



Summer revision courses: (equity and housing) wealth effects explained (3/4)

> We continue with a third summer revision course on wealth effects (ie, how much growth increase because of increase in equity and housing valuations). We cover key concepts like the Pigou effect, the life-cycle hypothesis, permanent vs transitory income and the marginal propensity to consume (MPC) out of wealth. We use them to quantify what asset price movements are currently contributing to US growth, and why the same exercise cannot be replicated straightforwardly for the Eurozone.

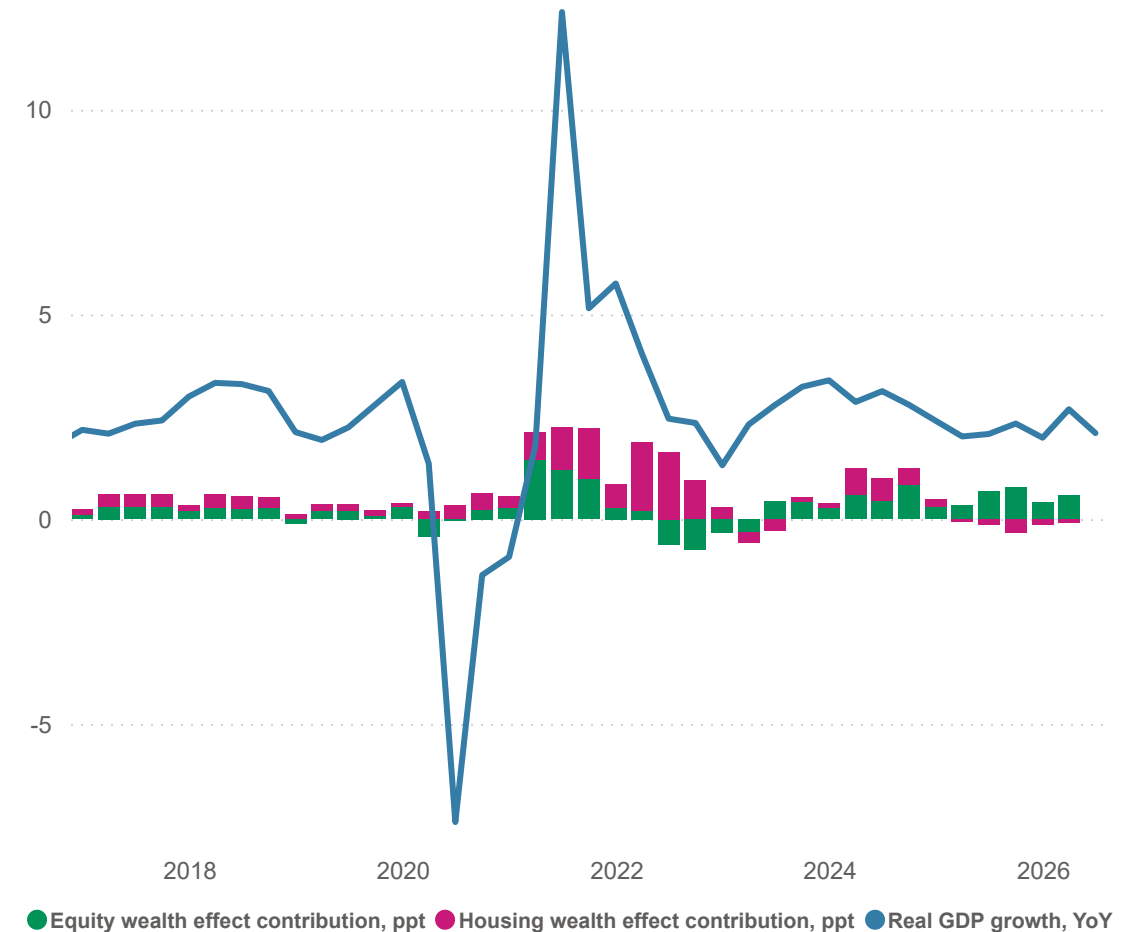
> Back to theory, it says that households consume out of lifetime wealth, not current income. Milton Friedman's permanent income hypothesis and Franco Modigliani's life-cycle model converge on a common prediction: a durable rise in asset values raises perceived permanent income, compresses the saving rate and lifts consumption – independently of wages or employment. The wealth effect is the rational implication of forward-looking optimisation, not a behavioural anomaly.

> The econometric literature has converged on two benchmarks: 3 cents per dollar for equities, 6 cents for housing in the US. Time-series, panel, and micro-level estimates all point to the same range – the housing figure reflecting both a pure wealth effect and a collateral channel. For the Eurozone, three decades of cross-country evidence put the total MPC out of wealth below 1 cent per euro – statistically significant but economically negligible, and indistinguishable from zero in core economies like Germany.

> Applied to the US, our tracker (see chart) puts the equity wealth effect at 50bp+ of annualised growth – one of the largest readings on record currently. This explains more than one-fifth of current US growth. The driver is AI-concentrated appreciation: the Magnificent Seven account for more than one-third of S&P 500 cap and far more than half of index earnings growth over the past three years. The stimulus is real but narrow – the top 10% own close to 90% of equity wealth, compressing the true consumption impulse below the headline.

> For the Eurozone, the same exercise is structurally uninformative – and we have deliberately chosen not to perform it. The domestic equity MPC is zero, and more than a third of Eurozone household equity exposure sits in US markets, a figure that has massively risen in the past few years. There is no domestic wealth effect to model; the channel simply does not exist.

US GDP growth and contribution from wealth effects (YoY, ppt)



I. Origin of the idea, channel of materialisation

1.1 Consumption and smoothing of savings

The idea that household wealth shapes aggregate spending (and thus growth) is older than modern macroeconomics itself. Its earliest formal articulation is often attributed to Arthur Cecil Pigou, who argued in 1943 that a fall in the price level – by raising the real value of money balances held by households – would eventually stimulate consumption and restore full employment. This so-called Pigou effect, or real balance effect, was less a theory of asset prices than a logical rebuttal to John Maynard Keynes: even in a liquidity trap (when rates are close to 0), the economy carries within itself a self-correcting mechanism, because households feel richer when the purchasing power of their savings rises. The insight was modest in scope, but it planted a seed: wealth, not just income, belongs in the consumption function.

The dominant Keynesian view had long treated consumption as a mechanical function of current income: households spend a stable fraction of what they earn today, and aggregate demand moves accordingly, the saving rate does not matter, it is stable. This framework, however, struggled to account for a persistent empirical puzzle – consumption is systematically smoother and less volatile than income, and households do not appear to revise their spending sharply in response to temporary fluctuations in earnings.

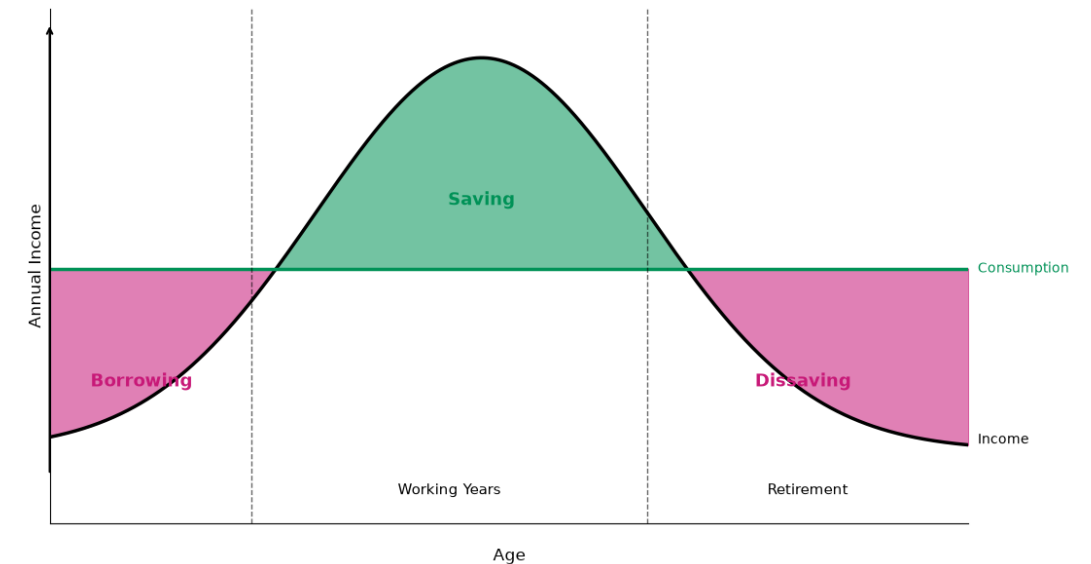
The resolution to this puzzle lies in a simple but powerful idea, developed independently and in parallel by Milton Friedman and by Franco Modigliani and Richard Brumberg in the early 1950s: households do not consume out of what they earn today, but out of what they expect to be worth over their entire lifetime.

Friedman's *A Theory of the Consumption Function* (1957) formalises this through a sharp distinction between transitory income – windfalls, bonuses, temporary fluctuations – and permanent income, the long-run, sustainable level of resources that a household expects to command over its lifetime. His central claim is that consumption tracks permanent income, not measured income: a transitory gain, correctly perceived as fleeting, barely moves spending, while a lasting upward revision of lifetime resources calls for a sustained and proportionate increase in consumption.

Modigliani and Brumberg arrive at a closely-related conclusion through the life-cycle hypothesis: households smooth consumption over their entire lifetime, building up wealth during their working years and drawing it down in retirement, such that the stock of accumulated assets at any point in time is a direct determinant of current spending.

The two frameworks differ in their assumptions about the planning horizon – infinite for Friedman, finite for Modigliani – but they converge on the same essential insight: **consumption is a function of wealth, not merely of income.** The saving rate, in this framework, is not a fixed behavioural parameter: it is the residual of a forward-looking optimisation, and it falls whenever households perceive themselves as permanently wealthier.

Theoretical consumption smoothing over lifetime



I. Origin of the idea, channel of materialisation

1.2 Wealth variation and saving dynamics in theory

This is precisely where wealth effects enter the picture, as a direct and necessary corollary of these frameworks.

A wealth effect, precisely defined, is the change in household consumption expenditure induced by a change in the perceived value of household net worth – that is, the market value of assets held minus outstanding liabilities. When net worth rises, households revise upward their estimate of the resources available to them over their lifetime, and increase current consumption accordingly; when net worth falls, the reverse obtains. The effect is conventionally measured by the marginal propensity to consume out of wealth (MPC): the number of additional cents a household spends, on a sustained basis, for each additional dollar of perceived wealth. This is a flow response to a stock change – and that distinction matters. The wealth effect does not operate through income: no cash has necessarily changed hands, no wage has been paid. It operates through the balance sheet, through the household's perception of what it is worth, and through the forward-looking logic of the permanent income and life-cycle frameworks that link that perception directly to spending decisions.

Going back to our theory, if consumption tracks permanent income, and if permanent income encompasses not just wages but the entire stock of assets a household holds, then any shock that credibly and durably raises asset values constitutes an upward revision of permanent income. A sustained rally in equity markets, a structural rise in house prices, a prolonged period of low interest rates that inflates the present value of future earnings: all of these, to the extent that households perceive them as lasting, will induce higher consumption today and lower saving. The wealth effect is therefore not a behavioural anomaly or a psychological quirk. It is the direct, rational implication of the permanent income and life-cycle frameworks: households that are durably richer will spend more, save less, and do so persistently. The critical question – one that will occupy much of the empirical literature – is precisely how households distinguish between permanent and transitory asset price movements, and how quickly they revise their consumption in response.

1.3 Wealth variation and saving dynamics in practice

For decades, this remained a somewhat theoretical concern. Asset markets were smaller, home ownership less financialised and equity portfolios the preserve of a narrow elite.

The question became urgently practical in the 1990s, when the extraordinary run-up in US equity prices coincided with a dramatic and sustained fall in the personal saving rate. The two phenomena were too synchronised to be coincidental, and they forced macroeconomists to take the wealth-consumption channel seriously as a first-order driver of the business cycle – not merely a theoretical curiosity.

This is where the amplification story begins. Asset prices do not simply reflect the cycle; they feed it. When equity or real estate values rise, households revise their sense of permanent wealth upward, reduce precautionary saving and increase spending – which in turn supports corporate earnings, justifies higher valuations and so on. The cycle feeds on itself. Conversely, a sharp correction in asset prices triggers the reverse: households suddenly feel poorer, rebuild their balance sheets by saving more, and contract spending – precisely when the economy can least afford it. This asymmetric, self-reinforcing dynamic is one of the reasons financial cycles tend to overshoot in both directions, and why the 2008 crisis was so severe and so prolonged.

In practice, the wealth effect does not announce itself through a single, visible mechanism. It operates through the gradual adjustment of household behaviour. A homeowner who sees the value of their property rise does not immediately spend the gain – but they may renovate their kitchen, take out a car loan or simply stop putting aside as much each month. A retiree whose equity portfolio has appreciated may draw it down more freely. A middle-aged household with a rising net worth may feel comfortable reducing its precautionary buffer. The saving rate, in this sense, is the most direct macroeconomic trace of the wealth effect at work: it falls when asset prices rise, and it rises – sometimes sharply – when asset prices fall. The wealth effect is thus less a discrete event than a continuous, diffuse recalibration of millions of individual spending and saving decisions, which only becomes visible in aggregate once it has already shaped the cycle.

II. Empirical estimates

After this theoretical presentation, what follows is a synthesis of the quantitative estimates produced by the empirical literature – estimates that confirm, refine and in some cases qualify the predictions of the permanent income and life-cycle frameworks.

The empirical literature on wealth effects has converged, over three decades of increasingly refined estimation, on a set of central values that are now broadly accepted as benchmarks – while also revealing a persistent and theoretically meaningful asymmetry between asset classes and between institutional settings.

For equity wealth effects in the US, the consensus has stabilised around a marginal propensity to consume (MPC) of approximately 3 cents per dollar. Poterba (2000) surveys the early time-series literature and concludes that values around 0.03 represent the closest thing to a consensus on how stock market gains affect consumer spending, with the upper range of estimates reaching 0.05. This figure is corroborated by microeconomic evidence: Juster, Lupton, Smith and Stafford (1999), using PSID panel data, estimate an overall MPC out of wealth of approximately 0.03, while Federal Reserve estimates from household-level data similarly point to a total wealth effect of around 3 cents to the dollar. The equity component specifically tends to sit at the lower end of this range, reflecting the concentration of stock ownership among wealthier households – a distributional feature that systematically dampens the aggregate consumption response, since high-wealth households exhibit lower marginal propensities to consume out of incremental gains.

For the Eurozone, the equity wealth effect is substantially weaker and, in most specifications, statistically indistinguishable from zero. Slacalek (2009), in a cross-country study covering 16 economies, finds that the total MPC out of wealth for Eurozone countries averages less than 1 cent per euro – a figure that is statistically significant but economically modest – and attributes this to the bank-based financial structure, lower equity ownership rates and less developed capital markets relative to the US and the UK economies. This finding is confirmed and refined by a series of ECB working papers using harmonised household-level data. Arrondel et al., drawing on the Household Finance and Consumption Survey, find that the MPC out of financial wealth is statistically insignificant in Germany and the Netherlands, and small in Belgium, while reaching more meaningful levels only in southern European economies such as Italy and Spain. A Banque de France study covering five Eurozone countries similarly documents that the pooled MPC out of financial wealth is not statistically significant once housing wealth is properly controlled for, and that cross-country heterogeneity is driven primarily by differences in homeownership rates and mortgage market depth rather than by preferences. The central estimate of **1 cent per euro** for the Eurozone as a whole should therefore be understood as an average that masks substantial internal dispersion, and one that is not robustly different from zero in the core economies.

The housing wealth effect is consistently estimated to be larger than its equity counterpart, and the US-Eurozone gap is again pronounced. Carroll, Otsuka and Slacalek (2011) estimate an eventual MPC out of housing wealth in the US of approximately 9 cents per dollar, with an immediate quarterly impact of around 2 cents. Case, Quigley and Shiller (2013), using a 37-year panel of US states, find elasticities consistent with an MPC in the range of 0.04 to 0.10, with estimates in down markets clustering toward the upper end of that range – a finding consistent with the asymmetric amplification dynamics discussed above. The most granular microeconomic evidence comes from Mian, Rao and Sufi (2013), who exploit the geographic distribution of housing wealth losses during the 2006-09 collapse and estimate an average MPC out of housing wealth of 5 to 7 cents per dollar, with significantly higher values for poorer and more leveraged ZIP codes. **A central estimate of 6 cents sits squarely within this range and is consistent across aggregate and micro approaches.** More recently, an IMF working paper on post-Covid US consumption finds that the MPC out of housing wealth has risen relative to pre-pandemic estimates, as large house price gains interacted with a broader base of leveraged homeowners to amplify the consumption response – a reminder that these parameters are not structural constants but shift with the financial and distributional environment.

For the Eurozone, the housing wealth effect is positive and significant but roughly half the US magnitude. The ECB's harmonised cross-country estimates find an eventual MPC out of housing wealth averaging 2 to 3 cents per euro across the largest Eurozone economies, a finding corroborated by the Banque de France study, which documents significant housing wealth effects in all five countries examined, with the collateral channel – whereby rising house prices relax borrowing constraints for mortgaged households – identified as the primary transmission mechanism. The lower aggregate figure relative to the US reflects both lower homeownership financialisation and the more limited role of mortgage equity withdrawal in continental European banking systems, where cash-out refinancing remains structurally less accessible than in the US or UK markets.

III. Estimating current wealth effects: the US case (1/2)

3.1 History of US wealth effects in the data

To capture the aggregate demand impulse stemming from asset price fluctuations, we construct a US wealth effect variable defined as:

$$\text{Wealth Effect Contribution} = \text{Equity Wealth Effect Contribution} + \text{Housing Wealth Effect Contribution} \\ = (3\% \times \Delta \text{valuation equity holdings}) / \text{GDP} + 6\% \times \Delta \text{valuation real estate holdings} / \text{GDP}$$

The coefficients are grounded in the academic literature: a marginal propensity to consume of approximately 3 cents per dollar for equities – consistent with NBER estimates – and approximately 6 cents per dollar for real estate, reflecting both the pure wealth effect and the collateral channel identified by Case, Quigley & Shiller.

Scaling the resulting consumption impulse by GDP allows direct comparison with standard national accounts aggregates and makes the variable interpretable as a contribution to growth in percentage points.

Set against the history of US real GDP growth, this indicator reveals a striking pattern. Over the past two decades, the two most significant swings in the variable align almost precisely with the two most significant deviations of US consumption from its trend: the collapse of 2008-09 and the boom of 2021-22.

At the trough of the Global Financial Crisis, the simultaneous implosion of equity markets and house prices generated a negative wealth effect contribution of approximately -2% of GDP – a drag that operated independently of the income channel and compounded the labor market deterioration already underway. The breakdown reveals that the equity shock was front-loaded, hitting hard in late 2008 but already contributing to the rebound in 2009, while the housing drag was slower-moving and more persistent, extending through 2011-12 as house prices continued to deflate and the collateral channel remained impaired. This asymmetry is consistent with the microeconomic evidence: equity prices adjust instantaneously, while housing wealth is revised gradually and its consumption effects operate partly through refinancing and home equity extraction, both of which were structurally constrained in the post-crisis period.

The 2021-22 episode tells the opposite story: a positive contribution of approximately +2% of GDP was overwhelmingly driven by the housing component, not equities – a distinction that matters for understanding the breadth of the consumption boom. Housing wealth gains are more evenly distributed across the income distribution than equity gains, and the collateral channel was fully operational in an environment of ultra-low mortgage rates and aggressive cash-out refinancing. The result was a consumption impulse that was unusually broad-based, helping explain why US aggregate demand proved so resilient even as real incomes were being eroded by inflation.

US GDP growth and contribution from wealth effects (YoY, ppt)



III. Estimating current wealth effects: the US case (2/2)

3.2 US wealth effects in the past quarters in the US

Since 2023, the wealth effect indicator has normalised but remains durably positive. It currently places the equity wealth effect contribution at more than 50bp of annualised US GDP growth, a reading that stands as one of the largest on record outside of the immediate post-pandemic rebound.

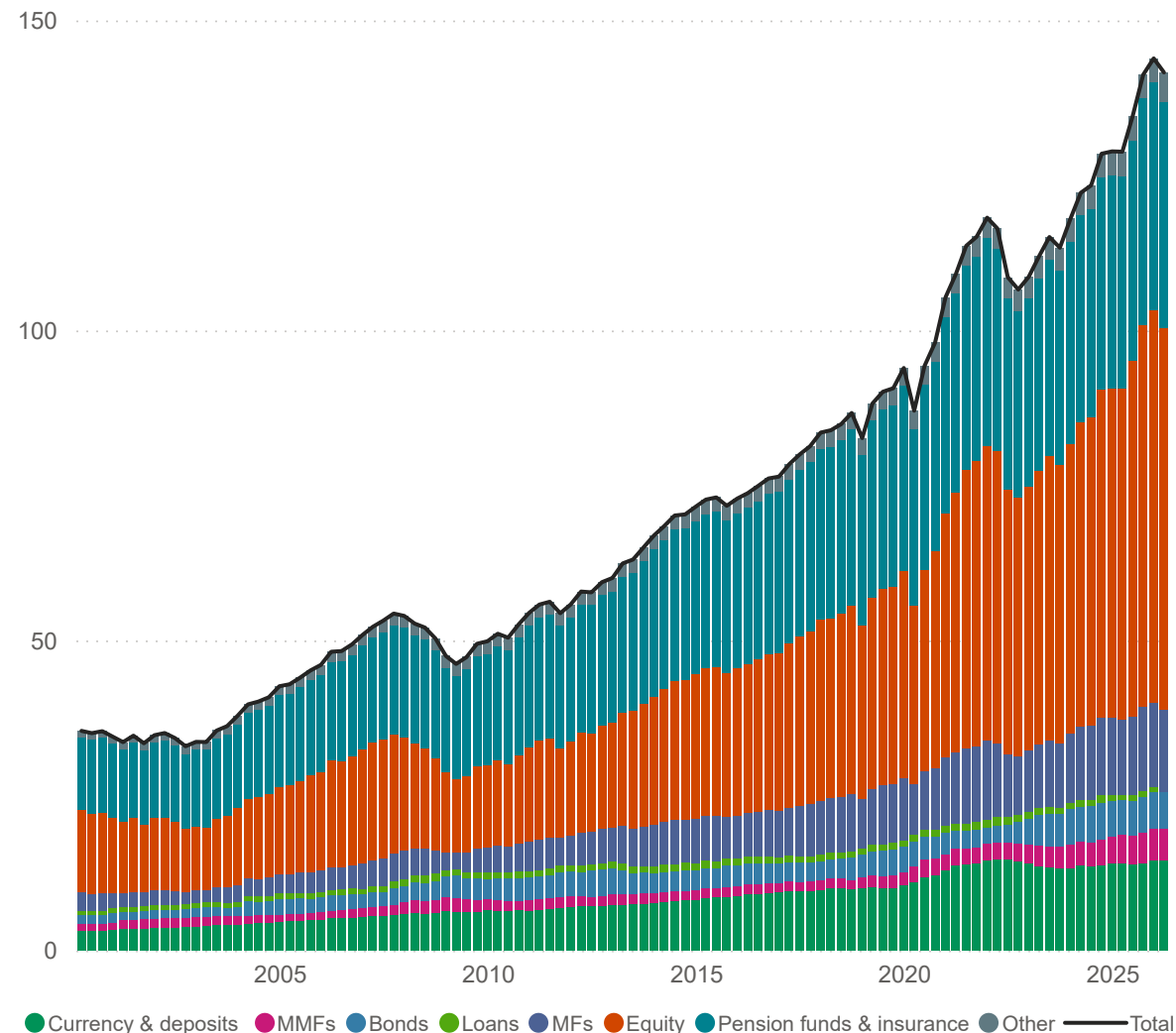
The household financial assets chart makes the structural backdrop legible: total household financial wealth has reached approximately USD145trn, with equity and pension & insurance holdings – both ultimately equity-heavy – now jointly accounting for the dominant share of the stack, having expanded relentlessly since 2012 and accelerating sharply post-2020. For the first time since World War II, equity holdings now represent a larger portion of household net financial wealth than real estate, with stocks comprising more than **30% of everything American households own** – above the 27% peak of the dot-com era.

The driver of this wealth accumulation is not broad-based equity appreciation – it is Tech, and within Tech, a handful of names. The Magnificent Seven now account for approximately **35% of S&P 500 market capitalisation**, a concentration that exceeds both the Nifty Fifty peak of 1972 and the tech peak of 2000 in weight terms. The top ten companies in the index generate roughly **one-third of its total net income**, double their share a decade ago, and between 2023 and early 2026 accounted for approximately **70% of index earnings growth** on average – a share that has only recently begun to moderate as the rest of the index starts to contribute. A passive S&P 500 investor in 2026 is, in practice, running a portfolio that is 34% concentrated in seven highly correlated, AI capex-sensitive names – not by choice, but by construction.

This concentration introduces a distributional constraint that materially complicates the aggregate wealth effect reading. Federal Reserve Distributional Financial Accounts data for Q126 show that the **top 1% of households own more than 50% of all corporate equities and mutual fund (MF) shares**, a share that has been rising steadily and now sits at a record. The top 10% collectively own c.**87% of equity wealth** – meaning that the 50bp contribution to GDP growth identified by our tracker flows overwhelmingly through a narrow slice of the income distribution characterised by structurally low marginal propensities to consume.

The 3-cent MPC embedded in our formula already discounts for this dilution, but the implication runs deeper: **the aggregate wealth effect is simultaneously larger in nominal terms and narrower in its consumption reach than at any prior point in the post-war record**. A USD1trn gain in Nvidia's market cap generates a very different consumption impulse than a USD1trn gain in house prices distributed across the middle quintiles. The headline contribution of 50bp is therefore best understood as an upper bound on the actual demand stimulus – the true consumption impulse, once filtered through the distributional structure of equity ownership, is likely meaningfully smaller, and concentrated in spending categories – luxury goods, services, travel – that are less representative of aggregate demand dynamics than the headline figure suggests.

Households financial assets in USDtrn



IV. Estimating current wealth effects: the Eurozone case

Why we do not construct an equivalent indicator for the Eurozone

The same exercise is not performed for the Eurozone – and the reason follows a simple three-step logic.

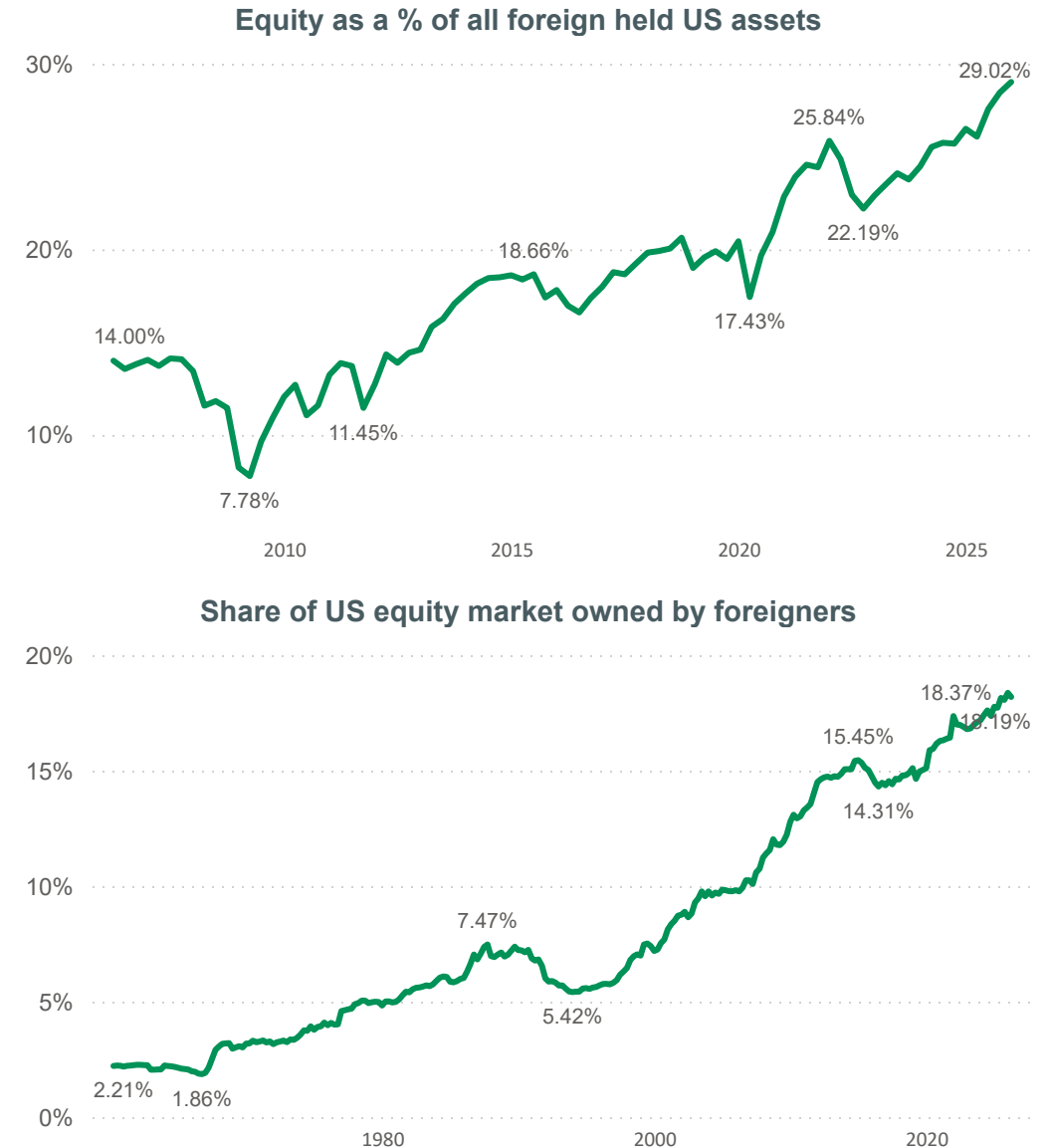
First, the equity wealth effect is structurally negligible. European households hold the bulk of their financial assets in deposits, insurance and pension schemes; direct equity exposure is too thin to generate a measurable consumption response. The MPC out of equity wealth across major Eurozone economies is statistically indistinguishable from zero, and the housing wealth effect – while positive – runs at roughly **2 to 3 cents per euro** vs 6 cents per dollar in the US, reflecting the near-absence of mortgage equity withdrawal in continental banking systems. Building an indicator on these parameters would produce a variable with no explanatory power over consumption.

Second, and more structurally, the equity exposure that does exist in European household portfolios is predominantly foreign, not domestic. Half of Eurozone household equity holdings are in instruments issued outside the EU, with US markets alone capturing 34% of total Eurozone household equity exposure – a share roughly equal to domestic EU equity. This is not a passive legacy allocation: ECB sector accounts for Q126 confirm that Eurozone households are actively net sellers of domestic listed shares while simultaneously net buyers of rest-of-world equity. The portfolio shift is structural and ongoing. The implication is direct: there is no domestic equity wealth effect to model, because the equity accumulation is happening mostly in US markets, not European ones.

Third, even if asset prices were to appreciate, the behavioural environment would absorb the impulse rather than transmit it to consumption. The Eurozone household saving rate stood at more than 14% in Q126 – down from its mid-2024 peak of 15.4% but still well above the pre-pandemic average of 12.3% and more than double the US rate. ECB analysis confirms that heightened uncertainty and precautionary motives continue to exert independent upward pressure on savings beyond what income and wealth dynamics alone would predict. The saving rate acts as a circuit breaker: any wealth impulse that does reach households is more likely to be saved than spent.

The conclusion is therefore not that Europe lacks data, but that it lacks the transmission mechanism. Constructing a wealth effect indicator for the Eurozone would be methodologically defensible but economically misleading. What the data *does* support, however, is a different and more uncomfortable reading: European growth has no substantial upside exposure (the same applies to downside) to the AI-driven equity boom – but European institutional portfolios are heavily concentrated in the same US names that are driving it. A sharp repricing of US tech valuations would tighten European financial conditions and compress institutional balance sheets without any prior consumption buffer having been built.

The wealth effect is a one-way door for Europe: the gains stay in the US, but the losses travel.



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