

Volume 51 //

Acuity

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How long is long term?



How long is long term?

“ In a nutshell, the message...is that long time periods are required to be reasonably sure that the average equity premium, the average size premium, or the average value premium will be positive...Indeed, no matter how long the investment period, one can never be perfectly certain that the realized average premium will be positive. Such is the nature of risk and return! ”

Eugene Fama, Nobel Memorial Prize in Economic Sciences.

To answer this question we use US data back to 1926 to try to get a handle on the chances of losses to purchasing power over different investment horizons and with different portfolio strategies. Our conclusions are that 15 years is a prudent lower limit to long-term and that diversification within equities – to value and small cap stocks – and between bonds and equities is valuable. Even at 10-15 year horizons, value and small cap exposures materially improve downside risks.

That's a good question

For many investors – particularly those in retirement - the question ‘how long is long-term?’ could also be translated as ‘I’m getting on a bit, so should I still be investing in the stock market?’. When it comes to systematic investing – that is to say, capturing specific market risks in a disciplined and rules based manner – a subsidiary question might also be ‘should I still own value and small cap stocks, as their excess returns, relative to the market, can take some time to come through?’. There is little that is more annoying than asking a good question like this and getting an ‘it depends’ answer. So, despite the temptation, in this short note we provide some insightful numbers that at least provide a sense of quantum on how long ‘long term’ is, with the inevitable caveat of ‘it depends!’.

The investing lifecycle

If we step back and think about the lifecycle of investing, it starts with the accumulation phase where investors build assets in an investment portfolio, sacrificing today’s consumption for tomorrow’s income. Horizons tend to be long, not least because you can’t take assets and income from most pension plans until you are 55. Prior to the pension freedoms delivered by the former-Chancellor George Osborne in 2015, most people were obliged to use their pension pots to buy an annuity. This in effect meant that an accumulator had to think about managing a shortening horizon – and thus moving out of equities and into bonds – as retirement approached.

For many investors today, whilst the accumulation of assets stops when employment income stops, as they approach say, 60, their investment horizon may well still be around 40 years, if they intend to take an income from the portfolio over their lifetime.

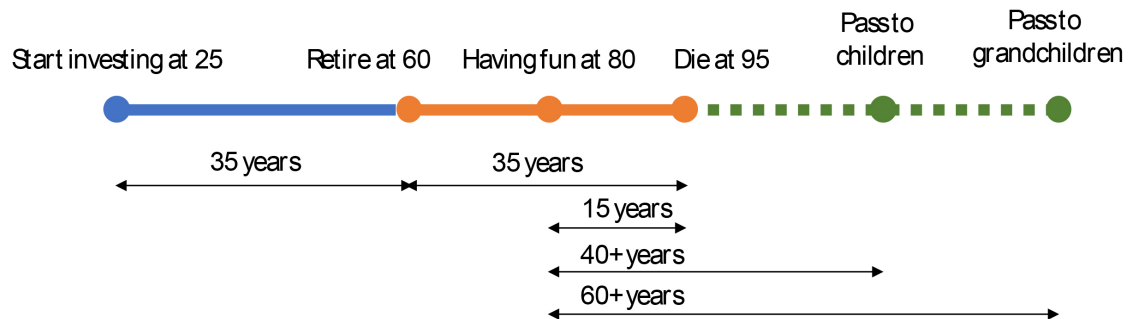


Figure 1: What is your true investment horizon?

Data source: Albion Strategic Consulting

Even at 80, when investors may begin to ask themselves the question ‘how long is long-term’ they should still consider 20 years to be a sensible horizon. After all, according to a useful little calculator provided by the Office for National Statistics¹, today, an 80-year-old woman has an average life expectancy of 90, a 1-in-4 chance of reaching 94 and 1-in-10 chance of getting to 98. Osborne’s pension freedoms have also made pensions an extremely efficient means of legally avoiding inheritance tax, as they can be passed on tax-free to any family member (or anyone else, for that matter). As such, for some investors, their true investment horizon may not simply be their own longevity, but that of children and even grandchildren.

What do the data tell us about how long, ‘long’ is?

A pot of assets held in an investment portfolio in later years may serve a number of purposes, from providing a secure and relatively stable level of income, to supplementing income from another source e.g. defined benefit and state pensions. It may also be used to help younger family members or to support philanthropic causes.

In this short note it is impossible to model all scenarios, but it is possible to take a look at the return outcomes of different investment horizons and different allocations between equities, bonds and cash. To do this, we use long-term data sets from the US markets, to which we have access. The data goes back to 1926². It provides some interesting insights, which we explore below. Note that the ‘value and small cap tilts’ referred to in the tables below represent 20% allocated to each with the remaining 60% invested in US large cap stocks. The ‘US 60/40 balanced’ represents 60% in the tilted US equity mix and 40% in US intermediate Treasuries (all in USD).

We investigated the percentage of times – across varying investment horizons – that different asset combinations delivered losses. Note that in the first row in the table below ‘US Large Cap Equity (nominal)’ we are looking at before-inflation outcomes. All the other rows refer to after-inflation (real) outcomes.

| Investment horizon | 1 year | 3 years | 5 years | 10 years | 15 years | 20 years | 25 years | 30 years | 35 years | 40 years |
|--|--------|---------|---------|----------|----------|----------|----------|----------|----------|----------|
| US Large Cap Equity (nominal) | 25% | 18% | 12% | 5% | 0% | 0% | 0% | 0% | 0% | 0% |
| US Large Cap Equity (real) | 30% | 26% | 24% | 14% | 5% | 0% | 0% | 0% | 0% | 0% |
| US Large Cap with Value & Small Tilts (real) | 29% | 22% | 17% | 7% | 0% | 0% | 0% | 0% | 0% | 0% |
| US 60/40 Balanced with tilts (real) | 27% | 20% | 9% | 3% | 0% | 0% | 0% | 0% | 0% | 0% |
| US 30/70 Balanced with tilts (real) | 26% | 19% | 13% | 5% | 1% | 0% | 0% | 0% | 0% | 0% |
| US Intermediate Treasuries (real) | 36% | 33% | 29% | 26% | 24% | 24% | 24% | 25% | 25% | 20% |
| US Cash (real) | 41% | 41% | 44% | 42% | 35% | 31% | 30% | 35% | 36% | 37% |

Figure 2: Percentage of outcomes, over different investment horizons, where losses occurred

Data source: IA SBBI data form Morningstar Direct © All rights reserved (see footnote 2). Fama/French data from Dimensional Returns 2.0. Period: 7/1926 to 5/2019.

As you can see, around the 10 to 15 year holding periods, portfolios that include equities appear to suffer fewer losses, particularly compared to bonds and cash, which may surprise some readers. As an investor in equities, you have around a 1 in 4 to 1 in 3 chance that you will suffer a loss in any one year.

Yet at a 10 year horizon a 60/40 balanced portfolio has a better than 1 in 20 chance.

The worst-case falls in purchasing power, on an annualised basis, reveal - at least over shorter horizons - why some might see cash as being safer than equities. However over longer holding periods, cash and bonds have higher risk of purchasing power losses than equities.

| Investment horizon | 1 year | 3 years | 5 years | 10 years | 15 years | 20 years | 25 years | 30 years | 35 years | 40 years |
|--|--------|---------|---------|----------|----------|----------|----------|----------|----------|----------|
| US Large Cap Equity (real) | -64% | -36% | -13% | -6% | -2% | 0% | 2% | 4% | 5% | 4% |
| US Large Cap with Value & Small Tilts (real) | -66% | -38% | -18% | -3% | 1% | 2% | 5% | 6% | 6% | 5% |
| US 60/40 Balanced with tilts (real) | -37% | -17% | -8% | -1% | 0% | 2% | 3% | 4% | 4% | 5% |
| US 30/70 Balanced with tilts (real) | -22% | -9% | -3% | -2% | 0% | 1% | 2% | 2% | 2% | 2% |
| US Intermediate Treasuries (real) | -16% | -8% | -6% | -4% | -3% | -2% | -1% | -1% | -1% | -1% |
| US Cash (real) | -16% | -8% | -6% | -5% | -4% | -3% | -2% | -2% | -1% | -1% |

Figure 3: Worst case annualised returns over different investment horizons

Data source: IA SBBI data form Morningstar Direct © All rights reserved (see footnote 2). Fama/French data from Dimensional Returns 2.0. Period: 7/1926 to 5/2019.

The problem with annualised numbers is that they mask the true compounded impact of annual losses on purchasing power. To remedy that, we calculate the impact of these numbers on USD100 of purchasing power in the table below.

| Investment horizon | 1 year | 3 years | 5 years | 10 years | 15 years | 20 years | 25 years | 30 years | 35 years | 40 years |
|--|--------|---------|---------|----------|----------|----------|----------|----------|----------|----------|
| US Large Cap Equity (real) | \$36 | \$26 | \$49 | \$55 | \$73 | \$106 | \$169 | \$336 | \$518 | \$453 |
| US Large Cap with Value & Small Tilts (real) | \$34 | \$24 | \$37 | \$70 | \$110 | \$157 | \$332 | \$633 | \$873 | \$724 |
| US 60/40 Balanced with tilts (real) | \$63 | \$57 | \$68 | \$89 | \$106 | \$156 | \$226 | \$373 | \$431 | \$599 |
| US 30/70 Balanced with tilts (real) | \$78 | \$75 | \$85 | \$85 | \$94 | \$115 | \$146 | \$191 | \$187 | \$212 |
| US Intermediate Treasuries (real) | \$84 | \$78 | \$72 | \$64 | \$66 | \$65 | \$75 | \$71 | \$70 | \$59 |
| US Cash (real) | \$84 | \$77 | \$72 | \$58 | \$55 | \$52 | \$53 | \$57 | \$61 | \$61 |

Figure 4: The impact on purchasing power of annualised losses

Data source: IA SBBI data form Morningstar Direct © All rights reserved (see footnote 2). Fama/French data from Dimensional Returns 2.0. Period: 7/1926 to 5/2019.

This is perhaps the most useful table of all. There are some clear conclusions that the reader can draw:

- For long-term investors, cash is an extremely dangerous asset class, particularly when viewed after the effects on inflation, as it should be. The largest one-year purchasing power loss from cash is USD16 in every USD100. That is the same as the 10 year loss for a 60/40 balanced portfolio. Which is riskier for a long-term investor? The worst-case 25 years of the 60/40 portfolio results in a doubling of purchasing power, whilst for cash it results in a halving of purchasing power. It is worth noting that over the 10 years since the Credit Crisis those placing their assets in UK cash have lost over 20% of their purchasing power.
- Over 10 years a 60/40 balanced portfolio's worst outcome is a small loss, but it is still a materially better outcome than owning 100% equities.
- Comparing the top two lines of the table i.e. US large cap stocks and a US equity portfolio tilted towards value and smaller company stocks, the latter's worst-case outcome is materially better than the former's at 10 years and beyond. This helps answer the question whether an investor who is 80 should include value and smaller company stocks in any equity allocation they hold. They probably should.
- Investors with horizons longer than 10 years – even those simply seeking to maintain purchasing power - should own a meaningful level of equities in their portfolio.
- Cash and bonds alone are unsuitable for most longer-term investors.

So, are we getting near an answer?

Yes we are - it looks like 'long term' is around 10-15 years. The distribution of 15-year real return outcomes for 100% US equities (with tilts to value and small caps) and a 60/40 balanced portfolio, provides additional insight. It is evident that above 15 years the chances of a negative purchasing power outcome is negligible, but as the quote from Eugene Fama at the top of this article states, it still exists!



Figure 5: Distribution of 15-year annualised real returns

Data source: IA SBBI data form Morningstar Direct © All rights reserved (see footnote 2). Fama/French data from Dimensional Returns 2.0. Period: 7/1926 to 5/2019.

What constitutes the right balance between equities and bonds will depend on an investor’s individual circumstances, not least their experience of investing, their human capital outstanding, their tolerance for losses in the pursuit of favourable gains, their financial capacity for suffering losses and their need to generate returns in the first place. Finding this balance is well outside the scope of this note, although the figure below would suggest that equities – which includes tilts to value and smaller companies - should play a material role in most longer-term investor portfolios.

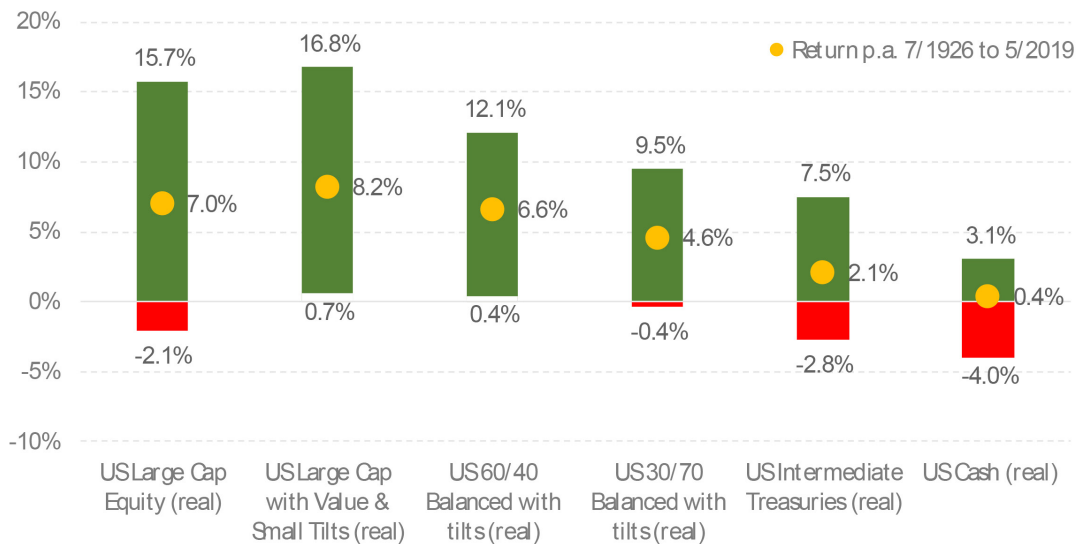


Figure 6: Real (after inflation) return outcomes over 15 year holding periods

Data source: IA SBBI data form Morningstar Direct © All rights reserved (see footnote 2). Fama/French data from Dimensional Returns 2.0. Period: 7/1926 to 5/2019.

Answering the question

On balance – given the data set used – ‘long term’ should be defined as 15 years or more. The US data used have higher returns than other data sets, the US market has been a good performer compared to many other markets and no costs have been deducted in the analysis. On the flipside of the coin, the data set does not benefit from broad global diversification across all developed and emerging markets, which would help to mitigate the single market risk, evidenced in the US data. We hope that helps answer the question.

End notes

1. <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/articles/whatismylifeexpectancyandhowmightitchange/2017-12-01>
2. US Large Cap stocks – IA SBBI US Large Stock TR in USD, US Small Stock – IA SBBI US Small Cap TR in USD, US Value - Fama/French US Value Research Index, US Treasuries - IA SBBI US IT Govt TR USD, US cash - IA SBBI US 30 Day T Bill TR USD. IA SBBI data from Morningstar Direct © All rights reserved (see endnote). Fama/French data from Dimensional Returns 2.0. No costs of any kind have been deducted. This analysis does not constitute any form of advice or recommendation and is for educational purposes only.

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