Putting the ‘fix’ in fixed income

31st August 2018

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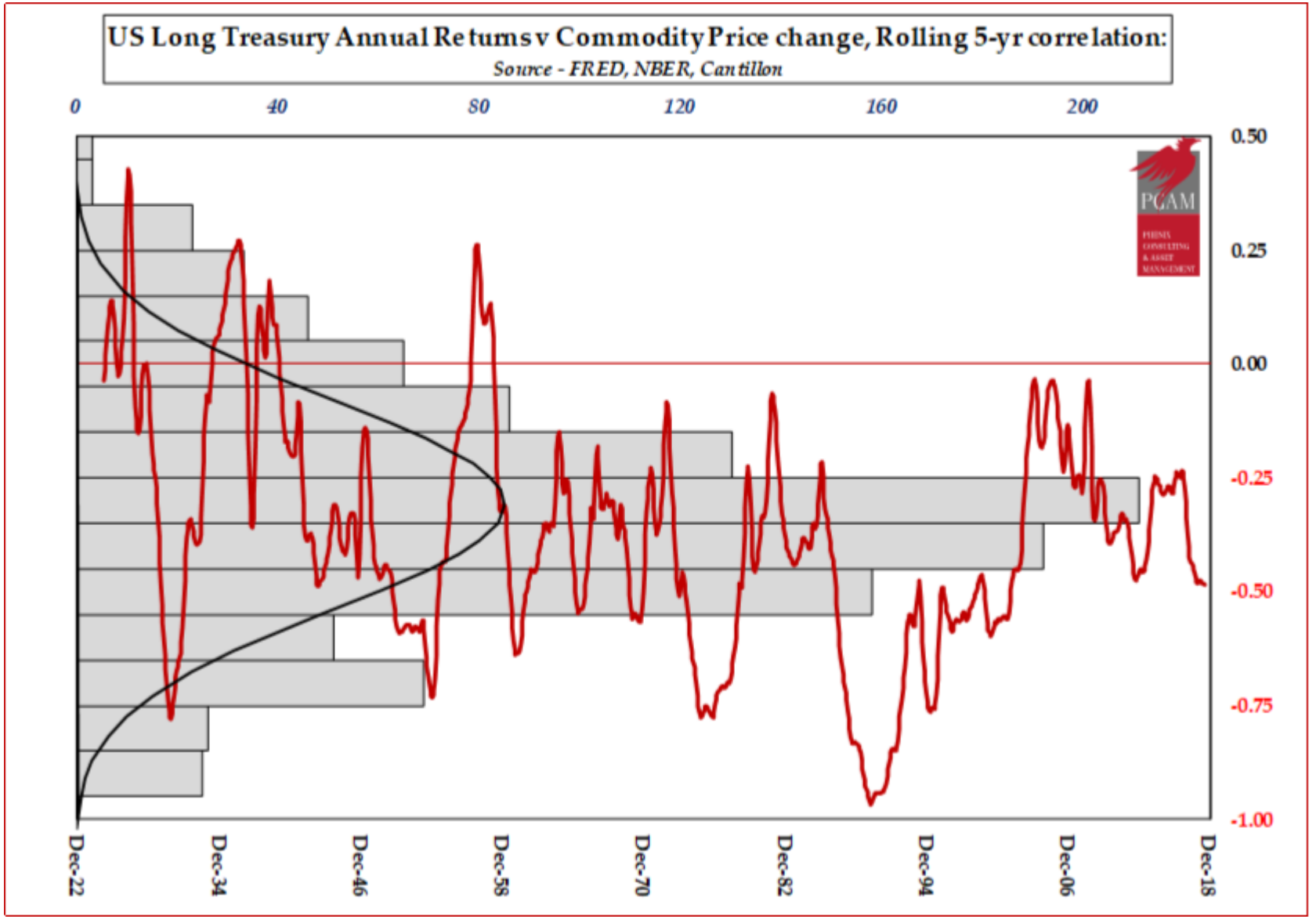
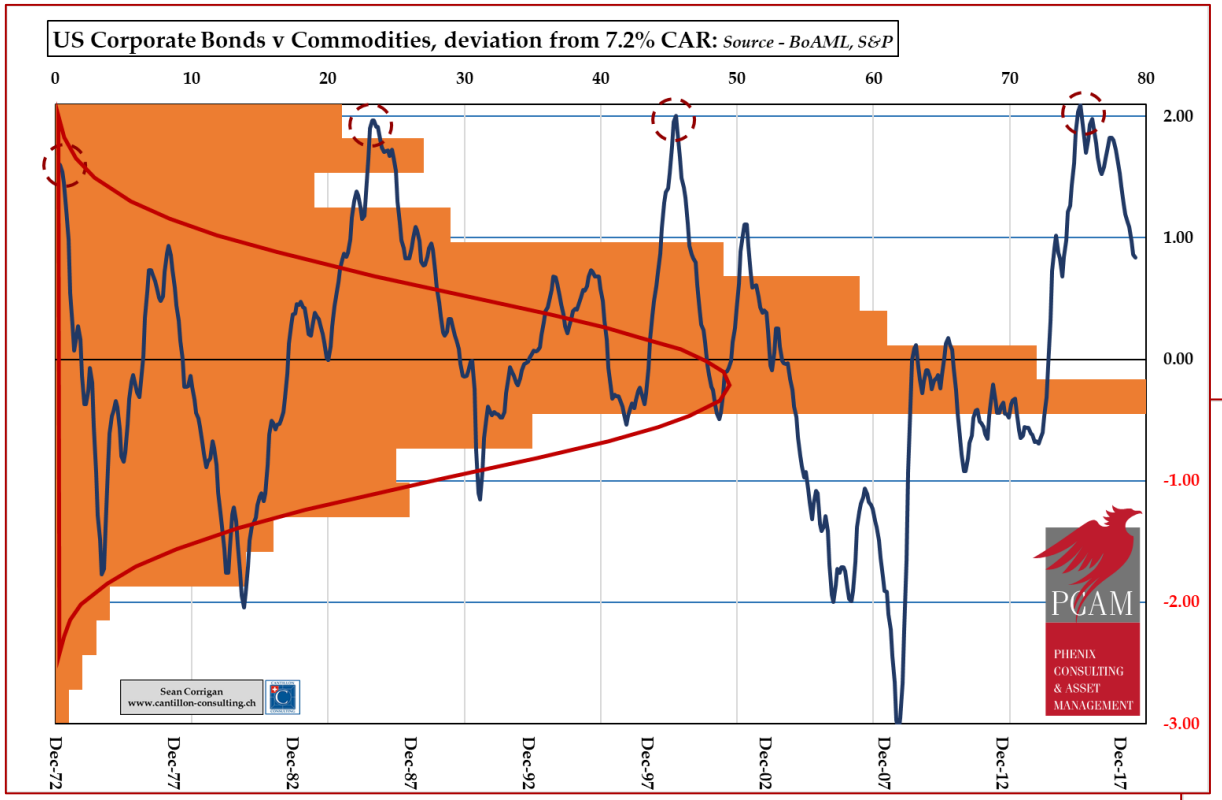
As we never tire of pointing out, the key role of commodities in a portfolio should be to exploit their empirically persistent –and highly logical- negative correlation with fixed income assets.

Even in the heyday of the British Empire when sterling was the world's currency and Her Majesty's Government's 'Consols' were its benchmark for bonds, the fact that the latters' price moved inversely to wholesale prices was well-noted, giving rise indeed to A.H. Gibson's famous (and, to our mind, not very paradoxical) 'paradox'.

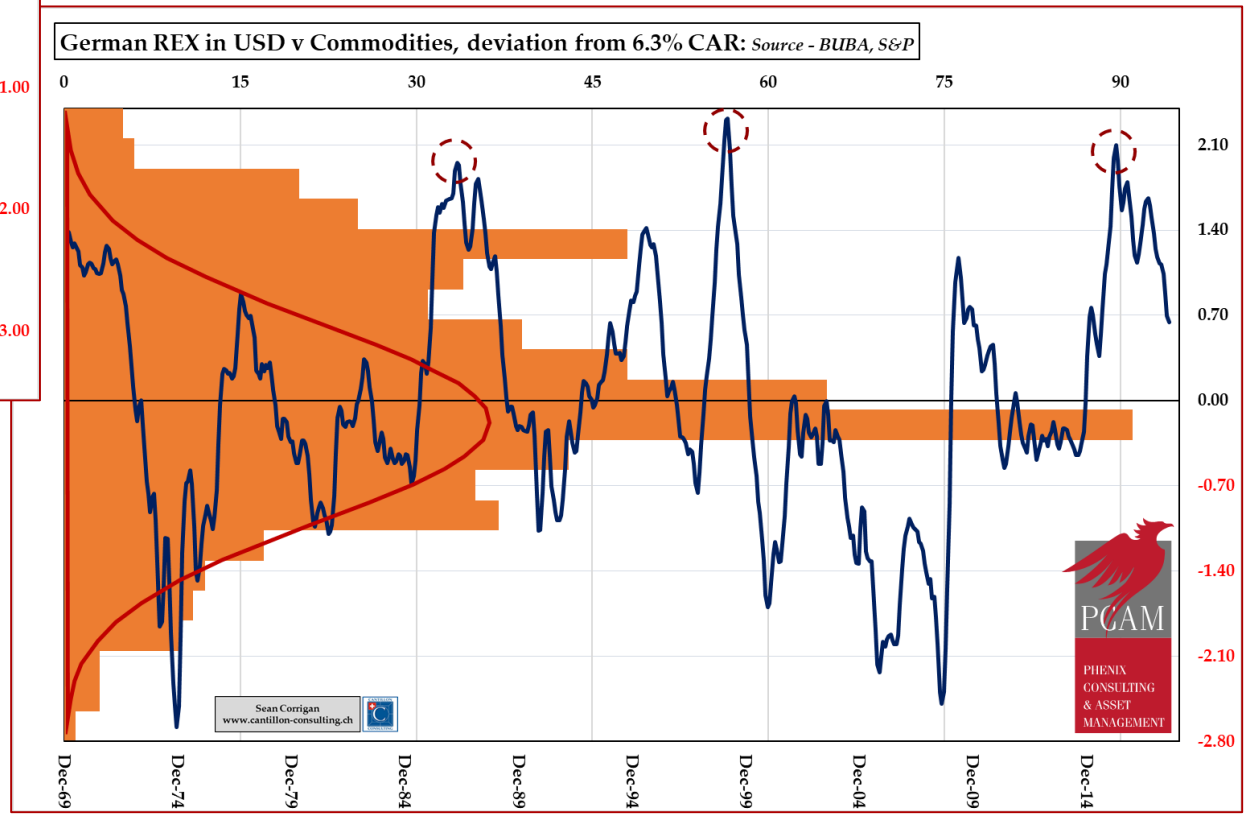
As the graph here makes plain, there has only been one isolated period since the Second World War when bond returns and commodity prices did NOT move in opposition to one another, and that occurred over two generations ago.





One other useful behavioural trait is that commodities tend to a mean reversion about their long-horizon trends in relation to fixed income.

The past year has seen the beginning of another such move starting, for the fourth time in the past half-century, from record (or near record) levels of relative fixed-income outperformance.



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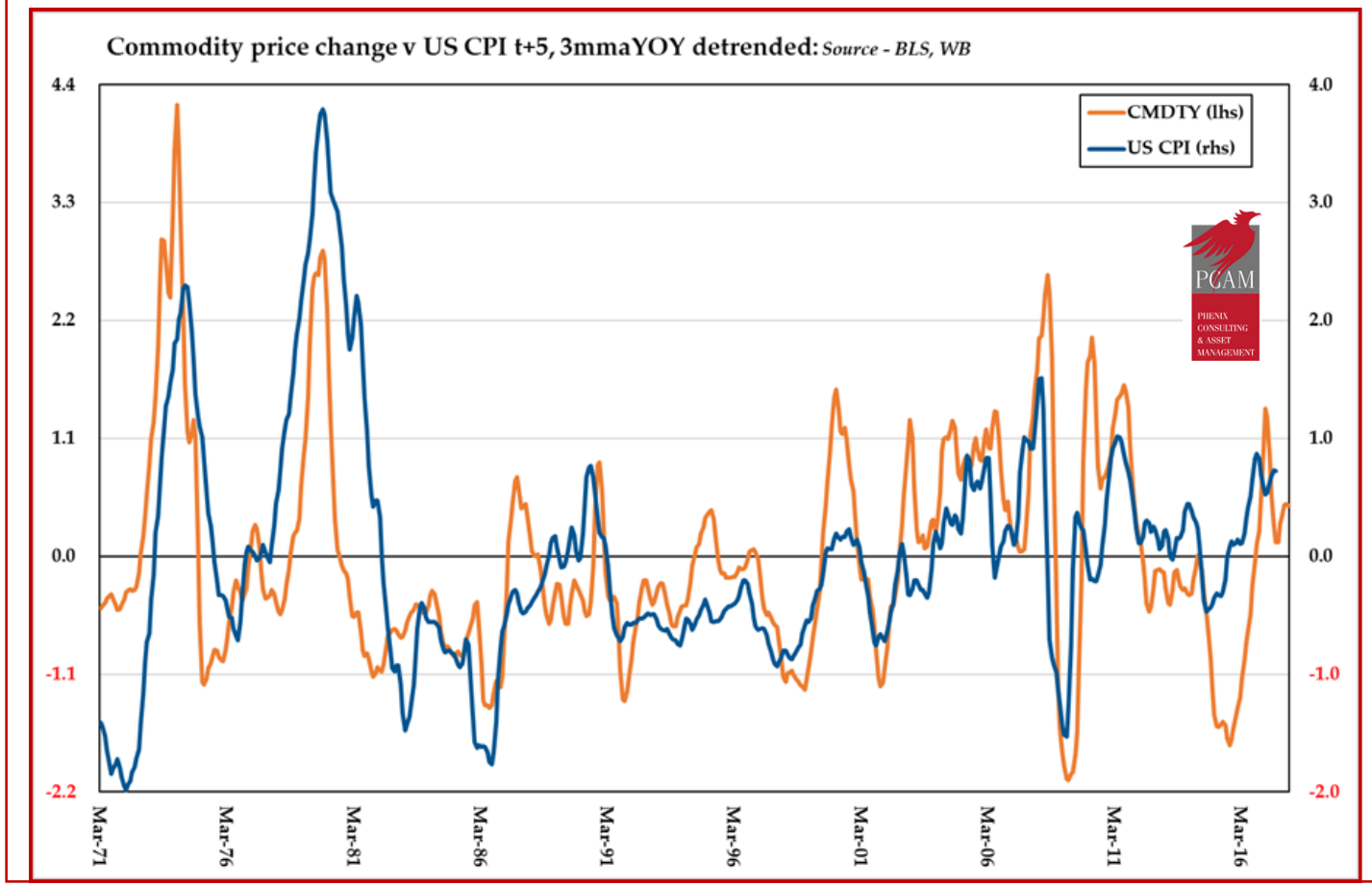
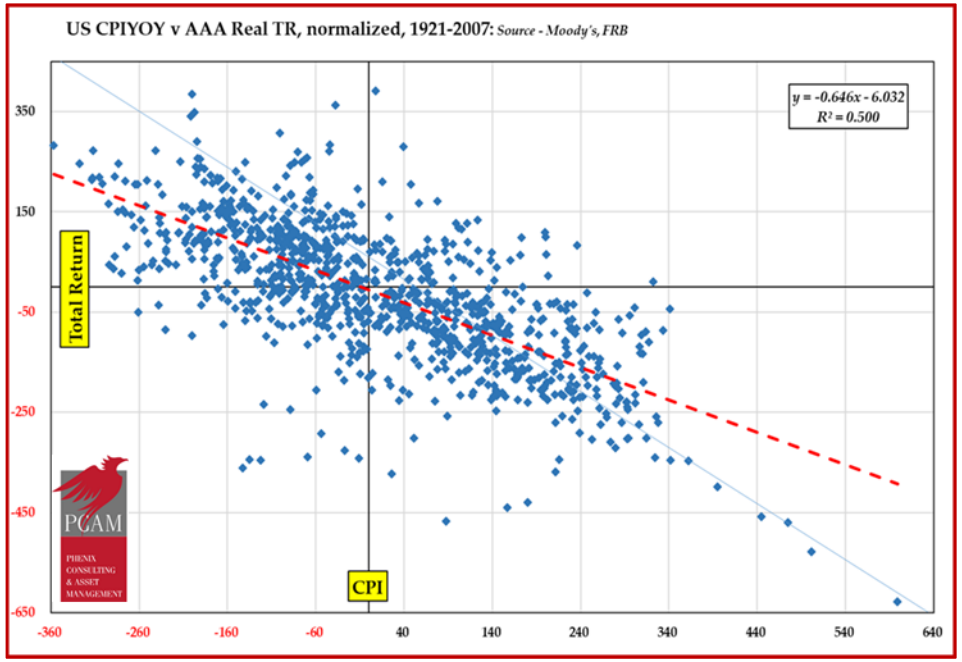
'Inflation' – though at root a monetary phenomenon – obviously makes itself manifest in price rises. Many of the elements the most responsive to this are commodities, not only because of the well-storied lack of an immediate supply response on the part of the durable kind, but because many first enter the chain of consumption in the more variable, 'higher-order' goods sectors and also because their impact is dampened by often representing only a small direct component of the final sales price of a product.





As shown left, it is somewhat problematical to have a rise in the all-important basket of consumer goods without having one in commodities, too – and *vice versa*.

As demonstrated above, that principally affects fixed income returns for the obvious, definitional reason that the income – the coupon – is generally fixed, while yields – and hence prices – are not.

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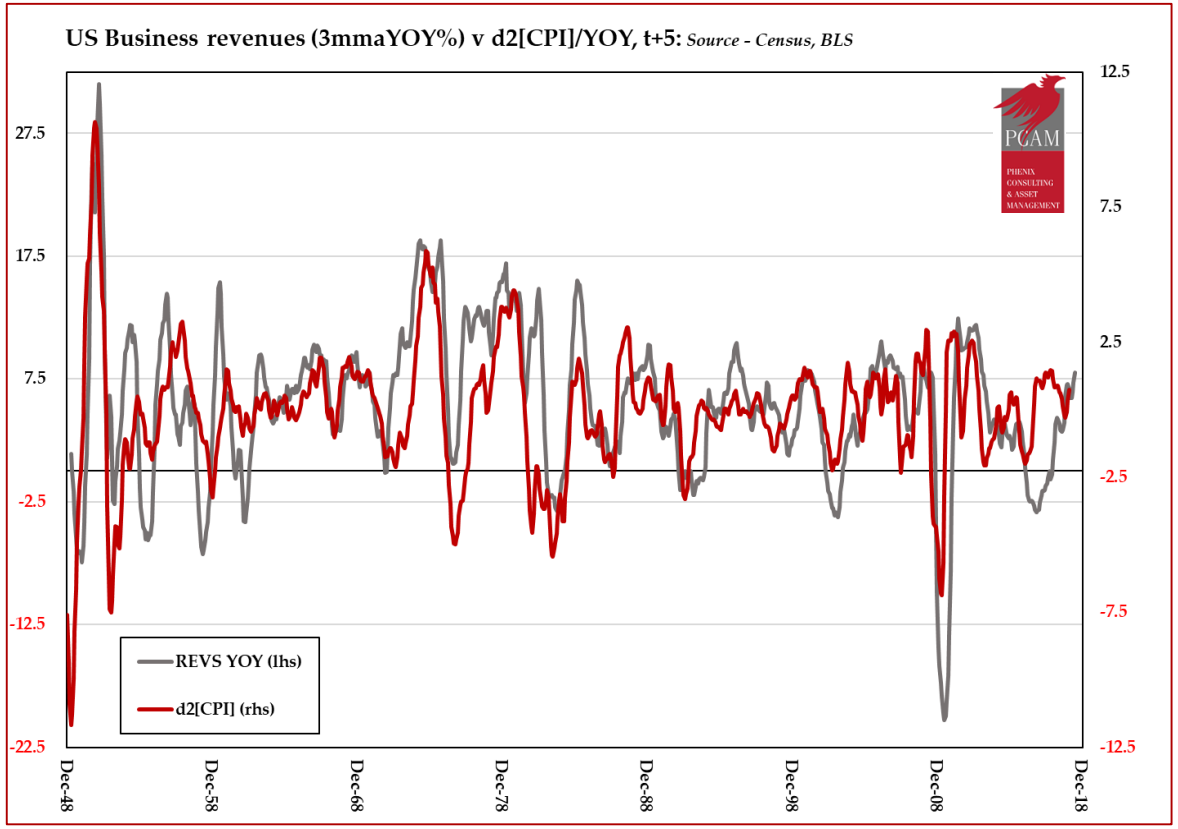
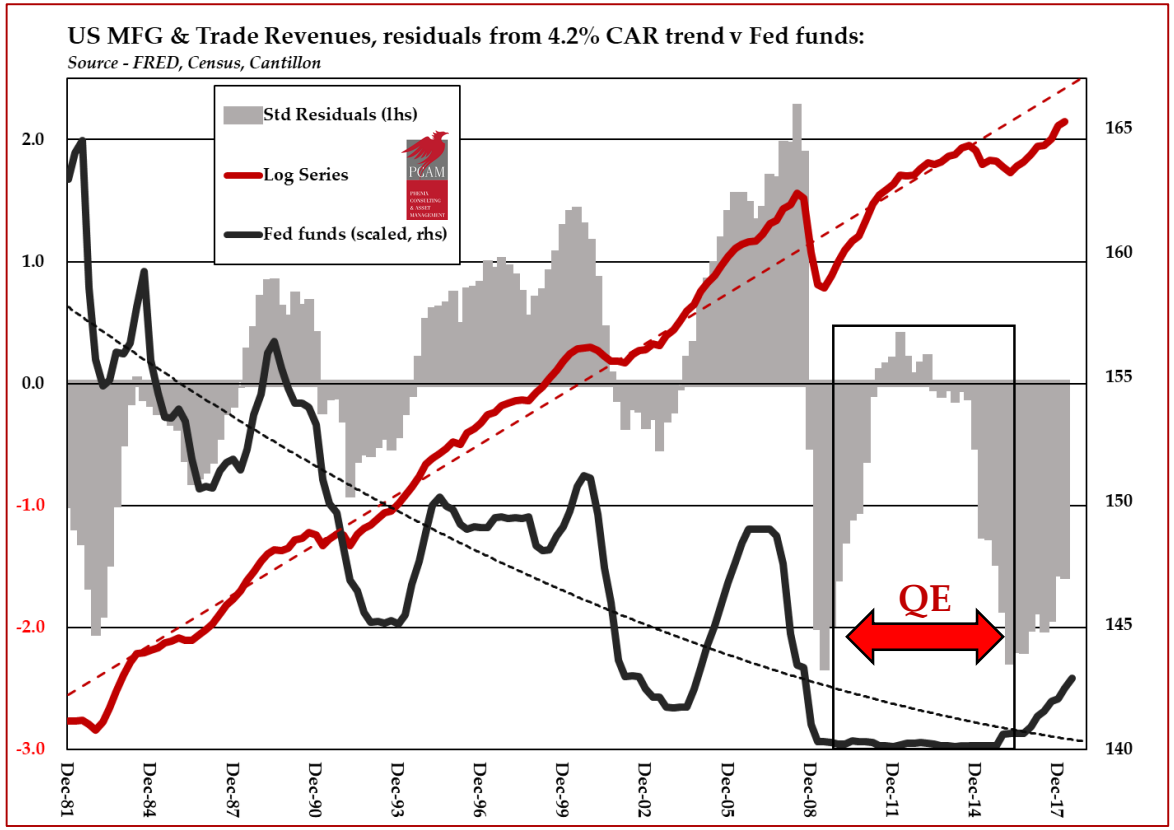


In the case of the United States, this manifests itself in a - currently exceeded - soft 'speed limit' somewhere in the region of 6% p.a. Any faster and CPI (and with it commodities) tends to accelerate (pictured above), usually provoking a response from the central bank (see right).

Neither of these developments are conducive to better fixed income returns, especially at today's low nominal – and often negative real - yields where continued capital appreciation is of primary importance.

Inextricably mixed in with the monetary factors are the real-side influences. As the economic pace quickens and demand rises, the short term supply of capital means (finance) may become temporarily more scarce (and hence more costly) in the same manner that the resources upon which those means are preferentially expended do.

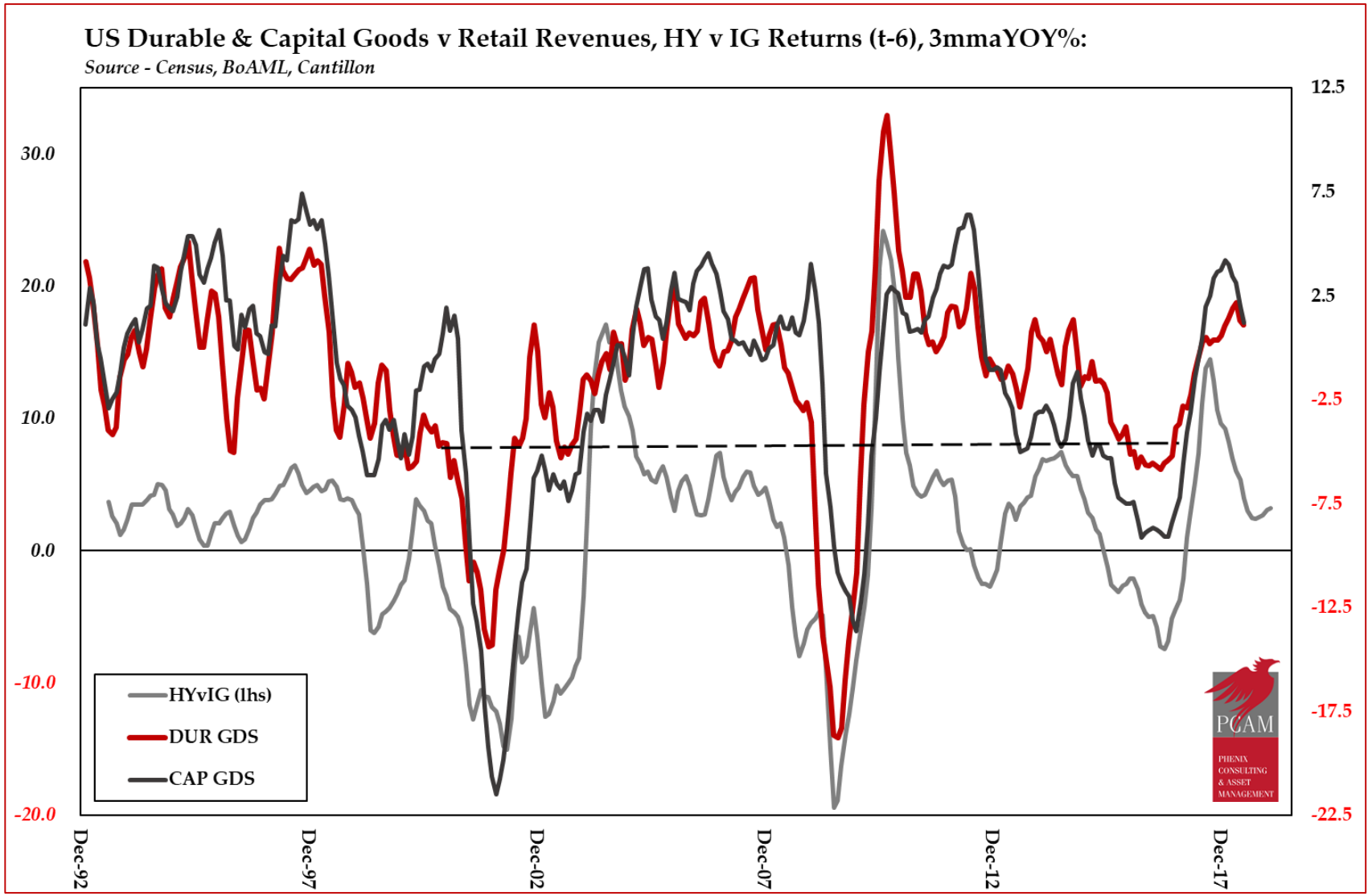
A ready way to gauge this effect is to monitor trends in business revenues.



There are certain similarities with this approach to that of who place emphasis on – often also those who wish the central bank to target - changes in nominal GDP.

The differences are twofold. Firstly, on a theoretical basis, we do not believe that 'growth' and natural interest rates are fundamentally related, as the mainstream proponents of this idea maintain, except over a short horizon of 'adjustment'. Secondly, the focus on NGDP implies a bias towards trends in end-consumption whereas (as the chart left demonstrates) the key variability occurs in so-called 'higher-order' activity.

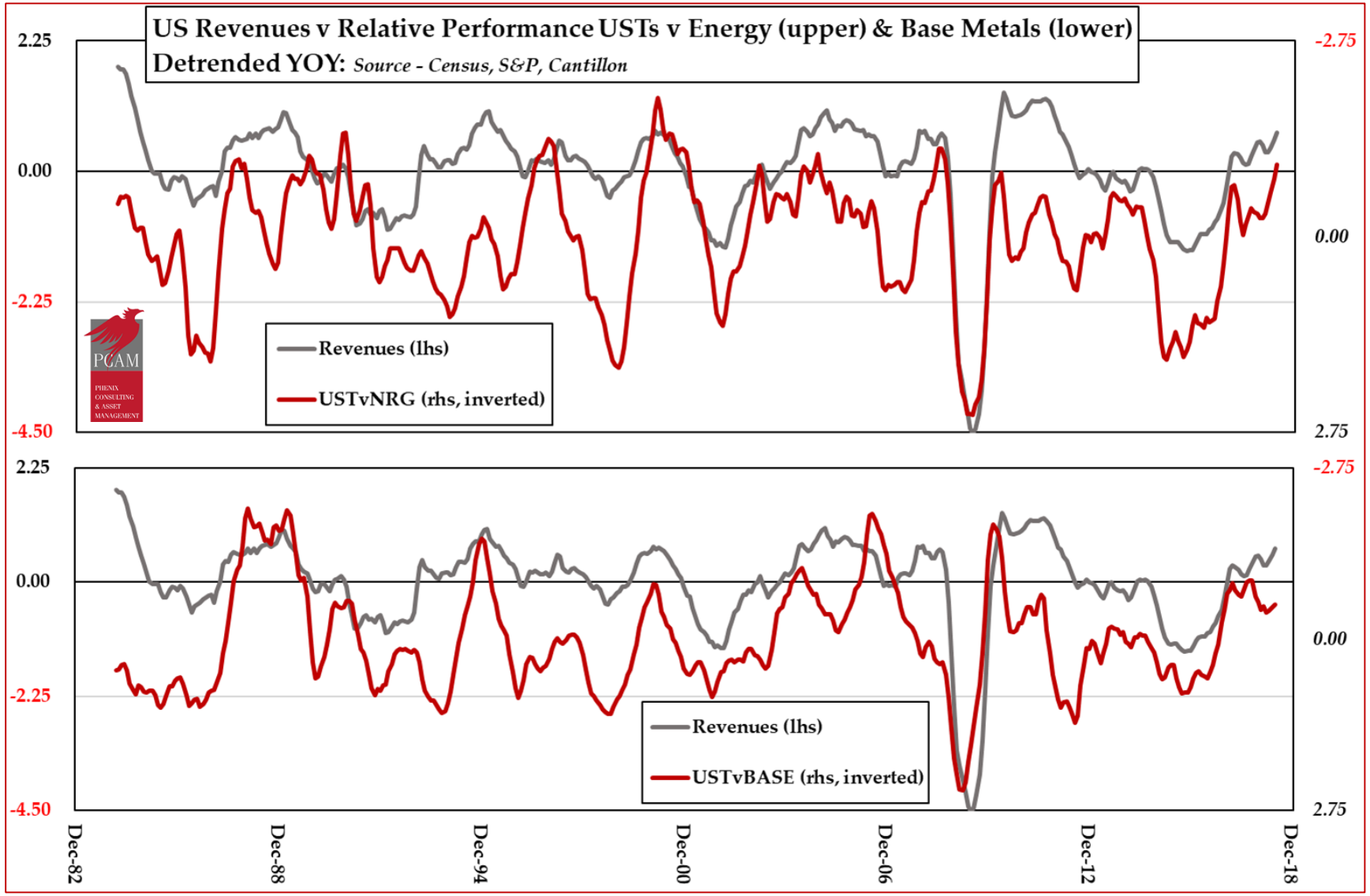
The added advantage of our method is that estimates of business sales can be had on a monthly schedule rather than a quarterly one, making the indicator far more useful and timely in carrying out portfolio adjustments.



As a way of illustrating the merits of this indicator, consider the graphs shown here.

Deviations of business revenues from their trend (of which more in a moment) show a usefully high correlation with similar deviations in US Treasury total returns divided by the excess returns of both the GSCI energy and industrial metals indices.

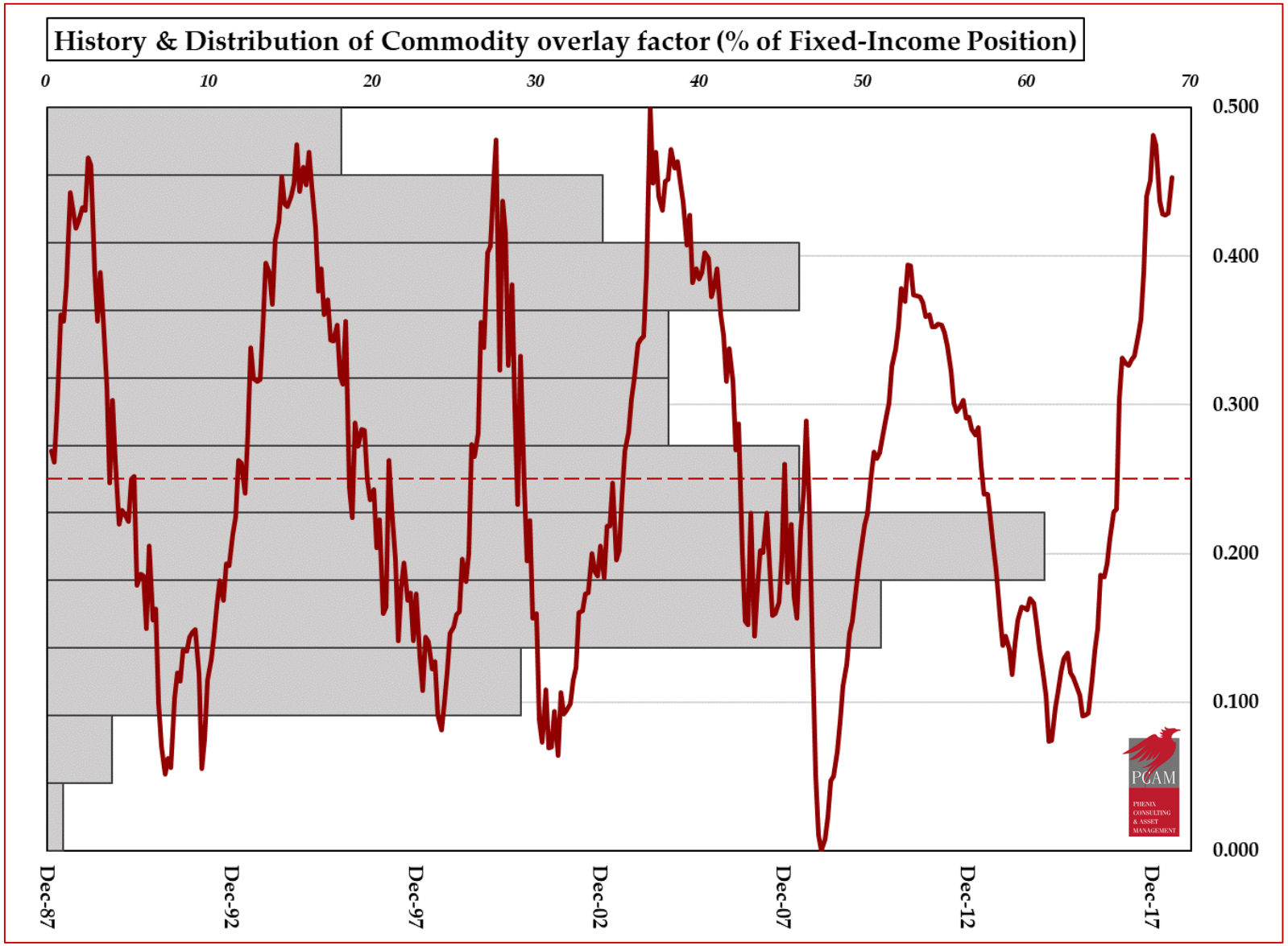
Ergo, all the above argues that, when sales accelerate, progressively larger commodity futures overlays should be applied to one's bond portfolio – and *vice versa* - while using those same bonds to satisfy the exchanges' collateral requirements. It is for this reason that we use *excess*, rather than *total,* commodity returns in the calculations. Note, too, this removes any requirement to add extra leverage to one's holdings.



A word on specifics.

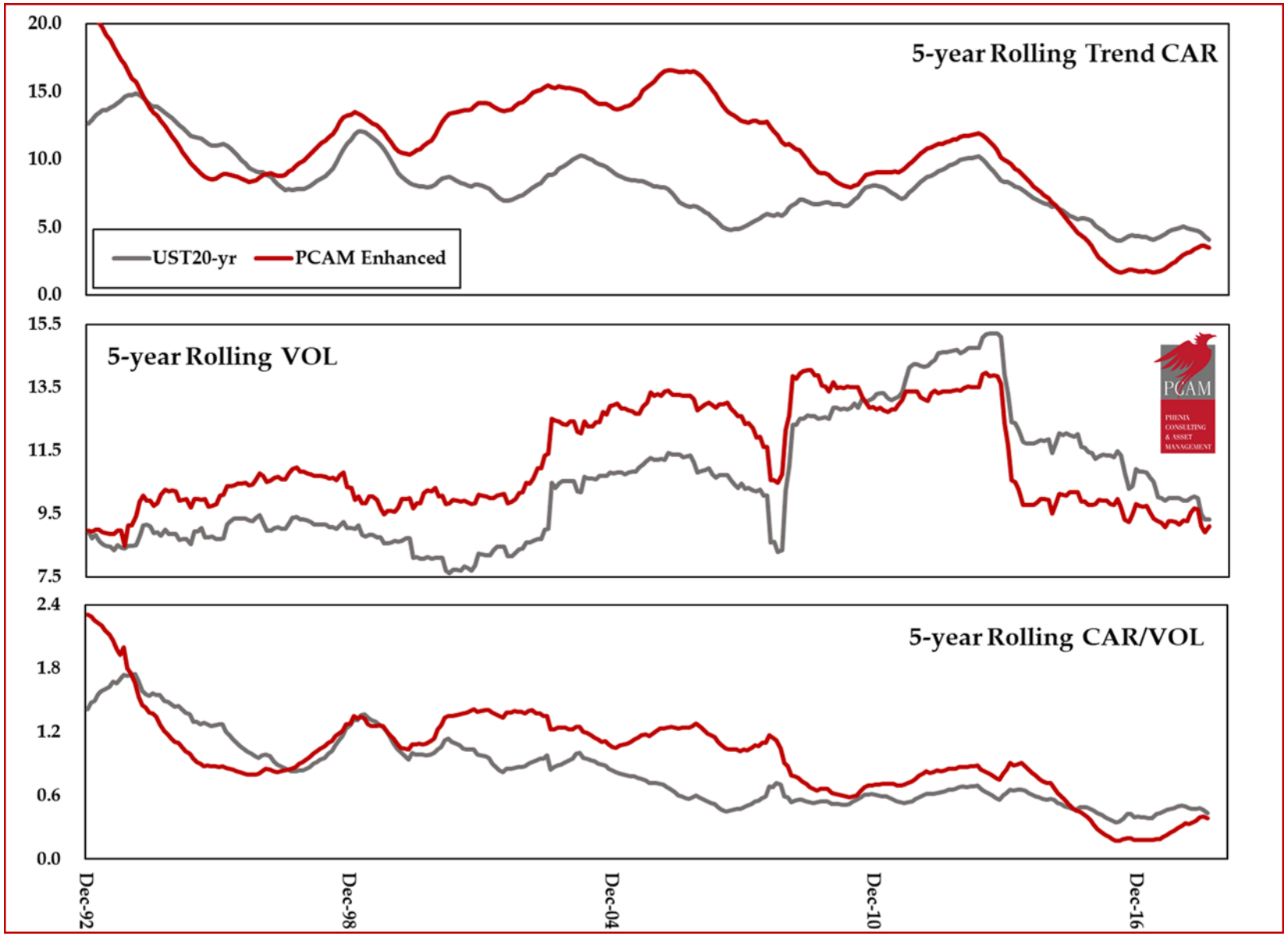
What we do is make constantly rolling estimates of trends in sales, in realized monthly volatility, and in compounded monthly returns. We do this in place of estimating such measures over the entre sample history for three reasons.

In the first instance, this helps isolate the signals we require from any secular shifts taking place, be they technological ones or deep-seated ones, such as bond yields' long decline from the heights attainted during the Great Inflation of the 70s and early 80s. Secondly, this helps identify divergences from the recent norms to which traders, investors, entrepreneurs, and policy-makers have all become acclimatised and hence to which they are most likely to respond. Finally, this method is anticipatory, reducing the commodity overlay to zero near the trough in the cycle, then progressively increasing it until the peak is reached, as shown here for our conceptual back-test.



With peak exposure set to twice the neutral exposure (subject to a pre-selected hard ceiling) and the minimum bound fixed at zero, we then solve for a 2:1 energy/base metals mix such that median enhanced volatility of the combination does not exceed 120% of bond volatility itself and so that trend return/volatility is no worse than equal.

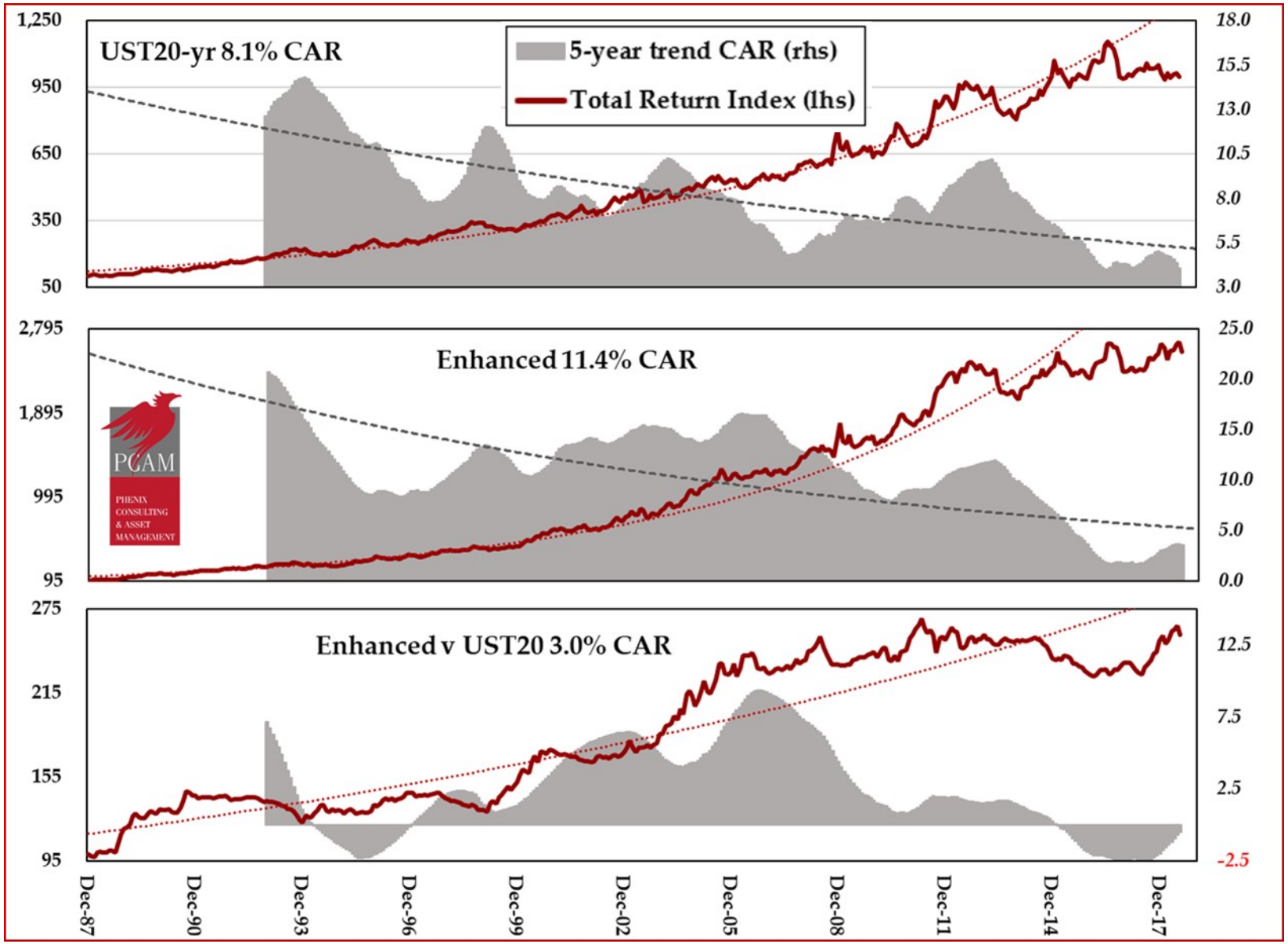
The results are presented here to the right.



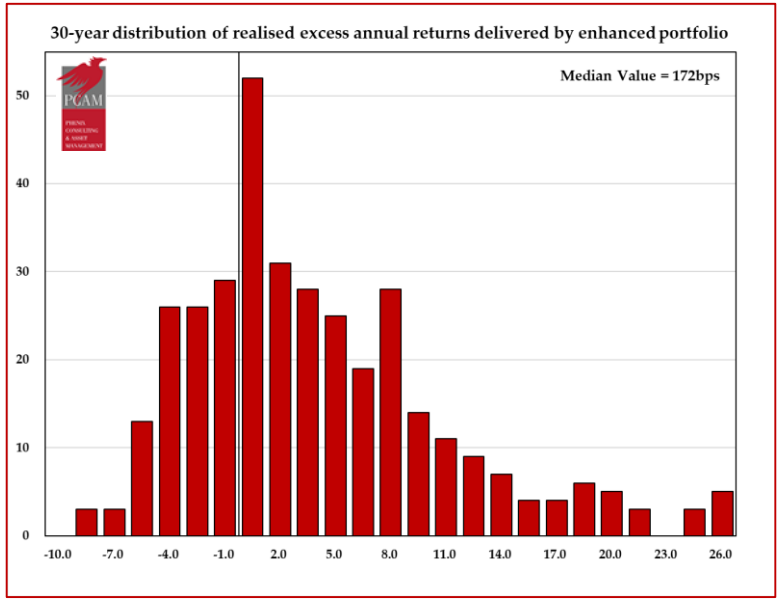
As can be seen, the results of this particular construction are impressive.

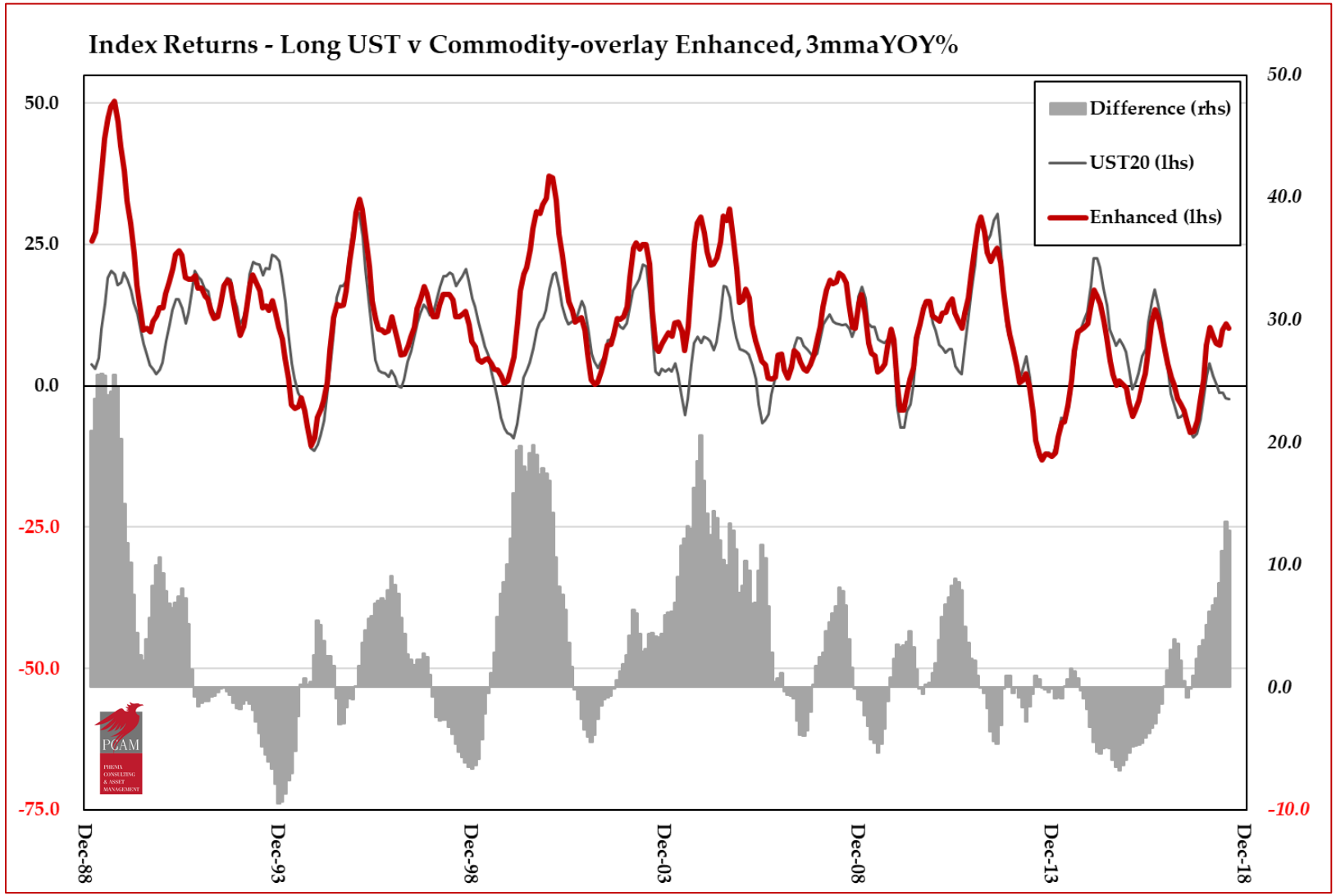
Over the three decades for which the existing data allows us to calculate the strategy, a theoretical portfolio of long-dated US Treasuries would have shown a trend return of 8.1% a year (we calculate our own version, using 20-year bonds, but these are almost indistinguishable from the TR data for the Barclays-Bloomberg Long Treasury series).

The addition of our industrial commodity overlay these past thirty years would have pushed that up to no less than 11.4% p.a. with, granted, a period of underperformance over the last few years – the worst in the available history of commodities and, conversely, the period which marked the absolute nadir of bond yields and therefore the peak of *their* index values. Despite that recent run of bad form – one which decisively ended in the middle of last year – the enhanced portfolio still did not suffer negative *absolute* returns over any 5-year horizon.



Finally, a side-by-side comparison of *actual* annual returns shows the sizeable gains to be had all through the decade between the Asian Contagion and the GFC; hints at what one might imagine was the greater protection afforded in the inflationary 80s; and reveals the signal benefits accrued in the recent period of global reflation and the passing of QE.
Note, too, the long right-tail of a distribution still centred on worthwhile positive returns.





In considering this concluding, tabulated overview, it is important to understand that the commodity indices we have been using are the barebones GSCI versions, replete as they are with all the well-known problems of performance-sapping, negative roll-yield.

Thus, the PCAM methodology of commodities management – centred on curve selection, volatility budgeting, strict risk management, and discretionary interventions - should be able to deliver appreciable additional returns, over and above the valuable augmentation which we have hopefully convinced you is available to you, as fixed income investors, in what seem fated to be trying times for your asset class.

5 year rolling statistics 1987-2018

	VOLATILITY	CAR%	CAR/VOL
UST-20-year			
MAX	15.2	14.8	1.75
MEDIAN	*10.3*	*8.1*	*0.73*
MIN	7.6	4.0	0.35
Commodity Enhanced			
MAX	14.1	20.7	2.31
MEDIAN	*10.6*	*11.2*	*1.02*
MIN	8.5	1.7	0.17
Relative Performance			
MAX	7.6	9.3	1.27
MEDIAN	*5.6*	*1.7*	*0.33*
MIN	3.1	-2.5	-0.80

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- This Fund achieves its market exposure through the use of commodity-linked financial derivative instruments.
- Commodity prices and therefore the value of commodity-linked financial derivative instruments can be more volatile than investments in traditional securities.
- At times the Fund may be concentrated in one or more individual commodities which may further increase volatility.
- Although the majority of the Fund's assets will be invested in cash, cash equivalents and short-dated instruments, investors should be aware that the Fund may not benefit from the returns arising from those investments and that those investments will serve primarily as collateral for financial derivative instruments (principally swaps).
- Investors may see the value of their investment fall as well as rise on a daily basis, and they may get back less than they originally invested.
- Investors should be aware that, in response to certain market circumstances, for temporary defensive purposes the Fund may have very limited, if any, exposure to commodity-linked financial derivative instruments.
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