Session 3: Asset Allocation for Precious Metals

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Thank you for the introduction. My presentation today is called 'Thoughts on Gold's Place in Portfolio'. I should say as part of full disclosure that this presentation I also gave to a large institutional client in the US, or a very close approximation of this presentation back during the summer. That in itself I think is revealing, it suggests increased interest across a number of institutional clients in commodities in general and in this particular instance in gold, and I would certainly suggest that in the years that I've been doing asset allocation, about 10 years, the last five have been characterised by a very broad-based and very large interest in the commodity complex within multi-asset portfolios and as I said before, within that, a special place for precious metals.

What I want to do today is go through four different areas. I think Section Four will be rather brief but I do want to think about gold's place in portfolio. First perhaps conceptually, even theoretically, and then I want to look a little bit more closely at the historical record and how it has performed not only as an asset class but within multi-asset portfolios. In Section three, then we get a little bit deeper into that discussion by looking at key subperiods in how gold has performed. What I want to do is try to differentiate simply from looking at some four or five decades' worth of gold's performance in multi-asset portfolios and look at when gold will be of a particular benefit to investors who hold stocks, bonds, credit and other assets. In Section Four, I'll just make some concluding remarks about the special asset class of gold.

Gold within a portfolio framework: Conceptually, the way we think about asset allocation at UBS, especially strategic asset allocation, is to think of what's presented here, it's the latter of risk premiums. Or to put it differently, in the standard framework of looking at risk versus return, as you move further along the horizontal axis to the right, which is increasing the riskiness of a particular asset, you should also be moving vertically on the vertical axis, which is higher, with a higher expected return. The differences between cash and inflation-linked bonds or between those denominal bonds and then further on out to corporate bonds and equities and so forth, those differences along the way can be thought of each of those asset classes' intrinsic risk premiums. So just to take a convention, the difference between equity holdings and government bond holdings would be given by the equity risk premium. The problem is that for commodities, including for gold, that have no intrinsic cash flows, it is very hard to place them into this kind of a framework. Of course, you can think about role yield when you think about futures, but we're only trying to abstract from that in thinking about underlying cash flows that an asset class may deliver. Commodities as well as real estate, at least unlisted real estate, is difficult to place within this framework, so we have to think about things a bit differently. The way we've done it is to think about what the returns should be on the basis of the yield of the asset, as well as its long-term growth, where, effectively, the

commodity yield, at least the opportunity costs up to be the cash yield, and the long-term return on that would simply be the price depreciation of the commodity itself. And you can see how that juxtaposes against other sorts of asset classes where, again, they may be risk premium-based. On the basis of that kind of work and also some things that I'll show you in a moment, we do come up with what we think are plausible forecasts of the medium term for a number of different asset classes, and you can see happily at the bottom there that in terms of commodities are expected five-year returns, which are not too bad compared to some other things and it certainly speaks to what David was saying earlier, which is to say that the potential for a lot of commodities is limited supply in a world where demand is growing very robustly indeed.

We also looked at realised returns in commodities: on the left, we can look at the excess return, which is simply the role yield plus the return that you get in futures prices relative to GDP, and commodities actually are, unsurprisingly I suppose for some, very cyclical indeed. The question is what sort of returns we'd expect to see over the coming years, and in our world, global GDP grows for reasons we can come back to later, is likely to be pretty subdued, which suggests that commodity returns going forward ought to lie in that 5-10% that we had depicted if GDP growth globally is somewhere in the neighbourhood of maybe 3-3.5%, which is what we would anticipate as well over the coming half decade or so. So a period of modest but steady returns and then we haven't yet discussed gold within that context but we will come to it.

So what about precious metals? Here, the work that we have done is depicted on this page, or in the space of precious metals as opposed to gold specifically. Although gold obviously has a high weighting in that asset class, and as it turns out as you can see to the far right of the upper diagram is that, over the period that we have data on floating prices for gold, that is ever since gold was freed from the shackles of Breton Woods in the early 1970s, its return has been modest against other asset classes depicted there (equities, government bonds and so forth). But its volatility has been very high indeed, so what we show there is that the risk/return of the sharp ratio on precious metals has been very poor indeed. This is the sedge way into asset allocation and the thoughts about gold within multi-asset portfolios, if it were just about risk-adjusted returns, gold would in fact do very poorly in any empirical analysis of its worth within multi-asset portfolios. But there is a table at the bottom, and this has been over time one of gold's saving graces within multi-asset portfolios, namely that it is very weakly correlated to the other principle assets, and when you're building portfolios and you want to try to find some diversification across the assets that are candidates, low correlation is obviously of great benefit and can offset to some extent the otherwise poor risk/return profile of precious metals and indeed of gold.

One of the attributes of gold that is commonly expressed, and we heard it actually just a moment ago, is that it's negatively correlated to the dollar. If the dollar falls, gold prices go up. That is true, as you can see, on this particular diagram over time, which shows the rolling correlation or correlation coefficient of gold to the trade weighted value of the dollar, but it's not quite as true as some of its proponents suggest; in other words, the correlation is actually quite unstable. There have been times when it has, in fact, been positive, and there are times when it is deeply negative. It's certainly one for one. So, if you think about gold as being a hedge against a weak dollar, it's a partial hedge at best, although on average, it is a hedge in the appropriate direction.

Let's turn a little bit more carefully to the historic record and we'll look first at some of the price behaviour. The upper left-hand diagram shows the price of gold as we commonly think of it, that is, expressed in

US dollars. Then you can look at it in a multi-currency framework specifically in the case of SDRs, which is the grey line below it, which is less impressive and does suggest that one of the things that gold has done is hold its value against a depreciating dollar fairly well. We can also look at gold's performance here indexed against other asset classes, again going back to 1973, when gold was, as it were, first relieved from the burdens of being tied under the Breton Wood system to the value of the dollar. Appropriately here, gold is the yellow line and what you can see is that in the 1970s, gold was the asset to hold and was by far and away the best-performing asset class of those that are depicted here. Gold did well in a weak dollar/high inflation environment. Needless to say, equities, real estate, bonds and so forth did very poorly in that time. But then came the long diaspora for gold, namely from the early part of the 1980s essentially until the beginning of this decade gold in relative terms may have held its value in nominal value somewhat, but it certainly lost ground in relative terms to every other asset class. When you now look at it in index over the full period of time, you can see that gold's returns have not beaten cash over that entire period. Again, these are all in nominal terms. So what you basically see from this diagram, both in its absolute performance and its relative performance, there are two subperiods where gold was extraordinarily attractive – the 70s and then this decade, with the middle period spanning several decades where gold was clearly the asset not to hold in portfolios.

Just skipping ahead then, if we think about gold in a multi-currency framework, the easiest way to think about it is in terms of its position on the efficient frontier and so in the upper left-hand diagram, we depict what the efficient frontier would have looked like in dollar terms, including the various asset classes that I have mentioned before as well as precious metals, again to be specifically used by that designation and that metric rather than gold itself. You can see that gold's performance in risk/reward terms is quite poor; I think we have already demonstrated that before. In the lower right-hand diagram, you can then see the optimal allocation to various asset classes that one would have held had one known what those performances would have looked like or if you prefer, exposed what their holdings would have been. Precious metals would have had a holding, but it would have only been 1% of total portfolios. However, as was mentioned in the introductory remarks at the beginning, 1% of a very large number itself is a very large number so even this might be encouraging to the gold enthusiasts if asset allocators over time devoted fully 1% of their assets to the precious metal. Then you get the little smiley face there; when the face is not smiling, it is saying that it is a rather modest outcome for gold's performance. We'll see in a moment in the subperiods that a non-smile as it were can turn into one that either smiles or frowns depending on the subperiod we're looking at.

That is indeed what Section Three is now about. What we try to do in this Section is look at various interesting subperiods and to see how gold would have performed in multi-asset portfolios, and the first of these is given by the header to this particular chart – the performance of precious metals in periods of dollar weakness. To start with, in the lower left-hand diagram, in that line chart, we simply identified those periods where the dollar was weak; you're looking at the green line where the trade weighted value of the dollar. We've simply taken longer episodes where the dollar was in sharp decline, for example post-1985, as depicted in the middle part of that diagram. So we've simply taken those episodes and asked how gold performed in those periods of time and, more importantly, how would it have performed as part of a universe of various assets, i.e. in a multi-asset portfolio. As it turns out, it would have performed quite well indeed. If the world were habitually characterised by dollar weakness, then gold could command up to perhaps 29%, i.e. nearly a third of your total

portfolio in terms of its performance contribution. That is of course its hedging against a weak dollar as well as its performance relative to other assets, as they perhaps do not do as well in weak dollar episodes.

How about in periods of dollar strength? We have seen those since the advent of floating exchange rates, where gold does very poorly indeed. Gold's performance or precious metal's performance is one of negative returns, to the tune of approximately -10% per annum, with a very high volatility as well. Accordingly, as per the pie chart in the lower right-hand diagram, the optimal holding of gold in periods of dollar strength is zero.

How about precious metals and high inflation? This is it. This is as good as it gets. The pie chart is entirely yellow, 100% of your allocation should be to precious metals, and you can see in the efficient frontier there, that precious metals had extraordinary high returns, over 40% per annum in a period in which they also had relatively high 45% returns. They also had high volatility, but the returns trumped everything else, so too did the weak correlations, which meant that 100% of portfolios should be allocated to gold in high inflation episodes.

This is by the way simply a manifestation of what happened during the 1970s and, quite frankly, we had already seen that on the graphic I presented a little earlier.

What about low inflation? Exactly the opposite, again no place for gold in optimal portfolios. Once again, we have here negative returns, not quite as bad as in dollar strength periods, but we still had that very high volatility, the optimal allocation is zero.

How about during periods of high interest rates? Very high allocation to gold as you can see from the pie chart – a good ¾ or more, actually 86% to the allocation. Bear in mind that high interest rates are correlated to high inflation. This is simply for the most part capturing exactly those same outcomes that we saw when we had high inflation. Needless to say, when we move to the low inflation world, we again go back into portfolios where gold's holding is negligible or in this case is actually zero.

Then perhaps a little bit more interesting when we think about what's happening in the world around us, especially over the last 10 to 15 years, the advent of higher equity risk premiums. How do precious metals do when equity risk premiums are rising and/or are high? They deserve a pretty decent weight in portfolios, just shy of 10%, and again you can see their performance is partly due to return. The correlation probably plays a role as well because the volatility is high but mostly what you are doing is substituting gold for equities, which of course are languishing in the period where equity risk premiums are on the rise.

Then again, unsurprisingly as we've seen the pattern already, when equity risk premiums are low and/or falling then what you want is equities and equities only. That's why the pie chart there is coloured entirely in blue and gold's holdings are zero, but then again so too are those of other asset classes.

So what does that tell us about gold and its performance in multi-asset portfolios? Obviously, one could continue to run through various sorts of scenarios. It seems to me that we can draw a few conclusions from it here in this fourth and final section.

First, the portfolio demand for gold is based on return in correlation, that's pretty straightforward. It should be said, that it is not based on fundamental valuation since, in my opinion, there is no way as an asset class to fundamentally value gold.

Secondly, gold is a relatively unattractive asset class when it comes to volatility. It has that in the entire period for which we see a freely floating gold price and relatively high

volatility. But it also has experienced that in many of the subperiods that we looked at, if you look fairly closely at some of the diagrams, particularly the efficient frontiers that I mentioned to you. So gold is therefore not for the faint of heart.

It seems to me though that the main conclusion that we can probably draw from gold is that if you want it, when conditions are bad – if you looked at when the portfolio allocations of gold were highest, it was when equity risk premiums were high and/or rising, and it was when the dollar was weak. In other words, most of what I have just presented to you could probably be summed up fairly succinctly, which is to say that gold is a pretty good hedge despite its volatility against macroeconomic risk, and in particular given the view that people have grown accustomed to the fact that we are in a world of the great moderation, i.e. relatively modest growth and low inflation without a great deal of macroeconomic risks and that would suggest that it's a world that's not very friendly to gold. But if the world is going to be anything but that, high or low inflation, including deflation, a falling dollar environment, or one in which perceptions of risk about equity markets is particularly pronounced, these are all reasons to hold gold. Therefore, I would suggest to you is what gold's basic value is in multi-asset portfolios is that it is insurance. It is insurance against tale risk in macroeconomically uncertain environments.

Thank you.