

The DWS Macro Metric: Mapping Markets to Moves

“Business cycle analysis is where economic theory can meet investment practice”

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IN A NUTSHELL

- Understanding the business cycle in an economy is interesting, and important. It can provide insights into growth prospects (which are linked to corporate profits), likely policy paths, and inflation and unemployment. It can also inform Tactical Asset Allocation.
- However, usual methods for evaluating the business cycle can produce volatile outcomes, and rely on data that is both released on too slow a cadence (typically quarterly), and with too many revisions. Such approaches are more helpful in theory than in practice.
- In this paper, we build on the work of others to introduce the “DWS Macro Metric” (DMM), a simple gauge of the state of the economy that is based on intuitive, timely, and free, data, that captures the same spirit of business cycle analysis, and that helps us to map certain asset class moves.
- Our view is that the DMM is on the turn (moving from a peak to a trough), and that this suggests a recession is imminent. We discuss the empirical evidence of how yield curves have tended to behave before, during, and after such recessions, and believe it’s the mid-point (around 5-year maturity) that currently makes most sense in both the US and Europe.

Peddling the Business Cycle

If you have ever cracked open an economics textbook (and no need to be embarrassed, we know you have), then you will, of course, be familiar with the theory of the Business Cycle. In those texts, the cycle appears something like it does in Figure One, with a nice, smoothly fluctuating, wave of economic output, which periodically reverts to its long run trend.

Such waves are usually broken into four (or more) distinct phases, the peak and trough where the wave is at its top and bottom respectively, and an expansion and contraction where it moves between these highs and lows. Ah, if only reality were as simple. The fact is that, although this is a very useful model in theory, actual business cycles are not quite so tractable (see Figure Two).

However, as investors, we very much believe that trying to understand the dynamics of an economy is key. In addition to important insights about growth prospects (with their close link to corporate profitability), business cycle analysis can also provide clues about likely policy paths, and trends in inflation and employment – all critical in getting under the hood of any macroeconomy.

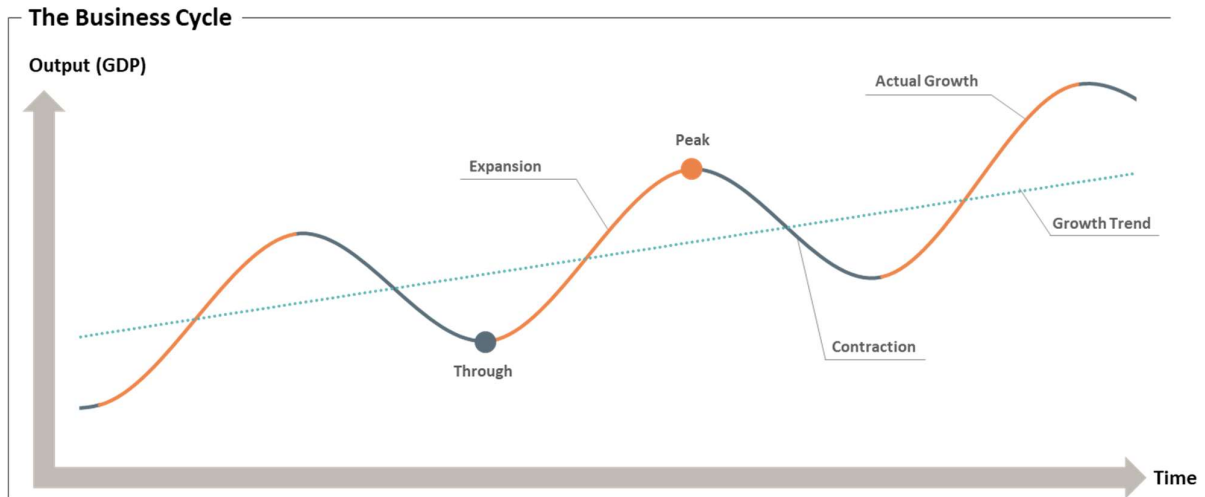
In addition, and perhaps of most practical importance to investors, it’s reasonable to believe that one can potentially map asset class dynamics onto the cycle, which could be very useful when considering Tactical Asset Allocation decisions

(short term divergences from strategic holdings, intended to add outperformance over the long run).

Aside from the very volatile nature of the cycle though, which makes it hard to really pin down where one is, or how long one might stay there, there are at least two other issues with classic business cycle analysis. The first is that GDP numbers tend to come out on a quarterly cadence, and often are significantly revised after the fact. This means that their use for a tactical investor is limited. Not only is it possible that any asset class move may already have occurred by the time of the release, there’s also the risk that a later revision could render the initial insight redundant.

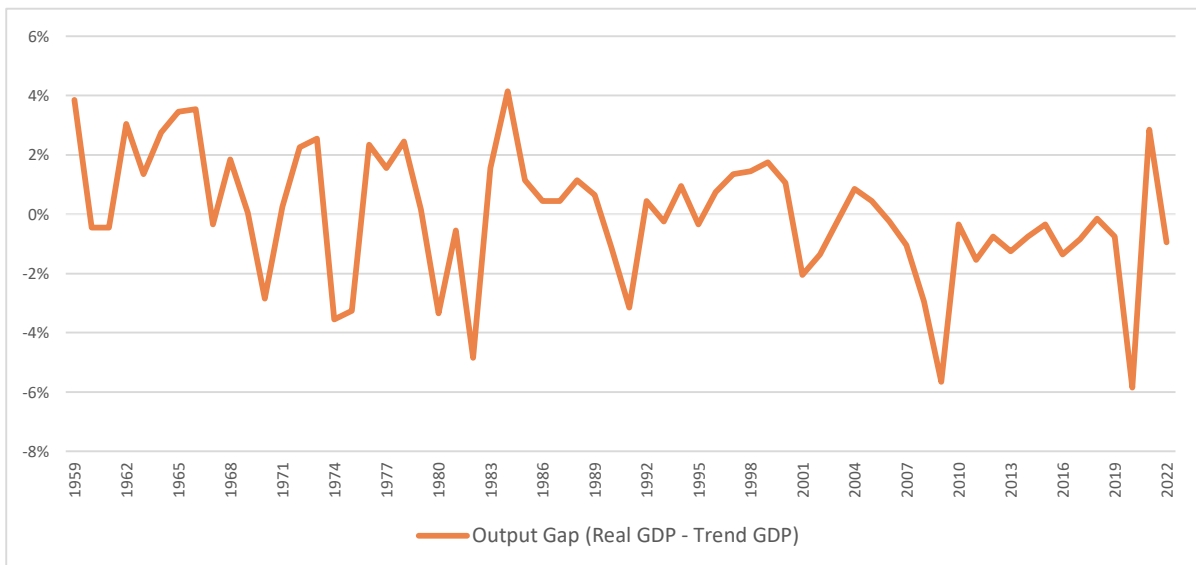
The second challenge with the classic model of the business cycle is that it needs a long run trend growth assumption against which to evaluate the cyclicity. Of course, some economists would say that you don’t need to overthink this, you can simply take a long-run average, but even that necessitates calling a start and end date, and the approach is not flexible enough to capture any structural changes to that trend growth if they are occurring. By way of simple example, according to the IMF, the average of real GDP growth in China for the last 20 years (2003-2022) has been around 8.4%. However, we wouldn’t argue that that’s the right number against which to evaluate the economy over the next 20 years (why, because we simply believe that while that sort of growth is possible for a time, it is not possible forever).

Figure One: The Business Cycle in Theory (stylized depiction only)



Source: DWS

Figure Two: The US Business Cycle in Practice (1959 – 2022, Real GDP minus Trend GDP (3.1%))



Source: Federal Reserve Economic Data (FRED), DWS

Introducing the DWS Macro Metric (DMM)

All the above leaves us in a slight predicament. We believe that evaluating the state of the economy is useful, but we recognize too many challenges from traditional approaches. Our solution – the DWS Macro Metric.

This approach builds on work by Ed Yardeni and Martin Pring in their two excellent texts, *Predicting the Markets*, and *The All-Season Investor*. Essentially the metric is comprised from two monthly data series released by The Conference Board, an influential US think tank. The first series is known as the *Leading Economic Indicators* and is an index of ten factors that the Conference Board believes lead the real economy, three financial, and seven economic. They are:

- A Leading Credit Index
- An Index of Large Cap US Stocks
- The Spread between the 10-year bond, and the Fed Funds rate
- Average Consumer Expectations for Business Conditions
- The Institute of Supply Manufacturing Index of New Orders
- Building Permits, Private Housing
- Average Weekly Hours, Manufacturing
- Manufacturers' New Orders (Nondefense Capital Goods ex Aircraft)
- Manufacturers' New Orders (Consumer Goods & Materials)
- Average Weekly Initial Claims, Unemployment Insurance

It's clear that these metrics all cover a wide swathe of US economic activity, and the idea is that, combined, they should give a sense of the future direction of travel for the US economy. In terms of where that same economy is today, the Conference Board also publishes a *Coincident Economic Index*, which, according to their website "provides an indication of the current state of the economy" (see that website for more details)¹. Its components are:

- Employees on non-agricultural payrolls
- Personal income (less transfer payments)
- Industrial production

- Manufacturing and trade sales

To produce the DWS Macro Metric, we simply divide the LEI index by the CEO index, deduct one, and express the result as a percentage. We can then interpret the result as a degree of premium or discount which the Leading Indicators infer versus the Coincident Indicators, or, to our minds, a useful, and timelier, gauge of where we are in the business cycle. One which relies on many more inputs, but is still produced much more regularly.

Figure Three confirms that the metric aligns to some extent with the classic definition of the business cycle. We have simply taken the same data from Figure Two but now overlaid the DMM (albeit on a different scale on the right-hand axis). It's fairly clear just from eyeballing the data that there are similarities in the way that the two data series describe the economic cycle (though note the relatively smoother cycles in the DMM). By way of confirmation for the visual aspect, the correlation between the two series over this time-period (using annual numbers for the Conference Board indexes to align the data) was 0.50. For two series that are using quite different inputs to glean information about the business cycle, we find that to be a reasonable co-movement.

Figure Four provides some further confirmation of the cyclical nature of the economy that the DMM implies. In this version we simply recalibrate the metric to 100 every time a recession starts (using official National Bureau of Economic Research dates). We hesitate to read too much into the shape of these cycles (there are, after all, only eight of them, and some are quite short) but we do note that the DMM is currently in negative territory (i.e., leading indicators are below coincident). In the 775 months of data we analyzed, this occurred in 108 months, or around 14% of the time. Of course, the trend can continue lower, but it suggests to us that we are likely getting closer to a trough, and might expect the cycle to reset (enter an expansionary, upward phase) before too long.

¹ www.conference-board.org/topics/business-cycle-indicators/

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Mapping The Market

So far the discussion around mapping the business cycle has been largely of academic interest. But, to be of practical use to investors, it's important to explain how we think the DMM can be mapped to market developments. And that "flow" operates as follows.

Firstly, we use the DMM to demonstrate that we have passed the peak in terms of Leading Economic Indicators coming in above Coincident ones (i.e., that we are headed towards a trough – see Figures Four and Five).

We note three further features from Figure Five. Firstly that, one can see why market commentators like yield curve inversion as indicators of looming recessions, most of which seem to be preceded by a turning point in the inverted curve (i.e., as it starts its journey back to normality).

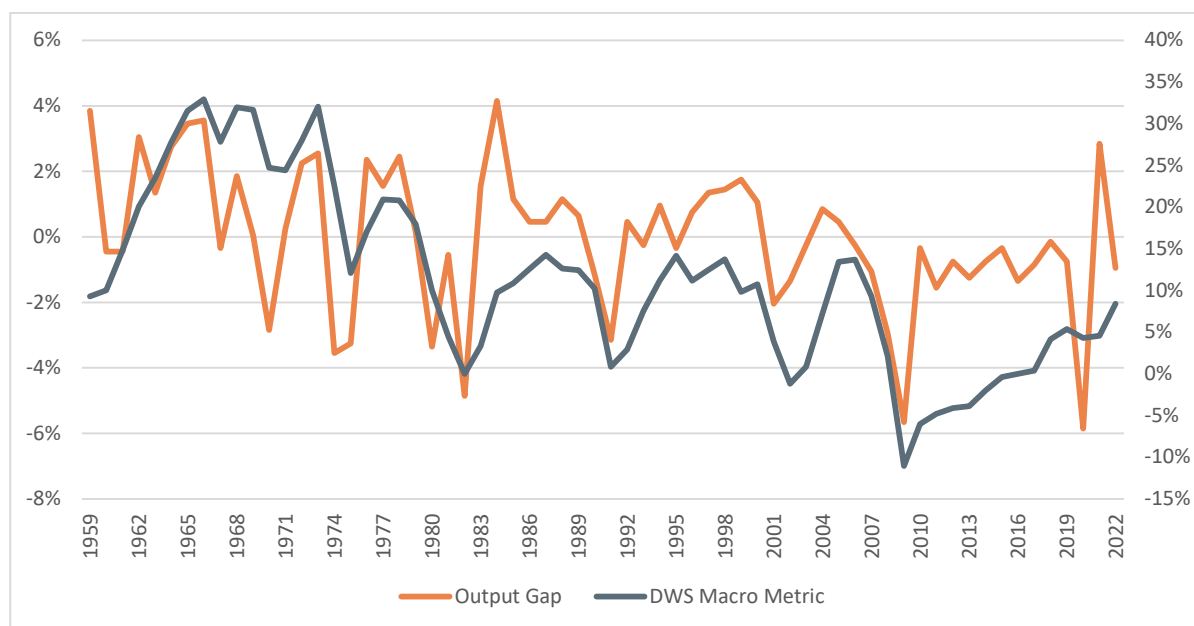
Secondly, we note that, empirically, recessions also tend to start at around halfway between the DMM peaks and troughs (in other words, the DMM is saying that a recession is coming, but that there is uncertainty around when exactly it will be called, also shown in Figure Five).

Our current best estimate for that timing, and the one which underpins our analysis, is for a recession to start towards the end of 2023). Of course, as discussed above, this suggests that the DMM could get worse before it gets better - the next several releases of the Conference Board's numbers will be interesting to watch.

Finally, the DMM is currently the lowest it has been since 1970 without the US economy being officially in a recession, or with curve normalization underway. Put simply, if the DMM framework is resonating, then the signals it is sending today are important.

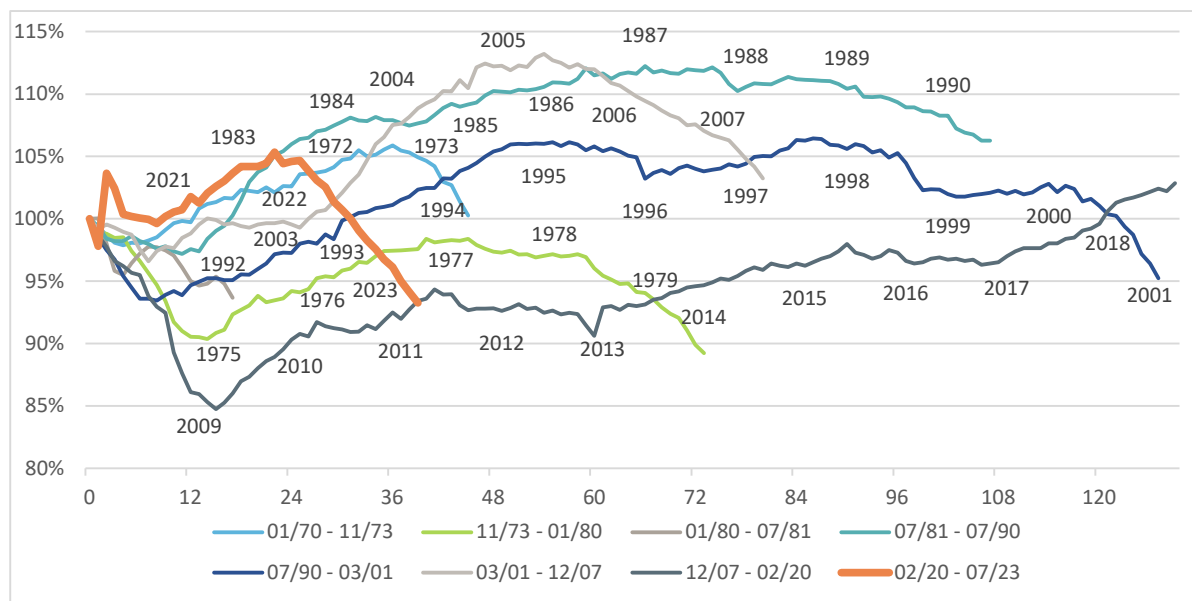
Next, we examine seven of the previous eight recessions since 1970, to illustrate how yield curves tend to invert prior to recessions, and then to steepen shortly after they start (see Figure Six). We deliberately omit the pandemic induced "stealth" recession in 2020 because it was caused by non-economic reasons. Finally, we use this information to tactically position accordingly within the fixed income markets (see next Section).

Figure Three: The US Business Cycle (LHS, 1959 – 2022, Real GDP minus Trend GDP (3.1%)), and the DWS Macro Metric (RHS, LEI/CEI-1)



Source: Federal Reserve Economic Data (FRED), The Conference Board, DWS

Figure Four: The DWS Macro Metric indexed to 100 at the start of every recession since 1970



Source: NBER, The Conference Board, DWS

Hello Rubber, Meet Road

The sequencing so far has used the DWs Macro Metric to indicate that a recession is likely on the way in the US. We then looked at the empirical evidence and it suggests that yield curve inversions tend to exist prior to such recessions, and then normalize as we move past them (i.e., as the curve reverts to its more usual, upward sloping, profile). What that means is that longer maturity bonds should yield relatively similar, or higher, amounts versus shorter term instruments, than they do today (a so-called “steepening” of the curve).

Note that this final move can occur in two ways (or some combination of them), either as a “bull steepener” with longer terms rates going down by less than shorter term ones, or as a “bear steepener” with longer term rates going up by more than shorter terms ones. Our view is that it’s the former type of steepening that would be at play here, as the short end falls in anticipation of the Fed starting to switch to a more dovish monetary policy (having heroically won the fight against inflation!).

Throwing a Curve Ball

To round out the analysis we looked at the 3, 5, and 10-year performances of three distinct maturities of the US and

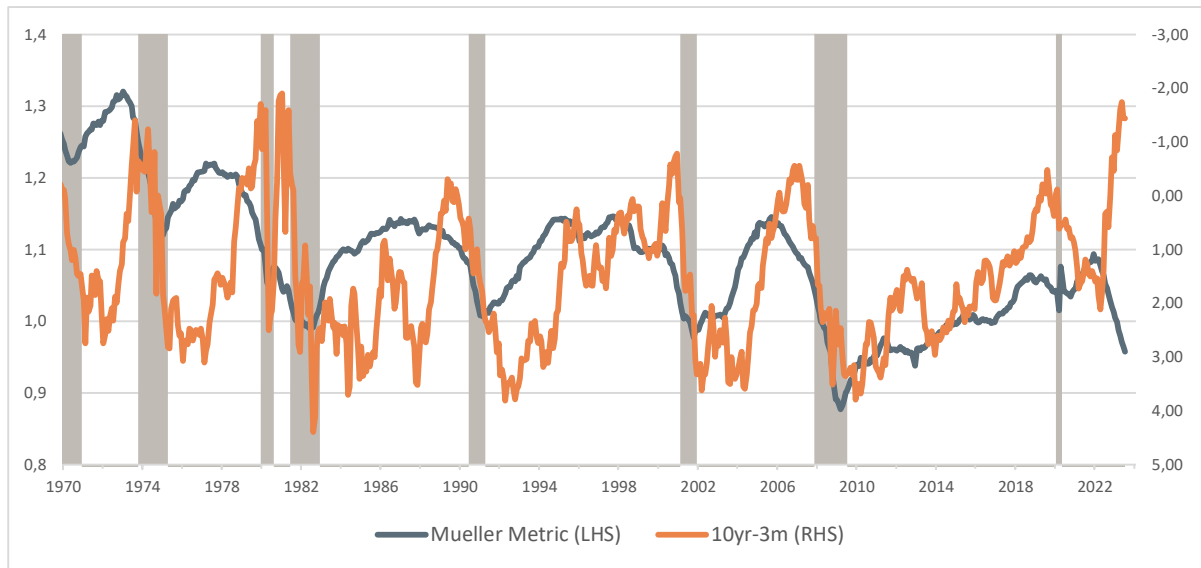
German yield curves, during such yield curve inversions (all US and German inversions, since 1976). The maturities were 30-day T-bills, and 5 and 10-year notes. Figures Six and Seven demonstrate the results, and show that investors today may want to position their portfolios according to their targeted investment horizon.

Because we are mainly interested in using the DMM for more tactical signals, then our view is that the middle part of the yield curve (i.e., around the 5-year duration) is the most relevant to target, in both the US, and, to a lesser extent, in Europe (it gives us some comfort that the results are similar across these two separate regions, though in Europe, the 10-year part of the curve is arguably as interesting over the shorter horizon, and more interesting over longer ones).

Bullet or Barbell

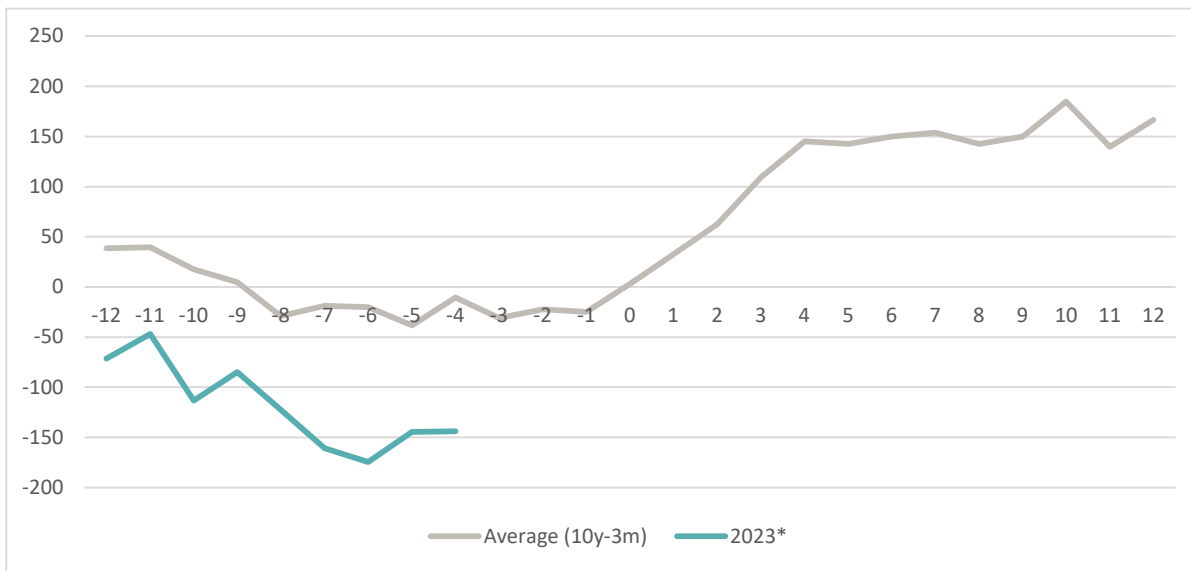
Of course, there are multiple ways of achieving these exposures, both through cash and derivative markets, and via combinations of longer and shorter dated maturities, but we think that, for long only investors, there is merit to relatively simple “bullet” exposures, those that effectively buy and hold cash positions in that section of the yield curve (as opposed to “barbell” strategies which blend short and longer dated positions). Clearly, for longer dated horizons, then according to the data, longer dated maturities may make more sense.

Figure Five: The DWS Macro Metric (LHS) and the 10y-3m yield differential (RHS, inverted) overlaid on US recessions



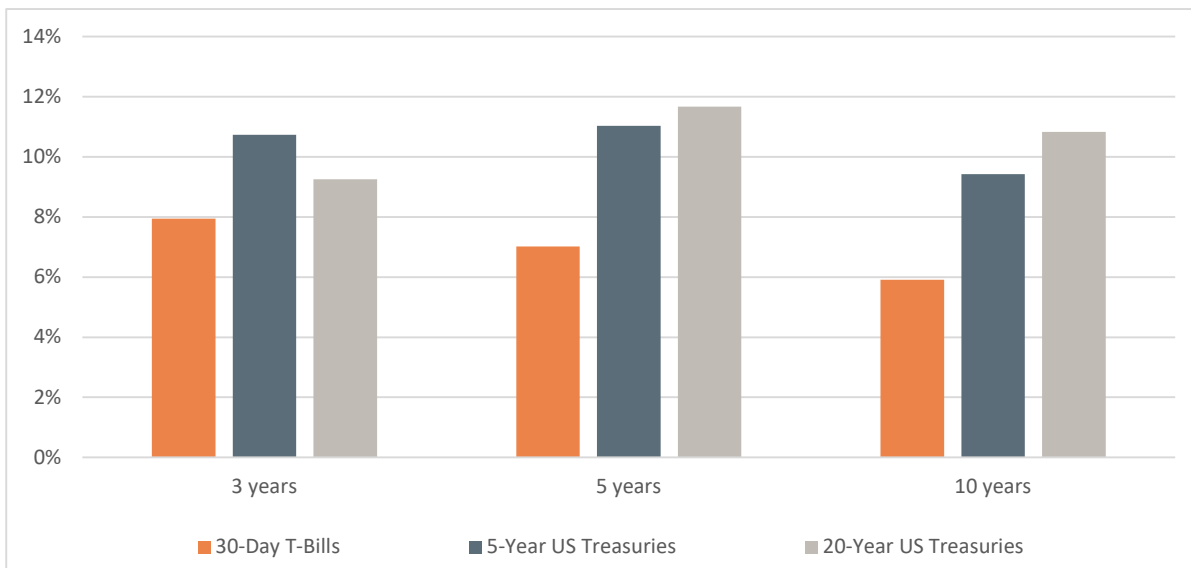
Source: DWS, Bloomberg

Figure Six: The Average Yield Differential of 10y-3m, 12 months prior to 12 months post seven US recessions (1970 onwards), and the Yield Differential today (assuming a recession starts end 2023)



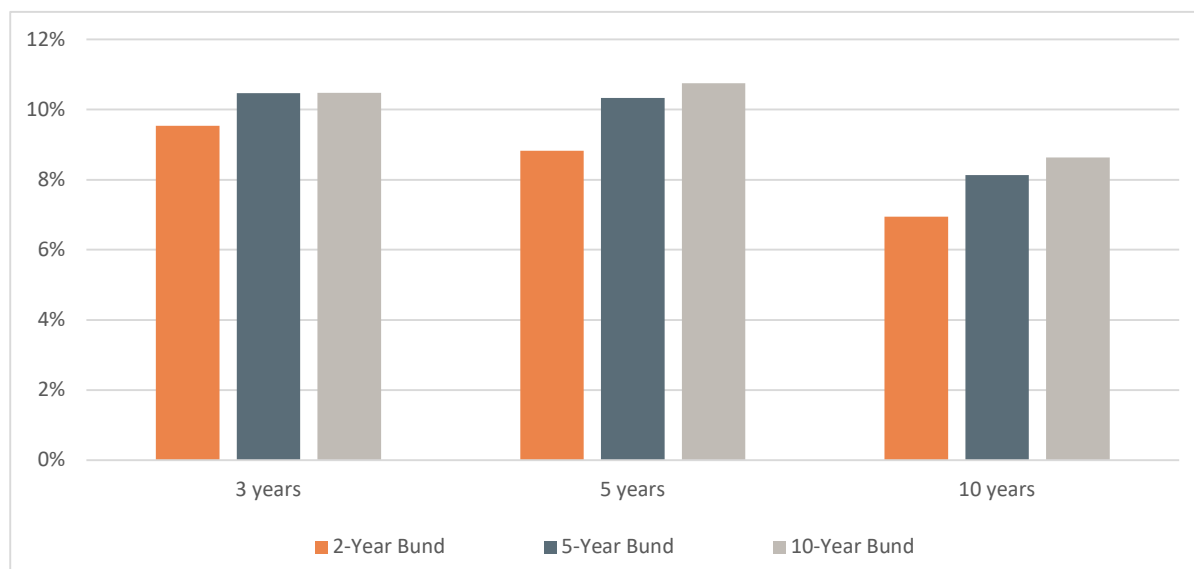
Source: DWS, Bloomberg

Figure Seven: U.S. Treasury returns over 3, 5, and 10-year horizons, post yield curve inversions (average performance, per annum, %)



Source: DWS, Bloomberg

Figure Eight: German Bund returns over 3, 5, and 10-year horizons, post yield curve inversions (average performance, per annum, %)



Source: DWS, Bloomberg

Conclusions

Understanding the dynamics of the business cycle is an important goal for investors. It can add insights into growth prospects, policy paths, and key features of the economy such as inflation and unemployment.

Unfortunately, traditional business cycle metrics are normally slow to be released, often subject to meaningful revisions later, and can result in quite volatile results. Building on the work of other economists and investors, we believe that the DWS Macro Metric, essentially the difference between leading and coincident indicators of the economy, can provide a useful alternative. The data is more varied, timelier, correlates well with traditional business cycle analysis, and has empirically tended to produce smooth and discernible cycles with more easily identifiable peaks and troughs. We find it a very useful addition to our economic toolkit.

Asset Allocation and Positioning

- Building on that, we examined the behavior of the yield curve across the 12 months before and after a recession is officially called. The analysis suggests that the curve tends to be inverted before recessions, but, once they hit, to normalize (crucially though this normalization tends to start around five to six months in advance of the recession).
- Finally, we looked at the subsequent 3, 5, and 10-year performances of three separate maturity points on the US and German yield curves, during all such inversions (since 1976).
- For those investors that are more tactically minded (and it's more in this spirit that we invoke the DWS Macro Metric), our conclusion is that it's the middle of these maturities (the 5-year note) that may be of most interest.
- To translate the DMM from economic theory to financial practice, we note that recessions have tended to coincide with its move from peak to trough, a shift that we are witnessing today.

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