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The myth of the fiscal free lunch: beware of the trap. An investor's viewpoint

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Abstract

The idea that there is a comfortable degree of budgetary room for more active fiscal policy goes hand-in-hand with the assumption that a sustained bond correction (higher safe real interest rate) is not only unjustified based on fundamentals, but is also impossible. This comes as no surprise. On average throughout modern history, safe real interest rates have been lower than the GDP growth rate, making it easier to finance public deficits. Global, safe real interest rates have experienced a downward trend over the last 30 years. As a result, a powerful collective memory formed on the basis of the two assumptions mentioned above.

We would argue that both assumptions will ultimately prove complacent investors wrong: trapped in their comfort zone, few will see the reality. In particular, global, or 'one size fits all', policy recommendations no longer apply in a fragmented world regarding either safe real interest rates or fiscal spaces. While most so-called 'fiscal spaces' will turn out to be mirages or traps, we will try to identify certain situations that are more favourable to investors, even if they are limited in number.

Over the course of the journey towards a new regime, investors may realise that the idea of a perpetually low natural rate of interest (r^*) was premature: it anchored expectations to fragile foundations and may prove higher than originally believed. This should become evident when the actions of so-called 'hawkish' central banks prove insufficient to have an impact within the new global framework.

About the author

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Pascal Blanqué has been Chairman of the Amundi Institute since February 2022. Previous to that, he was Group Chief Investment Officer and Head of the investment management platforms since 2005. He was also Global Head of Institutional Business and Third Party Distributors from 2010 to 2017. Pascal joined the Crédit Agricole group in 2000 as Chief Economist. Prior to joining Crédit Agricole, Pascal was Deputy Director of Economic Research at Paribas (1997-2000) following four years in the strategic asset allocation department of Paribas Asset Management in London (1992-1996). He began his career in institutional and private wealth management at Paribas in 1991.

As an economist and historian, Pascal is the author of several contributions. His research interests and his academic work focus on monetary issues, the functioning of financial markets and economic philosophy. He is a member of various think tanks such as the "Société d'Économie Politique" and the 300 Club, as well as the MSCI Advisory Council and Bretton Woods Committee.

Pascal was awarded European CIO of the Year 2013, 2018 and 2021 by Funds Europe Magazine and received the Institutional Investor Manager Lifetime Achievement Award in 2016. His book *10 weeks into Covid 19 - Psyche, Money, Narratives – an interpretation of the crisis* was awarded the Turgot Financial Economy prize in 2022.

Pascal studied at the École Normale Supérieure. He is a graduate of Institut d'Études Politiques and holds a PhD in Finance from Paris-Dauphine University.

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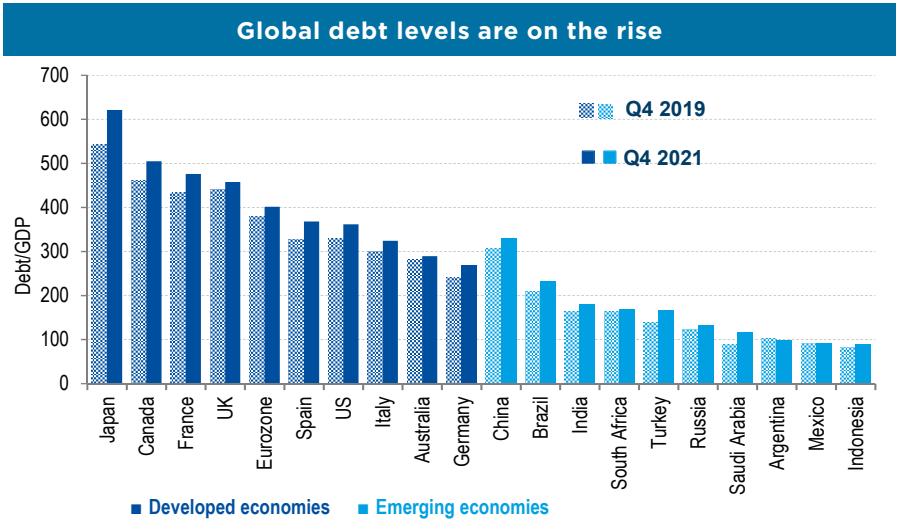
Introduction

In this paper, we start from the idea that there is some room for manoeuvre towards more active fiscal policy, defined as the 'fiscal space'. While there are arguments to be made in favour of fiscal policy following or replacing monetary policy after years of accommodation, today's particular historical context has to be considered. Net debt ratios are historically high (above 100%) while nominal interest rates are extremely low, despite showing some signs of picking up on the back of a more volatile and uncertain inflationary context. The purpose of this paper is to debunk the myth of the fiscal space: that there is budgetary room for manoeuvre.



Source: Amundi Institute elaboration on IIF data as of 28 February 2022.
Note: total debt is the sum of government debt, household debt, financial sector debt and non-financial corporate debt

The case in favour of the fiscal space, or room for fiscal manoeuvring, is outlined in the five points below. In this paper, we will question some of the key assumptions that underpin the statements set forth below and show their limitations.

Interest rates

There is an actual safe real interest rate and a neutral safe real rate. The latter can be used as a proxy for the natural interest rate[1]. It is defined as the safe real interest rate which equates savings and investments, assuming output equals its potential (alternatively, such that aggregate demand equals its potential). **There are safe rates, and there are risky rates, like the rate of return on stocks.** Low safe real rates may be due to shifts in the investment/saving balance which affects all rates the same way.

[1] *There is an ambiguity between the notion of a neutral rate and a natural (real) interest rate. In fact, they capture the same notion.*

Alternatively, they may be due to higher risk or risk aversion and liquidity which cause higher risky rates.

Central banks

The effective mandate of central banks is to secure an equivalence between the actual safe real rate, the neutral rate, and the growth potential. Actual safe real rates are low because neutral safe real rates are low. This is due to 'fundamentals', not to central bank policies. These fundamentals are still in place today and are unlikely to reverse any time soon. Therefore, central banks have not monetised debt in order to maintain rates at an artificially low level.

Fundamentals

These include savings and investment, risk, risk aversion and liquidity. The relationship between growth and the neutral safe real rate is weak. Lower potential growth is not the cause of lower actual safe real rates. Consider the following inequalities, where r stands for the actual safe rate and g for growth:

$$r < g,\ r - g < 0$$

The relation $r < g$ has been observed on average in the past, except in times of war, with inflation below nominal rates, or financial repression. During normal periods, it is considered to hold most of the time as a sort of 'golden rule'. The actual rate is superior to the neutral rate while the latter is lower than the effective lower bound (ELB) rate, which calls for an active fiscal policy. Over the past 30 years, we've witnessed $r < g$ with both parameters declining, but with r declining at a faster pace. The equation $r - g < 0$ has been refined into the following[2]:

$$y\ (r < g - \phi)$$

Without the zero lower bound (ZLB), higher primary deficits lead to higher debt. Research suggests that when $r < g - \phi$, where ϕ is the sensitivity of $(r - g)$ to debt, a sort of 'free lunch' is possible and a moderately higher deficit can be sustained. The ZLB leads to situations of indetermination wherein both high and low deficits can lead to higher debt: the latter goes hand-in-hand with weaker demand and lower nominal growth at the ZLB. On this basis, the authors see ample space for Japan but limited space for the US[3].

Fiscal policy

Fiscal policy can temporarily lead to higher neutral and actual safe real rates. It aims to establish the neutral rate so that central banks are not constrained by the ELB. In this context, governments can run primary deficits and stabilise debt ratios.

[2] *See Mian, A., Straub, L., and Sufi, A. "A Goldilocks Theory of Fiscal Deficits", University of Chicago, Becker Friedman Institute, 3 February 2022.*

[3] *Ibid.*

Limits

Due to the uncertainty surrounding debt sustainability, the neutral safe real rate may be higher on either a temporary or more permanent basis. The relationship between primary balances and debt servicing is a more effective rule than simple debt reduction. There are sudden stops, sunspot equilibria or bubbles, which move equilibrium away from the fundamentals that are used to justify low rates. These equilibria are linked to unknown psychological forces, such as worry, and lead to higher safe rates. However, such equilibria are exceptions or anomalies, and they are unlikely to derail the reasoning or cause it to deviate from the fundamentals that argue in favour of low safe rates.

The more negative ***(r – g),*** the lower the welfare cost. However, the more negative ***(r – g),*** the more benign the debt and the larger the fiscal space that is accordingly used and, as a consequence, the actual and neutral rates increase, thus driving debt sustainability downwards. A sharp increase in public spending may lead for some time to a sharp increase in the neutral rate, forcing central banks to increase ***r*** in order to avoid an overheating (temporary inflation, which fades with fading effects on demand). A more sustained sequence of large deficits results in an increase in debt ratios that in turn leads to a permanent increase in the neutral rate.

I. The notion of fundamentals sounds impressive but is ill-defined

Will persistent fundamental factors maintain low safe real interest rates? This assumption is built on fragile grounds. The story goes as follows: due to profound fundamental factors, which do not appear likely to reverse any time soon, actual safe real interest rates are low and likely to stay low, in line with neutral safe interest rates that will themselves stay low on the basis of fundamental grounds. The notion of fundamentals that lies behind the assumed and expected low actual and neutral safe interest rates sounds impressive but is, in fact, ill-defined and unclear.

I.1. Things to watch for

- The history of safe rates does not support the conclusions.
- Although **on average *(r – g)* has been negative in the past** (the more negative the differential, the lower the welfare cost and the more room for manoeuvre to increase debt through fiscal impulse), things may prove different in the future, according to the hypothesis of an **inflationary regime shift and/or financial repression framework.**
- **Money and monetary factors are absent from the so-called fundamental interpretation.** For those who see some room for manoeuvre concerning fiscal policy, money and its dynamics are missing from the approach. There are various aspects to consider in this regard:

i. Money acts as a form of veil over real life dynamics. We disagree with this, since money modifies real equilibria for growth, inflation, and interest rates and has lasting impacts.

ii. The sharp increase in ***M*** we have seen is not anecdotal. If we define the velocity of ***M*** as the combination of a velocity in the real sphere and one in the financial sphere, it can be seen that velocity has accelerated in the latter. It has fuelled sunspot equilibria (i.e. bubbles) that cannot be ignored in the approach, or taken to be exceptions or anomalies. More recently, velocity has accelerated in the real sphere, fuelling inflation in the traditional sense rather than asset price inflation. Acceleration in one sphere can be expected to be offset by a deceleration in the other through an adjustment of interest rates (i.e. the probability of a correction in asset prices has significantly increased as the velocity of money in the real sphere has started to fuel inflation).

iii. The increase in ***M*** is not sufficient to ignite inflation. Something has to shift in the psychological referential where notions such as the psychological rate of interest or perceived returns are defined. We have discussed these points in another paper[4].

- **If growth is not a fundamental determinant of low, safe, actual and neutral interest rates, and inflation is not taken into consideration, what remains of the so-called 'fundamentals'?**
- If safe interest rates are low, it is not due to central banks, but rather to so-called 'fundamentals'. **This is an affirmation, not a proof.**

I.2. Reasons behind low safe rates: fewer than you think. A critical review

- Investment/saving balance: we suspect there is a confusion between savings and money.
- Risk perception: the point is acceptable, if government bonds act as a cushion against exposure to risky assets (i.e. a negative correlation between equities and bonds in a regime where inflation is low, falling and not volatile. It changes with a regime shift, wherein inflation is higher, more volatile and more uncertain), and asset classes are interchangeable and no longer complementary.
- There is a problem of a divergence between low and falling safe rates (perception of higher risk) and high/rising risky rates (perception of lower risk, higher perceived returns). The risky rate has decreased less than the safe rate. The equity premium has increased. Part of the fall in the safe rate is due to higher demand for safety and/or higher demand for liquidity, according to the supporters of the fiscal space theory.

[4] *Please refer to Pascal Blanqué, "Money and its velocity matter: the great comeback of the quantity equation of money in an era of regime shift", Discussion Paper #52, December 2021.*

It may also simply be realistic to consider that:

i. Central banks have maintained actual safe real interest rates below their natural level through unorthodox monetary operations;

ii. Returns on risky assets have benefitted from the combination of a favourable discount rate effect, an attractive relative valuation between long-term safe assets and risky assets, and an acceleration in the velocity of money in the financial sphere, i.e. financial transactions per unit of money (***M***). It is true that liquidity purposes have driven the appetite for safe rates, irrespective of their fundamental valuation.

- The increase in ***M*** and of its velocity in the financial sphere has played a role in **driving safe rates to low levels and inflating asset price bubbles.**
- The long-term analysis shows that **low, even negative, real rates have been the rule rather than the exception** in modern history (1870-2015). This means that the financing of deficits and debt has been facilitated, and adds to the argument in favour of room for manoeuvre moving forward.
- **Low rates do not imply stable rates.** They have been as volatile as risky rates and have in fact been the driver behind changes in premium (as between safe and risky rates).
- Cross-country variability is also an important dimension. It has proven high on average, but has decreased in the last four decades in accordance with the victory of a reasonably homogenous world framework of independent central banks that is relatively easy to interpret (one tool, one objective, and a rule-based reaction function). **We are now rapidly moving into a highly fragmented puzzle.** The implosion of the unified framework poses limits on any attempt at a more general analysis or recommendation. There is nothing to indicate that this will be reversed in the near future.
- History shows that the two longest lasting regimes of falling real safe rates were (i) prior to WW1 and (ii) starting in the mid-1980s**.** The 1930s and the 1970s also saw low safe rates, fuelling the two powerful narratives of 'secular stagnation' and 'the road back to the 1970s', when assessing the current situation. Average returns of 1% (short term) and 2.5% have been the rule rather than the exception.
- **Safe rates have offered little protection in periods of high(er) inflation.** In the ongoing regime shift, at least two issues are raised: (i) there is little protection against inflation moving forward despite a co-movement with inflation, and (ii) a financial repression may explain the low safe rates.

I.3. Desperately seeking mysterious 'fundamentals': this misleading notion must be redefined and expanded

What are these mysterious underlying factors, or 'fundamentals', that are supposedly unlikely to reverse any time soon, and that lie behind the low rates which are therefore expected to remain low? The natural interest rate, as it is usually defined, is subject to considerable uncertainties. The measurement or estimate of growth potential and

the output gap is one such uncertainty. The balance between investment and saving is another, since money (*M*) and its counterparts are not included in the approach and, even more challenging, are confused with savings. Consequently, it is possible that the output gap and the so-called 'savings surplus' have been overestimated. **The idea behind the use of the so-called 'fiscal room for manoeuvre' – namely, that stimuli can or could drive the natural rate – is activist and is not mainstream or traditional.** In principle, the natural rate cannot and should not be manipulated. The actual observable rate, however, can be. There is also the problem of defining exactly what are called fundamentals. This notion proves to be nebulous and indistinct when, in addition, pure monetary factors are excluded, and the links between lower potential growth and lower rates are downplayed or even denied. Fundamentals are defined in the strict or core sense of investment/savings balances or output gaps.

Separately, psychological forms are poorly defined (risk aversion or appetite) and play a role at the margin of extremes (the sunspots) which means that they are 'margin errors': fat tails or forms of peripheral phenomena. We take issue with this approach. **The notion of fundamentals, in the classical sense, must be expanded and enriched to include what we call the psychological referential and its determinants** (M/F, i.e. Memory/Forgetfulness, psychological interest rates, narratives, etc). Money (and its quantitative equation) must be brought into the equation. If we wish to obtain a realistic description of real life facts, then we must place psychological forms at the mainstream centre of interpretation rather than at the periphery of irrationalities. In our view, at any one time, there is an interplay between (i) the natural rate of interest as classically defined, so to speak, (ii) the psychological rate of interest, and (iii) the actual rate. Relative gaps/spreads are very important. The interplay between monetary forces (*M*) and the psychological rate determines the forces behind relative prices (through the velocity in the financial and/or the real spheres), the relative evolution of safe rates and risky rates (in particular through perceived returns), and ultimately plays a role in the real cycle[5].

II. The assumptions behind the low neutral (natural) safe interest rate are limiting and even surprising

II.1. Things to watch for

- It seems that the neutral/natural safe interest rate can be manipulated cyclically, which is contrary to the nature of the natural rate. There is an idea that the stimulus may temporarily lead to higher actual and neutral safe real rates This raises at least three issues:

i. Whilst this may seem, as we have presented, to be an unintended but acceptable consequence of fiscal policy, it seems to be a forced adjustment. For the

[5] *Ibid.*

supporters of the fiscal space theory, fiscal policy should achieve a neutral rate that allows central banks to avoid being constrained by the ELB.

ii. The problem arising from the idea of manipulating the neutral rate (or even that the neutral rate can be manipulated, since it is a relatively stable equilibrium variable that is unlikely to be subject to short-term temporary cyclical forces).

iii. The problem arising from the idea of a temporary deviation from equilibrium that has no consequences.

- The neutral rate is defined using the notion of potential growth (a safe rate such that saving is equal to investment, assuming that output is equal to potential) but the relationship between (low) safe rates and potential growth is said to be inexistent.
- Over and beyond the actual and the natural rates, there is no consideration of a **psychological interest rate which plays a particularly important role in financial markets and in the formation of sunspots (bubbles) through 'perceived returns'.** Moreover, this psychological rate is considered an anomaly rather than a regular component of a complex system (see the next section).
- Regime: when it is said that safe real interest rates have declined over the last 30 years, commentators are pointing at a (peculiar) macro-financial regime that symbolically began with the arrival of Paul Volker at the Fed, bringing to a close another regime that took place in the '70s and that exhibits radically different features. **What is true for a given regime may not hold for a different one if a regime shift occurs.** This is precisely what can be expected, and represents the great failure of the 'fiscal space' theory.
- Central banks: when it is said that the effective mandate of central banks is to align the actual rate, the neutral rate and growth potential, little (if indeed anything) is said about price stability. We would argue that the effective mandate is to stabilise relative prices across the spectrum, in both the real and financial spheres. Forgetting this mandate has enabled sunspot equilibria or bubbles to form, which are not an exception but rather a regular feature, one that must be integrated into any theory. In particular, the numerous bubbles seen in the last 30 years (which were one distinguishing feature of this regime under Volker) are probably the result of **actual safe real rates that have been maintained for too long below neutral safe real rates.** Contrary to the supporters of the 'fiscal space' theory, we think that neutral (natural) rates have been underestimated and were higher than thought, and that the actual rate has been driven to particularly low levels by monetary forces linked to unorthodox policies (QE, debt monetisation through various formats). In addition, it is difficult to assert without contradiction that the effective mandate of central banks is to align actual, neutral rates with potential growth, whilst denying any strong link between neutral rates and growth or between low safe rates and low potential growth. (The one 'fundamental' that is certain is potential growth, which lies at the core of the secular stagnation narrative.)

II.2. Lessons from history: macro-financial regimes matter and the ongoing shift will limit the fiscal space

Real returns on short- and long-term safe assets have been highly correlated on average in modern history. This correlation came to an end in the '70s, accompanied by an increasing term premium. Moving forwards, left unchanged this will impose limits on the 'one size fits all' approach to safe rates (across countries, maturities and regimes). The question for investors is the extent to which the inflation risk can be diversified using debt instruments. As already noted, although cross-country real safe returns have shown a positive co-movement in modern history (i.e. poor or limited diversification benefits)**, the ongoing regime shift reintroduces a fragmented puzzle of real rates that must be seen as a diversifier and a source of opportunities in a more inflationary regime[6].** A major message for investors is that **we are moving into a high fragmentation of monetary policy** (central banks' models, reaction functions, tools and rules) with the result that:

i. The mention of a 'global' reference safe rate in any reasoning or action is faced with limitations.
ii. Inflation has acted as a fragmentation bomb. It certainly increased the probability that many safe rates do not adequately compensate for inflation, but also the diversification benefits from finding diversifiers, as the global co-movement trend of the previous regime slows down or even reverses.

Long bond yields are composed of two parts: first, a combination of future (expected) short-term rates; and second, a term premium that compensates investors for locking up their capital. This term premium has increased since the '70s (1.5% in the post-war period) and up until the big squeeze initiated by quantitative easing (QE). The distortion of the curve means that:

i. Arguments in favour of the so-called fiscal room for manoeuvre that are based on an extrapolation of the phenomenon are too optimistic.
ii. There will be a reversal: what has been achieved by QE will be undone by tapering, by higher lending rates, or by an autonomous bondholders' revolt at the long end.
iii. Investors should not read the flattening of the curves in the West as a clear sign of an oncoming recession and, above all, that central banks have accomplished their mission before they have even started it. This is the most misleading signal and one that provides comfort to complacent advocates of the 'impossible bond correction'.

Looking at the safe real rate of return versus the real GDP growth rate (10-year moving averages), there is a striking contrast between (i) the late 19th century and the period between the two World Wars (when budgetary surpluses were needed to repay debt), and (ii) the post WW2 sequence of high growth and inflation. During the most recent period, starting with the Great Moderation and extending to after the Global Financial Crisis, both rates have been more or less equal. This enables a discussion on the road

[6] *Please refer to Pascal Blanqué, "Investing in a fragmented world", Shifts & Narratives #16, April 2022.*

ahead in terms of regime: (i) secular stagnation or (ii) the road back to the '70s (which was itself split into high growth/high inflation and stagflation).

II.3. The relationships between *r, r'* and *g* are regime-dependent: pay attention to the ongoing shift

We are looking at ***r*** (the real rate of return on safe assets), ***r'*** (the long-term real rate of return on total wealth), and the real GDP growth rate ***g***. **Much centres on *(r – g) < 0*: the more negative the differential, the lower the welfare costs and the more room for manoeuvre to increase debt through fiscal impulse.**

- **The long-term trend in the real rate of return on total assets** (1870-2015) – as measured by a weighted average of real returns on bonds, equities, and housing weighted by the size of the respective asset portfolio (stock market capitalisation, housing wealth, and public debt equally divided between bonds and bills) – **has been higher than the real GDP growth rate**[7].

$$r' > g$$

- **The real rate of return on safe assets has been lower than the real GDP growth rate**[8].

$$r - g < 0$$

- **The decline in the labour share of income has been matched by the rise of capital** (the relative increase in the stock of wealth compared to income has driven up the share of capital factor payments). In regime 1 (symbolically commencing with the arrival of Volker at the Fed), labour and capital elasticity led to an allocation/division of added value in favour of capital (the shareholder regime). The stock of wealth increased, as did the supply of financial capital, with unchanged returns on this stock of wealth due to the substitution between labour and capital. Returns on physical capital were simultaneously depressed. In a regime shift with a reversal of these trends (consequently a more inflationary kind of regime, with diminished returns on the stock of wealth, whilst returns on physical capital picked up), the ***r' > g*** relationship can ultimately be reversed.

III. Bubbles, sudden stops and 'sunspot equilibria': on a persistent basis rather than as an anomaly

Although it is admitted and accepted that sunspot equilibria exist, where psychological factors play a decisive role in forming another equilibrium that is not linked to fundamentals, they continue to be confined to the status of an exception or even an anomaly. In addition, the impact of such psychological factors is not really explained. These factors are not considered to be fundamentals but, on the contrary, to pollute the so-called fundamentals.

[7] *See Jordà, O` et al., "The Rate of Return on Everything, 1870-2015", Federal Reserve Bank of San Francisco, Working Paper 2017-25.*

[8] *Ibid.*

III.1. Things to watch for

- Observation, history and experience all show that **sunspot equilibria, far from being exceptional, are a common and regular feature of market economies in modern history.** Sovereign debt markets, in particular, are subject to sudden stops.
- There is a **psychological referential, where powerful forces of memory and forgetfulness are at work**, which are fundamental determinants of popular notions such as risk appetite or risk aversion. As such, this psychological referential must form part of the so-called 'fundamentals', and should not be kept at the periphery of any approach.
- One key aspect of this psychological dimension is the existence, in the behaviour of financial markets, of perceived returns that are more important than actual returns.

III.2. Sunspot equilibria are common: they are fiscal space killers

Although **the existence of sunspot equilibria is admitted** within the room for additional debt through fiscal impulse:

- They are confined, in this approach, to safe rates (worried investors drive safe rates higher), whereas sunspot equilibria in risky assets (whether or not referred to as bubbles) – driven by perceived returns – are numerous, with feedback loop effects on nearly all variables (and, in particular, the fiscal policy framework cannot be immune to them).
- They are confined to exceptional circumstances, whereas observation shows they are present everywhere on an almost constant basis.

This has far-reaching consequences:

- The entire argument in favour of 'fiscal room for manoeuvre' is weakened if sunspot equilibria are considered a common feature that is entrenched in the regime rather than an anomaly. In particular, the feedback loops of the two sunspots mentioned above (i.e. in safe and risky assets) are likely to have an impact on g and on $(r - g)$, and to weaken the $(r - g) < 0$ assumption, or at least make it more volatile thus undermining the case for additional fiscal impulse at a low welfare cost.
- Investors are faced with a double sunspot equilibrium, one in the safe asset space and the other in the risky asset space. Even more challenging, the links between the two spheres, driven by the preference between equity and bonds (equities being a proxy for risky assets) that is itself driven by relative yields, together with various aspects of portfolio rebalancing (in which monetary forces play a powerful role), have been neglected in the approach.
- Monetary forces, and consequently inflation, are not taken into consideration when shaping the approach, although they are undoubtedly present in the new regime.

- Investors already faced some probability that both sunspot equilibria would shatter. We can refer to them as an unsustainable overvaluation of both bonds and equities confronted with a regime shift that involves a reordering of risk premia. This should put any tentative idea of room for manoeuvre and its potential consequences into perspective, if it is nevertheless used to any significant extent. **There is no free lunch.**

III.3. Anatomy of sunspots and bubbles: look beyond the sovereign debt 'stops' that only affect risky assets

Both bubbles and sunspots exist. Perceived returns are more important than actual returns: there is a psychological referential containing psychological time, together with powerful forces of memory and forgetfulness. There is a parabolic path of daily returns as the bubble inflates. Time flies and the duration of memory shrinks (the duration of memory being measured in days). Perceived returns in excess of 15%: when perceived returns come close to 20% or more, the distribution of potential outcomes becomes heavily skewed to the downside. Perceived returns are a relatively fragile proxy for the memory of returns (past quarterly or annual returns having more weight on more recent readings and less weight on more distant, past readings). Some key markets may be close to their peak. The perceived return of the 10 leading US stocks is well >15%. When perceived returns become close to or reach >20%, subsequent returns are very likely to be significantly negative for a long time.

Bubble asset prices go hand-in-hand with an acceleration of V in the financial sphere (and of M). Other signs include margin debt. In the meantime, total (and private) non-financial debt has increased most in countries where it was the highest (US, CH, EMU, Japan), and both equities and housing have quickly risen (historically correlated in bubbles). The bubbles are not isolated, and are instead simultaneous across asset classes and regions. There is always a good reason at the starting point (innovation). The sunspot/bubble is fuelled by credit (the cost of credit lags behind the expected return on capital employed). The quantity of credit increases whilst its quality deteriorates. There is an illusion of liquidity as people confuse money velocity (M) with the cash ratio (↓). The sunspot/bubble process fuels adaptive expectations (short-term memory of rises, forgetfulness regarding long-term memory): only the rises are retained within memory (forgetfulness is at its maximum level at the peak). The psychological interest rate is different from the actual and natural rates (there is a link between the discounting of the future and the memory/forgetfulness of the past).

People discount the future in the same way that they remember and forget. There is a psychological referential and a psychological interest rate. This r_{psy} plays a prominent role in the way that perceived returns are shaped. Perceived returns drive risky asset prices. If the perceived rate of return on risky assets is high, it shapes what is called a sunspot equilibrium. There is a contradiction between what (allegedly) lies behind low safe rates (aversion to higher risk) and the (high) perceived rate of returns on risky assets. The interplay between M and the psychological referential, through

the psychological interest rate and the velocity of money (in both the real and financial spheres) is missing from the analysis framework. The velocity of ***M*** in the financial sphere, through the psychological interest rate and the elevation of perceived returns, explains why the rate of return on risky assets has been high. Endogenous financial instability is looming once again within the general system. It is not an anomaly but is instead one of its structural features. It requires regular, painful adjustments (as bubbles burst) and it closes the window of opportunity provided by tentative fiscal spaces.

III.4. The importance of perceived variables (returns, growth, inflation, etc.)

The perceived rate of nominal growth (***Zn*** in Allais' terminology) implies that the greater the change in the environment, the closer to 1 the non-linear function of the gap between the quarterly nominal GDP growth and the perceived rate of nominal growth at $t = n - 1$. **There is an interplay between the perception of the context (a relatively fragile proxy for the past changes in quarterly nominal GDP growth) and surprises** (that is, the gap between the newly released quarterly nominal GDP growth and the perceived rate of nominal growth – an equation for past changes). It follows that it takes time to 'turn the boat'. In practical terms, it will require a series of monthly or quarterly data releases to provoke the shift. This shift may be accelerated/amplified by a non-linear change in the weighting coefficients (from the most recent to the most remote in the past) but this does not seem to bring about any radical change in the idea that it will be some time before things (particularly expectations) are seen to be fundamentally undermined and eroded. Notably, this is the reasoning proposed regarding inflation in the ongoing regime shift: namely the link between the immediate actual numbers and the medium to long-term measures of inflationary expectations. This is consistent with the approach that states that, unless it reveals some fundamental change, a purely cyclical release, movement or news is just noise. However, this approach does not take into account the psychological links (or infinite speed, to use the terms of psychological time) between the accumulation of short-term surprises (cumulative confirmation) that forms a short-term memory and some bricks and narratives of a long-term memory. When the link is established, then time flies. The discount rate at which we discount or anticipate the future is close to the rate at which we forget the past. This is one possible proxy for the psychological interest rate. We have enriched and expanded the approach to the rate at which we remember or at which the past manifests itself (the memory recall rate). The nominal interest rate (the growth rate for the stock of capital) is correlated with the perceived rate of nominal growth.

IV. The fragmentation of the global safe asset rate and the end of monetary consensus makes the fiscal space a relative (not an absolute) concept

The idea of a quasi-infinite fiscal space based on a unique global safe asset rate has to overcome some serious limitations.

IV.1. Things to watch for

- **The assumption that there is just one real interest rate.** This is challenged by the fragmentation of the landscape of real rates in (i) a more inflationary context and (ii) a fragmentation of diverging central bank reaction functions, where the homogenous model inherited from the Volker regime is itself subject to fragmentation forces.
- The end of the 'monetary consensus' and the dispersion of central banks' reaction functions has shaped a new fragmented puzzle of real safe asset rates.
- The decrease in the co-movement (correlations) of global safe asset rates means that the notion of fiscal room for manoeuvre is relative, not absolute.

IV.2. The end of monetary consensus

We have been living for over 30 years, since Volker's arrival at the Fed, with monetary consensus (one tool, one objective), a rule-based approach (the Taylor rule or the NAIRU being among the most popular) and a consensual model of independent central banks. The policy which we have called monetary consensus (doctrine, from theory to practice) has exploded (the end of monetary consensus), as has the model of independence that is under attack from quantitative easing (QE) and debt monetisation. The need for a doctrine, an objective, for rules and tools, has become critical. This follows a dispersion of central bank reaction functions and increased heterogeneity. The relative readability of the central bank monetary landscape, which was a distinctive feature of the previous regime, no longer exists. The main feature of the global monetary picture in the new regime is a weakening of the co-movement of so-called safe assets at the global level. The relatively homogenous increase in inflation around the world is accompanied by a sharp decrease in the correlation of safe real rates. The emancipation of China (monetary policy, economic cycle) is another feature of the new landscape.

IV.3. Consequences for policy makers and investors

For policy makers, the idea that there is a quasi-unique, global, safe real interest rate, driven by a set of global fundamentals on which to base a reasoning concerning fiscal room for manoeuvre and action, has to overcome some serious obstacles. Although global factors will persist, they will arguably weaken. In addition, the trajectories of real safe interest rates will diverge as the reaction functions themselves diverge. The co-movement of real safe asset returns, which have been

a long-term feature in modern times, where US Fed policy has played a key driving role, is now reversing. The 'nationalisation' or regionalisation of the trajectories of budgetary and monetary policies is a progressively rising trend, going hand-in-hand with more idiosyncratic trajectories in inflation. Shifts away from a rule-based framework (e.g. activation of the 'general escape clause' in the European Stability and Growth Pact) present severe limitations to any workable use of the fiscal space. **For investors, as real safe asset rates prove to be less global and inflation proves to be more global, one challenge will be to diversify the inflation factor through various debt instruments.** Many safe rates will not compensate for inflation, but on the other hand they will offer a large fragmented source of decorrelation and cross-country diversification. We anticipate a weaker global safe asset beta, with the US Fed losing some influence, a stronger decorrelation across short-term assets than across long-term ones, and a diverging fragmentation of term premia regarding the relationship between short- and long-term safe assets. Finally, as monetary policies diverge into a more fragmented and less correlated landscape, we should logically expect more of the same on the budgetary front. It will soon become apparent that **the fiscal room for manoeuvre is a relative, not an absolute, concept.**

V. The legend of the 'impossible sustained bond correction'

The idea that a genuine bond correction (i.e. a shift in the equilibria of safe asset yields) is impossible is deeply entrenched in the minds of both academics and practitioners. The idea of some fiscal room for manoeuvre does not offer any exception.

V.1. Things to watch for

- There are various schools of thought which support this benign view.
- This psychology of bond capitulation is based on fragile foundations.

V.2. The psychology of bond capitulation

The thesis of financial repression posits that inflation will be high and that governments will not allow interest rates to reflect inflation. In fact, long-term interest rates are disconnected from the outlook for growth and inflation. The extension of balance sheets at central banks, which aims to facilitate the financing of government expenses through the purchase of bonds and to exert a certain degree of control over the yield curve, has kept nominal rates low whilst inflation picked up, thus keeping real interest rates in negative territory. It remains to be seen whether the recent narratives of normalisation and the early stages of apparent action (by the Bank of England, the Fed, the ECB, etc) constitute a turning point, which reverses the force of financial repression. We have our doubts in this regard. **What we have seen and will continue to see is not normalisation in the strict sense, since projections will leave real rates negative and central banks behind the curve,** meaning that:

i. Inflation will not be stopped unless positive real rates are restored and then maintained for some time, which is unlikely. In addition, given the usual time lags attached to monetary policy, the impacts will not be felt for some time yet (probably 12-18 months down the road).
ii. Central banks' benign-neglect bias will maintain the forces of financial repression, resulting in fiscal dominance and an implicit desire to cap the cost of debt, but also an asymmetrical view of risks relative to growth, inflation and asset price inflation, versus inflation in the price of goods and services.

Critical budgetary and debt financing requirements resulting from energy transition or from the consequences of the war in Europe will drive more, rather than less, accommodation. It is difficult to imagine central banks simultaneously embarking on a 'normalisation'.

V.3. Consequences of the psychology of bond capitulation

Long-term rates will remain capped to some extent, with support provided to risky assets in the financial markets. There are two follow-ups to this view, one resulting in an increase in long-term rates (which is potentially significant), the other in a sell-off of equities;

i. A sort of bond revolt (bondholder revolt: a market-led endogenous correction resulting from persistently high inflation and expected negative real returns) will occur. Market forces will reassert themselves.
ii. A bond correction is impossible. In other words, any bond correction would only prove temporary, as powerful bondholders (particularly pension funds and insurers) will have no choice but to absorb additional issuance due to regulation on top of internal rules. Any bond correction will be seen as a buying opportunity and a restoration of value. This is the self-regulation of bond markets theory. (Note that this is a variant of [i] where any bond correction is likely to be short-lived, because it creates the conditions for its own reversal, as a result of downward revisions to expectations regarding growth and inflation. In this version, inflation cannot manifest itself due to the self-regulation of the bond market.)

Any type of situation like (i) above (bond correction) would therefore lead to its own reversal, either through market forces and the adjustment of long-term expectations regarding growth and inflation, and/or through forced purchases of government bonds. In (i), equity markets will be hit as a collateral victim of higher interest rates (discount rate effect), and their impact on expectations regarding the growth of earnings (i.e. a correction driven by the fundamental value). In (ii), equity markets will be hit as a consequence of a portfolio balance effect, in which forced buying of bonds involves some forced selling of equities in the rest of the portfolio (i.e. a correction driven by portfolio flows).

V.4. Takeaways for investors

For investors, much will therefore depend upon two closely related issues: (i) is it reasonable or realistic to expect bond markets that have been moved away from market forces (through forced QE-style purchases by central banks on the demand side, and through forced buying by institutions like pension funds or insurers on the supply side) to return to normality and allow market forces to come back into play? It follows that the idea of safe bond yields staying low for the future, backed by 'fundamentals', may prove to be wrong because forced demand and forced supply have simply created another equilibrium, an alternative form of sunspot that is not backed by the usual fundamentals. A fatalistic, and to some extent complacent, view has developed, according to which safe bond yields simply cannot undergo a change in equilibrium. It remains unclear exactly what is due to the so-called 'fundamentals' and what is due to the distorted forces of demand and supply; and (ii) is it reasonable or realistic to expect the now-established principle (of the self-regulation of bond markets with regard to inflation) to continue to apply in the new context?

We can see that both (i) and (ii) above have contributed to create a psychology of bond capitulation – meaning that, irrespective of the view taken, safe bond yields cannot rise on a sustained basis, i.e. cannot establish a new equilibrium. This has shaped sticky long-term expectations (which are at work in the secular stagnation narrative). For investors, it seems that there is a significant tail risk that these expectations are acquired while on the wrong foot. **The implicit or explicit assumption that a bond correction is impossible is a mantra that has become entrenched in the mindset but nonetheless remains a mere assumption.** We posit the possibility of a bond correction, thus challenging the mantra that a bond correction is impossible. This has profound consequences for both absolute and relative valuations of asset classes at equilibrium. The possibility of a sustained bond correction holds the key to the unfolding of a new set of equilibrium risk premia. This also has profound consequences for the so-called room for manoeuvre for budgetary policies on the fiscal side. Much of the reasoning behind this is based on the premise that safe bond yields will stay low, at equilibrium, forever. However, this premise may prove to be built on sand as it becomes apparent that **what was considered a sound and solid equilibrium, backed by fundamentals, was in fact simply a sunspot (dis)equilibrium due to demand and supply distortions.**

Finally, this also has consequences for the development of inflationary forces already at work. **The idea that the problem will be fixed, without moving real rates into positive territory for some time yet, may prove to be wrong. Current policies that err on the benign neglect side are unlikely to easily stop the rise in inflation.**

Concluding remarks

The long-term story is one of low financing cost for governments. The more negative the ***(r – g)***, where ***r*** is the actual real safe interest rate and ***g*** is the real GDP growth rate, the lower the welfare costs. As a consequence, we would argue that there is a long-term memory of the fiscal space, and that this memory is an acceptable proxy for long-term expectations (i.e. there is a limited price to pay for budgetary, fiscal, profligacy). We argue that whilst the theory of fiscal space offers some intellectual appeal:

i. In reality, this space has most often given rise to a mirage due to sunspot equilibria in financial markets (bubbles), not only in sovereign debt but also in risky assets in general, that have regularly killed the fiscal space.
ii. The fiscal space has apparently grown in proportion to monetary largesse: from simple accommodation to unorthodox QE-type operations and, ultimately, to debt monetisation. This so-called fiscal space is an artificial monetary space and a facility that cannot be considered a free lunch: there is a price to pay and the mirage will dissipate.
iii. The strong assumption that safe real rates will remain low in the future, on fundamental grounds, is ultimately based upon an extension of the non-inflationary macro-financial regime of the past 30 years or so. As soon as it becomes apparent that a regime shift is unfolding, with higher, more volatile and more uncertain inflation, the fiscal space is likely to evaporate once again.

Supporters of the fiscal space theory point out that the flight to safety has depressed returns. Although there is some truth to this argument, certain points should be noted:

i. As already mentioned, this has not prevented returns on risky assets from remaining high. In fact, as we have shown, the two phenomena are linked through the discount rate effect and the relative yield and valuation dynamics between asset classes.
ii. The flight to safety has been driven by a negative correlation between risky assets (equities) and (government) bonds, where bonds have acted as a cushion against exposure to risky assets in a non-inflationary period. **This is now reversing, due to the consequences of a positive correlation between equities and bonds in a more inflationary regime.**
iii. Safety and liquidity are different notions: the flight to liquidity has played a role in driving the appetite for some limited segments of the government bond market (treasuries, bunds) in a context where **global market liquidity in the rest of the market is deteriorating.** This has certainly depressed returns far beyond any fundamental valuation. This move can be justified for some limited segments that are effectively liquid but not for the rest of the market, where a liquidity premium is missing and will most likely be reflected in the safe real interest rates.

Consequences for investors

Taking the general perspective of fiscal space for policy action, we conclude that the following elements will be observed:

- Higher actual and neutral (natural) safe real interest rates at equilibrium, combined with a higher term premium (spread between short and long-term safe rates).
- Fragmentation of the global fiscal landscape, mirroring the fragmented monetary puzzle at central banks (i.e. fragmented real safe rates and diverging effective fiscal spaces). There will be nothing akin to a global safe real rate on which to base a reasoning or expectations, and no 'one size fits all' analysis and policy recommendations. This is a sign of a regime shift and de-globalisation.
- The rate of return on physical capital will outpace the rate of return on total financial wealth.
- The global fiscal space will be virtually inexistent or very limited. This does not mean that we will not see any further fiscal stimulus. On the contrary. However, this will come at a price and there will be no free lunch.

We think it helpful to distinguish between:

i. False/fake fiscal spaces that will prove to be mirages – that is, situations where:
   - r is likely to become superior to g either due to (1) an elevation of the neutral and actual safe rates engineered by central banks on a temporary basis but which will prove more permanent or to (2) a situation of financial repression that is unsustainable over the medium term. Both cases are initially benign for risky assets but will eventually require a re-rating of equities, as (a) the nominal rate is superior to inflation or (b) forced bond purchases require the sale of equities;
   - There are compelling signs of sunspot equilibria/bubbles in both sovereign debt and risky assets, coupled with an ex ante high level of indebtedness, external financial vulnerability and balance of payment imbalances;
   - The loosening of the fiscal stance is accompanied by a significant sustained level of monetary accommodation, in particular involving unorthodox or debt monetisation operations, however strong/irrespective of the denials;
   - Inflation is already high and rising;
   - The currency has no international status and/or is linked/pegged to the US dollar;
   - r' (rate of return on total wealth) is likely to be inferior to g (diminishing returns).

ii. In some limited cases, there are more genuine spaces for policy action. They are far less numerous and include the following situations:
   - r is likely to stay more or less inferior to, or in line with, g either (a) because inflation at trend has not been a threat or (b) it will be less of a threat after (monetary) policy action;
   - Debt fundamentals (level, external component) seem reasonable;

- Correlated sunspots/bubbles across asset classes are limited in number and extent and either some important segments offer undervaluation or the process of value restoration is in progress;
- The dynamics of growth at trend are oriented towards more autonomous engines that are less dependent on global integrated variables (trade, supply chains, etc);
- $r' > g$ is likely to hold;
- Currency policy is on the strong side, currency is undervalued.

iii. This distinction comes into play and applies across the developed and emerging worlds:

- Falling into the latter camp, a first bloc would include 'Chinese Asia', together with most emerging countries that are already advanced in the process of bond value restoration (through anti-inflationary tightening) – for instance, some regions and countries in Latin America, Eastern Europe and Japan. All of these include some autonomous growth engines and no obvious sunspot situations of hyper overvaluation, quite the contrary. This is true despite a reasonably high level of debt (China, Japan);
- Many emerging economies fall into the former camp, where a negative spiral has formed;
- For the US, the EMU, the UK and the rest of developed countries, the jury is still out.

With inflation high and rising and central banks behind the curve and likely to stay behind it, the expected/probable additional fiscal stimulus is unlikely to occur without further monetary accommodation, and it will certainly add to inflation. The process of bond value restoration still has further to go (i.e. the neutral rate still has to rise and the nominal actual rate has to be higher than inflation). Most sunspots are located in this bloc (namely some segments of the equity and credit markets, and of the housing markets as well). However, lines of division still apply across countries, for reasons of valuation which favour part of the EMU or for reasons of value/quality, and there are promising themes in relation to the regime shift (exposure to higher returns on physical capital vs financial wealth).

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