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TÉCNICO INVESTMENT CLUB
WHERE ENGINEERS TALK FINANCE

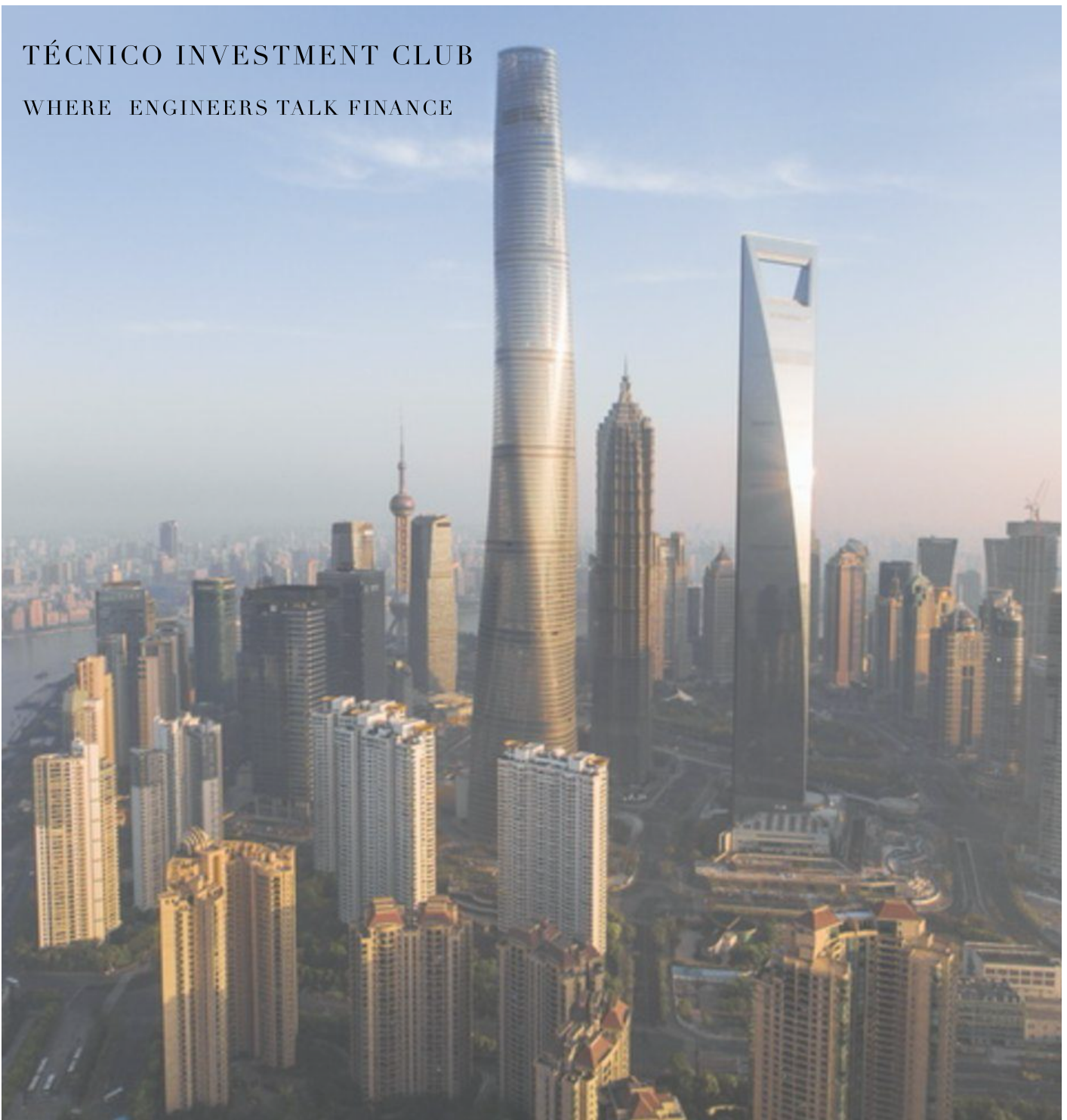


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MARKET OVERVIEW Q3



By Manuel Falcão



By Santiago Pinto



By Filipe Costa



By Marta Sobrinho

This report provides an overview of the main financial market trends during the third quarter of 2025, analysing performance across equities, bonds, commodities, and currencies. It aims to summarise the key economic drivers and investor behaviour shaping global markets during the period.

Equity Market

During the third quarter of 2025, most major asset classes generated positive returns. This performance was supported by easing trade tensions, sustained enthusiasm for artificial intelligence, and increasing expectations of imminent interest rate reductions by the Federal Reserve.

Within the equity market, growth stocks returned 8.6% outperforming value stocks, which returned 6.0%, due to heightened investor interest in the technology sector. Emerging market equities delivered an 11.0% return, surpassing the 7.4% return of developed market equities. The Chinese market was the primary contributor to this outperformance, supported by the extension of the US-China trade truce and continued optimism regarding artificial intelligence.

China and Asia's emerging markets

The MSCI Asia ex-Japan Index was the top-performing major equity market during the quarter, rising 11.1%. Chinese technology stocks experienced significant gains, with the Hang Seng Tech Index increasing 22.1% over the quarter and 46.0% year-to-date. The rally was driven by policy support for domestic chipmakers, increased investment in artificial intelligence, and the launch of new products from leading Chinese technology companies.

Additionally, reduced trade tensions with the US and expectations that China's anti-involution policy would strengthen the domestic economy contributed to broader market gains. In other parts of Asia, the MSCI Taiwan Index, which is heavily weighted toward the technology sector at 83%, advanced 14.7% during the quarter.

Japan

A weaker yen benefited the export-focused TOPIX Index, which returned 11.0% in the third quarter. The outperformance of Japanese equities was further supported by a US-Japan trade agreement that reduced US tariffs on most Japanese exports from 25.0% to 15.0%, resilient domestic macroeconomic indicators, and continued corporate governance reforms.

USA

The S&P 500 Index in the United States delivered an 8.1% return for the quarter. Some volatility occurred following the July non-farm payrolls release and a subsequent sell-off in US Treasuries in September. However, these gains were underpinned by a strong second-quarter earnings season and a resilient macroeconomic environment. US headline inflation increased from 2.7% year-on-year to 2.9% in August, although tariff passthrough remained more limited than anticipated.

Consequently, the Federal Reserve reduced the federal funds rate by 25 basis points at its September meeting, marking its first rate cut of the year, and indicated the possibility of further monetary easing, which supported US equities.

UK

UK equities increased, with the FTSE All-Share Index rising by 6.9%. Although the domestic economic environment remains challenging, approximately 75% of the index's revenues originate from international sources. As a result, a resilient global economy and a weaker sterling likely contributed to the positive returns.

EU

The MSCI Europe ex-UK Index underperformed during the quarter, returning 2.8% in the third quarter. Weak performance in German equities weighed on overall European results, as the MSCI Germany Index declined by 1.2%. In contrast, French equities advanced, with the CAC 40 Index increasing by 3.3%, despite ongoing political instability.

Following a vote of no confidence, former Prime Minister Bayrou was replaced by Prime Minister Lecornu. Economic uncertainty persists, with doubts remaining regarding the minority government’s ability to implement the required fiscal consolidation measures (See *Figure 1*).

All indices are total return in local currency, except for MSCI Asia ex-Japan and MSCI EM, which are in US dollars. Date as of 30 September 2025. Source: JP Morgan Asset Management.

Figure 1: World Stock Market Returns for the third quarter of 2025

2024	YTD	Q3 2025
US S&P 500 25.0%	MSCI EM 28.2%	MSCI Asia ex-Japan 11.1%
Japan TOPIX 20.5%	MSCI Asia ex-Japan 27.5%	Japan TOPIX 11.0%
MSCI Asia ex-Japan 12.5%	UK FTSE All-Share 16.6%	MSCI EM 10.9%
UK FTSE All-Share 9.5%	Japan TOPIX 15.3%	US S&P 500 8.1%
MSCI Europe ex-UK 8.1%	US S&P 500 14.8%	UK FTSE All-Share 6.9%
MSCI EM 8.1%	MSCI Europe ex-UK 13.4%	MSCI Europe ex-UK 2.8%

Bonds Market

The Federal Reserve cut its benchmark rate by 25 basis points in September, marking the first reduction of the year amid a slowing labour market. Despite this economic weakness, US government bonds delivered a 1.5% return for the quarter, the best performance among major government bond markets. In contrast, Eurozone bonds fell 0.2%. The gap between 10-year French and German bond yields widened to its highest level since January as France faced political turmoil and struggled to address its 6% budget deficit, raising investor concerns. Meanwhile, Portuguese bonds maintained a tight 50-60 basis point spread over German bunds, demonstrating resilience to France's challenges (See *Figure 2*). Portugal's strong position was reinforced by credit rating upgrades from both Fitch (to "A") and S&P (to "A+"), the country's highest rating in 16 years, reflecting sustained debt reduction, a balanced fiscal position, and continued external deleveraging.

UK gilts fell 0.7% during the quarter, primarily driven by concerns about the fragility of government finances ahead of the autumn budget. Thirty-year gilt yields reached their highest level since May 1998, as investors demanded higher compensation for fiscal risks. Japanese Government Bonds performed worst, declining 1.5% amid political turmoil following the ruling Liberal Democratic Party's electoral defeat and Prime Minister Ishiba's resignation. The Bank of Japan's hawkish stance at its September meeting, signaling potential further interest rate increases, also weighed heavily on JGB prices.

Corporate bonds outperformed government securities. US investment-grade corporate bonds,

Figure 2: France 10-years bond / Germany 10-years bond Spread (2025)



as measured by the Bloomberg US Corporate Bond Index, rose 2.6% in the third quarter, their strongest quarterly gain in a year. The index yield ended the quarter at 4.81%. Likewise, the Bloomberg Global Aggregate Index recorded a 2.4% quarterly return, underscoring the broad-based strength across credit markets.

Commodities

During the third quarter of 2025, the commodities market showed contrasting trends. Precious metals continued to perform strongly, driven by investor demand for safe assets and a weaker dollar. Gold rose about 8% over the quarter, surpassing 4,000 USD per ounce for the first time, while silver gained around 10%, supported by industrial demand linked to solar panels and electric vehicles. The rise was also fuelled by growing expectations that major central banks, including the ECB, would continue to cut interest rates into 2026, reducing the opportunity cost of holding metals.

In contrast, energy prices moved lower. Brent crude oil fell roughly 10%, trading around 65 USD per barrel, as global supply continued to exceed demand.

Despite ongoing OPEC+ production cuts, weaker consumption from China and Europe, together with high inventories, kept prices under pressure. Natural gas prices in Europe also declined due to mild temperatures and storage levels close to capacity after last winter.

Agricultural commodities such as wheat, corn, and soybeans remained relatively stable. Good harvests across the EU and South America helped balance lower production in parts of North America, keeping global prices steady. Lower energy prices also reduced fertiliser and transport costs, easing pressure on the sector despite continued trade tensions and uncertainty around biofuel policies.

Overall, the quarter showed a divergence across commodities. Precious metals benefited from weaker currencies and looser monetary policy, while energy markets faced oversupply and slowing demand. Agricultural prices remained contained, partly thanks to lower energy costs. The drop in energy prices and the rise in metals showed that investors were becoming more cautious and looking for safer assets in a period marked by global instability and several ongoing conflicts.

Global Currencies

UE Analysis

In Q3 2025, the euro remained relatively strong against major global currencies. The ECB maintained its key interest rates unchanged, signaling confidence in its inflation control strategy. Headline inflation stayed near the 2% medium-term target and a slight decline in subsequent years. The euro benefited from this stability, while growth and policy uncertainty weighed on US and China. Markets have largely ruled out the possibility of interest rate cuts, interpreting the current ECB rate as close to its peak for this cycle. So, the EBC showed consistency, passing a stability message, preventing inflationary forecasts.

US Analysis

The US dollar remained relatively weak against the euro throughout Q3 2025, with the EUR/USD exchange rate as shown in the table below (See Figure 3). This sustained depreciation of the dollar was driven by several key factors, mainly by the fact that

the European Central Bank maintained a tighter monetary policy stance compared to the Federal Reserve, which signaled caution amid slowing US economic growth. Geopolitical tensions and uncertainty around US fiscal policy contributed also to reduced demand for the dollar as a safe-haven asset.

China analysis

The Chinese yuan showed moderate volatility against the euro during Q3 2025, with the EUR/CNY exchange rate as indicated in the table below. As said previously, the euro maintained relative strength throughout the quarter, supported by the European Central Bank’s firm monetary stance and steady economic performance across the Eurozone. In contrast, China faced persistent economic headwinds, including sluggish domestic demand, ongoing property sector instability, and cautious consumer sentiment due to global trade uncertainties and reduced foreign investment flows into China, caused by Trump’s tariffs war and Trump’s upcoming tec agreements, like TikTok.

These factors added pressure on the currency, keeping it below its early July peak (See Figure 4).

UK analysis

The British pound remained under moderate pressure against the euro throughout Q3 2025, with the EUR/GBP exchange rate as indicated in the table below. The UK economy faced persistent challenges, including sluggish GDP growth, elevated inflation, and new post-Brexit trade negotiations uncertainties. The Bank of England maintained a cautious approach to interest rates, which limited support for the pound (See Figure 5).

Japan analysis

The Japanese yen experienced a steady depreciation against the euro during Q3 2025, with the exchange rate reaching a peak of ¥175.08 in late September. Despite moderate variation of 2.72%, the yen remained under pressure, reflecting Japan’s subdued economic momentum and limited monetary tightening compared to the Eurozone (See Figure 6).

Figure 3 - Euro/Dollar exchange rate for the third quarter of 2025

Start Date	2025-07-01	To	2025-09-30
Period	01 Jul - 30 Sep	Difference	0.0530\$
Maximum	1.1922\$ (17-Sep-25)	Average	1.1686\$
Minimum	1.1392\$ (01-Aug-25)	Variation %	1.64%

Figure 4 - Euro/CNY exchange rate for the third quarter of 2025

Start Date	2025-07-01	To	2025-09-30
Period	01 Jul - 30 Sep	Difference	0.2340 CNY
Maximum	8.4583 CNY (01-Jul-25)	Average	8.3682 CNY
Minimum	8.2243 CNY (01-Aug-25)	Variation %	2.84%

Figure 5 - Euro/Pound exchange rate for the third quarter of 2025

Start Date	2025-07-01	To	2025-09-30
Period	01 Jul - 30 Sep	Difference	0.0234£
Maximum	0.8745£ (25-Sep-25)	Average	0.8659£
Minimum	0.8511£ (01-Jul-25)	Variation %	2.75%

Figure 6 - Euro/Yen exchange rate for the third quarter of 2025

Start Date	2025-07-01	To	2025-09-30
Period	01 Jul - 30 Sep	Difference	6.6345¥
Maximum	175.0845¥ (25-Sep-25)	Average	172.3484¥
Minimum	168.4500¥ (01-Jul-25)	Variation %	2.72%

OUTLOOK FOR 2026



By Manuel Falcão

The year 2025 was eventful.

Global tensions persisted, with two ongoing wars and renewed tariff measures shaping economic conditions. Advances in artificial intelligence fuelled major equity gains, while the dollar weakened and gold climbed to \$4,000 per ounce. These developments defined a year of volatility and transition.

What can we expect in 2026?

The key word to keep in mind is caution. The S&P 500 has already grown 13% year-to-date, exceeding the typical annual return of 10% by 3%. After a sharp decline in February, the index managed to recover to its usual levels, largely fuelled by AI-related speculation. However, it is debatable whether the S&P 500 remains diversified, as the top eight stocks, which are all technology companies heavily invested in AI, now account for 34% of the total index value. This means that over a third of the index is concentrated in just one sector.

What's more concerning is that AI has yet to fully justify this surge in valuation, reminding many of the dot-com bubble of the 1990s.

Yet there is a critical distinction between the current AI-driven rally and the dot-com bubble. During the late 1990s, speculative ventures were financed through excessive debt and unsustainable credit expansion. Easy monetary conditions combined with venture capital's speculative fervor created systemic vulnerabilities that made the eventual collapse devastating for the broader economy.

Today, the massive investments in AI infrastructure are predominantly funded by the substantial cash reserves accumulated by mega-cap technology companies. Rather than leveraging borrowed capital or depending on accommodative monetary policy, companies like Apple, Microsoft, and Google are deploying their own balance sheets.

This self-financed approach provides a crucial financial cushion, if AI investments underperform or valuations correct sharply, it's expected that these companies can absorb losses without triggering a full-on debt crisis or contagion across the financial system. While this does not eliminate valuation risk or the possibility of market correction, it does fundamentally reduce the systemic dangers that defined the dot-com era.

Beyond the stock market, while it appears the market has largely moved past tariff concerns, the real consequences of these trade tensions remain unclear. Particularly, tensions between China and the U.S. continue to be high and could influence global economic dynamics for some time. With the semiconductor sector still managing supply chain disruptions,

intensifying trade barriers threaten to compound existing vulnerabilities.

More troubling for the U.S. is China's strategic positioning through massive gold accumulation. In the first half of 2025 alone, China imported over 900 tons of gold [2], part of, what it seems, a calculated effort to establish the yuan as an alternative to the dollar for international trade.

By systematically building gold reserves (officially reported at 2,298 tonnes but likely substantially higher) and promoting yuan-denominated gold trading through the Shanghai Gold Exchange, China is quietly constructing the monetary infrastructure for a potential gold-backed yuan. This strategy serves multiple purposes: it hedges against U.S. financial coercion, reduces dollar dependence, and positions the yuan as a credible reserve currency backed by physical assets.

For investors, this signals a longer-term currency competition to be aware of. Gold remains a valuable portfolio diversifier, but increased trading activity driven by central bank accumulation may create more frequent volatile swings in the near term.

Furthermore, the U.S. economy is growing, but job growth has slowed to levels not seen since 2009. This is unusual, as economic growth typically coincides with employment gains. It could indicate rising productivity, but it may also be an early warning sign of trouble ahead.

Much of the recent growth is driven almost entirely by investment in data centres and information processing technology, effectively, the AI sector. As Harvard economist Jason Furman has pointed out (see *Figure 1*), without data centre investment, U.S. GDP growth in the first half of 2025 would have been close to zero, as illustrated in *Figure 2*.

This presents a difficult balance for policymakers: inflation remains above target, so while lowering interest rates might stimulate job growth, it risks exacerbating inflationary pressures or preventing inflation from declining.

For investors seeking opportunities amid this uncertainty, two themes deserve attention. First, rare earth elements represent a strategic play if U.S.–China tensions ease. China controls roughly 90% of global rare earth processing and holds about 44 million metric tons of reserves, which is half of the world's total. These materials are critical for everything from defence systems to electric vehicles and renewable energy infrastructure. Demand is expected to grow 69% by 2036, though supply remains concentrated and geopolitically sensitive.

However, Brazil holds almost a quarter of the world's rare earth reserves but currently lacks significant production investment. Given geopolitical risks surrounding Chinese supply chains, companies may eventually seek to develop rare earth production in Brazil. Investors should monitor this space, as early movers in Brazilian rare earth production could capture significant value.

Second, artificial intelligence investment continues, but selectivity matters.

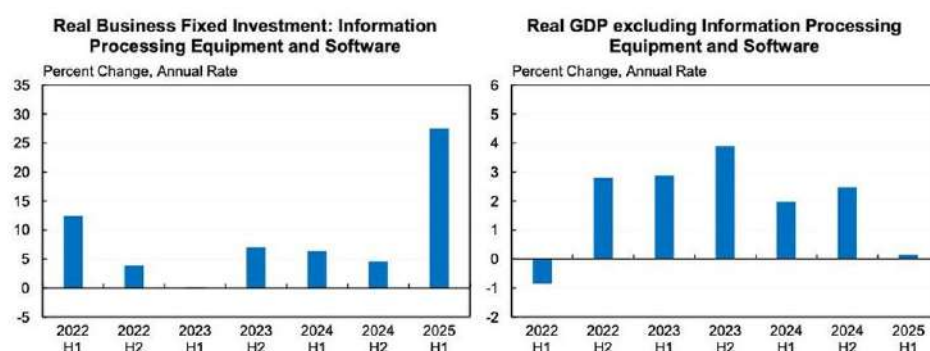


Figure 1- GDP Growth and Data Centre Investment.

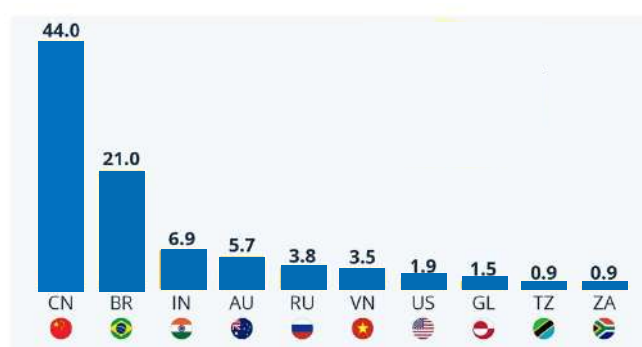


Figure 2- Rare Earths Reserves by Country (in million tonnes of rare earth oxide).

While leading names command premium valuations, opportunities exist in less crowded segments of the AI infrastructure stack. Beyond the most visible chip designers, the semiconductor fabrication layer and equipment manufacturers that supply production tools stand to benefit regardless of which companies ultimately dominate market share. The key is identifying firms with durable competitive advantages and realistic earnings visibility, rather than chasing speculative momentum in an already concentrated market.

And also because of this AI surge, electricity production is an area everyone should watch closely. Demand for electricity has never been higher, driven by data centers and artificial intelligence workloads. Advances in small modular nuclear reactors (SMRs) promise a potentially transformative shift in electricity production.

Unlike traditional gigawatt-scale nuclear plants, SMRs are factory-built, cost-effective, rapidly deployable and scalable. The deployment of units like the one currently being installed in Poland could mark that a step further into the use of this technology. Energy infrastructure will be critical to support this surge in demand.

Thirdly and lastly, European defense companies are expected to see significant revenue growth, already experiencing increased sales as European countries strengthen their defense budgets to meet NATO standards. With record order backlogs and increased procurement across the continent, European defense firms are well-positioned to benefit from this.

But in the end, never forget that you shouldn't make investments simply to avoid missing a trend, invest because you believe in the underlying value. Markets reward patience and conviction, not panic or speculation.

FRANCE: WHAT'S INVESTABLE NOW?



France merits focus because fiscal arithmetic is colliding with still-positive real rates in the Eurozone’s second-largest economy, where politics and ratings momentum now shape term premia. The 2024 general government deficit was 5.8% of GDP, up from 5.4% in 2023, and debt stands near 113% of GDP (see Figure 1). That combination leaves little tolerance for policy drift as the reformed EU rules make multi-year consolidation unavoidable. My aim in this article is practical: to determine whether French equities and/or OATs presently offer attractive opportunities, especially if a gradual market recovery unfolds as the un-

derlying problems begin to subside.

Pressures

Post-pandemic and energy measures have left a high spending base while consolidation lagged peers. Market discipline has tightened: the 10-year OAT averaged roughly 3.0% in 2024 and the OAT–Bund spread has hovered around 75–80 bp since late-2024/early-2025, well above the ~50 bp pre-2024 norm and occasionally even compressing toward BTPs during episodes of Italian “relative stability.”

Growth is modest but not recessionary: France expanded 1.1% in 2024 (Germany –0.2%, Italy ~0.5–0.9%, Spain ~3.5%), and labour slack is limited (ILO jobless rate ~7.3–7.4% around Q4-2024/Q1-2025). This constellation explains why spreads have repriced fiscal-political risk more than cyclical stress.

Country	Year	Debt/GPD(%)	GDP Growth (%)	Unemployment (%)
France	2024	113	1.1	7.4
Germany	2024	62.5	-0.2	6
Italy	2024	135.3	0.5–0.9	6.5
Spain	2024	101.8	3.5	11.4

Table 1 — Euro area peers (2024)

Strengths

Sectoral and market depth cushion shocks. France’s quoted universe features diversified industrials, aerospace/defense, healthcare, luxury, and energy. Index fact sheets show heavy weights in consumer discretionary (global luxury), industrials (including aero/defense), and healthcare, sectors geared to external demand and dollar-linked cash flows rather than purely domestic cycles. If policy credibility

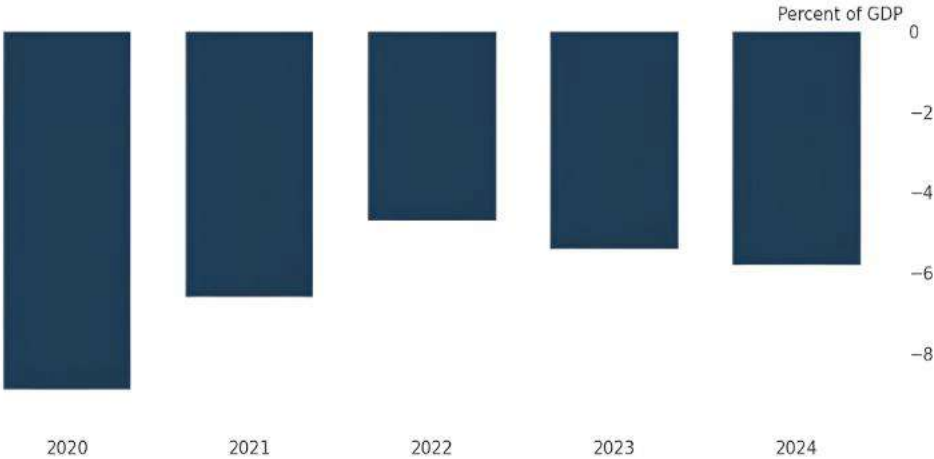


Figure 1- France: General government deficit (% of GDP, 2020–2024)

France 10Y Bond Yield

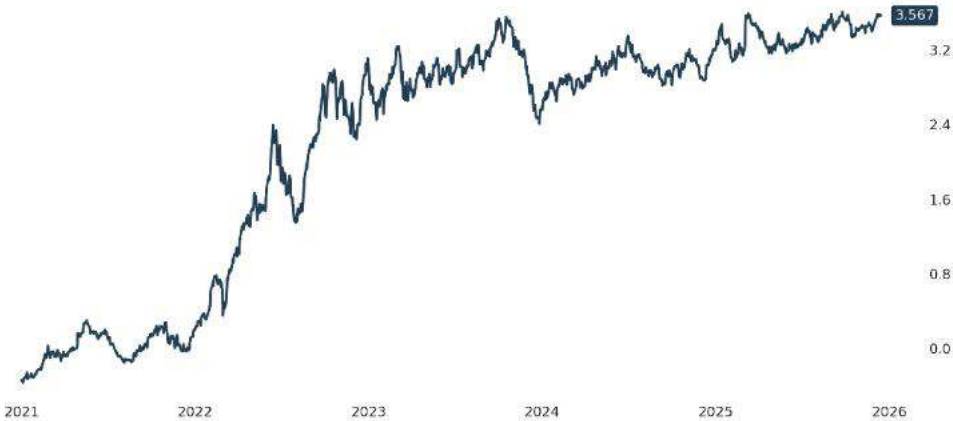


Figure 2 — France 10-year OAT yield (2021–2025)

improves, low headline inflation and gradually easing labour pressure can deliver a softer landing for margins, with external demand acting as the key swing factor.

CAC 40 performance and the “crisis” linkage

The CAC 40’s price action through the autumn “crisis” window is instructive. From 7,399 on 2 Jan 2025 to an all-time high of 8,271 on 21 Oct 2025, the index was up ~11.8% at peak and still ~+8.7% YTD by 10 Nov 2025 at 8,044, only ~2.8% off the high. That pattern, fresh highs into a ratings downgrade and a shallow pullback afterward, suggests a low and unstable correlation between sovereign stress (spreads, ratings momentum) and broad French equities over this window. The mechanism is straightforward: the CAC 40’s revenue base is majority ex-France, with global luxury, aero/defense, and healthcare margins driven by world demand and the global rates path more than domestic headlines.

Bonds

With debt near 113% of GDP and deficits still above 5%, carry is appealing but path-dependent on

consolidation credibility. The base case is to keep duration in the belly, 5–7-year OATs, hedged versus Bunds, add on event-driven spread spikes tied to ratings/politics that are not backed by fresh fiscal deterioration, and fade when the OAT–Bund spread revisits the high-70s/80 bp area in the absence of new information. EU notifications and Commission forecasts point to several years of primary tightening, observable, quarterly headline progress, especially on expenditure control, is the catalyst for sustained spread tightening. If consolidation delivery disappoints or the ratings cycle turns decisively worse, shorten duration and rotate to Euro peers with firmer anchors.

Equities

The CAC/MSCI France tilt to global luxury and aero-defense makes performance sensitive to US/China demand and to the global rate path. We prefer quality exporters, particularly aerospace/defense, large-cap healthcare, and efficient industrial tech, over domestics with regulated pricing or pronounced wage-drift exposure. Treat draw-downs on fiscal headlines as tactical entry windows only if a multi-year

spending cap and primary improvement look credible and if the broader rates/growth backdrop is co-operative. In the near term, broad index-level upside is likely capped without a further tailwind from lower global discount rates or an upside surprise in external demand.

Bottom line

France is investable, selectively. This is a carry-and-selectivity market. In bonds, intermediate-tenor OATs with Bund hedges and tight risk limits can harvest carry while keeping political risk ring-fenced, add on volatility, trim on complacency. In equities, favour globally exposed, high-ROIC champions and keep domestically constrained cyclicals underweight. If consolidation stalls or the ratings cycle deteriorates, reduce OAT duration and rotate toward Euro peers with clearer fiscal anchors, on the equity side, maintain the quality/exporter tilt and rely on disciplined, event-driven entries rather than blanket market exposure.

Article written in November and updated on December 15th

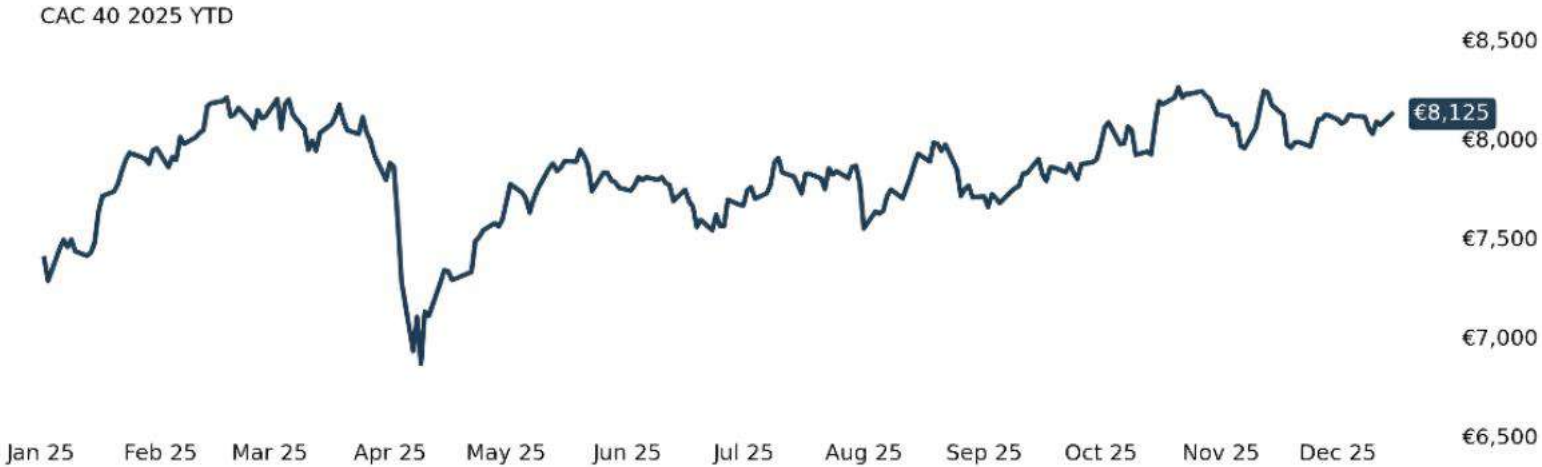


Figure 3 — CAC 40: 2025 YTD

THE GYM INDUSTRY

Market Overview

The global fitness and gym industry has established itself as a resilient and steadily expanding sector within the broader health and wellness economy. At this moment, the market is valued at approximately USD 262.4 billion, with projections indicating growth to USD 412.0 billion by 2033, representing a compound annual growth rate of 5.8% [1]. This trajectory reflects both the recovery from pandemic related disruptions and the structural drivers of long-term demand, including rising health awareness, urbanization, and the integration of digital fitness solutions.

From a regional perspective, North America remains to be the largest market, supported by high gym membership rates, strong consumer spending power, and the presence of major publicly listed operators. Europe represents a mature but stable market, characterized by high density of health clubs and a strong culture of fitness participation, though growth rates are comparatively modest.

By contrast, Asia-Pacific is the fastest-growing region, with emerging markets expected to significantly expand the global customer base over the next decade

Key Macroeconomic Drivers

The performance and growth of the gym and fitness industry are strongly influenced by several macroeconomic drivers. Income and GDP growth play a key role, as higher disposable income encourages consumers to invest more in health and wellness services. In periods of economic expansion, demand for gym memberships and personal training tends to rise, while periods of high inflation or stagnation can reduce spending, especially in premium segments. Demographic trends are also central: younger generations such as Millennials and Gen Z place high value on physical fitness, mental health,



By Francisco Heitor



By Filipe Costa



By Marta Sobrinho



Miguel Pereira



By Santiago Pinto



By Manuel Falcão



By Madalena Vila Luz



By Miguel Jordão

and lifestyle experiences, boosting demand for both gym memberships and digital fitness platforms. Simultaneously, the aging population in many developed markets is driving demand for rehabilitation-focused and low-impact training programs.

Another important factor is healthcare economics. As healthcare costs rise globally, preventive health behaviors like exercise are becoming more integrated into healthcare and insurance strategies. Employers and insurance providers increasingly offer fitness benefits or subsidized memberships, which helps stabilize demand and supports long-term sector growth.

The industry is also being reshaped by technological adoption, including the widespread use of wearables, fitness apps, AI-guided training, and hybrid gym models that combine in-person and digital experiences. These technologies enhance personalization and engagement while providing gyms with flexible, scalable revenue streams that make the sector more resilient to external disruptions such as pandemics.

Finally, government policy and public health promotion are reinforcing industry growth. Many governments are recognizing the importance of physical activity in preventing chronic disease and improving population-wide well-being. Policies such as tax incentives for wellness programs, public-private partnerships, and national campaigns to promote physical activity are encouraging broader participation in fitness services. Together, these drivers support the integration of gyms and fitness solutions into larger healthcare and sustainability frameworks, strengthening the sector's outlook in both mature and emerging markets.

Rising Health Awareness

Regular exercise has now a major role in disease prevention, with studies showing that physical activity reduces the risk of cardiovascular diseases, diabetes, cancer, and mental-health conditions.

Urban gym culture has become especially prominent as city dwellers are more informed about good health habits, shifting an occasional gym day to a permanent routine.

This normalized behaviour in modern urban living is reflected in rising gym use, with some health-club operators reporting up to a 25% year-on-year increase in facility foot traffic, underscoring that gym visits have become a routine part of many city dwellers' lifestyles.

Industry trends

The fitness market is divided into three primary segments.

Traditional gyms and fitness centers constitute the largest segment by revenue, consisting of full-service health clubs and big-box gyms that offer broad facilities and high membership volumes at mid-range prices.

Boutique fitness studios represent a specialized segment focused on class-based experiences such as cycling, yoga, Pilates, and HIIT, and currently account for approximately half of all U.S. gym memberships. Digital and virtual fitness platforms, which include streaming workout classes, fitness apps, and connected home equipment, experienced significant growth during the pandemic and continue to expand as hybrid models gain traction.

Beyond traditional gym operations, the fitness industry is supported by an extended ecosystem of interconnected sectors. These include fitness apparel, encompassing athletic wear and athleisure brands; fitness equipment manufacturers, which produce both home and commercial gym equipment; wearable fitness technology, such as smartwatches, fitness trackers, and health monitoring devices; and sports nutrition and supplements, including protein powders, pre-workouts, and performance nutrition products.

Within this segmented landscape, several structural trends are reshaping how fitness services are delivered and consumed.

Going to the gym is becoming an increasingly popular choice, with global gym memberships having grown by around 7.8% in recent years. Generation Z is the main contributor to this expansion, making gym-going a widely adopted lifestyle decision among younger consumers. This growth is reinforced by the high volume of fitness-related content on social media, where exercise, physique, and wellness are among the most frequently shared themes, amplifying the visibility and social appeal of gym participation.

The rise of low-cost gyms is one of the most prominent structural trends in the sector. Some of the companies that have capitalized on the low-cost model include Planet Fitness, Basic-Fit, PureGym, and Vivagym, offering simplified services at affordable prices within a high-volume framework. In the United Kingdom, a 2023 PwC study estimated that the market could sustain between 1,300 and 1,650 low-cost gyms in total, compared with 756 operating at the time [2], indicating substantial room for further penetration of this format.

This business model is attractive to users because it is cheaper, often provides access to multiple locations within the same network, and in some cases offers extended or near 24/7 opening hours. It is also appealing for operators, who can expect profit margins in the range of roughly 10–25% (depending on efficiency), compared with around 10–15% for traditional full-service gyms [3]. Additionally, several operators employ franchise models, which enable faster geographic expansion with lower capital requirements and shared operational risk.

Digital solutions are reshaping the traditional gym model into a hybrid ecosystem that combines physical and virtual training. Training apps and virtual classes enable users to complement in-person workouts with remote, on-demand sessions, increasing flexibility and engagement. At the same time, equipment providers such as Technogym are integrating

wellness services and real-time performance feedback directly into machines, while companies like Peloton offer connected devices linked to subscription-based online classes.

This evolution is shifting the industry from a focus on access to equipment toward personalized, data-driven training experiences that can be delivered both inside and outside the gym.

Risks and Constraints

The fitness and gym industry faces several structural risks that could constrain its growth and profitability despite strong underlying demand.

Economic downturns and persistent inflation remain the most significant threats, as gym memberships and personal training are discretionary expenses often reduced when disposable income declines.

High interest rates further limit new investments and expansions. Competitive saturation also poses a challenge, particularly in urban markets where numerous gyms and digital alternatives drive price pressure and raise marketing costs. The industry also struggles to keep members for long periods, which means gyms often need to spend more to attract new clients and maintain steady revenue.

Rising operating costs, especially wages, rent, and utilities, intensify these pressures, leaving smaller businesses more vulnerable. Moreover, technological disruption can quickly render traditional gyms less appealing if they fail to adapt to digital integration or emerging fitness technologies. Finally, legal obligations and health-related issues can also make the industry's environment more uncertain.

Overall, the industry's performance depends on its capacity to remain adaptable, control costs, and sustain customer engagement in a highly competitive and cyclical environment.

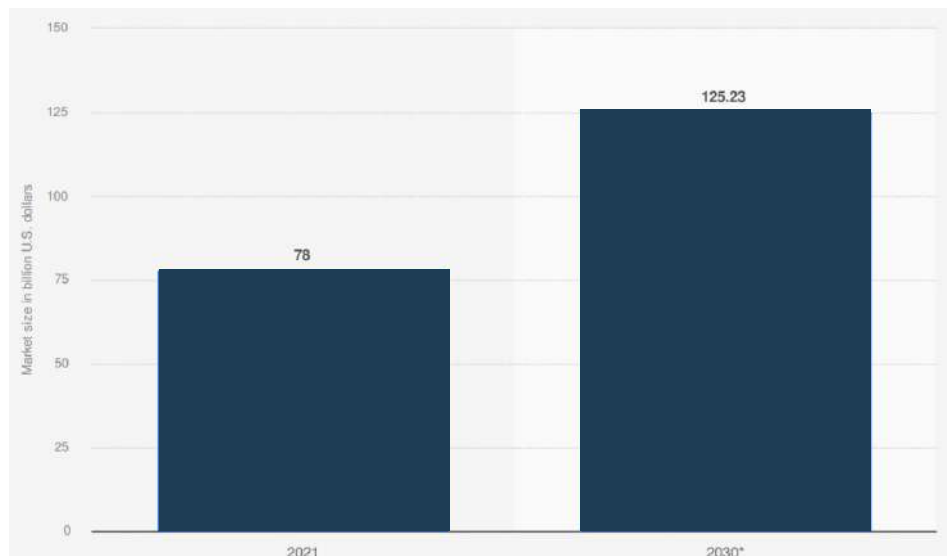


Figure 1. Size of the health and fitness club market worldwide in 2021, with a forecast for 2030. Source: Statista (2025)

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AI JOBS



By Miguel Jordão



By Madalena Vila Luz



By Marta Sobrinho



By Santiago Pinto

How can AI affect the job market?

Nowadays, there isn't a day that goes by without news about AI and its power to impact our lives. On one hand, we are promised an era of unprecedented productivity and economic growth. On the other hand, we are warned of a scary "jobpocalypse" where millions of roles become obsolete, particularly for those just starting their careers. So, should we be worried? This is the main question of today, and unfortunately it doesn't have a simple answer.

The Anxiety About AI

The pressure is higher for those at the very beginning of their professional lives, where the traditional pyramid of the career ladder is narrowing its base. Data from the job platform Indeed reveals a staggering 33% drop in job vacancies for new graduates in the past year alone. This trend is fueling the emergence of a "diamond-shaped structure" in many companies, with a strong core of mid-career professionals but a dangerously narrow base of junior talent [6]. Companies are creating a very serious problem by doing this: by eliminating the very roles that once provided foundational experience, they are then forced to demand two to three years of experience for 61% of jobs previously considered entry-level, according to SHRM Research, making it nearly impossible for new talent to enter the pipeline [8]. Some companies might even rely on an apprentice-master-like relationship between new graduates and current employees, where the new graduates would work for free (or even pay) for 2 or 3 years to gain experience so that they get a job after that. Many view this as a form of modern paid slavery [6].

The Counter-Narrative

History has shown that disruptive technologies, from the electric motor to the personal computer, have ultimately been powerful catalysts for job creation and economic growth.

Strategic analysis indicates AI is set to follow this pattern, driving new opportunities even as it redefines existing roles.

A key theme in this optimistic view is the concept of augmentation over outright replacement. The International Monetary Fund (IMF) found that roughly two-thirds of jobs will experience partial automation of specific tasks rather than complete elimination [1].

This shift allows human workers to move away from repetitive work and focus on higher-value activities that require creativity, strategic thinking, and complex problem-solving. Perhaps the most profound impact of AI will not be on the number of jobs, but on the type of work and the skills that are valued. The future of work demands a massive strategic pivot away from routine cognitive and manual tasks and toward capabilities that are uniquely human.

What are the benefits for companies of AI doing the job of employees?

The integration of AI into business operations has become a central element of digital transformation. When applied to tasks traditionally carried out by employees, AI offers plenty of strategic and operational advantages.

Productivity and Efficiency Gains

AI systems can execute repetitive, rules-based, and data-intensive activities with high speed, precision, and consistency, enabling organisations to streamline workflows, shorten process cycles, and reduce error rates. Large-scale deployments in finance, logistics, and professional services show that AI-driven automation has reduced processing times for administrative and customer-facing tasks from days to minutes, allowing firms to reallocate human labour toward higher-value activities such as strategic analysis and innovation [1][3]. These productivity gains contribute to economic growth and improved service availability,

while hybrid human–AI work models have been associated with reduced burnout and improved job satisfaction by limiting exposure to monotonous tasks [2][6].

Cost Reduction and Operational Scalability

Automation lowers operational costs by reducing dependence on large labour forces and minimising expenses related to recruitment, training, and employee turnover. Once implemented, AI systems can be scaled across business units or regions at minimal marginal cost, enabling firms to expand without proportional increases in staffing [1][4]. Empirical evidence from digital banking, e-commerce, and telecommunications indicates that these savings are often passed on to consumers through lower prices and round-the-clock service availability, improving accessibility and convenience and positively affecting quality of life [6][7].

Enhanced Decision-Making Capabilities

AI-driven analytics enhance managerial decision-making by analysing complex datasets, identifying patterns, and generating predictive insights. In retail and manufacturing, AI-based demand forecasting has improved accuracy and reduced overproduction and inventory shortages, lowering costs and environmental waste [1][5]. In finance and insurance, AI models strengthen fraud detection and risk assessment, contributing to reduced losses and more stable pricing structures [3][4]. These capabilities improve organisational agility and resilience in volatile market conditions.

Improved Quality, Consistency, and Compliance

AI ensures consistent task execution by eliminating performance variability linked to human fatigue or subjective judgement. This is particularly relevant in regulated sectors such as healthcare, pharmaceuticals, and financial services, where AI-based monitoring systems have reduced error rates and improved compliance with regulatory standards [2][4]. Automated oversight decreases the likelihood of penalties, recalls,

and service failures, increasing institutional trust and service reliability [6].

Enabling Innovation and New Business Models

AI enables the development of innovative products, personalised services, and data-driven business models that would be difficult to achieve through traditional methods. Companies adopting AI have introduced predictive maintenance, intelligent recommendation systems, and dynamic pricing strategies, generating new revenue streams and accelerating product development cycles [1][5]. These innovations enhance customer experience and support the creation of new professional roles in AI governance, data analysis, and system supervision [2].

What are the risks?

Despite the advantages referred above, delegating employee tasks to AI introduces significant risks that organisations must anticipate and manage carefully.

Loss of Tacit Knowledge and Overdependence on Technology

Extensive automation of employee tasks risks eroding tacit knowledge embedded in human experience and judgement. Evidence from highly automated organisations indicates that removing humans from critical decision loops reduces the ability to respond effectively to unexpected events or system failures, thereby weakening organisational resilience [3][6].

Operational Failures and Model Limitations

AI systems are highly dependent on data quality, model validity, and continuous oversight. Documented cases show that biased or outdated datasets can lead to systematic errors in recruitment, credit scoring, and supply chain management, with negative financial and reputational consequences [5][8]. Overreliance on algorithmic outputs without human supervision amplifies the scale and impact of such failures [1].

Ethical, Legal, and Regulatory Challenges

Automated decision-making raises concerns related to transparency, accountability, discrimination, and data privacy. Organisations deploying opaque AI systems have faced regulatory scrutiny, litigation, and reputational damage, particularly as governance frameworks become more stringent [2][3]. Compliance with emerging AI regulations requires investment in explainability, auditing, and ethical oversight, increasing organisational complexity and cost [4].

Workforce Disruption and Cultural Impact

The replacement of employee tasks with AI can generate uncertainty, resistance, and declining morale, particularly in the absence of reskilling or redeployment strategies. Studies indicate that organisations failing to invest in workforce transition measures experience reduced engagement, higher turnover, and weakened organisational culture [2][6]. These dynamics can limit long-term productivity gains and exacerbate social inequality.

Cybersecurity and Vendor Dependence

AI adoption increases exposure to cybersecurity threats by expanding the digital attack surface and introducing vulnerabilities such as data poisoning and model manipulation. Reported incidents involving AI-enabled systems have resulted in service disruptions and increased security expenditure [4][8]. Additionally, reliance on external AI vendors raises concerns regarding data sovereignty, supply chain resilience, and long-term strategic autonomy [1][7].

Which sectors are going to be more affected?

The sectors most affected by AI will be those with a high share of routine tasks, codifiable tasks and strong incentives to cut costs or increase scale. Evidence for Portugal shows that almost 30% of jobs are in “collapse professions”, mainly roles with high automation risk and limited scope to benefit from AI, concentrated in a few sectors [9][12][13].

Manufacturing and low-tech industry

Production lines, quality control, logistics inside factories and basic machine operation are highly standardised and already partly automated. As AI and robotics become cheaper and more capable, many of these tasks can be done with less human labour, particularly in low-skill positions such as machine operators, assembly workers or basic process controllers [11][12][13].

Retail, hospitality and basic customer service

Cashiers, sales assistants, call-centre agents and fast-food or counter service workers perform repetitive tasks that can be replaced or heavily supported by self-checkout systems, chatbots and recommendation engines. In Portugal, “other sales workers” and “waiters and bar staff” are among the largest groups in the high-risk “collapse” category, showing how exposed these services are [9][10][13].

Transport, warehousing and logistics

Route planning, inventory management and even driving are increasingly supported by AI. Warehouse automation and optimisation systems can reduce the need for routine manual work such as picking, packing and basic stock handling, while autonomous or semi-autonomous vehicles threaten some driving jobs in the long run [9][11][12].

Administrative and back-office tasks

Back-office and administrative positions that involve data entry, document processing, scheduling and standard reporting are doubly exposed: they sit in the “terrain of the machines”, with both high automation risk and high AI exposure [10][11][13]. AI systems can draft emails, summarise documents, process invoices and handle standard customer queries, reducing demand for traditional back-office staff [9][10].

Some high-skill knowledge services (transformative rather than purely destructive impact)

Legal services, finance, consulting and parts of higher education are highly

exposed to language models and advanced analytics [9][10]. Here AI is more likely to change the nature of work than to eliminate all jobs: routine research, drafting and analysis can be automated, while human professionals focus on complex judgement, client interaction and final responsibility. Still, this will reshape career paths and required skills in these sectors [12][13].

Which sectors are going to be less affected?

Sectors less affected are those where core tasks rely on interpersonal interaction, physical presence in unstructured environments, or complex judgement that is hard to codify and also sectors with low exposure both to automation and to AI’s transformative potential [9][11][13].

Health, personal care and social services

Nursing, elderly care, childcare and many therapeutic professions require empathy, trust and real-time physical interaction. AI can support diagnosis, scheduling or documentation, but it is unlikely to replace the relational and caregiving aspects [10][11][13].

Education and training (especially early and face-to-face levels)

Teachers, trainers and early-childhood educators combine subject knowledge with classroom management, motivation and socialisation. AI tools can help with content creation and personalised exercises, but the core of teaching such as motivating, mentoring and managing group dynamics remains human-intensive [9][11][13].

Construction and many on-site manual trades

While some construction tasks can be automated, much work on building sites is non-routine, happens in changing physical environments and requires coordination between multiple teams [11][12][13].

Personal services, hospitality at the high-contact end, and some cleaning roles

Hairdressing, beauty services, sports coaching, high-end hospitality and parts

of cleaning depend on physical presence and personal relationships. Technology can support booking, payments or task allocation, but the service itself is still delivered face to face. These jobs often show low AI exposure and only moderate automation risk [10][13].

Creative industries and complex management roles

Professions that rely on original creation (designers, artists, content creators) and on strategic decision-making (top managers, entrepreneurs) are more likely to use AI as a complement for ideas, analysis or simulation than to be replaced by it. Occupations on the rise with high AI exposure and low automation risk include engineers, IT specialists, architects, scientists and senior managers: sectors where AI amplifies human capability instead of substituting it [9][12][13].

How should the transition go?

The labor market's future is a direct result of the strategic decisions made by business executives and policymakers today rather than a predetermined outcome. In terms of integrating artificial intelligence, society is currently at a fork in the road. Fast adoption combined with proactive worker redeployment is the best course of action. In this case, technology is used to maximize human potential, but it can only be sustained if substantial investments are made in human capital.

By ensuring that the workforce has the skills needed to fill the new, higher-value jobs being created as roles are displaced, this strategy prevents mass unemployment. On the other hand, a passive strategy with poor redeployment or slow adoption carries significant financial risks. If technology is only used to reduce costs without investing in workforce transition, millions of people may not be able to contribute productively to the economy, which would result in stagnation rather than the efficiency that was promised.

Portugal's transition strategy needs to be customized to its unique workforce distribution reality.

Currently, the labor market is separated into discrete "digital terrains" that call for various forms of intervention. Workers in "Rising Professions," which account for about 22.5% of employment, are well-positioned to use AI to increase productivity while avoiding automation. The "Collapsing Professions," which make up nearly 29% of the workforce and are at a high risk of becoming obsolete due to automation, present a serious obstacle.

For this sizable group, the transition is urgent and calls for strong social protection systems that offer active routes to new job opportunities in addition to financial assistance [13].

Preserving the Talent and Entry-Level Roles

In order to prevent a structural crisis, a successful transition requires that businesses completely reconsider their hiring and retention practices. A "diamond-shaped structure" with a strong core of mid-career professionals and a dangerously small base of junior talent is emerging in many organizations as a result of current trends. This short-term efficiency creates a long-term vulnerability. By eliminating the roles that once provided foundational experience, companies are destroying their own future talent pipelines.

To correct this, businesses are encouraged to change their strategies from "buying" to "building" solutions for their clients. Businesses can no longer continue with an apprentice/master model along with the elimination of junior level roles as a method for achieving profit. Instead, businesses need to establish internal academies and mentorship type programs so that the junior employee will develop the competencies required to act as a "human-in-loop" supervisor over AI systems. The development of the competencies will allow the organizations to continue the transfer of tacit knowledge along with organizational culture as this knowledge continues to be automated through AI.

To ensure a successful transition, it is imperative that our educational

institutions and corporate training programs shift their focus away from developing technical skills and instead focus on developing those 'soft' skills that are difficult for AI systems to replicate. Soft skills combined with digital literacy will be critical to the success of the digital economy. In addition, the methodology for this policy must be differentiated based on the geographic region. Therefore, we need to develop a regional development strategy that includes creating Technology Hubs located in most vulnerable regions, thus promoting local innovation and job creation.

By doing this, we ensure that all regions of the country have access to the opportunities created by the digital shift.

Should we be worried?

The future is not predetermined. The ultimate impact of AI on the job market, whether it leads to shared prosperity or widespread displacement, depends entirely on the choices made today by businesses, educators, and policymakers. The evidence overwhelmingly suggests that a passive approach will lead to the most negative outcomes.

The core strategic imperative is to invest in human capital, not simply use AI as a tool for short-term cost-cutting. Experts warn that cutting entry-level positions to save money is an "exponentially bad move" [8] that destroys a company's internal talent pipeline, leading to critical shortages of experienced staff in the future.

There are two main paths that society can choose from:

Fast Adoption and Proactive Redeployment:

In this scenario, society embraces technology while simultaneously investing heavily in reskilling and transitioning workers. This path leads to the highest potential productivity growth and avoids mass unemployment by ensuring people have skills for the jobs being created.

Slow Adoption or Poor Redeployment:

In this scenario, technology is implemented without a corresponding investment in people, which leaves millions of people unable to participate productively in the economy [1].

So, should we be worried?

Yes, we cannot be passive about this change. We need to actively work on this problem. We need to treat worry as a catalyst for decisive actions. This way, we can forge a future that is more productive, innovative and prosperous. The fundamental challenge of our time is not to stop the advance of AI, but to guide its integration.

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FIGMA'S IPO



By Vasco Filipe

Company & Industry Overview

Figma is a tech company founded in 2012 by Dylan Field and Evan Wallace, known for its co-creation and collaborative interface design platforms. By enabling remote team interaction in digital product development, the software company counts on Figma Design and FigJam as its core platforms, used by major global enterprises such as Google, Uber, and Zoom.

The company's business model relies on a Software-as-a-Service (SaaS) scheme, allowing its clients to benefit from centralized design software, analytics and admin controls, integration and development tools or governance and compliance systems. Figma's products run on a subscription-based model that includes a free tier, limited to small teams. As usage spreads across organizations' teams, companies rapidly increase their seat count and move to paid plans. With a high client retention rate, there is predictable recurring revenue and high capital efficiency.

Additionally, with the recent acquisition of Weavy, an Israeli AI startup (October 30, 2025 – deal value not specified), Figma has begun shifting towards AI-based monetization.

Through AI-assisted design and AI-generated visuals, the company is expected to be adding new capabilities to its products.

In a market environment defined by accelerating digital transformation with the integration of Artificial Intelligence into creative processes, the sector is consolidating around cloud-native tools that allow for cross-functional collaboration. With a claimed market share of approximately 40%, Figma is a top player in the collaborative UI/UX-design tools market, after Adobe and Canva.

In late 2023, Adobe proposed acquiring Figma on a \$20 Bn deal that ended up collapsing due to regulatory opposition (Reuters, 2023). The cash and stock deal did not get antitrust approvals in Europe and the UK and would have been among the biggest buyouts of a software startup.

IPO Overview and Market Response

Figma's debut on the New York Stock Exchange (NYSE) on 31 July 2025 represents a key moment for the software industry.

IPO Details	
•	Exchange: NYSE
•	Ticker: FIG
•	Pricing date: 30–31 Jul 2025
•	Offer price: \$33.00
•	Shares offered: 36,937,080 Class A (12,472,657 primary + 24,464,423 secondary)
•	Overallotment (greenshoe): 5,540,561 shares

Figma priced its offering at \$33 per share, issuing 36.9 million Class A shares (12.5 million new shares and 24.4 million from existing holders) and granting an additional 5.5 million-share greenshoe option.

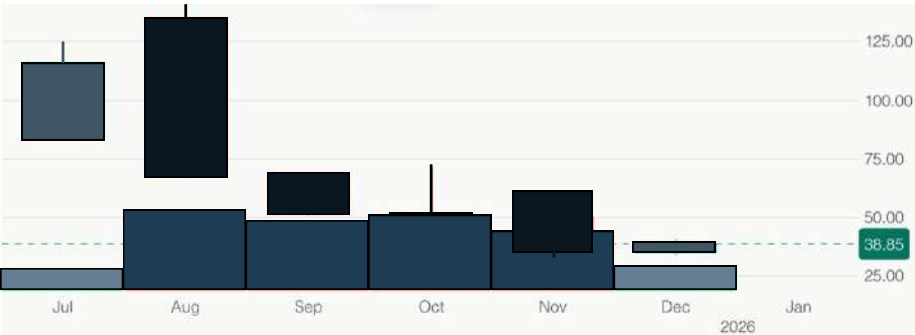
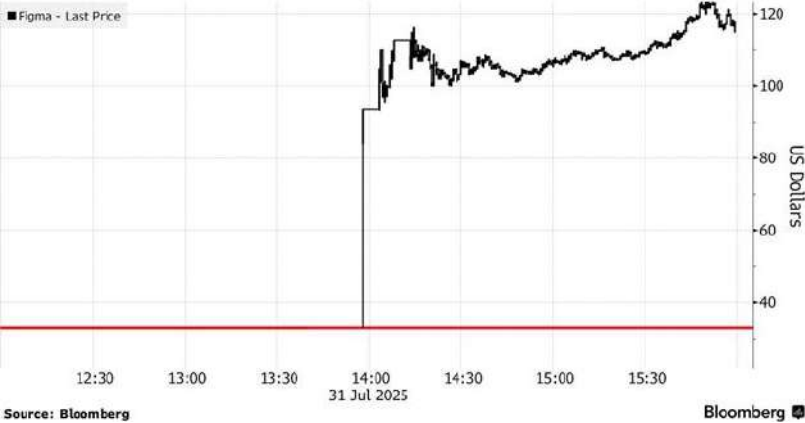
The transaction raised approximately \$1.2 Bn and implied an initial market capitalization of roughly \$19 Bn.

On its first day of trading, strong investor demand led to FIG opening near \$90 and closing at \$115.50, more than tripling its initial offer price and leading to a company valuation above \$56 Bn. The following days saw a subsequent normalization and the stock traded down about 20 % to \$92.75 (Market Value of \$45.2Bn) - a typical pattern of post-IPO price discovery as early allocations rotated.

In the months succeeding the IPO, Figma's shares have suffered considerable volatility, reaching a peak of \$142.92 in August and entering a subsequent phase of correction as market enthusiasm faded and investors reassessed their position. By late 2025 (end of November onwards) the company's stock was trading in the \$33-\$38 range, representing an undeniable decrease from July's price. The expiration of lock-up agreements in November allowed insiders and early investors to sell their shares, contributing to downward pressure on the stock price. This almost coincided with the Q3 earnings release, which showcased operational robustness and strong revenue growth alongside higher costs and margin pressure.

Shareholder structure still includes the founder who owns about 54.2 million Figma shares worth about \$5Bn after selling 2.35 million shares in the IPO. As apparently common in Silicon Valley startups, Field holds 74.1% voting power over the company, given his holdings of Class B shares.

Figma Shares More Than Triple From \$33 IPO Price



On a financial perspective, Figma entered the public markets in a position of unusual strength for a growth-stage SaaS company. In 2025 Q1, reported a revenue of \$228 million (up 46 % YoY) and a net income of \$44.9 million. Gross margins remained near 88 %, and cash from the IPO brought total liquidity to around \$1.8 bBn. These metrics signal a scalable, capital-efficient model with strong enterprise retention and upsell dynamics.

Implications and Outlook

Figma’s IPO marks a significant milestone for both the company and the sector, as strong market reception emphasizes investor confidence and appetite for SaaS business models with high retention, strong expansion revenues, and embedded enterprise workflows.

This enthusiasm is also a symptom of renewed interest in companies in the sector after several years of low public-listing activity in tech.

Operationally, Figma is now placed under greater scrutiny with expectations for innovation and new products running high. The company’s strategic bet on AI-boosted design, amplified by the acquisition of Weavy, positions it to capture emerging demand for cutting-edge services and more intelligent tools. This could drive new business lines and revenue streams, with new monetization layers as AI functionalities could be sold as premium add-ins. At the same time, this could strengthen Figma’s competitive advantage in an increasingly AI-seeking ecosystem.

Simultaneously, the tech company faces growing competitive pressure with Adobe still dominating the creative software market and emerging players surging.

As a recently public company and with consequent heightened visibility, Figma will feel the need to balance rapid capability expansion with maintaining its signature simplicity and accessibility. Adding to this, the dual-class structure consolidates control with the founder, which may reassure long-term product-focused strategies and consistency, but could raise concerns on governance as well as on investor protection.

Conclusion

As Figma goes public, the months ahead will be shaped by its ability to ensure growth while navigating a competitive market. Investors and analysts are expected to focus on metrics such as the rate of seat expansion among large accounts, the monetization of AI-powered features, and the sustainability of margins as computing demands increase. These factors will be key to understanding whether Figma can justify the premium valuation established at its IPO (approximately 20-24x forward sales, compared with 8-12x for other SaaS peers).

Strategically, the company faces a pivotal phase, evolving beyond its UI/UX roots into AI-powered creativity and motion design. This ambition could be identified as one of the main drivers of the IPO, which has brought additional capital to fund expansion. Overall, the next 12 to 18 months will determine whether it becomes a long-term foundational platform or remains a high-growth disruptive player constantly adapting to public-market discipline. What is clear is that the company’s strong financials, significant market position, and strategic vision based on AI-native tools should provide a solid foundation for future expansion, as long as it remains operationally consistent and competitive.

THE EXPANSION OF MEDIAFOREUROPE



By September 28, Impresa SGPS – Portugal’s leading media group and owner of SIC and Expresso – announced to the CMVM (Portuguese Securities Market Commission) that it had entered exclusive negotiations with MediaForEurope (MFE) regarding the potential sale of a significant equity stake. On November 26, the agreement was formally confirmed: MFE will acquire a 32.934% stake in Impresa via a capital increase of €17.325 million (at a price of €0.21 per share, corresponding to the volume-weighted average price observed over the six months up to October 15, 2025).

Once completed, the transaction will extend MFE’s footprint from five to six European markets, adding Portugal to its existing presence in Italy, Spain, Germany, Austria, and Switzerland (See Figure 1). This move is consistent with MFE’s ongoing cross-border M&A strategy to consolidate the European media landscape and build scale across markets. The group’s stated ambition is to compete with U.S. streaming giants by developing a pan-European media platform supported by hybrid revenue models.

By ensuring presence across all major consumer platforms, this strategy seeks not only to diversify revenue streams but also to differentiate MFE from other players in its market (See Figure 2).

MediaForEurope: Ownership Context

Nevertheless, it is important to note that MFE’s holding company,

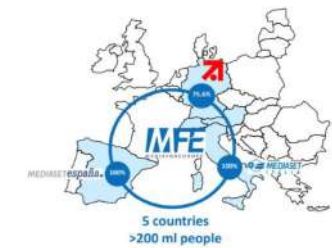


Figure 1 - MFE’s multi-country portfolio

Fininvest (which owns 49% of MFE’s share capital) is controlled by the two eldest sons of Silvio Berlusconi, an important Italian politician and former Prime Minister. This background adds an additional layer of public and media interest to the transaction.

At the same time, the strategic value of MFE’s operation has also been highlighted, as the deal will allow the group to further enhance its ability to combine broad audience reach with premium brand safety – a mix that uniquely positions the group ahead of both social networks and global streaming platforms in the advertising market. As the company notes, MFE distinguishes itself as one of the few European media players capable of consistently delivering a coordinated, multi-country operating model (See Figure 3).



Figure 3 - MFE stands out for high reach and brand safety

Target Overview: Impresa SGPS

The negotiations have accelerated in recent months, partly driven by the deteriorating health of Impresa’s founder, Francisco Pinto Balsemão, whose passing on October 21 marked the end of an era for Portuguese media. Another contributing factor has been Impresa’s financial distress, which prompted the Balsemão family to consider divesting part of its stake as part of a broader effort to restructure and stabilize the group.



Figure 2- Consumer touchpoints covered by major digital and media players

Impresa SGPS, Portugal’s largest private media company and listed on Euronext Lisbon, owns a diversified portfolio of assets, including SIC – the country’s leading commercial television network, along with its thematic channels (SIC Notícias, SIC Radical, SIC Mulher, SIC K, SIC Internacional) – and Expresso, Portugal’s most prominent weekly newspaper. The group also operates several digital platforms and magazines, such as OPTO and Blitz.

However, Impresa faces mounting financial challenges: losses of €66 million in 2024, declining revenues, and a growing debt burden have increased the urgency of seeking strategic partners. In an attempt to strengthen its balance sheet, the company reportedly explored the sale of its headquarters in Paço de Arcos to BPI for €37 million in 2025, though no agreement was ultimately reached. The group therefore remains committed to exploring alternatives to improve its financial structure.

Despite the recent nature of these negotiations, Impresa’s stock performance on Euronext Lisbon reflects renewed investor optimism. After several years of steady decline, the company’s share price surged sharply in September 2025 following the announcement of takeover talks with MediaForEurope (See Figure 4).

Acquisition Risks and Mitigation Measures

As of December 31, 2024, Impresa’s accounts indicated that the group required a recapitalization of approximately €80 million to restore its equity position. This financial fragility



Figure 4 - Evolution of Impresa's share price in the last 5 years

added an additional layer of complexity to any acquisition process and heightened the importance of sound integration planning.

However, as of November 26, 2025, MediaForEurope (MFE) has formalised a strategic investment in Impresa, acquiring a 32.934% stake through a €17.325 million capital increase. Under the terms of a shareholders' agreement signed with the controlling holding Impreger (33.738%), control will remain with the latter, ensuring that MFE does not assume a leading or controlling position. This mitigates the risk of loss of editorial independence at SIC and Expresso, as concerns had been raised that a shift to foreign ownership could undermine journalistic autonomy or expose newsroom decisions to corporate influence.

Nevertheless, risks remain regarding organisational restructuring and potential job cuts. While the capital injection strengthens financial stability, MFE may still encourage the pursuit of operational synergies, cost efficiencies or resource rationalisation across platforms. Such measures, while financially justified, may generate internal resistance and public backlash in Portugal's highly sensitive media environment. Aligning business practices and corporate governance across two countries may introduce additional integration challenges.

Regulatory scrutiny also represents a critical uncertainty. The transaction is subject to approval by CMVM, and Impresa's latest public announcement introduced a key condition: the transaction must not trigger an obligation for MFE to launch a mandatory public takeover bid for all outstanding shares and related securities. While this condition appears achievable, it nonetheless adds a degree of legal and regulatory unpredictability.

Lastly, the ongoing discussions have already triggered speculation and volatility in Impresa's share price. Extended uncertainty may expose both parties to reputational risk and potential legal challenges from minority shareholders or other stakeholders.

To address these risks, several strategies should be implemented. First, MFE can issue public commitments to uphold editorial independence, ensuring that SIC and Expresso maintain their distinct Portuguese journalistic identity. Initial reassurances have already emerged, notably through Impresa's confirmation that Francisco Pinto Balsemão will remain CEO.

Second, a phased integration plan shall be adopted, prioritising operational stability and workforce retention across Impresa's core brands. Gradual alignment of management systems and shared services will help minimise disruption while fostering cultural cohesion between the Portuguese and Italian operations.

Finally, transparency in corporate governance and active communication with regulators, employees, and the public is essential to mitigate reputational risk. By maintaining open dialogue and clear disclosure, MFE can strengthen its legitimacy as a responsible foreign investor and ensure smoother regulatory clearance.

Acquisition of ProSieben – A Milestone for MFE

Although the full financial details of the prospective acquisition of Impresa remain partly undisclosed, the recent takeover of ProSiebenSat.1 by MediaForEurope (MFE) provides strong evidence of the group's strategic will to build a pan-European media champion. On 4 September 2025, MFE formally announced that it had secured a 75.61% stake in ProSiebenSat.1,

becoming the majority shareholder of the German broadcaster. The transaction, valued at over €1.8 billion, represents one of the largest cross-border media deals in recent years and serves as a key reference point for assessing MFE's ambitions in Portugal.

In July 2025, MFE–MediaForEurope revised its offer to ProSiebenSat.1 shareholders, increasing the consideration from €4.48 in cash plus 0.4 MFE-A shares to between 0.4 and 1.3 MFE-A shares per ProSiebenSat.1 share. This adjustment corresponded to an implied value of approximately 8.15€ per share, reflecting a 15.8% premium over ProSiebenSat.1's July closing price on Xetra (7.04€) and a 24.8% premium relative to the March price (6.53€).

ProSiebenSat.1 ranks among the largest commercial broadcasters in the DACH region (Germany, Austria, and Switzerland). By integrating ProSieben into its network, MFE has expanded its combined audience reach to over 210 million viewers across five core European markets. This acquisition represents a decisive advance in MFE's long-term strategy to consolidate European media assets under an integrated cross-border platform.

Conclusion

In conclusion, MediaForEurope's acquisition of a 32.934% stake in Impresa marks a strategic milestone for both companies. For Impresa, it provides much-needed capital and stability at a critical moment, while for MFE, it extends its pan-European footprint to six markets, reinforcing its ambition to build a unified, multi-platform media group capable of competing with global digital players.

The successful ProSiebenSat.1 acquisition demonstrates MFE's execution capability and strategic consistency, serving as a reference for potential integration in Portugal. Key risks, including editorial independence, workforce management, and regulatory scrutiny, can be mitigated through clear commitments, phased integration, and transparent communication.

Once completed, this transaction may strengthen Impresa's financial position, while further consolidating MFE's position as a leading European media player.

CHEVRON & HESS REPORT



By Tomás Brogueira

Executive Summary

On 18 July 2025 Chevron Corporation completed its all-stock acquisition of Hess Corporation after clearing U.S. antitrust and CFIUS reviews and winning a favourable arbitration ruling concerning Hess’s Guyana asset[1]. The merger was structured as a share exchange: Hess shareholders received Chevron shares and now hold a minority stake in the enlarged company while gaining access to Chevron’s significantly higher dividend[2][3]. Chevron’s management expects the transaction to generate significant cost savings and free-cash-flow accretion while supporting an annual capital programme of roughly \$20 billion[4][5]. Beyond financial efficiency, the deal introduces major new assets and positions Chevron for long-term production growth across multiple basins.

Deal overview & key terms

The Chevron–Hess transaction was an all-stock merger valued at roughly \$53 billion when announced. Each Hess share was exchanged for 1.025 Chevron shares, which led Chevron to issue around 301 million new shares and cancel approximately 15.38 million Hess shares that it previously held [2]. This share swap leaves Hess shareholders with about 15 percent of the enlarged company[3]. In governance terms, John Hess joined Chevron’s board to provide continuity[2].

The parties also agreed on a run-rate cost-synergy target of about \$1 billion per year by the end of 2025[4] and on a post-merger capital budget of roughly \$19–22 billion annually[5].

Company background & standard metric

Chevron is a vertically integrated energy company, meaning it participates in nearly every step of the hydrocarbon value chain. It explores for and produces oil and natural gas, refines and markets fuels, transports petroleum products, manufactures petrochemicals and also operates power-generation businesses[6]. Hess, by contrast, was an independent exploration-and-production company focused on finding and producing crude oil and natural gas[7]. Prior to the merger it held large on-shore and off-shore positions, including the Bakken shale of North Dakota, deep-water fields in the Gulf of Mexico, Canadian and South-American ventures (Guyana/Suriname) and gas developments in Southeast Asia[8]. The deal adds Hess’s assets to Chevron’s global portfolio, giving Chevron a significant presence in the fast-growing Guyana basin and additional shale and offshore production[9].

A key metric used throughout this report is boe/d, or barrels of oil equivalent per day. It converts oil and natural-gas volumes to a common energy unit; under this convention, roughly 6,000 cubic feet of natural gas is considered equivalent to one barrel of crude oil[10]. Using boe/d allows investors to compare production from companies that produce different mixes of oil and gas.

Strategic rationale

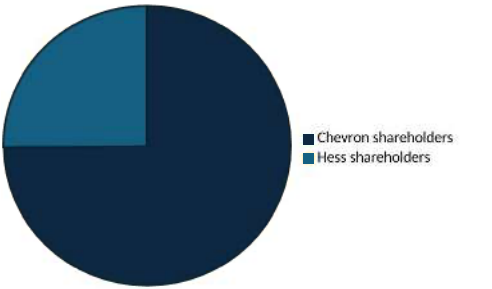
The principal motivation for the acquisition was strategic rather than merely financial. Chevron sought to secure premier, high-margin resources, particularly Hess’s 30 percent stake in Guyana’s Stabroek Block, which is among the world’s largest recent oil discoveries,

along with additional acreage in the Bakken and producing fields in the Gulf of America and Southeast Asia[9]. Integrating these assets broadens Chevron’s geographic footprint and improves portfolio resilience across commodity cycles. The company also anticipates operational efficiencies from combining supply chains, corporate functions and technical expertise, which should accelerate development timelines and enhance recovery factors. For Hess shareholders, the transaction offered a valuable share premium and access to Chevron’s diversified asset base and larger dividend stream[2][3].

Ownership & financing

Post-closing, Chevron shareholders hold roughly 85 percent of the combined enterprise and former Hess shareholders about 15 percent[3]. The accompanying pie chart shows these proportions, illustrating how the all-stock structure preserved balance-sheet strength while providing Hess holders with ongoing participation. The board now includes John Hess, signalling that Hess’s perspective will influence future strategy[2]. To support integration and growth, Chevron has set a target for meaningful cost efficiencies and intends to finance its project pipeline from operating cash flows and future capital programmes[5].

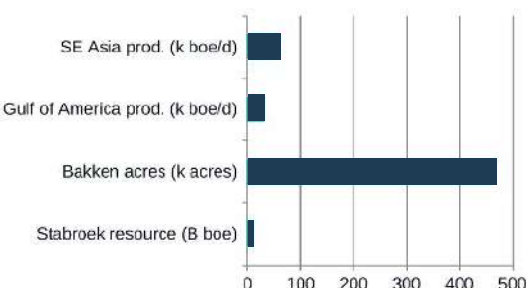
Shareholder ownership distribution



Portfolio & Growth

The combined company commands a broad portfolio of world-class assets across multiple regions, as highlighted in the bar chart.

The bar for “Stabroek resource” shows more than 11 billion barrels of oil equivalent associated with Hess’s 30 percent stake[9]. Another bar illustrates that 463 thousand net acres of Bakken shale augment Chevron’s Permian-Basin scale. Smaller but meaningful contributions come from 31 thousand barrels of oil equivalent per day (boe/d) of production in the Gulf of America and 57 thousand boe/d of natural gas from Southeast Asia[9]. Together, these assets increase Chevron’s long-term production profile and provide a diversified pipeline of projects that can underpin growth into the 2030s. Understanding the differences among units—billions of barrels of oil equivalent, thousands of acres and thousands of boe per day—is essential to appreciating the scale and diversity of the portfolio.



Synergies & benefits

The companies expect the merger to yield substantial cost savings by the end of 2025[4]. These savings are anticipated to come from several sources: streamlined supply chains and consolidated procurement, improved sales and marketing capabilities, merged research and development efforts, rationalisation of overlapping headcount and closure of redundant facilities[11]. Combining Chevron’s and Hess’s technical expertise should accelerate development timelines in Guyana and enhance recovery factors in the Bakken. Because Hess’s production generally commands high cash margins, the merger should increase Chevron’s free-cash-flow generation and strengthen its ability to maintain or grow the dividend[4]. The geographically broader asset base also reduces exposure to region-specific disruptions and provides optionality for future projects.

Risks & challenges

Despite its strategic merits, the merger carries execution and external risks. Realising the planned cost efficiencies will require careful integration of systems and personnel and disciplined capital management. Chevron plans to spend \$19–22 billion annually on capital projects, potentially financed through asset sales of \$15–20 billion as it optimises its portfolio[12]. Financing this level of investment while preserving strong credit metrics will be challenging, especially if commodity prices fall or project timelines slip. Integration also entails cultural challenges and the retention of key Hess talent. Regulatory and environmental concerns persist: U.S. antitrust and foreign-investment regulators will continue to scrutinise any follow-on asset sales; geopolitics and arbitration proceedings in Guyana could delay development schedules[13]; and environmental activists argue that the transaction undermines climate goals[14]. Broader pressures to decarbonise may also require additional investment and adaptation of long-term strategy.

Timeline & approvals

The pathway to closing the Chevron–Hess merger spanned nearly two years. Chevron announced the transaction on 23 October 2023, offering roughly \$53 billion in stock for Hess. Hess shareholders approved the merger on 29 May 2024, with a majority of the 308 million outstanding shares voting in favour[15]. Regulatory and arbitration hurdles were cleared on 17 July 2025 when the U.S. Federal Trade Commission lifted its restrictions and an international arbitration panel in Paris upheld Hess’s rights to its stake in the Guyana project[13]. The acquisition closed the following day, 18 July 2025, as Chevron issued the new shares and cancelled Hess stock[1][2].

Conclusion & outlook

The Chevron–Hess merger creates a larger, more diversified energy company with a premier portfolio of assets and an advantaged growth pipeline.

By structuring the transaction as a share exchange, Chevron preserved its balance sheet strength while providing Hess shareholders with a premium and access to higher dividends[3]. Success hinges on integrating operations smoothly, capturing the promised synergies and funding capital programmes without eroding returns. The company will also need to navigate continued regulatory scrutiny, geopolitical uncertainty in Guyana and heightened ESG expectations. Overall, the merger positions Chevron to capture high-margin barrels, sustain attractive shareholder returns and participate in some of the industry’s most promising new developments over the coming decade.

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KDP'S BOLD BET: THE ACQUISITION OF JDE PEET'S



By Francisco Falcão

Keurig Dr Pepper Inc. (KDP), a leading North American beverage company known for combining Dr Pepper, 7UP and Snapple with Keurig's single-serve coffee platform, announced one of the most significant consumer deals of 2025 by agreeing to acquire JDE Peet's for about USD 18.4 billion. The transaction is more than an expansion of KDP's coffee business. It is a strategic reset that challenges the logic of the 2018 merger that first brought together soft drinks and coffee under one corporate structure.

Since its creation, KDP has tried to prove that hot and cold beverages can coexist within the same platform. By 2024, the company had more than 125 owned, licensed and partner brands, around 29,400 employees, and net sales of USD 15.4 billion. Yet its portfolio told two different stories: U.S. Refreshment Beverages grew 5.8% to USD 9.3 billion, while U.S. Coffee fell 2.6% to USD 4.0 billion, as modest volume growth was offset by weaker pricing. By 2025, the segment faced further pressure from volatile coffee costs, climate-related supply concerns and a 50% U.S. tariff on Brazilian coffee imports. This imbalance helps explain why management turned to M&A not simply to get bigger, but to give its coffee business the global scale and category focus it lacked.

JDE Peet's offered exactly that. Headquartered in Amsterdam, the company owns a portfolio of more than 50 coffee and tea brands, including L'OR, Jacobs, Douwe Egberts, Senseo, Tassimo and Peet's. In 2024, it reported sales of approximately USD 9.6 billion and served consumers across more than 100 markets with over 21,000 employees. Unlike KDP, whose coffee position remained heavily tied to North America and Keurig pods, JDE Peet's brought stronger exposure to roast and ground coffee, capsules, instant coffee, tea and emerging markets.

Under the terms announced in August 2025, KDP agreed to pay EUR 31.85 per JDE Peet's share in cash, roughly USD 37 per share at the time of the announcement, valuing the equity at EUR 15.7 billion, or about USD 18.4 billion. The offer represented a 33% premium to JDE Peet's 90-day volume-weighted average price, and shareholders representing 69% of voting power, including JAB-related holders, committed to support the transaction. Once completed, KDP intends to separate the combined group into two independent listed companies: Global Coffee Co., with around USD 16 billion in annual net sales, and Beverage Co., with more than USD 11 billion.

Strategically, the rationale is clear. Global Coffee Co. would combine Keurig's single-serve system and North American installed base with JDE Peet's global brands, distribution and manufacturing footprint. The company expects about USD 400 million in cost synergies over three years, mainly from procurement, manufacturing and supply-chain efficiencies. At the same time, Beverage Co. would become a more focused North American refreshment player, built around carbonated soft drinks,

energy, hydration and ready-to-drink categories. In theory, the split gives investors two cleaner equity stories instead of one mixed beverage conglomerate.

The market reaction, however, showed that investors were not fully convinced. JDE Peet's shares surged on the takeover premium, while KDP shares fell sharply after the announcement as investors questioned the price, the added debt and the complexity of integrating a global coffee platform before separating the business.

The acquisition is therefore both ambitious and defensive. It gives KDP a stronger position in a global coffee market shaped by volatile green coffee prices, climate risk and tariff uncertainty, but it also exposes the company to integration risk, execution pressure and a heavy financing burden. If successful, the deal could transform KDP from a hybrid beverage company into the parent of two focused leaders. If it disappoints, it may confirm the original criticism of the Keurig-Dr Pepper merger: that coffee and soft drinks were always better valued apart than together.

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GEELY ACQUIRES REMAINING STAKE IN ZEEKR



By Vasco Filipe

The strategic rationale for the acquisition includes the full consolidation of Zeekr under Geely's umbrella, unlocking synergies in technology, manufacturing, and supply chain, and accelerating global market expansion. Under the leadership of CEO Jerry Gan and Chairman Eric Li, Geely continues to emphasize long-term shareholder value and technological integration. As noted by the Financial Times in May 2025, Geely's decision to take Zeekr private is "a strategic response to growing competitive pressures in China's EV market and a necessary step to cut costs and focus on execution."

The acquisition reflects Geely's goal to strengthen economies of scale, boosted by cost and revenue synergies, and expand its premium NEV product pipeline. Zeekr's delivery volume grew 9.3% year-over-year in Q2 2025, showcasing robust demand in the segment. The transaction is expected to contribute significantly to Geely's 2025 sales target of 3 million units, with Zeekr playing a major role in the premium EV space. In July 2025, Morgan Stanley praised the deal, forecasting that the privatization "will enhance internal synergies and position Geely as a more competitive force in the premium EV sector."

Despite its strong potential, the acquisition also presents several challenges. Integration complexities—both cultural and regulatory—remain significant, while margin pressures continue to weigh on automakers amid intense price competition, particularly in China. Key risks include operational integration difficulties, cross-market regulatory hurdles, and sustained pricing pressures in the EV industry.

Next steps involve completing the merger by Q4 2025, realizing expected synergies, and maintaining a strong focus on innovation.

Geely also aims to expand Zeekr's global presence by leveraging the group's international infrastructure. As noted in a Bloomberg interview in 2021, Zeekr CEO Andy An highlighted the company's global ambitions, emphasizing "a long-term vision to compete in Europe and the U.S. markets by offering top-tier EV technology."

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Geely Holding Group, a leading Chinese automotive conglomerate, is widely recognized for its global operations and dedication to innovation in new energy vehicles (NEVs). Among Geely's subsidiaries, Zeekr stands out as a premium electric vehicle brand established in 2021, rapidly gaining market presence. Focused on cutting-edge EV architecture and advanced battery technologies, Zeekr went public on the NYSE in May 2024 with a valuation near USD 6.8 billion. The company has quickly positioned itself as a strong contender in the high-end EV segment, with projected stock growth of 12–13% by Q4 2025.

This transaction involves Geely acquiring the remaining 37% stake in Zeekr in a deal valued at USD 6.83 billion. While Geely already controlled approximately 63% of Zeekr before this transaction, the offer included a premium of nearly 19% over Zeekr's recent market valuation. The deal is structured as a take-private merger, with closing expected in Q4 2025.

The automotive industry is experiencing a rapid transition towards electric and sustainable mobility. Regulatory pressures and fierce competition require companies to scale efficiently and innovate continuously. In this context, Geely's "One Geely" strategy aims to unify its resources and operations across brands and markets.

UNITEDHEALTH: BERKSHIRE HATHAWAY STAKE DRIVES THE STOCK UP



By Sofia Sardinha

UnitedHealth Group (UNH) has established itself as the largest insurance and health services conglomerate in the United States, playing a central role in a sector that represents about 17% of the North American Gross Domestic Product (GDP). It currently has more than 150 million customers and forecasts, by 2025, annual revenues between 445 and 448 billion dollars – numbers that reflect its size and influence in this sector.

The group operates through two branches: UnitedHealthcare, responsible for the management of private and public health insurance, and Optum, dedicated to the provision of clinical care, pharmaceutical management and data analysis. It is through Optum Health, a subsidiary of Optum, that UnitedHealth has led the transition to Value-Based Care Models (VBC) – remuneration models that reward clinical outcomes and care efficiency, rather than the volume of services provided. In 2024, Optum Health provided assistance to 4.7 million people under CBV contracts, a number that is expected to increase by around 650 thousand people by 2025.

This integration between financing and care provision ensures greater operational efficiency but also

exposes it to variations in medical costs and changes in public policies, increasingly determining factors in a sector where health is also a business. In recent years, the US economic context has proved particularly challenging – high interest rates, persistent inflation and greater policy intervention on the cost of medical care. Against a backdrop of tighter operating margins and greater oversight by regulatory authorities, the sector, usually known for its stability in periods of economic uncertainty, began to show structural vulnerabilities and the need for rapid adaptation.

UnitedHealth's decline

Between the end of 2024 and mid-2025, UnitedHealth's market value suffered a sharp drop of 62%, from \$630.73 to \$234.60 per share.

In the first quarter of 2025, the company reported revenues of \$109.6 billion, up 9.8% compared to the same period in 2024 (\$99.8 billion). Even so, the ratio of medical care remained high (84.8%), showing that a large part of these revenues continued to be absorbed by health expenses, especially in the Medicare Advantage program, where the use of services largely exceeded forecasts. This trend reflects both the typical seasonality of the sector, with higher demand in the winter months, and a post-pandemic compensation effect, with the resumption of previously postponed procedures.

After a loss of \$1.4 billion in the first quarter of 2024 resulting from the sale of operations in South America and the cyberattack on Change Healthcare, the company returned to profitability, recording a profit of \$6.3 billion in the same period of 2025. Thus, this result reflected the end of

the extraordinary factors that distorted the previous performance, with earnings per share (EPS) going from -1.53 to 6.85 dollars.

In the second quarter, revenues increased by 12.9% compared to the same period in 2024, reaching \$111.6 billion. However, net income attributable to shareholders decreased 19.2% to \$3.4 billion because of the unexpected increase in medical costs, whose annual trend in the Medicare Advantage program went from approximately 5% to 7.5% – a substantially higher than expected increase, which significantly worsened operating expenses. Consequently, earnings per share (EPS) decreased from \$4.54 to \$3.74 (-17.6%), reflecting significant pressure on margins.

At the same time, the U.S. Department of Justice (DOJ) opened a criminal and civil investigation into Medicare Advantage billing practices, focusing on allegations of overestimating clinical diagnoses to obtain improper reimbursements.

The instability increased even more with the unexpected death of Brian Thompson, CEO of the UnitedHealthcare division, in December 2024 – an event that, although without a direct impact on executive management, intensified the sense of internal vulnerability at a critical moment. Following the incident, Tim Noel was appointed to the position of CEO of UnitedHealthcare's division. Noel had been with the company since 2007 and, in recent years, has distinguished himself as CEO of Medicare & Retirement, where he led a period of strong growth and operational consolidation. It was precisely because he had a proven track record and unparalleled experience that he

was chosen to take over the leadership of UnitedHealthcare.

In line with UnitedHealth, its main competitors in the Medicare Advantage program – Humana and CVS Health (Aetna) – also faced a sharp increase in medical costs and a sharp compression of operating margins in the first half of 2025.

Humana, whose activity depends almost exclusively on Medicare Advantage plans, was one of the companies most penalized: the medical expense ratio exceeded 90%, leading to a downward revision of annual profit forecasts and a drop of about 30% in the value of shares between January and July 2025. CVS Health, through its subsidiary Aetna, recorded an increase in the medical benefit ratio to 85.9% in the second quarter, reflecting higher utilization of healthcare services and growing operating expenses, which resulted in a 12% reduction in quarterly profits and pressure on the performance of the insurance segment.

By contrast, smaller insurers, such as Cigna Group and Health Care Service Corporation (HCSC), had more limited impacts, because of diversification strategies. Cigna completed in March 2025 the sale of most of its Medicare Advantage operations to HCSC, significantly reducing exposure to a narrow margin segment.

HCSC, which now onboards nearly 600,000 new beneficiaries with this acquisition, strengthened its position in Medicare, but also faced operational integration challenges and rising costs.

Thus, the first half of 2025 confirmed a sectoral trend of margin compression, in which all major insurers were affected by the same combination of factors: rising medical costs, higher service utilization, and regulatory uncertainty. Still, UnitedHealth was the most penalized, given its heavy reliance on the Medicare Advantage program – which accounts for more than half of its operating revenues – and the occurrence of extraordinary factors.

This succession of events led to the abrupt drop in the value of the shares, culminating in one of the most challenging periods in UnitedHealth's recent history.

The Buffett effect – speculation

It was in this context that in August 2025, Berkshire Hathaway, led by Warren Buffett, announced the purchase of a \$1.6 billion stake – equivalent to about 0.4% of the company's capital – in UnitedHealth Group. The investment in UnitedHealth was exactly on this principle. Despite the sharp devaluation, the group maintained financial strength and a dominant position in the market

With a price-to-earnings ratio of about 15 times, lower than the historical industry average (19 - 20 times), and a dividend yield close to 2.3%, UnitedHealth represented quality at a reduced price – the kind of opportunity that characterizes Berkshire's investment decisions. In addition, its two-part structure ensures diversification, size and stability of revenues, factors that reduce risk and sustain growth in the long term.

Despite representing a tiny fraction, the impact was immediate: the shares appreciated 14% in a single day, reversing months of decline. However, this reaction was mainly psychological and speculative, as the market interpreted Buffett's entry as a sign of structural undervaluation, leading investors to anticipate a recovery that was not yet reflected in the results.

By taking UnitedHealth privately, Buffett signalled confidence in the group's recovery and the structural resilience of the U.S. health care sector, driven by an aging population and the expansion of public programs. More than a financial gamble, Berkshire's entry reaffirmed how Buffett's reputation continues to influence markets in an almost symbolic way: it only took a quiet move to restore optimism in an entire industry.



A FRAMEWORK FOR BUILDING A ROBUST PORTFOLIO



By Afonso Barão



By Martim Castro

On the task of constructing a portfolio, one has a whole universe of possibilities. From ETFs to bonds, to individual stocks, there is plenty to choose from. Moreover, there is an uncountable infinite number of possible ways to combine different assets.

This article proposes a long-only, with no leverage, portfolio construction framework based on Hierarchical Risk Parity (HRP). It combines hierarchical clustering, intra-cluster allocation methodologies, and inter-cluster Risk Parity.

In order to validate the framework, a rolling Walk Forward validation

is employed. Out-of-sample performance is then evaluated against benchmark strategies.

Hierarchical Clustering

Put simply, a cluster is a collection of groups composed of different objects, which, in this case, are assets, organized with the goal of bringing together those that share similar characteristics. To construct it, one finds the necessity of defining a distance metric, a measure that will dictate how close (or similar) two objects are from each other. In this case, the metric used is:

$$d(x_i, x_j) = \sqrt{\frac{1}{2}(1 - \rho_{ij})}$$

where ρ_{ij} is the Pearson correlation between the log-returns of the two assets.

Once the distance metric is defined, it is necessary to specify a linkage function, which determines how distances between clusters are computed during the hierarchical aggregation process. Different linkage criteria lead to different cluster structures and stability properties.

In this framework, average linkage is employed. Under this criterion, the distance between two clusters A and B is defined as the average pairwise distance between all assets in the two clusters:

$$d(A, B) = \frac{1}{|A||B|} \sum_{i \in A} \sum_{j \in B} d(x_i, x_j)$$

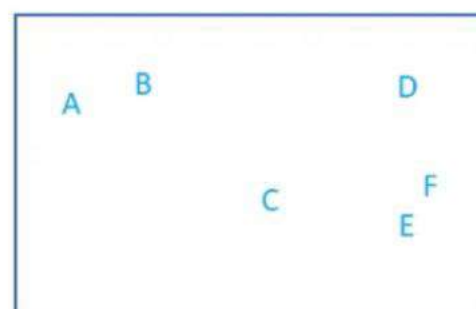
where $|A|$ and $|B|$ denote the number of assets contained in clusters A and

B, respectively. The normalization by $|A||B|$ ensures that the distance between clusters is computed as the average of all pairwise distances, rather than being dominated by cluster size or extreme individual distances.

Average linkage provides a balanced compromise between single and complete linkage, reducing sensitivity to extreme pairwise distances. This leads to more compact and stable clusters, while remaining relatively robust to isolated outliers in asset correlations.

The hierarchical clustering process is represented by a dendrogram, which is constructed iteratively. At each step, the two clusters that minimize the linkage distance $d(A, B)$ are merged into a single cluster. This procedure is repeated until all assets are aggregated into a single cluster.

Figure 1 illustrates an example of hierarchical clustering using the Euclidean distance. Points that are closer in the feature space are merged first in the dendrogram, while the most distant points are combined only at later stages.



Dendrogram

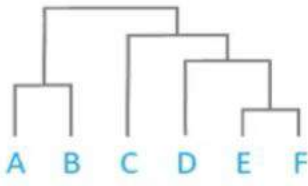


Fig. 1

Intra Clusters Portfolios

Once all assets are assigned to their respective clusters, the next step is to construct a portfolio within each cluster. This step consists of determining the allocated capital to each asset within its family of similar assets. The allocation rule introduced by López de Prado (2016) in the original HRP framework is:

$$w_i = \frac{C}{\sigma_i^2},$$

where w_i is the weight of asset i , σ_i^2 is its log-returns variance and C is a constant. Since all weights sum to 1:

$$\sum_{i=1}^N \frac{C}{\sigma_i^2} = C \sum_{i=1}^N \frac{1}{\sigma_i^2} = 1$$

with N being the number of assets in the cluster. This implies:

$$C = \left(\sum_{i=1}^N \frac{1}{\sigma_i^2} \right)^{-1}$$

for this specific formulation.

Some limitations of this rule include the fact that it does not explicitly minimize intra-cluster portfolio variance, as correlations between assets within the same cluster are ignored. This motivated alternative approaches such as the Minimum Variance optimization, whose downfall relates to the necessity of inverting the covariance matrix, leading to unstable weigh

estimations. In order to balance stability and diversification, a Risk Parity intra-cluster allocation is adopted.

Risk Parity Portfolio

Having the intra-cluster portfolios constructed, the final step consists of building the global portfolio using a Risk Parity allocation. Risk Parity is a portfolio allocation approach in which asset weights are chosen such that each asset contributes equally to the total portfolio risk. In a traditional Risk Parity framework, each asset risk contribution is measured through volatility or marginal risk contributions derived from the covariance matrix.

Let $\mathbf{w} \in \mathbb{R}^n$ denote the portfolio weight vector and Σ the covariance matrix of asset returns. The total portfolio volatility is given by

$$\sigma_p = \sqrt{\mathbf{w}^T \Sigma \mathbf{w}}.$$

The marginal risk contribution of asset is defined as

$$MRC_i = \frac{\partial \sigma_p}{\partial w_i} = \frac{(\Sigma \mathbf{w})_i}{\sigma_p}.$$

The risk contribution of asset to total portfolio risk is then

$$RC_i = w_i \cdot MRC_i = \frac{w_i (\Sigma \mathbf{w})_i}{\sigma_p}$$

A Risk Parity portfolio is defined by the condition that all assets contribute equally to total portfolio risk:

$$RC_1 = RC_2 = \dots = RC_N = \frac{\sigma_p}{N}$$

This condition is typically enforced numerically by solving a constrained optimization problem under full investment and long-only constraints.

In the context of Hierarchical Risk Parity (HRP), the same principle is applied at a higher level of aggregation. Rather than allocating risk directly across individual assets, each cluster is treated as a single synthetic asset, whose risk is defined by the covariance structure of the assets it contains and the previously computed intra-cluster weights. This creates a direct bridge to Traditional Risk Parity (TRP), while operating on a reduced and more structured risk space.

HRP vs Risk Parity

The used hierarchical formulation in HRP substantially improves robustness over Traditional Risk Parity. Estimating a full covariance matrix at the asset level, with a big number of assets, is notoriously unstable. By first clustering correlated assets and aggregating them into clusters, HRP reduces estimation error. As a result, the Risk Parity allocation is performed on a smaller, better conditioned covariance matrix, leading to more stable and interpretable portfolio weights.

It is also economically more intuitive to first group assets according to their correlations, thereby forming clusters of assets that share similar characteristics. For instance, when constructing an HRP portfolio using only S&P 500 equities, a natural choice is to consider eleven clusters, corresponding to the eleven S&P sectors. Since equities within the same sector tend to be highly correlated, the hierarchical clustering procedure naturally groups them together.

These clusters can then be treated as single aggregated assets

in the subsequent allocation step. Continuing with the same example, the final step consists of constructing a Risk Parity portfolio across sectors. That is, the resulting portfolio is designed so that each sector contributes equally to the overall portfolio risk.

Walk Forward Validation

To validate the framework and replicate real time asset weight estimation and deployment on unseen data, a rolling Walk Forward validation is employed. This is a validation procedure in which the model is trained using only past information and evaluated on future, unseen data, strictly preserving the temporal order.

In practice, a training window is used to estimate the model parameters, in this case the portfolio weights. These parameters are then applied to the immediately following out-of-sample period. The window is rolled forward in time and the process is repeated until the end of the sample.

As seen in Figure 2, one can split the data into blocks of one year. Then, use the previous three years to obtain portfolio weights and the next year for out-of-sample backtesting. This approach simulates real time deployment, prevents look ahead bias, and allows the assessment of temporal stability.

Framework Implementation

In order to implement the proposed framework, a portfolio was constructed under the following specifications:

- The asset universe is constituted by a diversified set of instruments, including

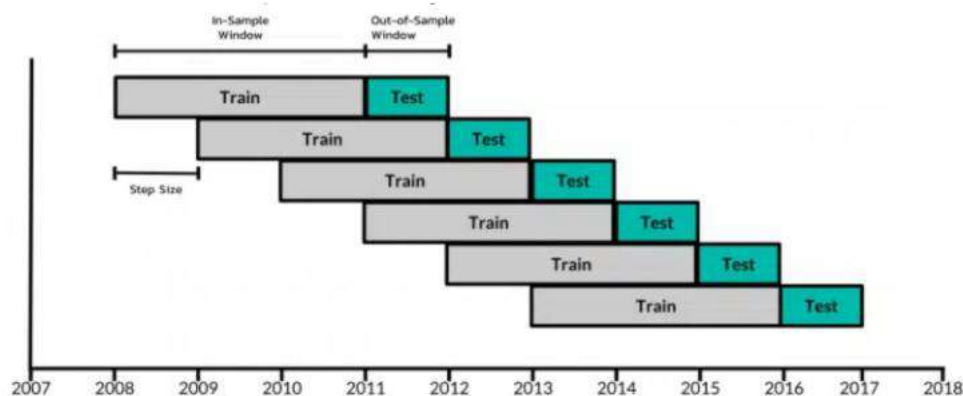


Fig. 2

commodities (metals, energy, and agricultural products), S&P 500 equities, and the eight cryptocurrencies with the biggest market capitalization. Equity returns are adjusted for dividends.

- The choice of this asset universe has the purpose of maintaining primary exposure to the U.S. equity market while improving diversification through the inclusion of asset classes that historically exhibit low or negative correlations with equities. Commodities serve as a hedge against stock market risks, while the inclusion of cryptocurrencies provides limited exposure to an emerging asset class.
- In the Walk Forward procedure, the historical data is split in blocks of quarters, corresponding to a quarterly rebalancing of portfolio weights. The first out-of-sample evaluation period begins in the first quarter of 2017.
- To prevent data leakage and ensure a realistic validation, the equity universe is redefined at each backtesting period based on the S&P 500 constituents at that time.
- Out-of-sample results from successive windows are then concatenated to simulate a

continuous backtesting from that date up to the present.

- For the computation of Sharpe ratios, annualized returns and volatilities were used, with a return's offset of 3%.

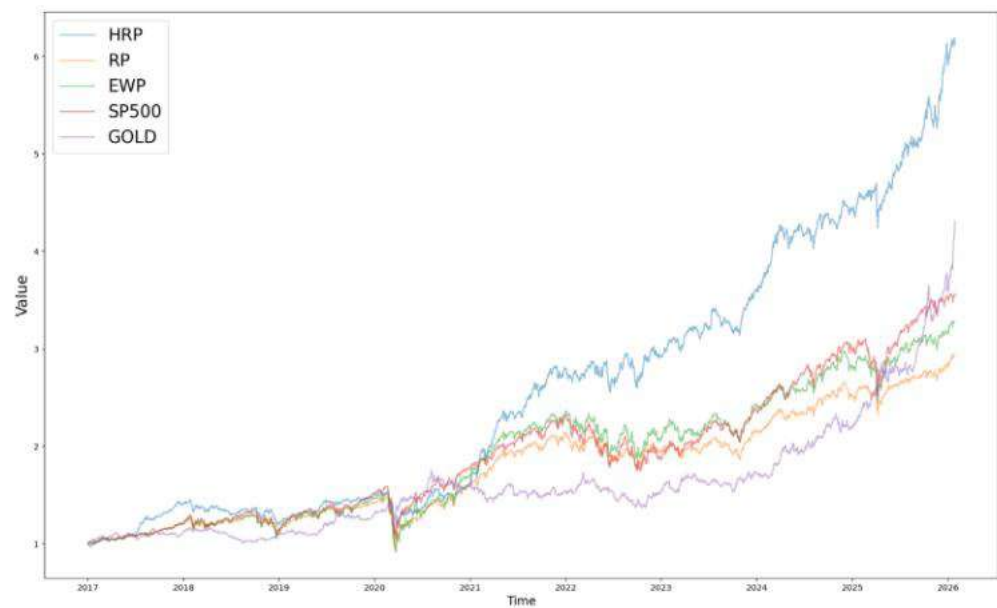
Results

Backtesting results are evaluated against two baselines and two benchmarks:

- Risk Parity portfolio (RP)
- Equal weighted portfolio (EWP)
- S&P 500 with dividend adjusted returns
- Gold spot price

The results indicate that HRP clearly outperforms the benchmarks. It achieves the highest annualized return (22.05%), with a substantial margin relative to all other baselines, while simultaneously maintaining the second lowest volatility. This combination translates into the highest risk adjusted performance, reflected by Sharpe and Sortino ratios.

From a downside risk perspective, HRP also exhibits good behavior. Although Gold displays the lowest maximum drawdown, HRP experiences smaller drawdowns than the other portfolios. Particularly in COVID-19's market shock, HRP experiences a considerably smaller drawdown (28.33%) than the equity market (33.72%).



Portfolio	Returns % (annualized)	Volatilities % (annualized)	Sharpe	Sortino	Max Drawdown %
HRP	22.05	14.90	1.278	1.776	28.33
RP	12.65	15.89	0.607	0.814	36.83
EWP	13.97	19.22	0.571	0.785	39.81
S&P 500	15.04	18.45	0.653	0.898	33.72
Gold	17.47	14.75	0.981	1.413	22.00

Additionally, these results reinforce the advantage of Hierarchical Risk Parity over traditional Risk Parity. The inclusion of the clustering process proves to provide better out-of-sample results.

Transaction costs

It's important to note that transaction costs were not included in the backtesting. When selecting a rebalancement frequency, one has to face a tradeoff between transaction costs and deviations of asset weights from their target values.

On one hand, as assets accumulate returns between rebalancing dates, portfolio weights drift away from the optimal allocation. Assets with higher cumulative returns gain weight, while those with the lowest returns lose weight. The longer the

rebalancing interval, the larger these deviations become.

On the other hand, choosing very short rebalancing intervals increases turnover, causing portfolio performance to deteriorate due to transaction costs. A lower bound for the portfolio value after accounting for transaction costs is given by:

$$P_{com} \geq P (1 - t)^{2N},$$

where P_{com} is the portfolio value accounting transaction costs, P is the portfolio without transaction costs, t is the transaction cost rate, and N is the total number of rebalancing events.

Considering quarterly rebalancing over nine years and a commission rate of 0.05%:

$$\begin{aligned} P_{com} &\geq P(1 - t)^{2N} \\ &= P(1 - 0.0005)^{2 \cdot (4 \cdot 9)} \\ &\approx 0.965P. \end{aligned}$$

This implies that, even in a worst-case scenario, the portfolio value after accounting for transaction costs would be approximately 96.5% of the value obtained when transaction costs are ignored.

Article written in February and updated on March.

FROM QUALITATIVE VIEWS TO QUANTITATIVE PORTFOLIOS: A LANGUAGE-MODEL-AUGMENTED BLACK-LITTERMAN



By Catarina Oliveira



By Matilde Silva

Portfolio construction bridges mathematical precision and human intuition, as investors rely on quantitative frameworks while simultaneously incorporating subjective beliefs about future market behavior. Most conventional portfolio models, however, provide limited scope for integrating such investor views in a flexible manner, focusing mostly on exact calculations instead of qualitative information. Moreover, building an effective portfolio is inherently challenging due to the sheer number of investment opportunities and the fundamental difficulty of forecasting future returns. Investors must navigate incomplete information, balancing risk, expected return and subjective insights in markets that are constantly evolving.

In response to these challenges, the Black-Litterman framework arises as a solution that balances investor views with the objective returns from the market in equilibrium. We propose a flexible implementation that leverages large language models (LLMs) to translate user input into a structured set of views compatible with the Black-Litterman framework, ultimately generating an optimized portfolio.

Classic Black-Litterman Implementation

The Mean-Variance Paradigm and Its Limitations

The foundations of modern portfolio theory were laid by Harry Markowitz, through his mean-variance model. In theory, investors could identify an efficient frontier and select portfolios that maximize expected return for a given level of risk, providing a quantitative solution to the asset allocation problem. where ρ_{ij} is the Pearson correlation between the log-returns of the two assets.

Despite its elegance, the mean-variance framework suffers from several shortcomings; estimates of returns and volatilities are derived from historical data, and the resulting portfolio weights are highly sensitive to estimation errors, which produces economically unintuitive and unstable portfolios. Additionally, this model provides no explicit mechanism for incorporating investor views.

These limitations motivated the search for a more robust and intuitive framework for portfolio construction.

The Black-Litterman Model

In response to the shortcomings of the mean-variance optimization, Fischer Black and Robert Litterman developed the Black-Litterman (BL) model. Their approach represents a significant conceptual shift, by allowing investors to incorporate their subjective views in an objective and quantitative manner. At its core, the BL model blends three major components: **equilibrium expected returns**, inferred from a reference market portfolio; **estimation uncertainty** and **investor views**.

The result is a set of posterior expected returns that balance market equilibrium with investor conviction, producing portfolios that are more stable, intuitive, and aligned with economic reasoning.

Equilibrium Returns

At the BL model foundation lies a general market equilibrium model (or a benchmark portfolio as a proxy), which assumes that investors are risk-averse and seek to maximize a utility function which takes the following expression:

$$\begin{aligned} U(x) &= x' \Pi - \frac{\delta}{2} x' \Sigma x \\ &= x' (\mu - r_f) - \frac{\delta}{2} x' \Sigma x \end{aligned}$$

Here, x denotes the vector of portfolio weights; δ is the coefficient of risk aversion; Σ is the covariance matrix of asset returns, which captures how assets relate and move together; and Π represents the vector of expected returns above the risk-free rate, given a market at equilibrium, where μ is the expected returns vector and r_f the risk-free rate.

This expression reflects the difference between reward and risk, symbolizing that a portfolio is attractive if it offers high expected returns, but its attractiveness is reduced if it is very risky. Consequently, the utility function is maximized to identify allocations that deliver the greatest return per unit of risk, consistent with the assumption that investors are risk averse.

Uncertainty in the Reference Model

The BL model takes into account how uncertain are the returns of each asset, while taking into account the likelihood of other assets' estimates being wrong. This error in the equilibrium expected returns is specified by the covariance matrix of the estimation errors, Σ_ϵ which describes how noise the equilibrium returns are with the following expression:

$$\Sigma_\epsilon = \tau \Sigma$$

The scalar parameter τ value is model-dependent, however, it is commonly defined as $1/T$ with T denoting the length of the estimation window.

Modeling Investor Views

The most distinctive feature of the BL framework is its treatment of investor views. These views are expressed through P , a matrix that identifies the assets involved in each view, and the vector Q , specifies the corresponding expected returns. Additionally, the uncertainty associated with investor views is captured by the covariance matrix, Ω , allowing for varying degrees of confidence across different views. Each row of P represents a portfolio; absolute views are encoded by assigning a value of 1 to the relevant asset, while relative views are constructed by assigning a value of 1 to one asset and -1 to another. The corresponding element of Q

captures the expected return implied by the view.

The Black-Litterman Expected Returns

By combining equilibrium returns, estimation uncertainty and investor views, the Black-Litterman model yields the posterior vector of expected excess returns:

$$\Pi_{BL} = [(\tau\Sigma)^{-1} + P'\Omega^{-1}P]^{-1}[(\tau\Sigma)^{-1}\Pi + P'\Omega^{-1}Q]$$

Black-Litterman implementation

Consider an investor seeking exposure to the largest and most influential companies in the S&P500, selecting Apple (AAPL), Microsoft (MSFT), Alphabet (GOOG/GOOGL), Amazon (AMZN), and NVIDIA (NVDA). Together, these firms dominate market capitalization and play a central role in shaping broader index performance, while capturing key shifts in technology, innovation, and consumer demand. The investor expects Alphabet to deliver an absolute growth of 10% in relation to

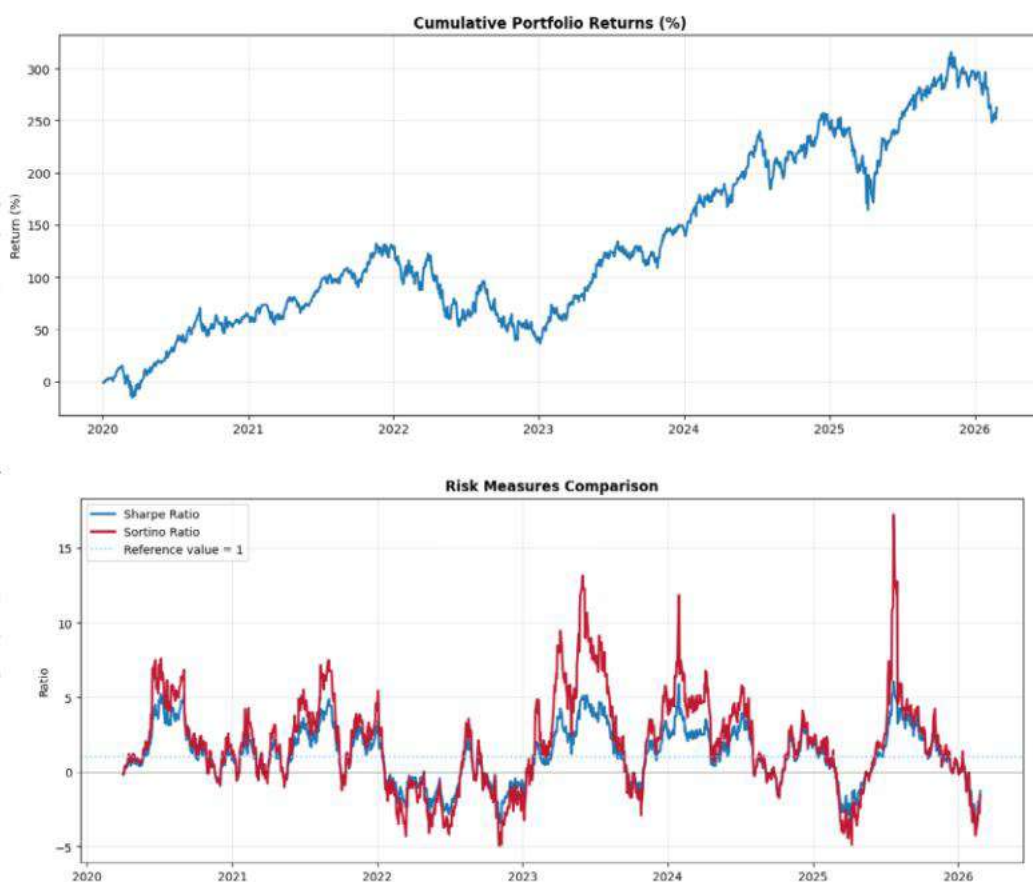
the market in equilibrium, Microsoft to outperform Apple by 2 percentage points, and Amazon to underperform NVIDIA by 3 percentage points.

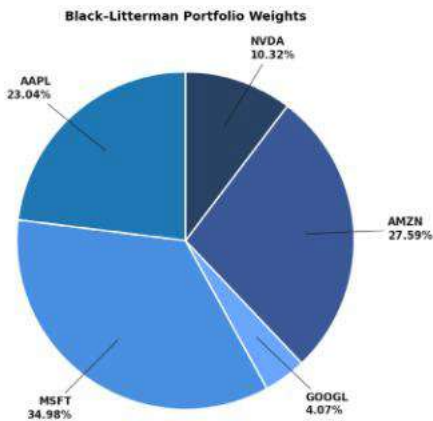
These beliefs can be incorporated directly within the Black-Litterman framework. Keeping the assets ordered as listed above, the investor's views are encoded mathematically in the following matrices:

$$P = \begin{bmatrix} 0 & 0 & 1 & 0 & 0 \\ -1 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & -1 \end{bmatrix}$$

$$Q = \begin{bmatrix} 0.10 \\ 0.02 \\ -0.03 \end{bmatrix}$$

Through the computations described previously, these views are combined with market equilibrium returns, producing the desired portfolio and its expected returns.





This graph portraits the Sharpe and Sortino ratios for a rolling window of 3 months, representing the evolution of the risk-adjusted performance of the created portfolio.

Black Litterman LLM Augmentation

The Black–Litterman model requires numerical inputs, yet investor views are initially expressed in natural language and must therefore be translated into their quantitative form before they can be incorporated into the framework. The translation of informal language into objective data is prone to inconsistency, and difficult to scale across users or scenarios and therefore constitutes a key obstacle in the practical application of the Black-Litterman framework. The introduction of Large Language Models (LLMs) addresses this problem by providing a more reliable mechanism to convert natural language prompts into structured quantitative inputs, enhancing practical usability and making the framework more accessible to a broader range of users, regardless of their technical or quantitative background.

System Architecture

The proposed pipeline consists of three layers: a user interaction layer, a GPT-based interpretation layer, and a portfolio optimization layer. Users express views in natural language along with confidence levels. The language model structures these inputs into formal representations that are directly used by the Black–Litterman model.

Role of the Language Model

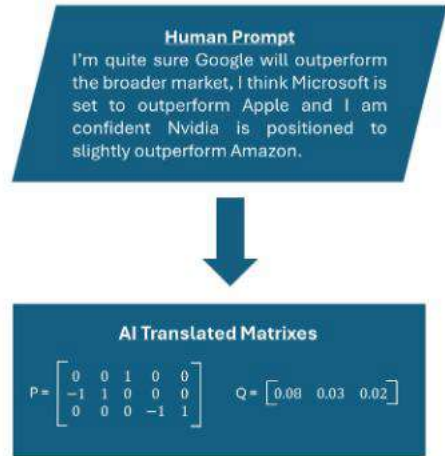
In the proposed pipeline, the language model does not directly participate in portfolio optimization. Instead, its function is strictly confined to the interpretation, validation and finally, structuring of investor views, prior to their incorporation into the Black–Litterman framework. The LLM acts as an interface layer between unstructured human input and the formal mathematical representation required by the model.

Investor views are typically expressed in natural language and often exhibit ambiguity or inconsistency. The language model is used to translate these qualitative statements into structured representations, such as relative or absolute return views and confidence levels and to evaluate the consistency and validity of these views. This translation process enforces consistency, ensuring that views are non-contradictory and compatible with the constraints of the Black–Litterman model.

Practical Application (Using ChatGPT - 4o)

When comparing the P and Q matrices we obtained in the first part

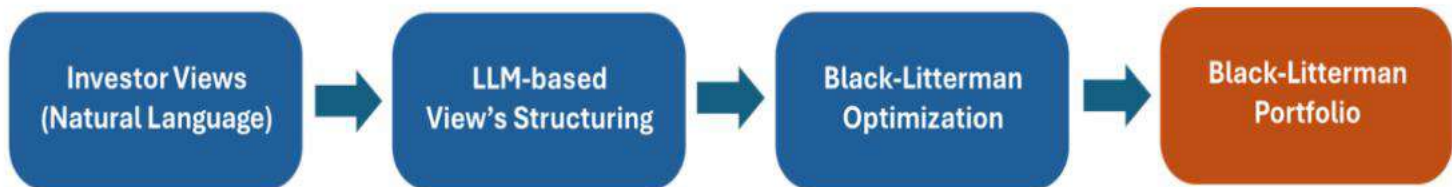
of the article and just now, we can see how through a simple natural-language prompt, a clearly instructed LLM can generate P and Q matrices that are very similar to those that were created manually (which is the equivalent of a fully objective and technical prompt).



THE FUTURE

At this stage, we have successfully developed the foundational pipeline that integrates natural-language investor views with the Black–Litterman framework through LLM augmentation. Currently, our focus is on refining the translation of qualitative inputs into structured P and Q matrices, validating their consistency, and testing the resulting portfolios on selected equity datasets. This work positions us to deliver a robust, flexible tool for portfolio construction that bridges human intuition and quantitative rigor, laying the groundwork for further experimentation and practical deployment.

Article written in March and updated on April.



A letter from our President

The TIC was founded on a straightforward idea: that engineering students already possess the tools to understand and explore the world of investing, what is often missing is simply the right entry point. The way we approach problems, analyse data and navigate uncertainty is, at its core, remarkably similar to what is required of a thoughtful investor. That is what we aspire to be: an open and welcoming space where anyone, regardless of their degree, can begin to learn, to question and to deepen their understanding of markets and investments. No prerequisites, just curiosity.

This Journal is one of the ways in which we work towards fulfilling that mission. Free of grand ambitions, yet driven by a genuine desire to share the ideas and analyses developed throughout the first semester. Within these pages, you will find articles spanning a wide range of topics, from company and sector analyses to macroeconomic reflections and the study of trading algorithms. We would like to extend a sincere word of appreciation to all members of the club for the dedication and effort they have consistently brought to this project.

Afonso Lopes, **President**



Thank you