Benjamin_Felix Portfolio Manager, Head of Research at PWL … bquant May 2023

Gold is too volatile to be a short-run store of value, and too unstable to be a long-run store of value over any horizon relevant to most investors. Using UK data, from 1562 to 1592 it lost about 60% of its purchasing power. From 1626 to 1656 is lost about 30% of its purchasing power. From 1738 to 1801 it lost about 50% of its purchasing power. From 1897 to 1920 it lost about 70% of its purchasing power.

It is true that from 1560 to 1976 it returned approximately 0% in real terms over the full period, so we can maybe call it a store of value over the very long run.

From 1977 (and even more so starting in 1974) to today it has had meaningfully positive returns, and this is where most of the backtesting happens. If you give gold a haircut in the recent period to bring its mean return in line with long run history (0% real) while roughly maintaining its correlation with stocks, the cost of holding gold for a long-term investor is more obvious.

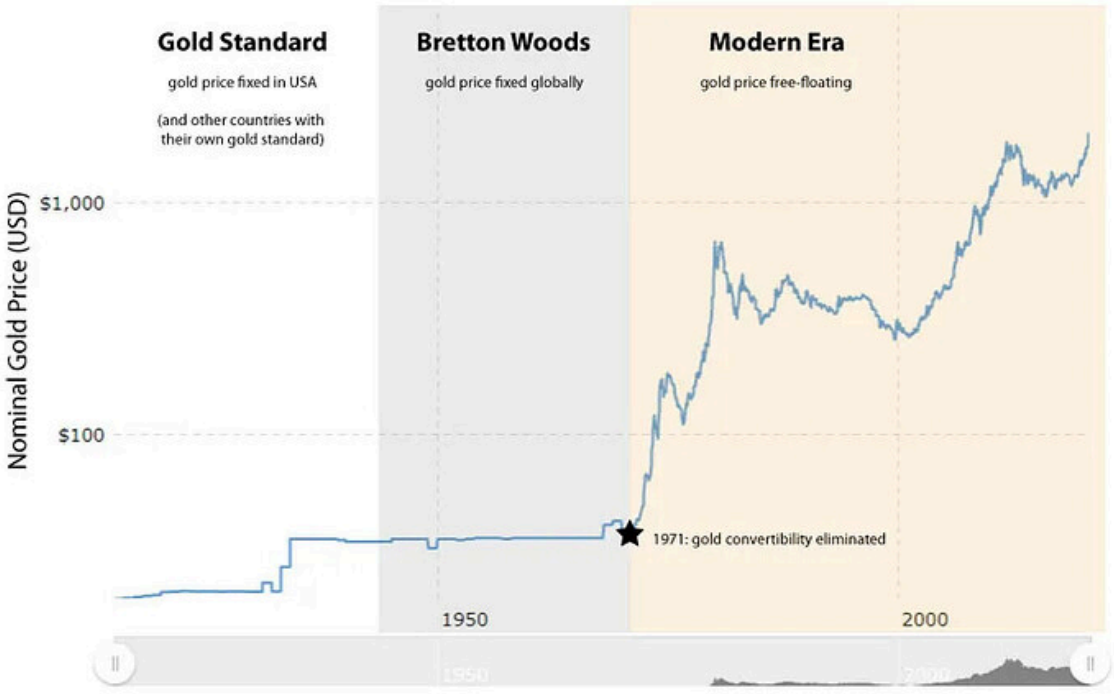
Sharpe ratios are designed for single-period investors who consume their assets at the end of the period, but most people here are not planning to do that. Volatility is less of an issue for long-term investors (other than behaviorally) so giving up expected returns in exchange for lower volatility is a difficult trade-off to justify in my opinion.

Tyler 2 May 2023

> Benjamin_Felix:
>
> From 1977 (and even more so starting in 1974) to today it has had meaningfully positive returns, and this is where most of the backtesting happens. If you give gold a haircut in the recent period to bring its mean return in line with long run history (0% real) while roughly maintaining its correlation with stocks, the cost of holding gold for a long-term investor is more obvious.

If you make that assumption, I can understand the conclusion. But I also believe that's a very shaky assumption. Gold before and after 1971 behaved like completely different assets for very clear legal and economic reasons.

Beginning with a monetary gold standard in the mid 1800s and all the way through the end of Bretton Woods in 1971, gold was fixed to the dollar the vast majority of the time and by legal definition had the return and volatility the same as uninvested cash. For example, you mention that gold lost 70% of its purchasing power between 1897 and 1920. But looking at CPI data from the Shiller spreadsheet (CPI of 6.28 in June 1897 and 20.90 in June 1920), that's simply the loss of purchasing power of the dollar due to inflation. After the end of gold convertibility, it took on an entirely new life and had the volatility of stocks with a return much closer to stocks than to cash.



So from my perspective, I completely understand when people either just don't care for gold on principle or are perhaps uncomfortable with a limited amount of applicable data in the modern economic era. But at the same time, I don't believe it's reasonable to look at the gold history and argue that one should choose a model where it has the return of cash (0%) but the modern volatility and correlation with stocks. Love it or hate it, gold just doesn't work like that.

Benjamin_Felix Portfolio Manager, Head of Research at PWL Capital May 2023

My sample goes back to 1560, but other data similarly show a 0% real return going back further than that. What basis do you have to support the post-1974 period being more representative of gold's expected return?

7 Reply

Tyler 4 May 2023

My basis for that belief is documented changes in international monetary policy that fundamentally transformed the way that gold is priced.

What portion of your sample since 1560 includes years under a gold standard?

4 Reply

Benjamin_Felix Portfolio Manager, Head of Research at PWL Capital 1 May 2023

Note that I am using UK data so the Shiller CPI may have limited relevance.

England set a maximum price of gold guinea coins in 1717 and went on a proper gold standard in 1816. They dropped the gold standard in 1931. A good chunk of the sample was not under a gold standard.

Edit to add that it would also be interesting to know how you think about the theoretical side of this where a low or negative beta asset has a low or negative expected return.

Tyler 4 May 2023

> Benjamin_Felix:
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> Note that I am using UK data so the Shiller CPI may have limited relevance.
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> England set a maximum price of gold guinea coins in 1717 and went on a proper gold standard in 1816. They dropped the gold standard in 1931. A good chunk of the sample was not under a gold standard.
>
> Edit to add that it would also be interesting to know how you think about the theoretical side of this where a low or negative beta asset has a low or negative expected return.

Fair enough. According to this site [1], the GBP lost 66% of its value over the same timeframe between 1897 and 1920 when it was also on the gold standard. In my experience, the small difference could be as simple as the month in the year where you measure. So I'd say the point remains the same that the reported loss was simply a measure of inflation. Gold was legal tender at the time with a fixed value per ounce, so it lost purchasing power at the exact same rate as paper cash.

Also, while the previous gold standard ended in 1931 it indirectly started back up with the Bretton Woods agreement in 1944. Under that system, many global currencies (including GBP) were priced in USD and the USD was backed by gold. So the price of gold was effectively fixed globally at a 0% nominal return until 1971. You can clearly see that in my log chart above.

As for your last question, I'd be happy to talk about the measurable positive effects of a volatile low-beta asset (even with a low expected return) in a regularly rebalanced portfolio including other things like stocks and bonds. I totally agree that gold on its own is a lousy investment, but as one ingredient in a recipe I believe the data shows that it's quite effective in smoothing the ride without sacrificing nearly as much in portfolio returns as the low expected return of gold alone would imply. For example, the article I wrote on Shannon's Demon [6] contains some relevant examples of that theoretical concept in practice.

And while we're talking about the theoretical side, I also have a question – how do you personally evaluate the expected return of gold, and under what conditions does your expected return change? I have yet to find a good model that doesn't just lean on the long-term average (something that I imagine would make any true value investor cringe), and I'm curious if you've run across something you find compelling.

Benjamin_Felix Portfolio Manager, Head of Research at PWL Capital 1 May 2023

> Tyler:
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> Also, while the previous gold standard ended in 1931 it indirectly started back up with the Bretton Woods agreement in 1944. Under that system, many global currencies (including GBP) were priced in USD and the USD was backed by gold. So the price of gold was effectively fixed globally at a 0% nominal return until 1971. You can clearly see that in my log chart above.

Free markets for gold continued to exist outside of the US during Bretton Woods. The free London gold market opened in 1952. It opened in Paris in 1948. I am using the London market price. A group of central banks tried to hold the price of gold steady from 1961 through 1968 (The London Gold Pool) but the effort was unsuccessful.

In any case, you are contesting one small portion of a much larger sample. Both my 1560+ sample and much longer-term data are suggesting the same thing.

Table 2. Military Pay in Ounces of Gold

	U.S. Army Private	Roman Legionary	Growth Rate	U.S. Army Captain	Roman Centurion	Growth Rate
Salary	$17,611	$3,704	0.08%	$44,543	$61,730	−0.02%
Price of gold	$1,600	$1,600		$1,600	$1,600	
Ounces of gold	11.01	2.31	0.08%	27.84	38.58	−0.02%

Sources: U.S. Army; MacMullen (1974).

> Tyler:
>
> As for your last question, I'd be happy to talk about the measurable positive effects of a volatile low-beta asset (even with a low expected return) in a regularly rebalanced portfolio including other things like stocks and bonds.

That's not what I meant. Theoretically an asset that is not correlated with the market must have a low expected return. This is basic asset pricing theory. Your argument for gold seems to be that it is a good diversifier **and** has a positive expected return which is theoretically unlikely.

Both the empirical evidence and asset pricing theory suggest that it has an expected real return of ~0% or lower. This makes gold unattractive despite its diversification properties.

> Tyler:
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> And while we're talking about the theoretical side, I also have a question – how do you personally evaluate the expected return of gold, and under what conditions does your expected return change? I have yet to find a good model that doesn't just lean on the long-term average (something that I imagine would make any true value investor cringe), and I'm curious if you've run across something you find compelling.

Asset pricing theory predicts that an asset like gold with a low market beta will have a low expected return. Additionally, it is not a productive asset and has no cash flows to discount. As a consumption good it pays an emotional dividend to its owner which drives down its financial expected return. As a commodity we should expect its price to tend toward the marginal cost of production. As a speculative asset it should similarly have a low or negative expected return. Any theoretical perspective we take points to low expected returns, and the empirical evidence supports this.

Tyler 1 May 2023

> Benjamin_Felix:
>
> Both the empirical evidence and asset pricing theory suggest that it has an expected real return of ~0% or lower. This makes gold unattractive despite its diversification properties.

I have neither the desire nor the expertise to debate you on asset pricing theory. I genuinely am open to learning more from you on that topic. 🙂 But I do have a lot to offer when it comes to studying data, so maybe I should be more specific. My complaint is not that you find gold unattractive as a diversifier, but simply that I believe you are unintentionally misinterpreting the empirical evidence of how it performed.

The core issue that caused me to chime in was this:

> Benjamin_Felix:
>
> It is true that from 1560 to 1976 it returned approximately 0% in real terms over the full period, so we can maybe call it a store of value over the very long run.
>
> From 1977 (and even more so starting in 1974) to today it has had meaningfully positive returns, and this is where most of the backtesting happens. If you give gold a haircut in the recent period to bring its mean return in line with long run history (0% real) while roughly maintaining its correlation with stocks, the cost of holding gold for a long-term investor is more obvious.

To support your point about the long run history, you cited a paper that quoted the average gold return in the UK since 1560. However, from 1717 to 1971 the price of gold was legally fixed by the UK government in order to make it directly exchangeable for paper currency at a set rate. It experienced a nominal return of zero for most of that time with only a few short breaks and exchange rate changes determined by the government, not the market. Here's a chart [5] where you can see it for yourself. Be sure to play with the slider and note the complete change in how the pricing worked before and after 1971.

Think about that for a moment. Even if you're right about your CAPM-based theory about how gold should work, the data you cited as empirical evidence included more than half of the years where the CAPM model does not apply. There was no free-trading gold for the market to price! As an engineer, testing a model by measuring a timeframe where the model wasn't even active just seems completely wrong. I would find the argument more convincing if you at least excluded the data from the average where gold had a fixed 0% return under an economic system that no longer applies today.

Speaking of the average, also think about it from a pure numbers perspective. You use the data to cite a long-term *real* return of zero, but under a gold standard the *nominal* return is fixed at zero. So if half of the data by definition has a negative real return, that implies that the other half (where there's actually a gold market) must have experienced a positive real return. That's the only way you get to an average of zero.

Which leads into why I asked about your model for gold's expected returns. In your quote above, you noted that since 1974 (almost 50 years) they have been "meaningfully positive." In fact, the average return for gold (also priced in GBP) was over 5.4% real in that timeframe. Yet your theory suggests this should not be the case. Now I'm not saying I know the right way to model the expected return of gold. I'm just suggesting that if the model does not match 50 years of applicable data, perhaps the model needs some refinement.

TL;DR: Going back to my original point that started the conversation, I believe it's misleading to reference the long run gold average without accounting for the unique historical context of how the way gold is fundamentally priced changed over the years. I also disagree that it makes sense to tweak the gold expected returns by grafting the high volatility under one economic system with the low average under another. And if you have a deeper explanation for the expected returns of gold that explains its measurable performance when NOT subject to a gold standard, I'd love to hear it!

So please don't mistake me for a goldbug. I'm just a stickler for good data.

Cheers. 

Benjamin_Felix Portfolio Manager, Head of Research at PWL Capital 2 May 2023

> Tyler:
>
> I would find the argument more convincing if you at least excluded the data from the average where gold had a fixed 0% return under an economic system that no longer applies today.

Here is what I have:

- 1560 to 1717 gold returned a real -0.30% annualized.
- 1717 to 1971 gold returned a real -0.09% annualized.
- 1972 to 1979 gold returned a real 19.60% annualized.
- 1980 to 2022 gold returned a real 0.76% annualized
- 1560 to 2022 gold returned a real 0.26% annualized
- 1560 to 2022 excluding 1717 to 1971 gold returned a real 0.69% annualized
- 27 BC to 2013 gold returned -0.02% to 0.08% annualized (from The Golden Dilemma 3)

The anomaly is not the ~0% real return. Even if we exclude the gold standard years, it's the high return that occurred immediately after the end of the formal gold standard that stands out.

I m struggling to see why we would take 7 years of data out of many hundreds (even excluding the gold standard years) and conclude that gold has a high positive expected return. I think this is problematic because these years are very important in back tests.

This is a period of high US inflation where stocks did poorly for an extended period of time, and gold did well (for once in recorded history 🤣), but more importantly it's where most back testing data start. There are many elements here contributing to what I believe to be unrealistic back tests based on a short history of gold containing an anomalous period of high returns.

> Tyler:
>
> There was no free-trading gold for the market to price!

I don't think this is entirely true. There continued to be a market for gold.

> England slid onto the gold standard in 1717 in the manner described in Chapter 1. Thereafter, prices remained constant at 77.5 shillings until 1760, by the best evidence we have from the Bank of England's buying price.
>
> In 1760 gold prices broke upward in the market and remained higher than the Bank buying price until 1773. This episode can be attributed to two phenomena: (a) the sorry state of gold coinage in the mid-eighteenth century and its rehabilitation by the Recoinage of 1774, and (b) the rapid development of country banks after 1750 and the emergence of the Bank of England as a bank of final reserve.
>
> Let us look at these in turn. In an attempt to rehabilitate the debased coinage of earlier years, the Act of 1698 had provided that anyone receiving deficient silver coins should deface them with a provision for removing them from circulation. The remedy was for the prevalent silver coins of those days and was not made to apply to the rarer gold.
>
> After the coinage of gold had risen to very substantial volume following the gold standard of 1717, gold coins in circulation became progressively lighter. As a result, all full-weight ones were exported as soon as minted, and the market price of gold began to climb.
>
> By 1773 nearly all the gold coinage was circulating on a debased basis, and the Act of 1698 was extended from silver to include gold coins as well. This time the Act had teeth in it: severe penalties were provided for passing on debased coins.
>
> By arrangement, the Bank of England purchased defaced coins by weight at the Mint price. This effectively brought the market price of gold down to official levels by 1774.
>
> The debasement-rehabilitation model just described was enough to account for gold's price behavior between 1760 and 1774. But a parallel phenomenon accentuated the rise of gold prices after the 1750s. This was the rapid growth of the so-called country banks. These were institutions outside London and in places like Sussex, Essex, Norfolk, Suffolk, and Hull. Only about a dozen of these existed in 1750, but by 1793 there were almost 400.

Tyler May 2023

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> This is a period of high US inflation where stocks did poorly for an extended period of time, and gold did well (for once in recorded history 🤣), but more importantly it's where most back testing data start. There are many elements here contributing to what I believe to be unrealistic back tests based on a short history of gold containing an anomalous period of high returns.

On that point we completely agree. And I'll even do you one better – during the 3-year period between 1972-1974, gold averaged an insane 52% real as the market exploded when the Bretton Woods restraints were lifted and the market was finally allowed to seek the true price. Talk about unsustainable!

But the good news is that not every backtest is influenced by that anomalous period in the same way. There are ways to account for it, and I've gone out of my way to create lots of free tools to help people see past data bubbles to the underlying portfolio consistency. To the topic of this thread, I've learned over the years that a lot of people find the consistency of portfolios containing gold to be surprisingly desirable *especially* when you look at the worst times to invest, not just the best or the average.

I've written enough on this today, so I'll just leave this for anyone interested in reading more about alternative portfolio analysis techniques. There's even some nice talk about gold that jives with your point about the gold data. 😉

Portfolio Charts – 23 Jul 19

How to Study Portfolios When the Data Is Full of Bubbles – Portfolio Charts 19

When discussing historical investing data one of the more interesting points that inevitably arises is the question of just how applicable past results are to

Benjamin_Felix Portfolio Manager, Head of Research at PWL Ca… Tyler May 2023

Fun post, but removing “bubbles” from the long-term history of stocks doesn’t drop their long-term historical real returns to zero (long-term being longer than the small post-1970 sample). Bonds are similarly robust in long-term data even with the long period of poor real returns from the '40s to the '80s.

It’s an entirely different situation with gold when, as you point out, we are relying on a couple of years of data out of hundreds (or thousands) to support positive expected returns.

Gold has a low historical return, and theoretically must have a low expected return. Expected returns aside, if people want to bet on the post-1970 correlation persisting that’s ok (sort of - that’s a whole other issue), but I think it’s important to understand that the post-1970 return of gold is not a good representation of history, or of the expected returns for the asset.

Using CAPM pricing, the expected return on a security is:

$$E(R_A) = R_f + \beta_A * (E(R_M) - R_f)$$

The market beta of gold is historically 0, so the expected return of gold is approximated at the risk-free rate. This doesn’t account for the speculative aspect of gold, or the consumption good emotional dividend aspect of gold, which both point to lower expected returns than CAPM would predict.

Tyler May 2023

> Benjamin_Felix:
>
> It’s an entirely different situation with gold when, as you point out, we are relying on a couple of years of data out of hundreds (or thousands) to support positive expected returns.

Ah – I think that’s perhaps a core difference between us. I’ve made no claims at all about expected returns. Just accurate history.

Your domain is exploring the academic theory of how individual assets *should* behave. My domain is documenting the measurable reality of how combinations of assets *do* behave. I believe both perspectives are important when making financial decisions, which is why I enjoy your work.

Benjamin_Felix Portfolio Manager, Head of Research at PWL Capital 1 May 2023

> Tyler:
>
> Ah – I think that's perhaps a core difference between us. I've made no claims at all about expected returns. Just accurate history.

I am still struggling with how focusing on a sample containing the few years of great returns while ignoring hundreds or thousands of years of flat returns (even when excluding the gold standard years) is an accurate representation of history.

Edit to add: **especially** when the more recent history (well, 7 years of it) is theoretically inconsistent, but the rest of history is in line with theory.

2 Replies 10 Reply

Tyler chernokicks May 2023

Perhaps the most famous study on withdrawal rates ever made was "Determining Withdrawal Rates Using Historical Data [1]" by William Bengen. In that study, he looked at every retirement period since 1927 for different types of portfolios and calculated the maximum withdrawal rate that could have safely sustained constant retirement income for up to 30 years, even in the worst case. If you've ever heard of the 4% rule for retirement, that's where it comes from. It was a noted break from the best academic models at the time that encouraged retirees to simply take out the average return every year, which turned out to be extremely unsafe! Countless people use that approach to this day to make decisions about their expected budgets in retirement.

But interestingly, if you read the study and Ctrl+F for "expected returns" you won't find anything. Predictions of future markets were irrelevant to his analysis, as he was looking not at the average but at the worst cases. Does that make him a weasel? Personally, I don't think so. He just had a unique approach that provided conservative guidelines without attempting to predict the future.

I encourage anyone interested in data to read more about my style of backtesting before passing judgment. With metrics like the deepest drawdown and the 15-year baseline return, I approach backtesting more in the Bengen spirit of seeking out conservative guidelines grounded in reality. It's different than your typical expected return mindset, for sure. But I'd argue it's no less valuable.

Tyler May 2023

> Benjamin_Felix:
>
> I am still struggling with how focusing on a sample containing the few years of great returns while ignoring hundreds or thousands of years of flat returns (even when excluding the gold standard years) is an accurate representation of history.

When we're able to get as much data for all of the other assets as we have for gold, I'll be happy to extend my analysis. 🙂

1 ♡ 🔗 ••• Reply

Benjamin_Felix Portfolio Manager, Head of Research at PWL Ca… → Tyler May 2023

Bengen also had a small sample and never looked outside of the US. His approach was certainly innovative, and a ton of people use his research which shows its practical application, but I would not cite Bengen as the benchmark for comprehensive out of sample research.

He is, respectfully, the antithesis of it. I asked him about testing outside the US 1:

> BF: Do you think people should take that survivorship bias into account when they're evaluating safe withdrawal rates?
>
> WB: Well, I guess it's country sensitive. I mean, my research has had a very narrow focus. It's basically been focused on U.S. investors, U.S. investments, U.S. bonds, U.S. stocks. So, I'm probably not very well qualified to comment about what's happening outside our borders, but yeah, sure. I could see it could be different if they have different return profiles different inflation profiles, and [inaudible 00:14:54] start them.

Benjamin_Felix Portfolio Manager, Head of Research at PWL Ca... Tyler May 2023

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10 Reply

Tyler May 2023

> Benjamin_Felix:
>
> Bengen also had a small sample and never looked outside of the US. His approach was certainly innovative, and a ton of people use his research which shows its practical application, but I would not cite Bengen as the benchmark for comprehensive out of sample research.

I agree! Please check out my own work that extends his methodology not only to other countries but also to assets you'll find interesting like small cap value. You can even leave out gold if you like. 😉

Portfolio Charts – 9 Jun 17

Your Home Country Is Inseparable From Your Withdrawal Rate – Portfolio Charts 5

Perhaps because of the proliferation of personal finance websites focusing on early retirement, I've noticed a lot of talk lately about safe withdrawal

Tyler May 2023

> chernokicks:
>
> Your assumption that backtests = conservative is completely unwarranted and dangerous to suggest.

To be clear, I don't claim that backtesting is inherently conservative. But like finding the worst-case retirement periods to establish a conservative SWR, I believe using worst-case investing timelines to establish conservative investing expectations is a reasonable approach that does not depend on one's current expected return being correct.

1 Reply 3 Reply

Benjamin_Felix Portfolio Manager, Head of Research at PWL Ca… Tyler May 2023

I don't know, man. You extended it geographically but started in 1970.

7 Reply

Tyler May 2023

When working with historical data, the tradeoff for more asset breadth is less historical depth. And having hundreds of years of data for large cap blend and intermediate bonds is a lot less useful than it sounds if that's not how you actually invest your own money. So it's a balance.

> Portfolio Charts – 10 Sep 15
>
> **Withdrawal Rates FAQ – Portfolio Charts**
>
> Like other retirement studies, the timeframe covered is simply a matter of data availability.

Benjamin_Felix Portfolio Manager, Head of Research at PWL Capital May 2023

> Tyler:
>
> I believe using worst-case investing timelines to establish conservative investing expectations is a reasonable approach that does not depend on one's current expected return being correct.

This is a slippery slope. Using a small sample of market history to project the future while ignoring expected returns would make me, personally, and professionally, very nervous.

9 Reply

Tyler May 2023

Fair enough. For me, leaning on academic expected returns without regard to measurable history would make me personally and professionally very nervous. That's why the world needs us both. 😉

1 Reply 5 Reply

Benjamin_Felix Portfolio Manager, Head of Research at PWL Capital May 2023

> Tyler:
>
> And having hundreds of years of data for large cap blend and intermediate bonds

I think we discussed this once before. The really long-term data in GFD is total market, not large cap blend, but the point is still valid if you're tilting away from market.

DMS is also total market and has long bonds and bills rather than the intermediate bonds that Cederburg used.

Benjamin_Felix Portfolio Manager, Head of Research at PWL Capital May 2023

> Tyler:
>
> Fair enough. For me, leaning on academic expected returns without regard to measurable history would make me personally and professionally very nervous. That's why the world needs us both. 😉

You're using post-1970 history. That is not measurable history. I would be ok with using measurable history alone if I had to, but not post-1970.

When we make projections, we use DMS World 1900 - 202X adjusted for valuation changes as a baseline (that is measurable history) and then make a small adjustment for current valuations. So it's measurable history with some adjustments for expected returns.

Tyler Benjamin_Felix May 2023

Yeah, we've covered that. You're right. The really interesting stuff is in dedicated small cap value data.

OutrageousFortune Tyler May 2023

I can only speak for myself but I am benefitting from your back and forth with @Benjamin_Felix and so if you have more questions, I'd appreciate you continuing to ask.

14 Reply

Tyler May 2023

Fair enough. 🙂

> Benjamin_Felix:
>
> From 1977 (and even more so starting in 1974) to today it has had meaningfully positive returns, and this is where most of the backtesting happens. If you give gold a haircut in the recent period to bring its mean return in line with long run history (0% real) while roughly maintaining its correlation with stocks, the cost of holding gold for a long-term investor is more obvious.

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> When we make projections, we use DMS World 1900 - 202X adjusted for valuation changes as a baseline (that is measurable history) and then make a small adjustment for current valuations. So it's measurable history with some adjustments for expected returns.

Ben – Am I understanding it correctly that when calculating the expected return of stocks you adjust the long term average using current market conditions, but when calculating the expected return of gold you do not?

Benjamin_Felix Portfolio Manager, Head of Research at PWL Capital May 2023

> Tyler:
>
> Ben – Am I understanding it correctly that when calculating the expected return of stocks you adjust the long term average using current market conditions, but when calculating the expected return of gold you do not?

What valuation metrics would you use for the market's implied expected return on gold?

For stocks we have empirically robust metrics like the CAPE, and for bonds current yields are highly predictive of future returns. Neither metric is perfect, so we weight CAPE at 25% of the estimate and yield to maturity for bonds at 75%. This is effectively the same as defining the R squared of our expected returns model.

If you have a valuation metric like that for gold I am all ears.

Tyler May 2023

> Benjamin_Felix:
>
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>
> If you have a valuation metric like that for gold I am all ears.

I'm glad I understood you correctly. 🙂

While there are much smarter people than me that study gold markets in detail, I don't have a suggestion offhand. That's above my paygrade.

The reason I ask is that I think that using the term "expected return" in both situations could confuse some people because it implies some level of current market insight. You're clearly using expected returns for stocks and bonds, but for gold you're deferring to the historical average and not considering current market conditions all. That's fine, but in the context of this conversation I think people might benefit from understanding the distinction.

Benjamin_Felix Portfolio Manager, Head of Research at PWL Capital May 2023

The CAPM expected return for gold and it's historical return are approximately the same number. Should not be any confusion there.

For stocks and bonds we can call either the market implied return or the historical return the expected return. They are just different sources of information about expected returns.

12 Reply

Tyler 1 May 2023

Sure. But no matter the label, when comparing datasets I always strive for consistency in the assumptions. Thanks for the clarification.

2 Reply

Benjamin_Felix Portfolio Manager, Head of Research at PWL Capital May 2023

I agree with that statement but I'm not sure what you're suggesting.

Tyler May 2023

> Benjamin_Felix:
>
> I agree with that statement but I'm not sure what you're suggesting.

I'm just suggesting that when having a conversation with noted value investor Ben Felix, people have a certain expectation of what "expected return" means and it usually involves a valuation adjustment of some sort.

So when I said earlier that I make no claim about expected returns, I simply meant that I don't take current valuation into account in adjusting the historical record of any asset. Obviously I have a strong opinion on historical returns! Likewise, when you talk about the expected return of gold, I think understanding that (unlike stocks and bonds) you make no attempt to adjust the historical average of that one asset in particular might be useful information for people following the conversation. It's not a judgment thing. Just a communication thing.

If the terminology is confusing to me, I imagine it must be confusing to others as well. So again, thanks for clearing that up so that we can all be talking about the same thing.

Benjamin_Felix Portfolio Manager, Head of Research at PWL Capital May 2023

I think this is a misunderstanding about what expected return means, not about how I am communicating the concept.

You don't need to make any adjustments to historical returns to turn them into expected returns if it is believed that historical returns are the best estimate of expected returns.

We do adjustments for financial planning projections because there is somewhat reliable information about expected returns in yields for stocks and bonds.

We don't use market yields for our estimate of factor premiums or primary residence real estate. It's not a case of treating gold unfairly, just using reliable information that we have available to us.

> Tyler:
>
> Obviously I have a strong opinion on historical returns!

Your site certainly suggests an opinion on expected returns.

> So get to it! Your future happily-retired self will thank you later.

If using historical returns to help your future self doesn't imply an expectation I don't know what does.

Tyler 3 May 2023

My site expresses an opinion on how to intelligently use historical returns to make educated decisions. You may think of that in terms of expected returns, but I choose not to use the term because I believe it's a loaded one. While markets may change and introduce uncertainty in returns, I never tweak the historical averages with new predictions. Instead, I present the full range of known real-world outcomes so that people can visualize many possibilities. It's a different approach.

In any case, I still believe that the difference in definition of expected returns as a simple average vs. an adjusted prediction is an important one that should be clearly labeled and not simply glossed over as the best information available. If there's one thing I've learned in engineering it's that methodologies matter more than names.

But peace. A least we're on the same page now.

2 Replies 7 Reply

Benjamin_Felix Portfolio Manager, Head of Research at PWL Capital May 2023

To be clear, PWL Capital's specific methodology for estimating expected returns for financial planning projections is not related to the discussion of the relative expected returns of stocks, bonds, and gold.

There is no valuation adjustment needed for the theoretical concept of stocks having higher expected returns than bonds, or gold having a CAPM beta of 0 and therefore a low expected return.

When I studied engineering we were taught theory before learning how to use CAD software because theoretical intuition was deemed important to thinking about what a computer spits out based on the inputs fed to it.

I think this is even more important in financial economics than it is in engineering.

Tyler May 2023

> Benjamin_Felix:
>
> When I studied engineering we were taught theory before learning how to use CAD software because theoretical intuition was deemed important to thinking about what a computer spits out based on the inputs fed to it.
>
> I think this is even more important in financial economics than it is in engineering.

Oh, don't get me wrong. I was taught the same! I just also enjoy refining my own theory based on new information that you don't always find in a textbook. The real world is fun like that.

3 Reply

Benjamin_Felix Portfolio Manager, Head of Research at PWL Capital May 2023

I should try making my own theories. Sounds liberating.

12 Reply

Tyler 1 May 2023

You unironically should. The best theories require smart trailblazers willing to think differently.