2024, the average home now costs 8-9 times an individual's average earnings, more than double the 1990s ratio (Bengtsson and Lyons 2015). This thus results in a structural gap in affordability, explained by a plethora of factors working in tandem, such as the tools of the monetary policy, rental market dynamics, supply-side factors, and shifting labour-market conditions.

The article adopts a time-series approach, looking at data from 1995 to 2024 in an effort to analyse the effects of the above factors on the affordability ratio, and hence quantify their contributions to the same.

A formal definition of an externality states it to be an additional cost imposed on a third party as a result of an economic decision they were uninvolved in, resulting in them being cross-sectional. This aligns with Paul Samuelson's Overlapping Generations (OLG) model, as well as Thomas Piketty's work on capital accumulation in highlighting how long-run returns on assets outgrow growth in income. In Samuelson's OLG model, each generation's decision-making processes rely heavily on their lifecycle needs, such as the working-age accumulating assets while the older generations draw down on them.

However, when the price of these assets outpace income growth, an intergenerational gap is formed as older generations enjoy rising wealth whereas

the former face steeper barriers to entering the housing market (Weil 2008, 115-34). Piketty's theory further suggests that when returns on capital exceed the rate at which wages and output grow, wealth becomes especially concentrated within pre-existing owners of assets (Summers 2015).

In the UK, policy has only amplified the above dynamics. For instance, Thatcher's post-1980s council house sell-offs reduced social housing stock, with the 'Right to Buy' scheme privatizing millions of council homes without any equivalent replacements, hence raising rents and increasing the pressure on the market-priced housing stock (Disney and Lao 2017, 51-68). Furthermore, restrictive Green Belt policies constrained developable land, as it limited housing construction around high-demand cities, specifically London. This major supply constraint resulted in demand-side shocks being translated into higher prices ("Green Belt Planning Loopholes" 2023). Alongside this, the sustained low interest rates after the 2008 financial crisis made mortgages cheaper while increasing the present value of long-lived assets such as housing. However, with supply being unresponsive, cheap credit immediately resulted in price inflation, through which existing homeowners gained substantial capital appreciation while the gap for new entrants was widened.

Before estimating the full structural model, it is useful to examine how the affordability ratio moves in isolation with each of the macro-drivers identified in the literature. These simple regressions provide a diagnostic overview: they reveal which variables closely co-move with affordability over time, and which appear only

weakly related. This step reflects standard empirical practice, allowing us to observe raw correlations before introducing controls.

For each regression, the dependent variable is the Affordability Ratio, defined as Median House Price/Median Annual Earnings. Each explanatory variable is entered into the model one at a time, producing four separate estimations of the form:

$$\text{Affordability}_t = \alpha + \beta x_t + \varepsilon_t$$

where x alternates between:

- the Bank of England base rate, which fell from 4.56% in 2005 to just 0.23% in 2020 (Bank of England 2020):
- Housing supply,
- the private rent index, and
- the unemployment rate.

In considering the base rate, we get the equation:

$$\text{Affordability}_t = 8.2751 - 0.1202(\text{BaseRate})_t$$

The coefficient is -0.1202, indicating that a higher base rate results in better affordability. The sign is in line with the expected relationship: tighter monetary policy should cool housing demand and ease price pressures. However, while textbook theory posits base rates as a predominant driver of affordability, the regression generates a p value of 0.292, suggesting that the above relationship is not very statistically significant. This is largely because the post-2008 period is dominated by an unusually long stretch of near-zero interest rates, creating too little variation for the regression to detect meaningful relationships. Moreover, the effect of monetary policy is transmitted indirectly through house prices and incomes rather than directly through the rate itself.

Once these channels are included in other regressions, the base rate loses explanatory power, making the empirical results appear inconsistent with the simplified theoretical story. A further reason the regressions may diverge from textbook predictions is the limited sample size. The analysis uses annual UK data from

2005 to 2024, giving only twenty observations per regression. With so few data points, statistical power is inherently low, making it difficult to detect subtle economic relationships even when they exist.

With the supply of housing, quantified through the number of net additional dwellings in the UK, the regression obtained is

$$\text{Affordability}_t = 3.9943 + 0.00002053(\text{HousingSupply})_t$$

The coefficient for housing supply obtained is positive, indicating that greater supply of housing results in a higher ratio, hence housing affordability worsens. The p value is less than 0.05, indicating this to be a highly statistically significant relationship. Standard supply-and-demand theory suggests that increasing supply should improve affordability. In contextualizing the housing supply scarcity, according to DLUHC data, the UK has consistently underbuilt since the 1990s, averaging ~155,000 new homes per year, far below the estimated need of 300,000 (Housing Digital 2025).

Yet the regression yields the opposite sign. This occurs because UK housing supply is procyclical, as developers build more in economic booms when prices are already rising quickly. As a result, higher supply is observed during periods of worsening affordability, producing a misleading positive correlation. In addition, “net additional dwellings” includes conversions, student accommodation, and high-end developments that do not expand the stock available to first-time buyers. These measurement issues result in housing-supply data that does not capture the true responsiveness of supply to affordability pressures, breaking the aforementioned theory.

In examining renting vs buying dynamics, the private rent index has been taken as the independent variable, producing the regression

$$Affordability_t = 4.2961 + 0.0443(RentIndex)_t.$$

The equation, with a statistically significant p value of 0.007, hence explains that higher rents result in a greater affordability ratio, hence indicating worsening affordability. The ONS Private Rental Price Index shows steady rental inflation since 2005 (Office for National Statistics 2025).

When rents rise faster than earnings, saving for a deposit becomes harder, trapping younger households in long-term renting. High rents simultaneously suppress savings and push some renters prematurely into buying, adding further demand-side pressure. The regression on the private rent index reveals a strong and theoretically consistent relationship between rental-market pressures and housing affordability, as increases in private rents signal tightening supply conditions, heightened competition for rental units, and broader structural scarcity, all of which spill over into the owner-occupier market.

Lastly, in considering the unemployment rate in the UK,

$$Affordability_t = 10.8438 - 0.5080(Unemployment)_t.$$

The regression on the unemployment rate produces a strong and theoretically intuitive relationship between labour-market conditions and housing affordability. The negative and statistically significant coefficient indicates that higher unemployment is associated with improved affordability over the 2005–2024 period.

This aligns with macroeconomic theory: when unemployment rises, household income expectations weaken, credit constraints tighten, and effective demand for housing falls, leading to a slowdown in house-price growth relative to earnings. The UK housing market, which is highly sensitive to demand-side fluctuations, reflects these dynamics clearly in downturns such as 2008–2012 and 2020, when affordability

temporarily stabilised or improved despite broader economic stress. However, this effect should not be interpreted as structurally beneficial; improvements in affordability under high unemployment represent temporary cyclical corrections rather than long-term solutions, and they occur precisely when households are least able to purchase property, hence underscoring the inherently unstable and pro-cyclical nature of UK housing affordability.

To incorporate broader structural factors such as rental pressures, supply limitations, and labour market conditions, we specify the full and final multivariate model, allowing the effect of each variable to be interpreted conditional on all the others:

$$Affordability_t = \beta_0 + \beta_1(HousePrice)_t + \beta_2(Earnings)_t + \beta_3(RentIndex)_t + \beta_4(HousingSupply)_t + \beta_5(Unemployment)_t + \epsilon_t$$

The full multivariate model provides a broader picture of housing affordability by jointly estimating the effects of house prices, earnings, private rents, housing supply, and unemployment, with the equation being

$$Affordability_t = 2.3883 - 0.00009379(HousePrice)_t + 0.0002(Earnings)_t - 0.0724(RentIndex)_t + 0.00002633(HousingSupply)_t + 0.6729(Unemployment)_t.$$

However, the overall explanatory power is modest ($R^2 = 0.318$), and most variables are not individually significant at conventional thresholds, reflecting the complexity of affordability dynamics and potential multicollinearity within the UK housing system.

House prices carry a negative but statistically insignificant coefficient ($-9.38e-06$, $p = 0.304$), suggesting that once earnings, rents, supply, and labour-market conditions are accounted for, annual variation in average house prices does not independently predict year-to-year changes in the affordability ratio. Earnings display a positive effect (0.0002) and are close to significance ($p = 0.093$), implying that rising wages modestly improve affordability, though not strongly enough

to offset house-price inflation across the sample. The private rent index shows the expected negative sign (-0.0724) and is marginally insignificant ($p = 0.079$), indicating that upward pressure in the rental sector slightly worsens affordability, consistent with textbook theory on tenure-spillover effects. Housing supply has a small but positive coefficient ($2.63e-05$, $p = 0.058$), meaning increased net additions tend to slightly improve affordability, but the magnitude is extremely small, reflecting the UK's chronic undersupply relative to demand. Finally, unemployment carries a positive coefficient (0.6729 , $p = 0.070$), which at first appears counterintuitive but likely reflects recession-driven house-price slowdowns and suppressed demand during downturns rather than genuine affordability improvements.

Model diagnostics point to important limitations: the condition number (1.5×10^7) signals strong multicollinearity, especially between housing supply, rent index, and house prices, which inflates standard errors and weakens coefficient significance. The Jarque–Bera test ($p = 7.67e-05$) and high kurtosis also indicate non-normal residuals, likely arising from structural breaks such as the 2008 financial crisis and the 2020 pandemic housing shock. Moreover, the sample size of only 20 annual observations (2005–2024), may not be indicative to estimate a five-variable model, especially when the underlying relationships evolve slowly and policy shifts occur discretely.

Taken together, the multivariate regression suggests that while supply, rents, and earnings show signals consistent with theory, the UK housing market's structural rigidities, data limitations, and collinearity between variables constrain the statistical clarity of causal effects. The results should therefore be interpreted as indicative rather than definitive, highlighting the need for deeper structural modelling or higher-frequency data to capture the true drivers of affordability.

Taken together, the regression results indicate that structural factors, particularly supply constraints, rental market pressures, and labour-market fragility, play a more consequential role in shaping affordability than short-term monetary adjustments. Accordingly, policy should prioritise expanding effective housing supply by reforming binding planning constraints, accelerating approvals in high-elasticity regions, and scaling investment in social and intermediate housing. Parallel reforms in the rental sector such as strengthening security of tenure, improving rent-setting transparency, and incentivising institutional build-to-rent could dampen rental inflation and ease saving constraints for prospective buyers. Finally, while monetary policy interacts with asset prices, the evidence suggests it is an imprecise tool for housing affordability, reinforcing the need for coordinated fiscal, planning, and labour-market interventions rather than reliance on interest-rate adjustments.



THE ECONOMIC TRIBUNE

